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Social capital and resource requests on Facebook

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Abstract

Facebook-enabled resource mobilization attempts—broadcasted status updates in which people ask questions or request information, favors, or other forms of assistance from one's network—can provide insight into social capital dynamics as they unfold on Facebook. Specifically, these requests and the responses they receive can serve as a window into how, why, and with what results individuals turn to their Friends network for help. In this study, we synthesize the existing research on resource mobilization requests via Facebook and present new analyses of survey data collected from a random sample of Facebook users who have made any post in the past 28 days ($n = 573$) and a sample of those who have posted a mobilization request in the past 28 days ($n = 1074$). To identify mobilization requests, an automated classifier trained on a hand-labeled sample of public status updates was used. Using participants' self-reported survey data and server-level behavioral data, we examine how mobilization request behaviors relate to perceptions of bridging and bonding social capital, participants' perceptions of Facebook's utility regarding these requests, and related variables such as engagement in

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Facebook Relational Maintenance Behaviors. We find that those who post mobilization requests on Facebook report higher social capital, are more likely to try to respond to Friends' expressed needs, and tend to see the site as a better source of information, coordination, and networked communication.

Keywords
Facebook, relationship maintenance, social capital, social network sites

Since its inception in 2004, the social network site (SNS) Facebook has been adopted by a wide range of users who employ the site to achieve a variety of goals. Currently Facebook (2014) claims 1.2 billion monthly active users across the globe; these users are sharing information and support in health-related Groups, organizing social, political, and community gatherings using the Events feature, and using the site to engage in relationship maintenance activities with close friends and distant acquaintances. Ten years after it was first launched, a wide range of scholarship in different disciplines has focused on users' Facebook practices and their motivations and outcomes.

One research stream has studied the relationship between Facebook use and social capital. Social capital is a prominent framework that examines the resources individuals can access from those in their social networks (Lin, 2001; Putnam, 2000). Because Facebook enables individuals to engage in relationship management activities with a wide range of social connections and lowers the barriers for broadcasting requests for (and provisions of) support, researchers have argued that some uses of the site can help individuals tap into the latent social capital resources held by their network. Facebook users broadcast resource requests to their network of Friends in order to mobilize their friends for help; these "mobilization attempts" are a promising avenue for research because they represent a window into users' intentional attempts to access social capital. This article focuses specifically on mobilization activities and examines them in conjunction with measures of social capital and perceptions of different dimensions of Facebook's usefulness.

Social capital definitions and measurement

Social capital has been conceptualized in various ways by different research communities (Neves, 2013), but all definitions share a focus on characterizing social relationships and their outcomes. Bourdieu (1986) provides one of the early definitions of social capital as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of acquaintance and recognition" (p. 51). Coleman (1988) conceptualizes social capital as convertible into other forms of capital, in particular human capital: "The function identified by the concept of 'social capital' is the value of these aspects of social structure to actors as resources they can use to achieve their interests" (p. 101). Coleman's main focus was on the resources derived from social capital, extending earlier arguments about the relationship between human capital, mostly in the form of education, and physical capital.

Putnam (2000) was similarly interested in the outcomes of social capital, both for the individual connected in the network and for the overall network. He divided social capital into two main types, bonding social capital (largely associated with close ties and the ability to be converted into higher-cost forms of human and physical capital) and bridging social capital (associated with weaker ties and benefits like access to novel information and diverse perspectives). Lin (2001) highlights social capital as a resource that builds as people make investments in relationships with others in their social networks. For him, collapsing structure and benefits make it difficult to separate them conceptually; thus, he highlights the importance of structural connectedness inherent to social capital. Each of these definitions shares several core ideas: that people are connected to each other in networks, that these networks are built through investments in relationships, and that these investments can be converted into other resources. Those resources may include emotional support, financial assistance, or access to new information, broader worldviews, and diverse perspectives.

In fields like communication and political science, social capital has often been operationalized as psychometric measures of perceived access to resources derived from one's social connections. Williams (2006) developed the Internet Social Capital Scales (ISCS) to measure different dimensions of perceived access to resources such as "diffuse reciprocity with a broader community," "access to scarce or limited resources," and "contact with a broad range of people." Williams developed his measures of social capital to capture bridging and bonding, the two dimensions articulated by Putnam (2000). Putnam defined bridging social capital as inclusive, in that it results from connections with diverse others. Bridging social capital effects stem from network connections that are not deep, but are wide and heterogeneous, and this kind of social capital is operationalized in the ISCS with questions related to access to diverse worldviews and community engagement. Bonding social capital, on the other hand, is framed as being dependent on close, mutually reciprocal ties that lead to the exchange of resources like emotional support, physical capital, and trust; it is operationalized in the ISCS with questions related to trust and the perceived ability to access more costly resources (Williams, 2006).

In contrast to these measures of perceived access to potential resources, those in the sociological tradition focus on the structural components of relationship networks when defining social capital (Burt, 2010; Hampton, 2011; Lin, 2001). To measure social capital, these researchers depend on tools that describe the structure of the social network (such as number of close ties), with the idea that the structure of the social network should lead to social capital benefits (Neves, 2013). There is some disagreement among scholars as to which approach best captures what is arguably a difficult concept to measure (Appel et al., 2014).

Given these measurement challenges, in recent work we have focused on mobilization attempts via Facebook, understanding them to be observable instances of potential social capital conversion on the site. Mobilization attempts are posts that request some type of assistance from one's network, which might take the form of an informational question, a request for advice, or help with a physical need. These requests for help can shed insight on the dynamics behind social capital processes on the site, as they are *intentional and explicit requests* which will presumably be met by members of the users' network, and thus represent *social capital conversion in action*. Sometimes, these requests come in the form of questions posed to a network, which has been the focus of

past research (e.g., Gray et al., 2013; Morris et al., 2010), but mobilization attempts are distinct from questions in that they can take multiple structural forms, not just interrogative ones, and do not include rhetorical questions.

Facebook use and social capital

Early academic work exploring social capital and Facebook use, employing undergraduate samples and cross-sectional data, suggested an empirical link between Facebook use and social capital (Ellison et al., 2007, 2011b; Valenzuela et al., 2009). Over time, research exploring the relationship between Facebook and social capital has expanded from early cross-sectional survey work with American undergraduates to include longitudinal data (Steinfield et al., 2008), granular server-level behavioral data (Burke et al., 2010), and Facebook network–structural data as captured by a Facebook app (Brooks et al., 2014).

We assume that posting requests for help will be linked to perceptions of social capital, given the literature reviewed above and more recent research which finds that mobilization attempts receive more responses that non-mobilization attempts (Lampe et al., 2014) and that users tend to rate responses to mobilization attempts as useful (Gray et al., 2013). Importantly, Burke et al. (2011) find that while directed communication in Facebook is associated with social capital, broadcast communication on the site is not. However, this work did not consider message content. In this article, we focus on broadcasted communication but also consider the content of the message, believing that requests for help, given other work in this area, are different from other kinds of broadcasted messages and may be positively associated with social capital perceptions. Thus, we propose the following hypotheses:

H1a. Mobilization request behaviors are positively linked to perceptions of Facebook-enabled bridging social capital.
H1b. Mobilization request behaviors are positively linked to perceptions of Facebook-enabled bonding social capital.

Facebook-enabled resource mobilization attempts

More recently, researchers have explored the ways in which SNS users receive help from their social ties and how the support received may differ across different kinds of social ties, further emphasizing a link between the exchange of support in SNSs and social capital. In a study where participants were asked to broadcast a favor request to their Facebook networks, researchers found that the receipt of responses was significantly associated with sub-dimensions of both bonding and bridging social capital (Jung et al., 2013). Other research has investigated the relationship between tie strength and provisions of support in response to broadcasted requests; for example, Panovich et al. (2012) found that strong ties were more likely to provide responses that were considered to be more valuable and more likely to contribute to individuals' overall knowledge. Conversely, Gray et al. (2013) found that responses to questions posed on Facebook from weaker ties were more useful to the asker than responses from stronger ties and that

self-reported bridging social capital scores were positively related to the usefulness of answers. However, responses from weaker ties and stronger ties were equally *satisfying*, that is, people like and value signals of attention from their network, regardless of how well the responses address their expressed request.

Extending this work to Facebook behavioral data on a wider scale, Ellison et al. (2013) examined public Facebook status updates in which users requested help or action from their network. This help took the form of a physical favor (such as help moving furniture), a recommendation or advice, or informational support (such as the answer to a factual question). They used human coders to identify mobilization attempts among a large corpus of public status updates ($N=20{,}000$), finding that 4.03% of all public updates in their sample were coded as mobilization attempts, and then coded these mobilization attempts across two dimensions—cost and category—using a scheme based on earlier work (Morris et al., 2010). In their data set, the most common mobilization attempts were favor requests (47%) and polls for opinions (40%); most (70%) of the requests were for fairly low-cost actions that could be accomplished via a comment to the post. In a later study, Lampe et al. (2014) examined the patterns of comments posted in response to a set of public status updates. Results showed mobilization requests receive more and faster responses than non-mobilization requests, similar to patterns identified in the work by Thom et al. (2011), who found that posts to an enterprise SNS tool that began with a question received more responses than those that did not. In addition, the authors of mobilization posts were more likely to comment themselves on these posts, indicating higher levels of interaction when compared to non-mobilization posts.

Research has also explored users' motivations for SNS question-asking. Morris et al. (2010) examined motivations for asking questions in a SNS, as opposed to search engines, and found that people perceived many benefits to asking for help in SNSs, including their SNS contacts' knowledge about the nature of their needs, the high level of trust they had in their social network, and their ability to evaluate responses in light of what they knew about the information providers. In addition, their respondents reported a social dimension to asking questions in SNS, in that doing so initiated desired interaction with others.

Thinking about Facebook's utility for social capital conversion, we can speculate that users may be drawn to (1) interactions that stem from the networked structure of the site, (2) the informational benefits of the site, and/or (3) the ease with which social coordination and organization can be accomplished on the site. These three kinds of utility stem from different affordances of the site and reflect different kinds of social capital conversion—and thus may be related in different ways to both mobilization activities and perceptions of bonding and bridging social capital.

One set of benefits stems from the *networked structure* of the site, which enables individuals to access others' networks and to easily broadcast to their own. The ability to traverse connections has been identified as a key definitional property of SNSs (see Ellison and boyd, 2013); here, we are specifically interested in the ways in which broadcasted messages enable users to interact with others' networked connections. For instance, Facebook enables users to maintain a larger set of weak ties; this broader network is more likely to be heterogeneous, a characteristic associated with bridging social capital. Also, Friends of Friends may interact with each other in comments to a status

update, expanding commenters' access to these bridging ties and enabling the kinds of second-degree connections important for the generation of bridging social capital.

Second, user perceptions regarding the *informational benefits* of Facebook have been identified in other work (Lampe et al., 2012; Teevan et al., 2011) that highlights important affordances for information exposure on the site, including the scale of the potential audience, the ability to specify and activate parts of one's network, the presence of bridging ties, and the possible immediacy of responses. Recent Pew data show that 30% of US adults report getting news from Facebook, and that 78% of these individuals are exposed to this news incidentally—that is, they are on Facebook for other reasons (Matsa and Mitchell, 2014).

A third dimension of utility stems from the fact that Facebook aggregates connections from different facets of one's life and contains a set of tools that facilitates the maintenance and grooming of these relationships. Although this kind of context collapse can introduce self-presentational concerns, Facebook's role as "one-stop shopping" for accessing, coordinating with, and *organizing one's social network* is beneficial for some kinds of tasks. Given these distinct kinds of utility and the lack of literature addressing this question, we ask:

RQ1. How do perceptions of the utility of Facebook's networked structure, informational benefits, and organizing affordances differ between users who post mobilization requests and those who do not?

Facebook Relationship Maintenance Behaviors

Facebook lowers the cost of engaging in relationship maintenance activities, especially with weaker ties that may not be available via other channels. Relationship maintenance is an important component of social capital processes, due to the norms of reciprocity that govern interpersonal relationships and social capital processes. That is, acts of social grooming such as answering a Friend's question are likely to be associated with expectations that these Friends will reciprocate when asked. Affordances of the site that support relationship maintenance activities include the "Like" button—a small, low-cost signal of attention—and birthday reminders that prompt users to send their Friends greetings. Also, the News Feed itself, which serves as a "social awareness stream" (Naaman et al., 2010) that aggregates content from one's network and facilitates lightweight interaction, serves to distribute requests for action, such as social invitations, broadly, quickly, and with little effort.

Ellison et al. (2014) found a positive relationship between bridging social capital and a measure of "Facebook Relationship Maintenance Behaviors" (FRMB). FRMB encompasses social grooming activities, wherein Facebook users signal to specific members of their network, and include responding to requests expressed via status updates or wishing a Facebook Friend "Happy Birthday." The authors argue that these signals of attention support social capital processes in multiple ways. For instance, norms of reciprocity around social capital suggest that someone who responds to mobilization requests (such as offering sympathy to an upset friend or answering a question) will expect that others in their network will do likewise. The authors also point to structural dynamics, such as the fact that commenting on a Friend's status update enables users to interact with the poster's network as opposed to their own (potentially facilitating new bridging ties):

H2a. Users who report higher levels of FRMB report higher levels of bridging social capital.
H2b. Users who report higher levels of FRMB report higher levels of bonding social capital.

However, past work does not enable us to predict how these grooming behaviors (such as answering a Friend's question) may interact with mobilization behaviors (such as asking a question) with regard to social capital perceptions. Thus, we ask:

RQ2. How do mobilization request behaviors, perceived utility of the site, and FRMB predict bridging and bonding social capital?

Finally, given the reciprocity norms that govern social capital dynamics, both at the generalized and individual levels, we assume that those who are more willing to request help from their network will also be more likely to reciprocate by answering questions and responding in other ways that signal attention to one's network. Thus, we hypothesize:

H3. Users who post mobilization requests will report higher levels of FRMB than those who do not.

Method

To determine which status updates were likely mobilization requests, we used an automated classification model previously trained and validated on the text of 40,000 hand-labeled public Facebook status updates (Ellison et al., 2013; Lampe et al., 2014). The classifier, a logistic regression model using textual features of the status updates and demographic features of the posters as independent variables, produced a predicted probability that a given update would be considered by a human observer to be an example of a mobilization request. When the predicted probability was at least 0.75, we considered the status update to be a likely mobilization request. This process was fully automated; at no time were any of these status updates read or coded by the researchers.

In September 2013, we applied the classifier to 28 days of status updates written by English-speaking Facebook users in the United States in order to generate a random sample of 20,000 such users who had posted at least one likely mobilization request in the 28-day period (the *mobilization sample*). We also selected a random sample of 20,000 users who had made any kind of post in the same 28-day time period (the *random sample*), with steps taken to ensure that the samples did not overlap. Both samples were invited via a recruitment advertisement at the top of the News Feed to complete an online survey hosted on the Facebook platform.

Participants

We excluded from analysis those respondents who did not answer 10% or more of the survey questions, yielding a final *N* of 1647 Facebook users who completed our survey. Of these 1647 participants, 573 were recruited from the random sample, whereas the

other 1074 were from the mobilization sample, having posted at least one mobilization request over a 28-day period as described above.

Of the participants in the mobilization sample, the majority were female (69%), with an average age of 43 years, and they visited Facebook an average of 27 days in a 28-day period shortly before the survey was administered. Those from the random sample were also majority female (69%), with an average age of 44 years, and they also visited Facebook 27 out of 28 days on average.

Measures

Behavioral data

For each participant, we obtained the number of posts that each had made during 28 days preceding analysis. Using the same automated classifier described above for survey targeting, we calculated how many of their posts were likely mobilization requests. Within the random sample, participants posted a median of nine status updates over the course of a 28-day period, with a median of zero posts identified as mobilization requests by the classifier. About a quarter of the random sample posted one or more mobilization requests throughout this 28-day period. Within the mobilization sample, participants posted status updates a median of 22 times with a median of one post identified as a mobilization request. The top quartile of mobilization posters made two or more likely mobilization requests during the 28-day window. For analysis of mobilization posting in our random user sample, we used a binary version of this measure to divide participants into those who had not posted any likely mobilization requests within this period and those who had posted one or more requests. Regression analyses with the mobilization-targeted sample used the continuous version of this metric, called "number of posted mobilization requests," in the models; no transformation was performed.

Survey measures

Measures of Facebook utility. Based on previous literature, we created a series of survey items meant to assess the extent to which individuals derive informational and support-based utility from Facebook. We performed exploratory factor analysis (EFA) on the items in order to identify components indicative of different dimensions of utility. During factor analysis, one item was removed due to its nearly perfect collinearity with another item. Using a component-loading threshold of 0.400, we removed items that fell under the threshold or did not conceptually coalesce with the other items. One item fell just under the loading threshold but mapped onto one of the factors conceptually and thus was retained for analysis. Following these adjustments, we created three scales: *Facebook Information Utility* (3 items; $\alpha = .71$ $M = 3.72$, standard deviation [*SD*] $= 0.78$), *Facebook Organizing Utility* (5 items; $\alpha = .85$, $M = 3.28$, $SD = 0.82$), and *Facebook Network Utility* (3 items; $\alpha = .82$, $M = 3.70$, $SD = 0.74$). (See Table 1 for a list of scale items. All response sets in this scale and others were 1 = *strongly disagree*, 5 = *strongly agree*, unless otherwise noted.)

Table 1. Facebook utility scales.

Facebook Information Utility	**Mean (SD)**
I get useful information from Facebook	3.57 (0.99)
I learn new things on Facebook	3.90 (0.90)
Facebook is NOT a place for exchanging information (REVERSE)	2.71 (1.05)
Facebook Organizing Utility	**Mean (SD)**
Facebook is a good place for organizing	3.71 (0.94)
I get help from my friends on Facebook	3.57 (0.99)
It is efficient to coordinate events using Facebook	3.29 (1.02)
Facebook helps me solve problems	3.04 (1.05)
Facebook helps me get stuff done	3.62 (0.99)
Facebook Network Utility	**Mean (SD)**
I see others posting requests for information, advice, or other help on Facebook	3.00 (1.13)
Reading responses to other people's questions on Facebook is useful to me	3.56 (1.12)
I learn things when my friends post questions or requests on Facebook	3.41 (0.82)

Posting self-efficacy. This scale (4 items, $\alpha = .88$, $M = 4.18$, $SD = 0.77$) measures the degree to which individuals feel comfortable using the status update in general as well as using it to post mobilization requests. Past research has found that self-efficacy is an important factor in predicting behavior and suggests that specific self-efficacy measures are more predictive than generalized ones (Agarwal et al., 2000). Participants were asked to what extent they agreed or disagreed with statements such as: "I know how to use the status update feature on Facebook" and "I feel confident using the status update feature on Facebook to request help from my Facebook friends."

Facebook Relationship Maintenance Behaviors (FRMB). Also used in Ellison et al. (2014), this measure (5 items, $\alpha = .85$, $M = 3.95$, $SD = 0.67$) examines the extent to which individuals perform behaviors on Facebook that signal attention to their Facebook friends and serve as a way of grooming or maintaining relationships. Participants report the extent to which they agree with five statements, including "When I see someone asking for advice on Facebook, I try to respond" and "When I see someone asking a question on Facebook that I know the answer to, I try to respond."

Facebook-specific bridging social capital. This scale (9 items, $\alpha = .93$, $M = 3.57$, $SD = 0.80$) is an adaptation of Williams' (2006) online bridging social capital scale that explores the degree to which people perceive they can access diverse ideas and a broader community through members of their social network. This version of the scale specifically explores the degree to which people perceive they can access these resources from their Facebook connections (sample item: "Interacting with people in my Facebook network makes me want to try new things"). Analysis of a pilot data set indicated one item could be dropped from the scale as it did not load with the others when confirmatory factor analysis (CFA) was performed. Please see the following for a complete list of the bridging and bonding

social capital scale items used here: http://www-personal.umich.edu/~enicole/socialcapitalscales2.html.

Facebook-specific bonding social capital. This scale (9 items, $\alpha = .85$, $M = 3.19$, $SD = 0.73$) is another adaptation of a scale from Williams' (2006) research on online social capital. Bonding social capital speaks to individuals' perceptions of being able to get meaningful support and help from members of one's social network, and this scale was adapted to specify resources available via Facebook. CFA performed on a pilot data set revealed that one of the original 10 items in the scale was not loading adequately and was dropped prior to the main data collection.

Findings

Hypothesis 1a and Hypothesis 1b asserted that posting mobilization requests would be positively associated with bridging social capital and bonding social capital, respectively. To test these relationships, we used independent samples *t*-tests to observe differences between those who had and had not posted mobilization requests within a 28-day window. Participants who posted one or more mobilization requests in that time frame reported higher bridging social capital ($M = 3.66$) than those who had not posted requests ($M = 3.48$), supporting H1a, $t(275) = -2.52$, $p < .05$. H1b was also supported, $t(242) = -2.02$, $p < .05$, with mobilization requesters perceiving higher levels of bonding social capital ($M = 3.26$) than those who did not post mobilization requests ($M = 3.12$).

Our first research question explored differences between those who posted mobilization requests and those who did not. Among our random sample, 25% of the sample produced one or more likely mobilization requests over 28 days and the rest of the sample produced none. Thus, we performed a number of independent samples *t*-tests to compare those who posted no mobilization requests with those who posted one or more mobilization requests on several of our variables of interest, including the information utility, organizing utility, and network utility of Facebook. We find those who posted mobilization requests within the 28-day period tended to report higher perceptions of *Facebook Information Utility* ($M = 3.91$) than those who had not posted any mobilization requests during that time ($M = 3.64$), $t(241) = -3.86$, $p < .001$. Mobilization posters ($M = 3.51$) also reported higher *Facebook Organizing Utility* than those who had not posted mobilizations ($M = 3.16$), $t(246) = -2.36$, $p < .05$, and higher *Facebook Network Utility,* $t(247) = -2.36$, $p < .05$ ($M = 3.35$ vs $M = 3.16$). With regard to H3, those who posted mobilization requests reported higher levels of FRMB ($M = 4.05$), $t(255) = -3.27$, $p < .01$, than those who did not ($M = 3.84$).

Hypotheses 2a and 2b predict positive relationships between FRMB and bridging and bonding social capital. To examine these relationships and gain more insight into how these various elements work together, we performed a series of nested ordinary least squares (OLS) regressions. For these regressions, we used the mobilization sample, a sample of users who had recently posted at least one likely mobilization request, so that we could examine the relationships between survey measures and the amount of mobilization activity with a more robust empirical range for the latter than would be provided by the random sample of those who had recently made at least one post of any kind.

Table 2. Ordinary least squares regression predicting bridging social capital.

	1	2	3	4
(Intercept)	0.08* (0.04)	0.06 (0.04)	0.01 (0.03)	0.00 (0.03)
Number of days visited Facebook	0.02 (0.03)	0.01 (0.03)	0.01 (0.02)	−0.00 (0.02)
Age	0.15** (0.03)	0.20*** (0.03)	0.08** (0.02)	0.04 (0.02)
Gender (M)	−0.26*** (0.07)	−0.17** (0.06)	−0.04 (0.05)	−0.00 (0.05)
Number of Facebook friends	0.21*** (0.03)	0.17*** (0.03)	0.07** (0.02)	0.10* (0.002)
Posting self-efficacy		0.31*** (0.03)	0.02 (0.03)	−0.05 (0.03)
Number of posted mobilization requests			0.08*** (0.02)	0.06** (0.02)
Facebook Information Utility			0.18*** (0.03)	0.12*** (0.03)
Facebook Organizing Utility			0.23*** (0.03)	0.19*** (0.03)
Facebook Network Utility			0.31*** (0.04)	0.23*** (0.03)
FRMB				0.34*** (0.03)
R^2	.08	.17	.49	.55
Adj. R^2	.07	.16	.48	.55
df	964	963	959	958

FRMB: Facebook Relational Maintenance Behaviors.
Numbers in model represent standardized beta coefficients. Standard errors are in parentheses.
***$p < .001$; **$p < .01$; *$p < .05$.

To address our second research question, we built a series of models predicting bridging and bonding social capital by successively adding variables to each model in a stepwise fashion. The predictor variables for both models were the same. The first model included demographic variables (age and gender) and basic Facebook variables (number of days visiting Facebook and number of Facebook friends) as controls. In the second model, we added perceived posting self-efficacy. The third model introduced the number of likely mobilization requests performed over the 28-day observation period as well as perceived Facebook information, coordination, and network utility scales. The FRMB scale was added in the final models.

Overall, the number of mobilization requests posted on Facebook and one's perceptions of Facebook's information, organizing, and network utility are positively predictive of bridging social capital; bonding social capital is positively predicted by the number of mobilization posts and perceptions of Facebook's information and organizing utility (see Tables 2 and 3). As predicted by Hypotheses 2a and 2b, FRMB was a positive, significant predictor of both bridging and bonding social capital. Altogether, the variables in these models explained 55% of variance in perceptions of bridging social capital and 35% of perceptions of bonding social capital.

Table 3. Ordinary least squares regression predicting bonding social capital.

	1	2	3	4
(Intercept)	0.10* (0.04)	0.07 (0.04)	0.04 (0.03)	0.03 (0.03)
Number of days visited Facebook	0.01 (0.03)	−0.01 (0.03)	−0.01 (0.03)	0.01 (0.03)
Age	−0.15*** (0.03)	−0.09** (0.03)	−0.17*** (0.03)	−0.19*** (0.03)
Gender (M)	−0.30*** (0.07)	−0.21** (0.07)	−0.12* (0.06)	−0.09 (0.06)
Number of Facebook friends	0.07* (0.03)	0.04 (0.03)	−0.03 (0.03)	0.01 (0.03)
Posting self-efficacy		0.32*** (0.03)	0.12*** (0.03)	0.08* (0.03)
Number of posted mobilization requests			0.02 (0.03)	0.01 (0.03)
Facebook Information Utility			0.15*** (0.04)	0.11** (0.04)
Facebook Organizing Utility			0.33*** (0.04)	0.31*** (0.04)
Facebook Network Utility			0.06 (0.04)	0.01 (0.04)
FRMB				0.20*** (0.03)
R^2	.05	.14	.33	.35
Adj. R^2	.04	.14	.32	.35
df	964	963	959	958

FRMB: Facebook Relational Maintenance Behaviors.
Numbers in model represent standardized beta coefficients. Standard errors are in parentheses.
***$p < .001$; **$p < .01$; *$p < .05$.

Discussion

This study builds upon existing research on Facebook use and social capital in order to better understand the mechanisms by which social capital is generated, maintained, converted, and activated in this context. Thus, similar to other work such as Ellison et al. (2014) and Burke et al. (2010), we adopt methods that enable us to examine specific Facebook activities, as opposed to generic Facebook use. In this article, the behaviors we examine are mobilization requests—status updates that we believe ask for some sort of help or action from one's Facebook Friends network. We extend previous work by considering not just the channel employed by Facebook users, but also message content and users' perceptions regarding Facebook's utility in different domains.

When we examine differences between users who posted an update that was classified as a mobilization request in a 28-day period and those who did not, we find that those who post requests report higher bridging and bonding social capital. Importantly, this research focuses on *status updates*—a form of broadcasted communication on the site that previous research suggests would not be significantly associated with social capital, in comparison to directed communication between individuals (Burke et al., 2011). One contribution of this work is that it considers the *content* of broadcasted messages (i.e.,

likely mobilization attempt vs non-mobilization attempt) in addition to the *channel*. Although the majority (75%) of the random sample of users we examined did not broadcast a likely mobilization request during the 28-day observation period, those who did reported significantly higher bridging and bonding social capital. We believe this is because these requests serve to activate one's network and impel them to provide support, which both meets the needs of the poster and obligates him or her to reciprocate in the future. The cyclical nature of social capital conversion is facilitated by various affordances of the site, such as the fact that exchanges are persistent, provisions of support (e.g., the answer to a question) are made visible to a wide audience thus activating self-presentational motivations for answering, and responses can be provided quickly and with little friction. In fact, previous research suggests that the majority of mobilization requests can be satisfied by comments or other in-channel responses (Ellison et al., 2013). Importantly, the research presented here uses behavioral data to explore differences between mobilization posters and non-posters, and finds that—consistent with our conceptual framing of mobilization requests as triggers for social capital exchanges—these two groups have significantly different levels of social capital.

We also examine patterns in our Facebook utility scales, which capture perceptions about different kinds of benefits provided by the site. Compared to those who did not post a mobilization request during our 28-day observation period, mobilization posters reported higher scores on all three of our Facebook Utility scales. These scales asked users to assess Facebook as a place for acquiring new and useful information, its value for organizing, and the extent to which the user benefits from the networked social structure of the site. While we cannot make claims about the directionality of these relationships, those who make requests of their network reported higher responses on all three scales, suggesting that they tend to see the platform as a better source of information and exposure to "new things" (as measured by Facebook Information Utility) and a better place to enact social coordination, organization, and problem-solving than those who do not (as measured by Facebook Organizing Utility).

Perhaps most interestingly, the Facebook Network Utility scale assesses the extent to which participants benefit from being able to see and learn from others' requests and questions and the responses provided by Friends of Friends. This scale captures the benefits associated with networked nature of interaction on the site, such that individuals from different clusters of one's network, who may not know one another (but are both friends of the poster), have the opportunity to interact. This cross-cluster communication is supported when Friends of Friends come together in response to an expressed need, and can be a powerful source of novel information (Burt, 2010). Facebook Network Utility reflects individuals' perceptions that their Friends are also performing these kinds of mobilization attempts—potentially reinforcing norms of reciprocity around broadcasted needs—and captures the extent to which individuals who see their Friends perform these behaviors feel that they learn new information from these observed interactions.

Accordingly, our results demonstrate a strong link between perceptions of this kind of Facebook utility and bridging social capital, which represents the degree to which individuals perceive access to different kinds of resources, individuals, and information. Although our research cannot assert a causal relationship, we believe that exposure to

Friends of Friends may contribute to perceptions of bridging social capital because these responses come from the posters' networks of friends, not one's own articulated network (the typical audience for one's own broadcasted requests). Consistent with this interpretation, Facebook Network Utility was not predictive of bonding social capital, which we would not expect to be associated with exposure to Friends of Friends. Our measure of network utility taps into a dimension of the site that goes beyond the benefits associated with SNS Q&A identified in other work in that it captures the perceived value of reading *others'* requests and the responses to those requests. Future work may want to consider instances in which individuals feel they are benefiting from the affordances of the site outside of the mobilization request and response dynamic.

Of course, posting a mobilization attempt may be the first step toward activating one's social capital, but an ignored plea for help could arguably *diminish* one's perceptions of available social capital. A response from the network is critical. We consider this part of the social capital cycle in our measure of FRMB. Conceptually, mobilization attempts and FRMB are intimately related. When users are posting requests, they are informing their network of a need; when they engage in FRMB, they are meeting (or attempting to meet) requests from others. We find, unsurprisingly, support for the relationship between FRMBs and the posting of likely mobilization requests in that those who post requests reported significantly more engagement in these social grooming and helping behaviors. FRMB is a significant predictor in our models of both bridging and bonding social capital, which is consistent with other work (Ellison et al., 2014).

In our models examining predictors of bridging social capital, we find that the number of Facebook Friends, the number of posted mobilization requests, FRMB, and all three Utility scales are significant, with FRMB and Facebook Network Utility being the most powerful factors. Presumably, individuals' perceptions that their network is a source of information and learning might encourage engagement in relationship maintenance behaviors on Facebook, and engagement in FRMB activates powerful network dynamics, in that commenting on others' requests exposes one to a new network of Friend-of-Friend connections.

For bonding social capital, age, Facebook Information Utility, Facebook Organizing Utility, posting self-efficacy, and FRMBs are significantly predictive, with age and Facebook Organizing Utility being the most powerful factors. Organizing face-to-face events with one's friends and being able to solve problems on Facebook tap into aspects of bonding social capital, which is related to closer ties and more tangible forms of assistance. We suspect that the perceived benefits of using Facebook to organize, coordinate with others, and solve problems enhance perceptions of access to supportive ties. Although individuals may receive meaningful emotional and social support from their Friends via Facebook, the number of mobilization requests they post is not significantly predictive of bonding social capital. This is not a wholly surprising finding as the operationalization of mobilization requests and the classifier trained to identify them were designed to include only *explicit* requests made to one's network, not the kinds of implicit requests for emotional or social support (e.g., "I had a terrible day") that we would expect to be associated with bonding social capital. We would also expect that requests for large or effortful help would likely be shared with closer ties through channels other than Facebook—indeed, past work has found that the majority of mobilization requests

on the site tend to be lighter-weight requests (Ellison et al., 2013)—or through more directed communication features of the site. Age was a significant predictor as well, such that younger users were more likely to report higher levels of bonding social capital. This could be because the networks of younger people are more completely represented on the site or because younger users may make use of more features of the site (such as private messaging and participating in Facebook Groups) that contribute to meaningful exchanges with their Friends, resulting in perceptions of greater support. It is worth noting that the models for bonding social capital explained less of the variance than did those for bridging social capital, suggesting that there are other factors at play.

Previous research by Ellison et al. (2013) suggests that it is unlikely that the typical users will see many mobilization requests in their daily News Feed; only 4% of their sample of public status updates comprised mobilization attempts. Our findings here extend this work in that we are able to measure, via an automated classifier, the incidence of mobilization attempts among private posts as well. Looking only at our random sample of active posters on the site (not all users), we find that 25% posted one or more likely mobilization attempts in a 28-day period, suggesting that nearly one fourth of active Facebook posters in the United States may be sharing at least one request for help via the site per month. This represents a huge number of potential social capital conversions occurring on and through the site. Future work could examine factors associated with reluctance to post requests, such as self-presentational or privacy concerns.

Limitations

A few notable limitations to our study and conclusions should be mentioned. The logistic regression-based classifier used to determine which posts were likely mobilization requests, both for sampling and analysis purposes, does not perfectly match human coders' judgments. To evaluate the performance of the classifier, we used a randomly selected test set of posts held out from the training set. With a threshold of 0.75 to dichotomize predicted probabilities as either likely mobilization or likely non-mobilization, the precision and recall of the classifer on the test set were approximately 75% and 40%, respectively. These metrics describe how often the classifier may fail to identify mobilization status updates as mobilizations (false negatives) or may incorrectly label as mobilizations status updates that human coders would not judge to be so (false positives). We chose a high threshold of 0.75 for our sampling and analysis to make false positives much less likely than false negatives, a conservative approach with respect to positively identifying mobilizations. We do not know whether there is a systematic pattern to these errors, or whether there were common characteristics among posts that were misclassified. In addition to characterizing the classifier's performance quantitatively, we also considered the face validity of predicted mobilizations among the public status updates in the test set. With the 0.75 threshold, predicted mobilizations in the public test set appeared reasonable or were false positives in understandable ways that would be hard to detect programmatically (e.g., song lyrics that include a request, rhetorical questions). Finally, although this contributes another piece of the larger puzzle, future work should capture longitudinal data and use other methods, such as interviews, to probe more complex questions such as the extent to which norms of reciprocity are salient or the nature

of participants' decision-making process around how to frame a request and which communication channel to use.

Causal relationships cannot be demonstrated from our methods of data collection and analysis. It is ultimately not clear whether those with higher perceptions of bridging and bonding social capital are more likely to broadcast to their networks for help *because* they perceive a greater access to network resources or whether practices such as sharing requests and responding to others' requests are enhancing perceptions of access to social capital. Future work with longitudinal data would inform our understanding of the directionality of these relationships. Finally, this study focuses on social capital mobilization activity in one SNS: Facebook. Given that many other SNSs, and social media sites more broadly, have different technical and social affordances, care should be taken in generalizing these findings to other SNSs.

Conclusion

As we approach 10 years of Facebook's role in enabling, shaping, and amplifying online interactions, and nearly that long as a focus of academic study, we are learning more about the relationship between uses of the site and perceptions of social capital. As Ellison et al. (2013) note, Facebook offers users the ability to broadcast requests to one's social network, which produces a powerful context for social capital exchanges. In this study, we build upon past work to explore the role of requests for help in the social capital cycle. The frequency with which one posts requests is a significant predictor of social capital, but this work also highlights the importance of factors such as the extent to which individuals try to respond to others' posts and the extent to which they value different aspects of the site, such as the ability to see content from Friends of Friends. Unlike past work, we are able to use behavioral data to compare differences between those who post requests and those who do not, and to identify differences across users with regard to the specific aspects of the site they find valuable. What is becoming increasingly clear is that Facebook serves as a powerful platform for not just asking for help but also providing help, gaining access to information, coordinating with one's Friends, and accessing Friends of Friends through networks ties. Each of these processes contributes to the complex, multi-faceted, and rich tapestry of interactions that help people feel that they have access to important social resources.

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