

# The Ties That Bond: Re-examining the Relationship Between Facebook Use and Bonding Social Capital

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## Abstract

*Research has established a positive relationship between measures of Facebook use and perceptions of social capital. Like other social network sites, Facebook is especially well-positioned to enhance users' bridging social capital because it lowers coordination costs associated with maintaining a large, potentially diverse network of Friends. The relationship between Facebook use and perceived bonding social capital, however, is not as clear. Previous studies have found a positive relationship between Facebook Intensity (FBI) and a measure of bonding social capital that focuses on benefits accrued locally, i.e., within a university context. This study looks at the relationship between Facebook use, offline behaviors, and social provisions, a broad-based measure of social support that taps into a dimension of bonding. Findings suggest that while FBI no longer predicts bonding, specific behaviors on Facebook are positively linked to perceptions of three social provisions related to one's closest friends and family.*

## 1. Introduction

The concept of social capital captures the benefits accrued from personal relationships—one's family, friends, coworkers, classmates, and acquaintances. Researchers typically distinguish between two forms of social capital: bonding social capital, which is derived from one's closest relationships and takes the form of emotional and tangible support such as "big favors"; and bridging social capital, which is associated with weaker ties and access to novel or non-redundant information, such as job leads [21].

Social network sites (SNSs) such as Facebook appear to be well suited to social capital accumulation. These sites enable users to create profiles, articulate their social network via a Friends' List, and view others' networks [2]. They provide multiple methods to both passively gather information about network members and actively engage with others through a variety of communication features. Ellison and

colleagues [9] [11] note several characteristics of SNSs that are potentially well-suited to support social capital generation and maintenance, such as the fact that these sites lower the coordination costs associated with maintaining a larger network and facilitate information discovery about others via the profile.

In light of these features, a number of studies have tried to explicate the relationship between Facebook use and social capital outcomes. Previous research [10] [11] [25] has established a positive relationship between intensity of Facebook use and localized (i.e., within the university community) measures of both bridging and bonding social capital. Early on in Facebook's history, access to the site was limited to university networks, and Facebook's features facilitated interaction among more homogeneous groups of Friends. However, in subsequent years, Facebook's user base has expanded, enabling users to create Friendship networks representing multiple aspects of their offline identities (such as professional contacts, family members, and non-university affiliated friends), rather than just their university connections.

Such changes in the potential composition of social networks on Facebook may have consequences for the way in which the site functions in terms of its role in facilitating social capital formation, and especially bonding social capital. It may be that the widening of the user base to include individuals outside of users' local institutional networks serves to diminish Facebook's utility as a source of the kinds of social support articulated by bonding social capital. Conversely, the influx of diverse age ranges—and subsequent inclusion of family relations and perhaps other close-knit ties not in the university setting—might result in increased access to the social support provided by these ties.

Given the changes in the network over time and the geographically bound nature of the bonding scale employed in previous research, this study utilizes the Social Provisions Scale [6], which captures more generalized aspects of bonding social capital and enables us to better understand the ways in which Facebook might facilitate these actions.

## 2. Social Capital

Social capital describes the benefits derived from interpersonal relationships at both individual and collective levels [1] [17] [21]. Drawing on Granovetter's [12] research on tie strength, Putnam [21] distinguishes between two types of social capital. Bridging social capital is most closely related to information diffusion, specifically the diffusion of non-redundant information, across networks. Because weak ties are connected to people outside of the individual's network, they are more likely to provide new information, such as a job opening in another company. Bonding social capital relates to the benefits associated with one's closest friends and family, including social, emotional, and tangible support.

The notion of reciprocity within a social system is important for understanding how social capital functions. In defining tie strength, Granovetter [12] lists reciprocal services as one of four features that determine tie strength. Within the social capital literature, reciprocity has received additional attention as an important feature in relationship maintenance. For example, Lin [17] broadly defines social capital as "investment in social relations with expected returns" (p. 6). Putnam [21] further distinguishes between *specific* reciprocity (i.e., I'll help you so you'll help me) and *generalized* reciprocity (i.e., I'll help you with the expectation that you or someone else will help me in the future).

Norms of reciprocity are important for social capital because individuals who anticipate benefiting from others' actions or who have done so in the past are more likely to help others [1]. Furthermore, communities that operate under a norm of reciprocity are more likely to be trustful, which is an essential component of close relationships [21].

### 2.1. Social Capital and SNSs

SNSs contain features useful for connecting large—and often geographically dispersed—social networks in a central location. On SNSs, users articulate a list of "Friends," or bi-directionally connected contacts, who are able to view each other's profiles and posts [2]. Friendships on a SNS can include a wide range of offline connections, including family members, school friends and classmates, coworkers, and acquaintances. Friend networks on Facebook may also include those met online, although research has shown that most SNS relationships reflect pre-existing offline connections [10].

A primary objective of online social capital research is to establish whether computer-mediated

communication (CMC) enhances, diminishes, or supplements social capital [30]. In other words, what effect, if any, do general usage patterns (e.g., time spent on site, number of Friends) and specific behaviors on site (e.g., using status updates to keep Friends updated on life events, commenting on Friends' posts as a way to stay connected and show support) influence the types of benefits individuals receive from members of their social network as captured by social capital measures?

A number of studies [3] [10] [11] [25] have employed a social capital measure adapted from Williams [32] that gauges bridging and bonding outcomes within the localized context of the university. The bonding measure contains five items, including, "There are several people at [the university] I trust to solve my problems" and "If I needed an emergency loan of \$100, I know someone at [the university] I can turn to." Findings from these studies show that various measures of Facebook use are positively related to both the localized bonding and bridging measures.

Facebook's features appear to be particularly well suited for the development of bridging social capital, with studies showing a stronger relationship between Facebook use and bridging than with bonding [10] [11]. One possible reason for this relates to the concept of media multiplexity [13]: because close friends and family are likely to be using a wider range of communication channels to interact, they may be less likely to communicate support-related messages through Facebook than weaker ties, who tend employ fewer communication channels, and thus may limit interaction to Facebook.

That said, Facebook contains a number of features that support relationship maintenance behaviors among close friends, which, in turn, could enable individuals to accrue bonding social capital. For example, Facebook's numerous communication channels (e.g., status updates, wall posts, inbox messages, chat) reduce the coordination costs associated with interacting both directly and indirectly with individuals and groups of users. These features may be helpful for individuals looking for some forms of support, such as advice about a big decision, and for engaging in generalized reciprocity by responding to others' requests. In other words, by simplifying the process through which individuals can request some form of support, Facebook also facilitates the ability of others to proffer support, with the assumption that they will be able to receive support at a later time.

### 2.2. Social Provisions

In considering the structure of relationships and the benefits associated with different types of

relationships, sociologist Robert S. Weiss [28] notes that theories focusing on primary relationships (i.e., strong ties) state that an individual's sense of well-being is sustained largely through social support stemming from one's closest relationships; absence of these provisions in one's relationships could lead to feelings of loneliness and anomie. However, the types of support provided vary across different relationships (e.g., family members, romantic partners, friends), and distinct provisions may be needed at different times.

By examining the types of support individuals receive from various types of relationships, Weiss [28] identified six categories of social provisions: (1) attachment, which provides a sense of security and place; (2) social integration, which creates a sense of belonging to a community; (3) opportunity for nurturance, relating specifically to the parent-child relationship in which one person is directly responsible for the well-being of another; (4) reassurance of worth, or acknowledging an individual's competence in a given role; (5) reliable alliance, which describes relationships in which a person can always count on assistance regardless of the situation; and (6) guidance, or the provision of advice during stressful times.

Building upon this work, Cutrona and Russell [6] developed and validated the Social Provisions Scale, a 24-item scale with four items for each of the six social provisions detailed in Weiss' [28] research. For example, Cutrona [4] found that three social provisions—social integration, reassurance of worth, and guidance—accounted for 66% of the variance in first-year college students' UCLA Loneliness scale scores. A subsequent study of first-time mothers found that women lacking in social integration, reassurance of worth, reliable alliance, and guidance were more likely to experience post-partum depression [5].

Our study focuses on three of these provisions—reliable alliance, guidance, and attachment—which are most likely to be experienced in close adult dyadic relationships. Weiss [28] notes that a sense of attachment is typically found in marriages and serious romantic relationships, as well as between close female friends, and that it requires “a sense of nearly steady accessibility” (p. 25), which he argues is associated with one's closest ties. This assertion is supported by research showing that tie strength is the strongest predictor of feelings of emotional support [31]. Likewise, reliable alliance provisions are most likely to be derived from family, while guidance most often comes from a trusted source that is able to provide emotional support during difficult life events [28].

### 2.3. Online vs. Offline Support

While our primary interest in this study is to

examine the potential role that SNSs serve in facilitating a sense of support from one's network, it is important to also note the role that more traditional forms of support serve within close relationships. Face-to-face interaction is a primary component of both Granovetter's [12] conceptual definition of tie strength as well as Weiss' [28] description of a primary relationship. Furthermore, a number of media theories argue that face-to-face interaction should be viewed as superior to other forms of communication [7] [24].

In distinguishing face-to-face from mediated support, the richer set of available cues available in person allows for expression of emotion through touch and leads to social bonding [19]. Research in organizational settings, where individuals interact through both mediated and face-to-face channels, has stressed the importance of in-person interaction in relationship development and task completion because it enables full use of verbal and non-verbal communication behaviors, which may lead to more efficient workflow [14] and increase more informal interactions [19]. These types of interactions help create common ground, which, in turn, may increase relational strength.

When considering the communication of support across different channels, Turner and colleagues [26] found that cancer patients turned to online support groups when they felt unable to receive support from their offline network. SNSs might act as a bridge between online and offline support, both by providing online support to offline connections when face-to-face interaction is not possible, as well as by facilitating offline support through online messages. That said, certain types of support—such as the support one provides by attending a friend's wedding or the expression of emotion signaled through an embrace—only occur through face-to-face interaction.

## 3. Research Questions

There are multiple ways through which Facebook might affect individuals' perceptions of their social provisions and, more broadly, their bonding social capital. First, Facebook serves as a social lubricant, enabling individuals to share personal information and easily communicate with one another, thus supporting relational maintenance and feelings of closeness. Features such as status updates, comments, chat, and wall posts enable individuals to communicate with their network through both targeted and network-wide messages. Furthermore, the site simplifies the process of broadcasting requests for support to one's network and responding to others' requests. As Ellison et al. have argued [9], “It is unlikely that individuals use Facebook to discover large numbers of new close

friends, but the site effectively facilitates the ability to ask for (and receive) emotional support from strong and weak ties and supports acts of ‘social grooming’” (p. 139).

To examine whether use of Facebook is still predictive of bonding social capital in light of the broadened user base, and to explore what kinds of activities are best suited to support bonding social capital, we propose two sets of research questions that consider both localized and generalized measures of bonding.

(1) To what extent does the relationship between Facebook use and localized bonding social capital, as identified in earlier research, continue to persist?

(2) To what extent are Facebook-specific behaviors associated with measures of bonding social capital that capture more generalized forms of social support?

## 4. Method

Data used in this study were collected from a survey of undergraduates at a large Midwestern university regarding their use of social media. The survey was hosted online on SurveyGizmo for a period of two weeks in April 2010, and participants were entered into a raffle for one of 20 \$15 gift certificates to Amazon.com or iTunes. From a random sample of 2000 undergraduates, 325 students completed the survey for a completion rate of 16.3%. Full demographics are presented in Table 1.

### 4.1. Measures

**4.1.1. Internet use.** Because we are interested in the relationship between Facebook use and perceived levels of social provisions, we include Internet use as a control in the analysis. This measure was computed using participant reports of how many hours they spent actively using the Internet on a typical weekday and on a typical weekend day [16].

**4.1.2. Psychological factors.** Self-esteem has been shown to be a significant predictor of bonding social capital in previous studies [10] [25] so it was included in analysis as a control variable. To assess self-esteem, participants completed a seven-item validated measure [22] ( $\alpha = .90$ ), with Likert-type responses ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

**4.1.3. Facebook use.** Facebook Intensity (FBI) [10] ( $\alpha = .80$ ) assesses both the extent to which users are

Table 1. Sample demographics

	Mean / % (N)	S.D.
Gender		
Male	35.1% (100)	
Female	64.6% (184)	
Age	20.74	3.48
Ethnicity		
White	84.2% (240)	
Non-White	15.8% (45)	
Year in School <sup>1</sup>	2.55	1.17
Home Residence		
In State	90% (252)	
Out of State	10% (28)	
Local Residence		
On Campus	49.1% (140)	
Off Campus	50.5% (144)	
Member of fraternity or sorority	4.9% (14)	
Hours of Internet use per day <sup>2</sup>	4hr, 30m	2hr, 38m

Notes: (1) 1=freshman, 2=sophomore, 3=junior, 4=senior; (2) converted from ordinal scale using midpoint of response category (e.g., 3-4 hours = 3.5 hours).

psychologically invested in the site as well as indicators of amount of use. We include this measure as it has been positively related to social capital outcomes in a number of previous studies [10] [11] [25]. The scale includes both behavioral items (minutes per day on Facebook and total number of Friends) as well as six Likert-scale attitudinal items assessing individuals’ relationship with the site (e.g., “Facebook has become part of my daily routine”).

Three additional measures of Facebook use were included in this study. “Facebook Disclosures” ( $\alpha = .80$ ) includes two items (“When I’m having a bad day, I post about it on Facebook” and “When I receive a good grade in class, I post about it on Facebook”) meant to tap into information individuals share with their Friend network on the site when they may be seeking some form of support.

To assess the concept of reciprocal support on Facebook among Friends, we created a “Facebook Reciprocity” scale ( $\alpha = .82$ ) that includes three items (“When I see a friend or acquaintance (1) sharing good news (2) sharing bad news (3) requesting advice or information on Facebook, I try to respond”). While we are unable to infer the types of reciprocity these behaviors encompass (i.e., specific vs. generalized), we believe these items may be tapping into a kind of generalized reciprocity, especially if the responses are in more public forums as opposed to private messages.

Finally, because research shows that family members are the most likely members of one’s social network to provide specific types of support [28] [29],

a dummy variable was included to measure the impact of being connected to a family member (“There is someone in my Facebook Friends network who is a member of my immediate family”).

**4.1.4. Localized bonding social capital.** Bonding social capital within the university context ( $\alpha = .86$ ) was measured using five items adapted from Williams [32]. Item responses were on a five-point Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

**4.1.5. Social provisions.** To measure social support, we employed three validated subscales from Cutrona and Russell [6]. Each of the subscales contains four items and is measured on a four-point Likert-type scale ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). Attachment measured emotional closeness and intimacy; reliable alliance measured the availability of someone to provide tangible assistance; and guidance ascertained whether an individual had social network members to turn to for advice. The items and alphas for each subscale are included in Table 2.

**4.1.6. Offline interaction.** As bonding social capital specifically relates to relationships between strong ties [20] and because face-to-face interaction is an important factor for developing and maintaining strong ties [12] [28], one item (“Think of one of your close friends. How likely are you to meet them face to face?”) was included in regressions to assess the extent to which face-to-face interaction with close friends plays a role in perceptions of social support. The item was measured on a five-point, Likert-type scale

ranging from 1 (Very Unlikely) to 5 (Very Likely).

## 5. Findings

### 5.1. Localized Bonding Social Capital

To first establish the relationship between Facebook use and the localized measure of bonding social capital, an OLS regression model was created using the five-item measure of localized bonding and nine independent variables used in previous research [10]. Findings from the regression are detailed in Table 3. The overall model is significant ( $F(247) = 6.33, p < .001, R^2 = .158$ ); however, Facebook Intensity, which has been shown to be a significant predictor of the localized bonding measure in previous research [3] [10] [11] [24], is not a significant predictor for this sample ( $\beta = .086, p = .165$ ). This finding suggests that Facebook is less correlated with bonding social capital within a university setting than in the past. Given that Facebook has changed over the last four years from a closed network exclusively for college students to one that includes much more diverse social networks, it may be that users spend their time on site connecting with weaker ties with whom they have little other interaction and employ other communication channels to maintain relationships with their closest ties.

### 5.2. Social Provisions

To test the relationship between the three social provisions and Facebook use, a series of OLS regression models were created for the reliable alliance, guidance, and attachment provisions. For each

Table 2. Social provisions subscales (N = 281)

Scale/Items	Mean	S.D.
<b>Attachment (<math>\alpha = .786</math>)</b>		
I have close relationships that provide me with a sense of emotional security and well-being.	3.56	.596
There is no one who shares my interests and concerns. [R]	3.53	.753
I feel a strong emotional bond with at least one other person.	3.69	.581
I lack a feeling of intimacy with another person. [R]	3.32	.862
<b>Reliable Alliance (<math>\alpha = .833</math>)</b>		
There are people I can depend on to help me if I really need it.	3.74	.515
If something went wrong, no one would come to my assistance. [R]	3.67	.610
There is no one I can depend on for aid if I really need it. [R]	3.67	.667
There are people I can count on in an emergency.	3.75	.497
<b>Guidance (<math>\alpha = .817</math>)</b>		
There is someone I could talk to about important decisions in my life.	3.65	.541
There is no one I can turn to for guidance in times of stress. [R]	3.60	.631
There is no one I feel comfortable talking about problems with. [R]	3.56	.721
There is a trustworthy person I could turn to for advice if I were having problems.	3.67	.541

provision, three models were run: one containing the same set of nine predictors previously used to predict localized bonding; a second model adding in the “meeting a close friend in person” variable; and a third model adding in the three additional measures of Facebook behaviors: having a family member on the site, making personal disclosures on the site, and engaging in reciprocal behaviors on the site. These analyses are included in Table 4.

**5.2.1. Reliable alliance.** In the first model, only self-esteem emerges as a significant predictor ( $\beta = .354, p < .001$ ), such that those with higher self-esteem report higher levels of reliable alliance from their social network. Importantly, Facebook Intensity (FBI) appears to be unrelated to the reliable alliance provision. The addition of meeting a close friend in person ( $\beta = .308, p < .001$ ) increases the  $R^2$  from .179 to .265. Its addition to the model also raises gender ( $\beta = -.112, p = .044$ ) and daily Internet use ( $\beta = -.136, p = .019$ ) to significant levels. Interpreting these findings, women and those who spend less time using the Internet daily report greater levels of reliable alliance. Finally, the addition of the three Facebook-related variables to the model increases the  $R^2$  to .274, with having a family member on Facebook emerging as significant ( $\beta = .139, p = .016$ ).

**5.2.2. Guidance.** In the first model, ethnicity ( $\beta = .120, p = .033$ ) and self-esteem ( $\beta = .424, p < .001$ ) are significant at the .05 level, while FBI is significant at the .10 level ( $\beta = .113, p = .051$ ), indicating that those who are White, have higher self-esteem, and use Facebook more intensely report greater access to

network members who can provide advice or information for important life decisions. Adding the variable for meeting a close friend in person ( $\beta = .278, p < .001$ ) increases the  $R^2$  from .255 to .325 and causes gender ( $\beta = -.110, p = .039$ ) to become significant, while ethnicity and FBI become non-significant. As with reliable alliance, women report higher levels of guidance within their social network than men. Finally, the addition of the three Facebook-related variables in Model 3 further increases the  $R^2$  to .333, with Facebook Reciprocity significant at the .10 level ( $\beta = .117, p = .054$ ).

**5.2.3. Attachment.** In the first model, gender ( $\beta = -.142, p = .012$ ), and self-esteem ( $\beta = .444, p < .001$ ) are significant at the .05 level, while daily Internet use ( $\beta = -.111, p = .055$ ) is significant at the .10 level, such that women, those who spent less time per day using the Internet, and those with higher self-esteem report greater levels of emotional intimacy with their social network. As with the other social provisions, FBI was non-significant, and the addition of the meeting a close friend in person variable ( $\beta = .195, p < .001$ ) increased the  $R^2$ , in this case from .253 to .285. The addition of the three Facebook variables led to a modest increase in the  $R^2$  to .289, with only Facebook Reciprocity ( $\beta = .110, p = .079$ ) approaching significance.

## 6. Discussion

Building upon previous literature on social capital and SNS use, this study furthers our understanding of the potential implications of Facebook use for mediating the benefits people may receive from close ties. First, we replicated a previously established model [10] of localized bonding social capital and Facebook use using more recent data in order to compare differences between findings from 2006 and 2010. Second, we focused on other dimensions of bonding social capital, as measured by the validated Social Provisions Scales. These scales probe the extent to which users feel like they can access resources from their entire social network rather than a network enclosed within a specific context, such as the university.

Based on our findings, intensity of Facebook use does not appear to predict the localized measure of bonding social capital, which contrasts with previous studies showing a positive relationship between the two variables [10] [11] [25]. In order to further explore potential changes in how Facebook use is implicated in social capital within a specific geographical context, we conducted a second OLS regression using the

Table 3. OLS regression predicting localized bonding social capital

	Standardized Beta	Significance
Constant		.030
Male	.009	.880
White	.101	.093
Year in School	-.039	.593
Out of State	.036	.552
On Campus	.053	.463
Greek	.087	.140
Daily Internet Use	-.026	.675
Self-esteem	.368	.000
Facebook Intensity	.086	.165

$$F(247) = 6.334, p < .001$$

$$\text{Adjusted } R^2 = .158$$

Table 4. Series of OLS regressions predicting social provisions.

	Reliable Alliance						Guidance						Attachment																																									
	Model 1		Model 2		Model 3		Model 1		Model 2		Model 3		Model 1		Model 2		Model 3																																					
	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>																																				
Constant		<.001		<.001		<.001		<.001		<.001		<.001		<.001		<.001		<.001																																				
Male	-.101	.086	-.112	.044	-.133	.018	-.101	.073	-.110	.039	-.114	.035	-.142	.012	-.149	.007	-.149	.008	.008																																			
White	.085	.150	.062	.271	.039	.495	.120	.033	.099	.066	.089	.102	.049	.384	.034	.537	.033	.551	.551																																			
Year in school	-.004	.952	.004	.956	-.019	.783	.008	.910	.015	.818	.004	.952	-.021	.761	-.016	.814	-.027	.685	.685																																			
Out of state student	-.045	.449	-.041	.468	-.043	.439	-.090	.110	-.087	.107	-.089	.097	.004	.942	.007	.903	.009	.866	.866																																			
Living on campus	-.045	.521	-.040	.546	-.045	.497	.014	.833	.019	.771	.020	.750	-.061	.369	-.057	.383	-.061	.359	.359																																			
Greek	-.015	.794	.002	.976	-.002	.970	-.006	.919	.010	.856	.004	.938	-.015	.782	-.005	.931	-.006	.907	.907																																			
Daily Internet use	-.112	.064	-.136	.019	-.112	.055	-.061	.288	-.082	.135	-.064	.247	-.111	.055	-.126	.027	-.118	.041	.041																																			
Self-esteem	.354	<.001	.310	<.001	.315	<.001	.424	<.001	.384	<.001	.374	<.001	.444	<.001	.416	<.001	.413	<.001	<.001																																			
FBI	.092	.131	.029	.620	.006	.926	.113	.051	.057	.315	.027	.653	.067	.247	.027	.635	-.015	.810	.810																																			
Meeting close friend FtF		.308	<.001	.284	<.001			.278	<.001	.253	<.001			.195	<.001	.181	.181	.001	.001																																			
Family on Facebook				.139	.016					.070	.204					.031	.581	.581	.581																																			
Facebook Disclosures				.019	.756					-.055	.361					.003	.962	.962	.962																																			
Facebook Reciprocity				.002	.980					.117	.054					.110	.079	.079	.079																																			
<b>N = 256</b>																																																						
<b>F test</b>	7.26, <i>p</i> < .001						10.35, <i>p</i> < .001						8.52, <i>p</i> < .001						10.84, <i>p</i> < .001						13.46, <i>p</i> < .001						10.93, <i>p</i> < .001						10.73, <i>p</i> < .001						11.35, <i>p</i> < .001						9.11, <i>p</i> < .001					
<b>Adj. R<sup>2</sup></b>	.179						.265						.274						.255						.325						.333						.253						.285						.289					

Note: All reported coefficients have been standardized.

localized *bridging* social capital measure<sup>1</sup>, finding that FBI positively predicts bridging social capital scores. This suggests that changes to the structure of the site, and the associated interactions enabled by those changes, may have altered the types of relationships people support through Facebook. As a larger, more heterogeneous pool of users join the site, individuals should still find Facebook to be a low-cost method to maintain a large network of looser ties and, subsequently, gain the associated bridging benefits from that network; at the same time, network growth may decrease the intimacy once associated with the site when it was a closed network. Alternatively, concerns related to privacy or context collapse may lead users to seek support through less “public” channels.

The extent to which individuals feel they can rely on others to provide guidance and support has been shown to be an important predictor of emotional health throughout one’s life [3] [23]. While Facebook has been shown to play an important role as an information distribution platform [18], the tenor of the interactions on the site have led some to express concern that these banal exchanges are good for passing time or procrastinating on homework, but are not fulfilling more meaningful goals. For instance, a recent post from the *Chronicle of Higher Education* [8] noted, “[SNSs] have reified the idea of universal friendship... once we decided to become friends with everyone, we would forget how to be friends with anyone.” The findings from the present study are not congruent with this concern regarding network growth.

While a growing body of research suggests a link between well-being and Facebook use [3] [10] [25], we have just begun examining specific behaviors and their outcomes. Burke and colleagues [3] found that directed communication between two Facebook Friends is associated with lower loneliness and higher bonding scores, but that merely consuming content on the site is not. The findings presented in this research constitute an important step in determining the kinds of practices that may enable users to best use the site to harness the benefits of their social network.

When considering various behaviors one can perform within Facebook that may relate to bonding social capital, we found that simply disclosing information—measured as posting a status update when having a bad day or receiving a good grade—was not correlated to the three social provisions being analyzed; however, engaging another user by commenting on a post was a significant predictor for guidance and attachment at the .10 level. So while the act of making disclosures is a necessary component to

receiving support in general, it is even more important that people are not only consuming those disclosures but also taking the time to reply. Future research should develop these measures further to better capture the variety of interactions that occur between users.

One interesting implication of this finding is the privacy tradeoff that accompanies these disclosures. In order to gain support from one’s network on Facebook, an individual must be willing to make a public or semi-public request for support, thus surrendering some degree of privacy. This becomes problematic when a user wants to receive or provide social support but is unwilling to make the privacy tradeoff. This concern is further intensified by changes in the site’s structure, which place less emphasis on the local network and instead encourage public sharing of information. Facebook’s settings do allow users to target posts to specific individuals or groups, but the coordination costs are most likely too high for the average user. More automated ways of limiting groups to close ties, or finding other ways to enable social support, may return some benefits of close ties to interactions on the site. For example, Facebook could enable a localized status message option, where the user has an option to only update those geographically near them.

Examining the role close ties serve on Facebook, we found that having a family member in one’s Facebook network is positively related with the reliable alliance provision, which is a sense that someone will always be there to help you out in a time of need. When Weiss [28] described this provision, he noted that “only within kin ties... can one expect continuing assistance whether there is mutual affection or not, whether one has reciprocated for past help or not” (p. 24). We believe that, in light of media multiplexity [13], this relationship is less likely due to a high level of interaction between family members on the site, but rather that the Facebook connection signifies a closer offline relationship with family members. Thus, this group of users may be more likely to experience the types of support reflected in the reliable alliance scale.

Moving beyond Facebook-specific behaviors, one noteworthy finding was the negative relationship between daily Internet use and two social provisions, reliable alliance and attachment. The debate over the Internet’s impact on relationship maintenance has featured prominently in both academic and popular press for more than a decade [15] [20] [30] and has recently been fueled by a study suggesting that college students are “addicted” to social media [27]. Our sample reported spending a significant amount of time online each day ( $M = 4.5$  hours,  $SD = 2.63$  hours) and on Facebook ( $M = 74$  minutes,  $SD = 42$  minutes). Our data do not reveal which online activities (outside of Facebook use) our sample engaged in, and future

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<sup>1</sup> Due to space constraints, this analysis is not included in the text.

research should capture more nuanced data about a broad set of media practices in order to better understand why general use of the Internet might be associated with lower scores on these measures.

## 7. Limitations

This study is limited in that it collected data from a specific community—Facebook users at one U.S. university—so caution should be taken in generalizing these findings to other populations. Because this study employs cross-sectional data, no causal relationships can be established. Additionally, since a survey of users was the instrument for data collection, measures of social capital and social provisions are based on self-reports of attitudes and perceptions, rather than behavioral data. Future research should attempt to see if the relationship between Facebook use and social provisions changes over time, which would help further clarify the debate over Facebook's role in relationship maintenance.

## 8. Conclusion

Social network sites such as Facebook provide a low-cost mechanism through which individuals can connect with members of their social network. Previous research has focused primarily on the positive bridging outcomes associated with having access to a large, heterogeneous network of individuals, such as the ability to receive novel information. However, the role that these sites play in the accrual of positive bonding outcomes should not be overlooked, especially when considering that strong ties often become geographically dispersed over time and are thus unable to spend quality face-to-face time together. Therefore, it is important to gain a better understanding of how different uses of these sites may relate to social support.

The current research expands on previous studies by employing a broad-based measure of social support, the Social Provisions Scale, as a way to explore other dimensions of bonding social capital. Findings suggest that while intensity of Facebook use appears to have no relationship with perceptions of three social provisions, engaging in specific behaviors and connecting with specific types of people are related. Specifically, responding to a Friend who posts a support-related update and being Friends with a family member were positively related to social provisions. Moving beyond Facebook-specific behaviors, having in-person meetings with close friends is a significant predictor of perceptions of social provisions, providing support to decades of research on the importance of face-to-face interaction between strong ties.

We believe this study adds to a growing body of literature addressing the role social media play in relationship maintenance strategies with members of one's social network. Contrary to decade-old warnings that CMC will lead to the breakdown of offline relationships [15] [20], the findings presented here support the notion that SNSs serve a supplemental role by providing another channel through which individuals can maintain their relationships. While it is expected that strong ties such as one's closest friends and family will employ multiple channels through which to interact—and will be more likely to meet face-to-face than mere acquaintances—sites such as Facebook may provide another way for strong ties to interact in times when face-to-face interaction is not possible.

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## 10. References

- [1] Bourdieu, P. "The Forms of Capital", in M. Granovetter and R. Swedberg (eds.), *The Sociology of Economic Life*, 2nd Edition (pp. 96-111). Boulder, CO, Westview Press, 2001.
- [2] boyd, d. and N. Ellison, "Social Network Sites: Definition, History, and Scholarship", *Journal of Computer-Mediated Communication*, 13, 2007, pp. 210-230.
- [3] Burke, M., C. Marlow, and T. Lento, "Social Network Activity and Social Well-Being", *Proceedings of the 28<sup>th</sup> International Conference on Human Factors in Computing Systems*, 2010, pp. 1909-1912.
- [4] Cutrona, C.E., "Transition to College: Loneliness and the Process of Social Adjustment", in L.A. Peplau and D. Perlman (eds.), *Loneliness: A Sourcebook of Current Research, Theory, and Therapy*. New York, Wiley Interscience, 1982, pp. 291-309.
- [5] Cutrona, C.E., "Social Support and Stress in the Transition to Parenthood", *Journal of Abnormal Psychology*, 93, 1984, pp. 378-390.
- [6] Cutrona, C.E. and D. Russell, "The Provisions of Social Relationships and Adaptation to Stress", in W.H. Jones and D. Perlman (eds.) *Advances in personal relationships* (Vol. 1). Greenwich, CT: JAI Press, 1987, pp. 37-67.
- [7] Daft, R.L. and R.H. Lengel, "Information Richness: A New Approach to Managerial Behavior and Organizational Design", in L.L. Cummings and B.M. Staw (eds.), *Research in organizational behavior* 6. Homewood, IL: JAI Press, 1984, pp. 191-233.

- [8] Deresiewicz, D., Faux Friendship. *Chronicle of Higher Education*, December 2009. Available at: <http://chronicle.com/article/Faux-Friendship/49308/>
- [9] Ellison, N., C. Lampe, C. Steinfield, and J. Vitak, "With a Little Help From My Friends: Social Network Sites and Social Capital", in Z. Papacharissi (ed.), *The networked self: Identity, community and culture on social network sites*. New York: Routledge, 2010, pp. 124-145.
- [10] Ellison, N.B., C. Steinfield, and C. Lampe, "The Benefits of Facebook 'Friends': Social Capital and College Students' Use of Online Social Network Sites", *Journal of Computer-Mediated Communication*, 12, 2007, pp. 1143-1168.
- [11] Ellison, N., C. Steinfield, and C. Lampe, "Connection Strategies: Social Capital Implications of Facebook-enabled Communication Practices", *New Media & Society*, in press.
- [12] Granovetter, M.S., "The Strength of Weak Ties", *American Journal of Sociology* 78, 1973, pp. 1360-1480.
- [13] Haythornthwaite, C., "Social Networks and Internet Connectivity Effects", *Information, Communication & Society*, 8, 2005. 125-47.
- [14] Kraut R., S. Fussell, S. Brennan, and J. Siegel, "Understanding Effects of Proximity on Collaboration: Implications for Technologies to Support Remote Collaborative Work," in P. Hinds and S. Kiesler (eds.) *Distributed Work*. Cambridge, MA, MIT Press, 2002, pp.137-162.
- [15] Kraut, R., M. Patterson, V. Lundmark, S. Kiesler, T. Mukopadhyay, and W. Scherlis, "Internet Paradox: A Social Technology That Reduces Social Involvement and Psychological Well-Being?", *American Psychologist*, 53, 1998, pp. 1017-1031.
- [16] LaRose, R., Y-J. Lai, R. Lange, B. Love, and Y. Wu, "Sharing or Piracy? An Exploration of Downloading Behavior". *Journal of Computer-Mediated Communication*, 11, 2005, pp. 1-21.
- [17] Lin, N., "Building a Network Theory of Social Capital", in N. Lin, K. Cook, and R. Burt (eds.) *Social Capital Theory and Research*. New Brunswick, NJ, Transaction Publishers, 2001, pp. 3-30.
- [18] Morris, M.R., J. Teevan, and K. Panovich, "What Do People Ask Their Social Networks, and Why? A Survey Study of Status Message Q&A Behavior", *Proceedings of the 28<sup>th</sup> International Conference on Human Factors in Computing Systems*, 2010, pp. 1739-1748.
- [19] Nardi, B.A. and S. Whittaker, "The Place of Face-to-Face Communication in Distributed Work", in P.J. Hind and S. Kiesler (eds.), *Distributed Work*. Cambridge, MA: MIT Press, 2005, pp. 82-112.
- [20] Nie, N.H., "Sociability, Interpersonal Relations, and the Internet", *American Behavioral Scientist*, 45, 2001, pp. 420-435.
- [21] Putnam, R., "Bowling Alone: The Collapse and Revival of American Community", Simon & Schuster, New York, 2000.
- [21] Rosenberg, M. "Society and the Adolescent Self-Image" (Revised ed.), Middletown, CT, Wesleyan University Press, 1989.
- [23] Schaefer, C., J.C. Coyne, and R.S. Lazarus, "The Health-related Functions of Social Support", *Journal of Behavioral Medicine*, 4, 1981, pp. 381-406.
- [24] Short, J., E. Williams, and B. Christie, "The Social Psychology of Telecommunications", London, John Wiley, 1976.
- [25] Steinfield, C., N.B. Ellison, and C. Lampe, C. "Social Capital, Self-Esteem, and Use of Online Social Network Sites: A Longitudinal Analysis", *Journal of Applied Developmental Psychology*, 29, 2008, pp. 434-445.
- [26] Turner, J.W., J.A. Grube, and J. Meyers, "Developing an Optimal Match Within Online Communities: An Exploration of CMC Support Communities and Traditional Support", *Journal of Communication*, 51, 2001, pp. 231-251.
- [27] University of Maryland, "A Day Without Media Study", <http://withoutmedia.wordpress.com/>
- [28] Weiss, R.S., "The Provisions of Social Relationships", in Z. Rubin (ed.), *Doing Unto Others*. Englewood Cliffs, NJ, Prentice-Hall, 1974, pp. 17-26.
- [29] Wellman, B.A. and K.A. Frank, "Network Capital in a Multi-Level World: Getting Support from Personal Communities", in N. Lin, K. Cook, and R. Burt (eds.) *Social Capital Theory and Research*. New Brunswick, NJ, Transaction Publishers, 2001, pp. 233-274.
- [30] Wellman, B., Quan-Haase, A., Witte, J., & Hampton, K. (2001). Does the Internet increase, decrease, or supplement social capital? *American Behavioral Scientist*, 45, 436-455.
- [31] Wellman, B. and S. Wortley, "Different Strokes From Different Folks: Community Ties and Social Support", *American Journal of Sociology*, 96, 1990, pp. 558-588.
- [32] Williams, D., "On and Off the 'Net: Scales for Social Capital in an Online Era", *Journal of Computer-Mediated Communication*, 11, 2006, pp. 593-628.