Perceptions of Facebook's Value as an Information Source

Cliff Lampe
University of Michigan
105 South State St. Ann Arbor, MI 48109
cacl@umich.edu

Jessica Vitak, Rebecca Gray, Nicole B. Ellison
Michigan State University
409 Comm Arts Bldg, East Lansing, MI 48824
[vitakjes, grayreb2, nellison]@msu.edu

ABSTRACT
Facebook has become an increasingly important tool for people engaging in a range of communication behaviors, including requesting help from their social network to address information needs. Through a study of 614 staff members at a large university, we show how social capital, network characteristics, and use of Facebook are related to how useful individuals find Facebook to be for informational purposes and their propensity to seek different types of information on the site. We find that bridging social capital and engagement with one's network through directed communication behaviors are important predictors of these dimensions of information seeking; furthermore, a number of demographic and usage behavior differences exist between those who choose to engage in information-seeking behaviors on Facebook and those who do not. Finally, when predicting information-seeking behaviors, we identify a significant interaction between users' perceptions of Facebook as appropriate for purposes beyond the purely social and their engagement with their network.

Author Keywords
Information-seeking, Facebook, social network sites, social capital

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

General Terms
Human Factors

INTRODUCTION

In this study, we seek to understand the extent to which Facebook users are likely to use the site for their information-seeking activities. With an expanding user base [20] and a wide variety of motivations driving site use [14], it is important to consider if and how users are employing the site's social and technical features to connect with their social networks when seeking information.

In everyday life, individuals encounter a wide range of information needs. These can include questions as wide-ranging as how to fix a printer, what to name a pet, or recommendations about a major purchase [6]. Models of information seeking around these daily uncertainties argue that people turn to those in their social network for information rather than going to formal sources [29]. As social network sites (SNSs) have been shown to connect individuals to people with whom they have a previously established offline connection [15], as well as to connections of different degrees of relational closeness [12], it is likely that people turn to SNSs as an efficient way to tap these connections for information-seeking purposes.

Facebook is increasingly used by a diverse group of people. Recent Pew data indicate that 65% of Internet using adults in the United States have a profile on at least one SNS [20]. The average age of SNS users has also increased in recent years: among American Internet users, 70% of 30-49 year-olds, 51% of 50-64 year-olds, and 33% of those 65 or older now have a profile on a SNS [20]. Facebook is the dominant SNS, with nearly all (92%) adult SNS users maintaining a profile on the site [9].

As diverse groups of users become Facebook members, they use the site in increasingly varied ways. Previous work has shown that Facebook users engage in multiple activities on the site and have different motivations for using the site [14, 23, 31]. Connecting with friends, seeking emotional support, playing games, and sharing pictures are just some of the ways people use Facebook [18]. In addition, research suggests that, increasingly, users are repurposing SNSs for purposes beyond the strictly social, including for networking and collaboration [17].

A few researchers have looked at how SNSs are used for information seeking, both in workplace settings [8, 30, 32] and, more generally, to fill common information needs [21]. The primary finding from these studies is that people turn to SNSs for information—as opposed to using formal channels like search engines or libraries—when the information need is best fulfilled by information from people who know and are known by the information seeker.

The present study extends this line of research by exploring the degree to which individuals find Facebook useful for information seeking, as well as the extent to which they engage in a range of information-seeking behaviors on the site. Existing research on the use of SNSs for "social

search" functions differentiates information seeking from browsing, explores cultural differences in question-asking behaviors, and identifies different types of information seeking as well as factors influencing responses to information seeking [33, 36]. Another line of research has shown how Facebook use is related to perceptions of social capital [3, 11], a construct that captures how likely individuals feel they are able to convert network connections into things like favors or information. The contribution of this work is to extend scholarship on social search, provide additional evidence for the social capital implications of Facebook use, and synthesize these research streams to explicate how social capital affects social search.

LITERATURE REVIEW

Everyday Information Seeking

How people seek information—and the types of information they seek—is a complex interplay between characteristics of the information seeker, the properties of the information they are looking for, and the systems in which they seek information. For example, Dervin [4] developed a "sense-making" model of information seeking that argued people with information needs iteratively contextualize both the need and potential "bridges" (i.e., sources of information) for filling those needs. Likewise, Nardi and O'Day's [22] "information ecologies" perspective suggests people address information needs by incorporating multiple "species," including formalized systems like books, people, and practices. These perspectives incorporate information search not just as purposive seeking of information, but as a continual process where information that may be useful in the future is noted as people encounter it [35].

Theoretical work by Pirolli—specifically Information Foraging Theory [25] and the Social Information Foraging Model [24]—support these models of information seeking. The original Information Foraging Theory represents an economic approach to information search and argues that information seekers evaluate the benefit of their current access to information versus the cost of seeking additional information. With Information Foraging Theory, Pirolli argues that individuals' information-seeking performance can be improved by increasing network diversity, especially among those who would be willing to respond to an information request. In other words, social connections reduce many of the costs of information seeking.

Considering these perspectives on information seeking, it is clear that people with information needs go through an iterative search process that can include multiple sources, systems, and techniques. Thus, we suspect SNSs such as Facebook may play an important role in this "information ecology" by providing users with multiple outlets through which to request and access information from their Facebook networks.

Research on Facebook Use

Facebook contains a number of useful features related to information seeking. Users establish networks of "Friends"—often in the hundreds—and maintain those relationships through both passive consumption and active contribution of content to the system. Facebook contains multiple channels for information seeking, including dyadic and group messaging, as well as network-wide interaction via status updates. Facebook also enables users to passively view the information-sharing and -seeking activities of their network via the News Feed and can respond to network members' information requests, either by commenting directly on an update or through another channel.

Scholars in several fields have addressed how people use Facebook, as well as outcomes associated with use. Early work established that individuals used the site more to connect with pre-existing offline connections than to meet new people [15] and that specific types of profile information (e.g., those hard to fake, like contact information and organizational membership) predicted network size (number of Friends) [16]. More recent studies have established a typology of Facebook uses, including relationship maintenance, social surveillance, and social interaction [14, 23].

When considering potential outcomes derived from SNS use, several researchers have focused on the relationship between Facebook use and social capital [3, 4, 9]. Social capital can be understood as the cumulative resources—both actual and potential—that individuals have access to through their social network [2]. Social capital is exchanged through interactions with that network, both in the request for and provision of those resources. Researchers have identified specific uses of Facebook that positively predict two types of social capital: *bridging*, which includes the ability to access non-redundant information and diverse perspectives, typically through weaker ties; and *bonding*, which reflects the physical, social, and emotional support that close ties typically provide. For example, Burke and colleagues [4] found that increases in Facebook network size were positively correlated with increases in perceived social capital. Ellison and colleagues [11] found that the *type* of tie—operationalized as the number of "actual" friends users reported in their network—was more predictive of social capital than the *quantity* of ties (total number of Friends).

Researchers have also found specific Facebook usage behaviors to be predictive of social capital. While neither broadcasting updates nor passive consumption of information predicted bridging social capital, Burke et al. [3] found that directed communication—a measure that captures comments, likes, and tags individuals receive from others in their network—positively predicted it. This area of research has been extended by Ellison and colleagues [11], who argue that specific forms of directed communication, such as responding to a Friend's request for information or

social support, serves as a signal of relational investment and highlights their presence in that person's social network. These relationship maintenance behaviors can be viewed as a form of social grooming [7] and may increase the likelihood that those network members will respond to resource requests in the future.

SNSs and Information Seeking

Social network sites are increasingly employed as "social search engines" because of the nuanced context in which question asking occurs. In a study of Microsoft employees, Morris and colleagues [21] analyzed how SNSs like Facebook and Twitter were employed for information-seeking purposes. They found that respondents often preferred asking questions on SNSs as opposed to Q&A sites or search engines for multiple reasons, including: the information need required responses that were tailored to the asker, the trust in the people answering the question was higher because they were known to the asker, the question could be framed in natural language, and the asker received secondary benefits like emotional support.

On most SNSs, users can ask their network questions through multiple channels, including private messages and more public broadcasts. Morris et al.'s [21] research on Facebook status updates provides insight into many different characteristics of the questions posed in Facebook members' status messages, such as the types of questions asked (e.g., rhetorical, factual knowledge), question topics (e.g., technology, current events), and motivations for asking questions this way (e.g., social connection, higher degree of trust). Recent research has begun to identify user characteristics—such as cultural differences [36]—that significantly predict question and answer behavior on SNSs as well as factors that influence characteristics of responses (such as quality and quantity) to information-seeking activities in these social online contexts [33].

Bridging Social Capital and Information Seeking

The performance of information-seeking behaviors within SNS contexts presents individuals with new methods of accessing and harnessing the resources embedded in their network of ties. Social information-seeking behaviors on Facebook, such as using the site to "check out" people one does not know well, have been linked to greater levels of bridging social capital in past research [7]. However, these activities typically involve more passive behaviors, such as browsing another user's profile to discover common interests, and do not include more active behaviors such as using Facebook to ask questions of another user.

Social capital research has also examined the role that network structure plays in bridging social capital. Burt [5] asserts that in order to reap the social capital benefits of a diverse social network, one must be able to recognize beneficial opportunities and communicate across multiple clusters, which requires particular analytic and communicative skills. Other social capital researchers have demonstrated that weak and "bridging" ties (those that span different clusters within a network) are the paths through which individuals are exposed to novel information [26, 27, 34]. Users with larger, more diverse networks should have greater access to non-redundant information than those with dense networks. Assuming users are aware of these benefits, users with larger networks may be more likely to use Facebook for information seeking and, subsequently, have more success accessing non-redundant information from their network.

ESTABLISHING CHARACTERISTICS OF FACEBOOK INFORMATION SEEKERS

The present study seeks to explicate the relationship between individuals' use of Facebook, their attitudes toward Facebook as a space for information seeking and sharing, and their propensity to turn to their Facebook network with questions.

Bridging social capital captures the benefits associated with a large network of loosely connected ties and reflects an individuals' ability to access resources embedded in their network [19]. Work by Granovetter [13] notes that weak ties in social networks are able to provide access to non-redundant information. Burt's [5] work has extended this thinking, arguing that specific types of ties—bridging ties—are especially important for information diffusion because they connect otherwise independent networks. Therefore, larger networks with more clusters should theoretically be more appropriate for meeting information needs.

H1: The greater users' perceptions of their Facebook bridging social capital, the greater their (a) perceptions of Facebook as useful for information purposes and (b) engagement in information-seeking behaviors.

Previous research has established a significant relationship between various measures of Facebook use and bridging social capital. For example, Burke et al. [3] found that users' total network size was positively correlated to their perceptions of bridging social capital. In more recent research, Ellison et al. [11] suggest that total network size may not be as important as the types of relationships those connections represent; in their study, the number of perceived "actual" friends Facebook users reported significantly predicted perceptions of bridging social capital, while total Facebook Friends did not. When considering the relationship between network composition and engagement in information seeking, it may be that users are more likely to trust their actual friends' opinions—which previous research has identified as a key reason for asking questions [21]. Therefore, it should be expected that individuals with more actual friends in their network would see the site as more useful for information purposes and engage in more information-seeking behaviors.

H2: As the number of actual friends on Facebook increases, so will users' (a) perceptions of Facebook as useful for

information purposes and (b) engagement in information-seeking behaviors.

Another component of bridging social capital often discussed in the literature is the norm of generalized reciprocity, or giving to an individual or community without expectation of an immediate "payment"; rather, generalized reciprocity is driven by the belief that the favor will be repaid at some point in the future [26]. On Facebook, one way in which users may engage in generalized reciprocity is by responding to Friends' requests for information or other resources. Recent research [10] found a strong positive relationship between individuals' intent to respond to network members' requests for resources and their perceptions of bridging social capital. Therefore, it is also likely that individuals who engage in these kinds of behaviors are likely to view Facebook as useful for information purposes and engage in information-seeking behaviors themselves.

H3: As individuals' intent to respond to posts from their Facebook network increases, the greater their (a) perceptions of Facebook as useful for information purposes and (b) engagement in information-seeking behaviors.

METHOD

To analyze the relationship between Facebook users' perceptions of social capital and their engagement in information-seeking behaviors on the site, we emailed 2149 non-faculty staff at Michigan State University invitations to participate in an online survey regarding their use of online communication tools in February 2011; all participants were also invited to provide an email address to be entered into a raffle for one of fifteen $15 Amazon gift card. We received usable responses from 614 people; after removing a number of potential participants for technical reasons (email bounce-backs, out-of-office replies), the response rate was calculated to be 28.9%.

Participants

Participants tended to be female (66%), White (83.4%), and highly educated, with 75.4% holding at least a bachelor's degree and 33.2% having pursued additional training after college. The average participant was 45 years old (*SD* = 10.75 years) and, among those reporting income, the largest subset of the sample reporting personal annual income of $50,000-75,000 (33.7%), followed by $40,000-$49,999 (20.8%). Seventy-eight percent of participants reported having a Facebook account. When comparing demographic characteristics of users and non-users, only age emerged as significantly different, with Facebook users being significantly younger (*M* = 43.88, *SD* = 10.91) than non-users (*M* = 50.16, *SD* = 9.90), $t(592) = 5.78$, $p < .001$.

Survey Content

The survey contained scales for bridging social capital, information-seeking behaviors, measures of Facebook engagement and use, and demographics. Unless otherwise noted, scale items were measured on a five-point Likert-type scale (1 = Strongly Disagree, 5 = Strongly Agree).

Facebook-specific bridging social capital

This measure (10 items, alpha = .93, *M* = 3.33, *SD* = .76) was adapted from previous research [35] to reflect the ways in which people feel they can access novel information resources from their Facebook connections. Sample items include: "Interacting with people in my Facebook network makes me want to try new things" and "Talking with people in my Facebook network makes me curious about other places in the world."

Information Usefulness

In order to capture participants' sense of how useful Facebook is for information-seeking purposes, we include a single-item, scaled variable in some of the analyses. Information Usefulness (*M* = 3.54, *SD* = .89) was measured through the extent to which participants agreed with the item, "I feel I get useful information from Facebook."

Information-seeking behaviors

This measure (4 items, alpha = .85) is an original scale developed as part of this study to capture individuals' use of Facebook to seek information and support from their network. These four items were winnowed down from a larger list of 13 information-related behaviors using factor analysis to determine which items seemed to be capturing a similar aspect of information seeking. The original 13 items included in the instrument measured specific behaviors users can perform on the site (e.g., "I use Facebook to get business referrals"), perceptions of Facebook's use as an informational tool (e.g., "I use Facebook to get business referrals"), frequency of these behaviors (e.g., "How often do you use Facebook to ask questions of your Facebook friends?"), and users' reasons for requesting information from and providing information to their networks (e.g., "I ask questions on Facebook because my Facebook Friends provide me with better information than an Internet search").

Exploratory factor analysis of the 13 items regarding information behaviors on Facebook revealed a three-factor solution accounting for 68% of the variance. In this study, we focus on one of these factors: information-seeking behaviors. This scale originally included five items, but confirmatory factor analysis led to the removal of one item ("I use Facebook to ask for favors from my network"). The final, four-item scale (*M* = 2.30, *SD* = .82), was a good fit to the data, $X^2 = 4.46$, $p = .48$; RMSEA = .000; CFI = 1.00; GFI = .99. Full details of this scale, including item means and standard deviations, are provided in Table 1.

We believe our final four-item scale is a robust measure because the items address different aspects of information seeking. Asking health-related questions typically entails disclosure of potentially sensitivity personal information and is thus "higher risk" and more discriminating. The business and purchases items speak to financial investments

Item	Mean	SD
I use Facebook to get advice about something I want to buy.	2.32	.98
I use Facebook to get business referrals.	2.12	.93
I use Facebook to get answers to specific questions.	2.50	1.06
I use Facebook to ask questions about health issues.	1.98	.88
Scale Average	**2.30**	**.82**

Table 1. Items, means, and SDs for Information-Seeking Behaviors Scale

by the participant and explicit instances of social capital conversation that evidence trust in one's network. Finally, we included a measure that referenced "answers to specific questions," which probes instances of active information-seeking, as opposed to more opportunistic instances of information exposure via Facebook (e.g., happening to see something of interest in one's feed).

Signals of Relational Investment

This measure [10] (SRI; 5 items, alpha = .90, M = 3.55, SD = .83) captures the extent to which Facebook users attempt to engage in directed communication behaviors with their Friend network. Sample items include: "When I see someone asking for advice on Facebook, I try to respond" and "When a Facebook friend has a birthday, I try to post something on their wall."

Facebook Appropriateness

Facebook has always existed, first and foremost, as a social space, and the site centers around social connection and interaction. However, as the site—and its user base—has expanded, so have the possibilities for repurposing it for uses beyond simple social interaction. As information seeking can be considered a use of the site beyond the purely social, it is important to control for users' perceptions of the appropriateness of Facebook for non-social purposes.

To address this, the Facebook Appropriateness scale (alpha = .86, M = 2.82, SD = .*78*) was developed. Items asked participants the degree to which they agreed with the following statements: "Facebook is an appropriate place to ask (1) health-related questions; (2) for advice; (3) for emotional support; (4) for others' opinions; (5) for favors."

Facebook use variables

These measures capture the extent to which individuals engage with the site through three open-ended items. Time spent on Facebook (M = 33.9 minutes, median = 15, SD = 47.9) was measured through the item, "In the past week, on average, approximately how many minutes PER DAY have you spent actively using Facebook?" Total Facebook Friends ("Approximately how many TOTAL Facebook Friends do you have?") measures users' perceptions of their network size (M = 207, median = 120, SD = 288.16). Developed in earlier research [11], Actual Friends ("Approximately how many of your TOTAL Facebook friends do you consider actual friends?") attempts to capture more meaningful relationships within one's network (M = 76, median = 40, SD = 101.08). On average, participants in this sample considered 36.7% of their Facebook Friend network to be "actual" friends.

Controls

In addition to sex (women = 1), age, ethnicity (recoded as a dichotomous variable, 1 = White), and education, self-esteem [28] was included as a control because it has been linked to perceptions of social capital [9]. This seven-item scale (alpha = .86) had a mean score of 4.33 (SD = .56).

RESULTS

Facebook Information Usefulness

Table 2 shows the nested Ordinary Least Squares (OLS) regression model with perceived usefulness of information on Facebook as the dependent variable. Variables were added in blocks to show the individual contribution of each set of variables to the model. The final model explains 40% of the variance in users' perceptions of Facebook as useful for information seeking, which is robust.

The model shows that bridging social capital is positively related to perceptions of information usefulness on Facebook, supporting H1a. In other words, the more people feel they are exposed to a broader world-view through their Facebook networks, the more they feel the site is able to provide useful information.

We also hypothesized that the number of actual friends reported by respondents would positively predict perceived information usefulness (H2a). This hypothesis was initially supported (see Model 2); however, once bridging social capital was added as a predictor (Model 3), the actual friends variable dropped out as a significant predictor of information usefulness. It could be that actual friends, which has been shown to be related to bridging social capital in other research [11], is moderated by bridging social capital. Alternatively, it could be that respondents consider actual friends to be more similar to them and therefore less likely to provide access to novel information. Finally, H3a predicted SRI would be positively related to perceived information usefulness. The data support this hypothesis.

Time spent on Facebook was included as a control and emerged as significant in the model. In other words, users who spent more time on the site reported higher perceptions of Facebook as useful for information seeking. This could be because users who spend more time on the site are exposed to more content, including information exchanges. Because these data do not speak to causal direction, it could also be that these users see Facebook as being a good

	Model 1: Controls	Model 2: Time & Friend Variables	Model 3: Facebook-specific Bridging Social Capital	Model 4: SRI	Model 5: Appropriateness x SRI
Sex: Women	.095 (2.13)*	.077 (1.78)	.028 (.688)	.011 (.266)	.011 (.267)
Ethnicity: White	.008 (.189)	.025 (.597)	.024 (.618)	.033 (.843)	.033 (.843)
Age	-.079 (-1.73)	.007 (.160)	-.005 (-.126)	-.007 (-.163)	-.007 (-.158)
Education	-.009 (-.209)	.004 (.098)	.009 (.219)	.016 (.408)	-.016 (.409)
Self-Esteem	.087 (2.00)*	.064 (1.51)	.035 (.883)	.034 (.878)	.034 (.876)
FB Appropriateness	.436 (9.80)***	.374 (8.47)***	.222 (4.92)***	.180 (3.85)***	.187 (1.25)
FB Minutes Per Day		.180 (3.94)***	.148 (3.49)**	.123 (2.87)**	.124 (2.86)**
Total FB Friends		.079 (1.54)	.061 (1.28)	.054 (1.41)	.054 (1.14)
Actual Friends on FB		.114 (2.26)*	.067 (1.42)	.069 (1.47)	.069 (1.47)
Facebook-specific Bridging Social Capital			.373 (8.160)***	.309 (6.13)***	.308 (6.12)***
Signals of Relational Investment (SRI)				.154 (2.91)**	.160 (1.27)
Appropriateness*SRI					-.011 (-.048)
Constant	n/a (3.58)***	n/a (3.11)***	n/a (1.87)**	n/a (1.35)*	n/a (.884)**
	$F(409) = 21.06$***	$F(406) = 19.66$***	$F(405) = 27.22$***	$F(404) = 25.97$***	$F(403) = 23.75$***
Adjusted R^2	**.225**	**.288**	**.387**	**.398**	**.397**

*$p < .05$, **$p < .01$, ***$p < .001$

Table 2: Nested OLS regression with Facebook information usefulness as the dependent variable.

source of information, so they subsequently spend more time on the site.

Facebook Information-Seeking Behaviors

Table 3 shows the nested OLS regression model with "Information-Seeking Behaviors" as the dependent variable. Variables were added one step at a time to show how each contributes to explaining the variance in users' perceptions of their engagement in information-seeking behaviors on Facebook. The final model explains 39% of the variance in users' information seeking behaviors.

We proposed in H1b that there would be a positive relationship between perceptions of bridging social capital and perceived likelihood of seeking information on Facebook. The third block in the model describes the addition of bridging social capital. This variable is strongly related to the dependent variable, meaning that people who feel like they have more access to diverse people through the site are more likely to turn to their network when they have everyday information needs.

We also hypothesized that Facebook Information-Seeking Behaviors would be positively associated with the number of actual friends users reported in their Facebook network (H2b). The second block of variables measures perceptions of time spent on the site and size of network, including actual friends. These variables do not affect the dependent variable; thus, H2b is not supported.

H3b posited that users reporting greater engagement in SRI would report more engagement in information-seeking behaviors. In other work [10], SRI was positively related to bridging social capital, along with the number of "actual" friends users reported having in their Friend network. This hypothesis was supported, with greater engagement in SRI behaviors being associated with greater engagement in information-seeking behaviors (see Model 4).

In addition to the hypothesized relationships, age was negatively associated with perceived likelihood to seek information on Facebook in the final model. In all models, an increase in age was significantly associated with decreased likelihood to seek information through Facebook. Self-esteem, which has been a consistently strong predictor in models of Facebook use when social capital is the dependent variable [3, 9], was unrelated in these models.

Following analysis of the hypothesized relationships, we conducted additional analyses on some of the variables included in the models. First, we considered the appropriateness variable, which was significant ($p < .001$) across all four steps of each regression. As discussed above, users have a variety of motivations for using Facebook and, consequently, may experience significant variance in what content they perceive as appropriate to be shared through the site. The appropriateness variable was intended to control for variance across individual users—some of whom may see Facebook as a "strictly social" space while others may take advantage of the benefits of being able to communicate with a large network of connections and extract resources associated with that network. As seen in Step 5 of Table 3's model, we found a significant interaction effect between users' perceptions of appropriateness and their engagement in SRI behaviors on

	Model 1: Controls	Model 2: Time & Friend Variables	Model 3: Facebook-Specific Bridging Social Capital	Model 4: SRI	Model 5: Appropriateness x SRI
Sex: Women	.098 (2.21)*	.088 (2.03)*	.040 (.969)	.023 (.567)	.023 (.557)
Ethnicity: White	-.030 (-.702)	-.014 (-.329)	-.010 (-.259)	-.002 (-.058)	-.014 (-.350)
Age	-.188 (-4.17)***	-.109 (-2.33)*	-.124 (-2.82)**	-.126 (-2.90)**	-.135 (-3.12)**
Education	-.095 (-2.14)*	-.086 (-2.00)*	-.087 (-2.14)*	-.080 (-2.00)*	-.085 (-2.11)*
Self-Esteem	.005 (.122)	-.015 (-.348)	-.039 (-.986)	-.040 (-1.01)	-.038 (-.974)
FB Appropriateness	.414 (9.40)***	.368 (8.33)***	.233 (5.15)***	.194 (4.11)***	-.146 (-.965)
FB Minutes Per Day		.130 (2.85)**	.100 (2.33)*	.077 (1.77)	.067 (1.54)
Total FB Friends		.117 (2.28)*	.101 (2.10)*	.094 (1.97)*	.089 (1.88)
Actual Friends on Facebook		.068 (1.35)	.023 (.490)	.025 (.527)	.014 (.301)
Facebook-specific Bridging Social Capital			.344 (7.48)***	.286 (5.68)***	.288 (5.74)***
Signals of Relational Investment (SRI)				.142 (2.67)**	-.130 (-1.02)
Appropriateness*SRI					.545 (2.36)*
Constant	n/a (4.68)***	n/a (4.17)***	n/a (3.01)**	n/a (2.53)*	n/a (3.46)**
	$F(406) = 23.45$***	$F(403) = 19.69$***	$F(402) = 25.73$***	$F(401) = 24.40$***	$F(400) = 23.08$***
Adjusted R^2	**.246**	**.290**	**.375**	**.384**	**.391**

*$p < .05$, **$p < .01$, ***$p < .001$

Table 3: Nested OLS regression with Facebook Information Seeking scale as the dependent variable.

the site. In other words, the degree to which users saw Facebook as an appropriate space to request emotional support, advice, and information moderated SRI's relationship with users' engagement in information-seeking behaviors. The positive beta suggests that, as engagement in SRI increases, those who think requesting these kinds of resources through Facebook is more appropriate are more likely to engage in information-seeking behaviors than those who see Facebook as less appropriate for these purposes. In order to visualize this relationship, we conducted a simple slopes analysis [1], presented in Figure 1. As the figure shows, increases in information-seeking behaviors rose at a greater rate for those with high appropriateness perceptions than for those with low appropriateness perceptions. This interaction was only found for the information-seeking behavior measure, not the variable measuring Facebook's usefulness as an information source (Table 2).

Difference between high and low info seekers

In order to further explore how characteristics of Facebook users affect their perceived likelihood of seeking information through the site, we divided the respondents into quartiles and examined those who were in the lowest quartile in responses to the Facebook Information-Seeking Behaviors scale ("low info seekers"), and those in the highest quartile ("high info seekers"), comparing user characteristics through independent samples t-tests. This method allows us to identify users who believe they engage (or do not engage) in information seeking on Facebook.

We found that several user characteristics, included as independent variables in the regression models, were significantly different between the low info seekers and the high info seekers. Table 4 summarizes the means and standard deviations of low info seekers (highlighted in gray) and high info seekers. T-scores explain the statistical strength of the distance between the groups. All t-scores presented are significant at $p < .01$.

Low info seekers were more likely to be older males. They had half the total and actual Facebook friends, spent half the amount of time on the site, had less perceived social capital, lower SRI, and were less likely to feel that seeking

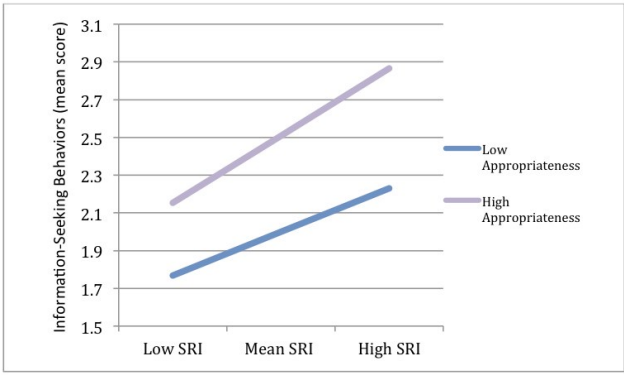

Figure 1: Simple slope analysis of relationship between Signals of Relationship Investment and appropriateness.

Variable	Mean	SD	t-score
Women	0.60	0.49	-2.55
	0.74	0.41	
Age	45.99	10.64	4.95
	40.22	10.14	
TOTAL Facebook Friends	147.05	73.10	-4.87
	311.75	133.19	
Actual Facebook Friends	49.42	73.10	-6.63
	123.17	133.19	
FB Minutes per day	21.48	38.39	-6.27
	54.78	59.51	
FB Bridging Social Capital	2.98	0.80	-9.74
	3.77	0.50	
SRI	3.15	0.90	-10.05
	4.02	0.51	
Appropriateness	2.60	0.78	-9.98
	3.38	0.54	

Table 4: T-test comparisons of user characteristics between low Facebook information seekers (shaded) and high Facebook information seekers.

resources on Facebook was appropriate. There were no differences between the groups in terms of ethnicity, education level, or self-esteem.

Other than gender and age, high reported use of Facebook for information seeking is associated with site engagement, including more Friends, more minutes per day, and higher reported SRI. Previous work has indicated that active use of Facebook was more associated with positive outcomes [4], which is consistent with these findings. In other words, it is not sufficient to be a member of Facebook to receive potential benefits, but rather requires the user to actively engage with the site across multiple dimensions.

DISCUSSION

The present study contributes to our understanding of how users perceive social network sites as venues in which to seek information. While previous work has established a typology of questions SNS users are likely to ask through the site [21], the analyses presented here help describe the characteristics of the type of person who is more likely to use Facebook to gather information, as well as the specific attitudinal and behavioral factors that contribute to engagement in Facebook information seeking.

Social capital researchers have often associated bridging social capital with access to diverse points of view and novel information from different clusters within a network [5, 13]. Participation on SNSs has been shown to be associated with social capital, with researchers arguing that sites like Facebook reduce the cost of accessing diverse clusters [3, 9, 11]. The study presented here extends this line of research by unpacking the concept of bridging social capital and exploring a specific way in which Facebook users might try to convert the social capital from their Friends into another form of capital: information. The types of people in information seekers' networks, and their engagement in reciprocal communication, may affect the types of information resources that can be converted from the social capital inherent in the relationships.

Our results indicate that Facebook users are not extremely likely to engage in information seeking with their Facebook network (M = 2.30, SD = .82). However, we did find that there are a number of shared user characteristics that are associated with people who have a higher propensity to seek information on the site. High information seekers are more likely to be female, younger, and have more total and actual Facebook Friends. They are also more likely to spend more time on Facebook and are more likely to engage in reciprocal communication (SRI) with members of their Facebook network. This could be related to the perspective that social capital is not just about network structure, but about a user's beliefs and behaviors in that network. Another factor that played an interesting yet unsurprising role on engagement in information-seeking behaviors was the perceived appropriateness of asking questions on Facebook. Those who do not see Facebook as a normative or appropriate venue to ask others for information were less likely to engage in information seeking and to perceive Facebook as a useful provider of information.

Additionally, the significant interaction of SRI and perceived appropriateness on information-seeking behaviors offers further insight into how both norms and usage patterns on Facebook may influence the likelihood to use Facebook for information seeking. Signals of relational investment indicate willingness to respond to resource requests from a Facebook Friend; however, the interaction of SRI and appropriateness renders SRI itself less predictive of actual information-seeking behaviors. For Facebook users who do not deem information seeking on Facebook appropriate, whether or not they engage these relationship maintenance behaviors with their network is of little consequence to their overall likelihood in seeking information through the site. However, for those who do find information seeking on Facebook appropriate, engaging in more SRI renders them much more likely to use Facebook to address their information needs. When users engage in SRI behaviors with other members of their network, they do so in order to provide support and, potentially, garner support for later needs of their own. It is possible that those who perceive information seeking on Facebook as more normative or appropriate are more willing to request favors back, as they believe it will not disrupt their reputation or the unspoken norms of the site. Future research should explore in more detail how perceived norms of Facebook use affect both member behavior and outcomes of use. For example, how do norms of privacy and disclosure affect reciprocal exchanges? More data regarding how norms are detected and sanctioned on sites like Facebook could further explain the benefits people receive from these sites.

Facebook users do think the site provides them with useful information (M = 3.54, SD = .885), slightly in contrast to their slightly lower reported propensity to seek information on the site. This difference may be due to the distinction between searching for a specific information need, which is what our information-seeking behaviors scale captures, versus encountering useful information incidentally.

In general, participants did not report that they were likely to use Facebook to seek information, as the mean for this scale (2.3) was well below the midpoint. Likewise, the mean response on the Appropriateness scale was below the midpoint (2.82). These findings suggest that even with the technical features available to manage and interact with a large network of connections, individual users may still struggle to view Facebook as meeting needs beyond the strictly social reasons for which they were likely to join—reconnecting with old friends and maintaining relationships with current friends.

Limitations

While the use of adult university employees provided access to a relatively diverse sample, they do not represent the general population of Facebook users. Survey responses are limited to people's perceptions of their behavior, rather than actual behavior. While the research community should continue to seek behavioral information, this study was largely concerned with users' attitudes about Facebook as an information source. In addition, while our constructs for "information" were derived from a large set of questions about possible information behaviors, we are only capturing a limited dimension of information needs, and other dimensions may show different effects.

Implications for Practice

One of the strongest relationships in our model was between bridging social capital and likelihood to use Facebook to seek information. While it is not clear how Facebook chooses which Friends to show in users' News Feeds, it is most likely related to aspects of their relationship unrelated to information seeking. It may be more productive to continue to adapt the News Feed based on what types of things people are posting, rather than the relationship between the members of the network. For example, a person who is posting messages and status updates that include questions could have their updates shown in the News Feeds of more diverse clusters in their Facebook network.

If users are receiving valuable incidental information by reading the posts of their Facebook Friends, this suggests designers should consider the content of a post and its responses when creating tools to filter information. For example, allowing users to promote a status update as "informative" could allow for a different type of filtering. Additionally, tools could be built that would allow users to bookmark informative Facebook exchanges they see, so they can return to them when a relevant information need becomes salient. Currently, Facebook exchanges are, to a large degree, ephemeral, and can disappear quickly for users with large networks.

CONCLUSION

We investigated how likely people are to use Facebook to fulfill their everyday information needs by conducting a survey of 614 staff members of a large university. We found that user characteristics predicted how likely they are to use Facebook to seek information. In particular, perceptions of their relationships with network members, as measured in scales for Facebook-specific bridging social capital and for behaviors that "groom" connections in a network, were significant predictors of how likely respondents were to turn to Facebook for their information-seeking activities.

ACKNOWLEDGMENTS

This work was supported in part by the National Science Foundation (HCC 0916019).

REFERENCES

1. Aiken, L.S. and West, S.G. *Multiple regression: Testing and interpreting interactions*. Sage Publications, Thousand Oaks, CA, 1991.
2. Bourdieu, P. Forms of Capital. in Richardson, J.G. ed. *Handbook of Theory and Research for the Sociology of Education*, Greenwood Press, New York, 1983.
3. Burke, M., Kraut, R. and Marlow, C. Social capital on facebook: differentiating uses and users *Proceedings of the 2011 annual conference on Human factors in computing systems*, ACM, Vancouver, BC, Canada, 2011, 571-580.
4. Burke, M., Marlow, C. and Lento, T. Social network activity and social well-being *Proceedings of the 28th international conference on Human factors in computing systems*, ACM, Atlanta, Georgia, USA, 2010.
5. Burt, R.S. *Network Neighbors: Competitive Advantage Local and Personal*. Oxford University Press, Oxford, UK, 2010.
6. Dervin, B. A Overview of Sense-Making Research: Concepts, Methods, and Results to Date *International Communications Association*, Dallas, TX, 1983.
7. Donath, J. and Boyd, D. Public Displays of Connection. *BT Technology Journal*, *22* (4). 71-82.
8. Dugan, C., Geyer, W., Muller, M., DiMicco, J., Brownholtz, B. and Millen, D.R., It's all 'about you': diversity in online profiles. in *ACM 2008 conference on Computer supported cooperative work*, (San Diego, CA, 2008), ACM Press, 703-706.
9. Ellison, N., Steinfield, C. and Lampe, C. The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer Mediated Communication*, *12* (4). article 1.
10. Ellison, N., Vitak, J., Gray, R. and Lampe, C. Cultivating Social Resources on Facebook: Signals of

Relational Investment and their Role in Social Capital Processes. *iCS-OII, "A Decade in Internet Time" Symposium*, Oxford, UK, 2011.

11. Ellison, N.B., Steinfield, C. and Lampe, C. Connection Strategies: Social Capital Implications of Facebook-enabled Communication Practices. *New Media & Society*, *13*. 873-892.
12. Gilbert, E. and Karahalios, K. Predicting tie strength with social media *Proceedings of the 27th international conference on Human factors in computing systems*, ACM, Boston, MA, USA, 2009.
13. Granovetter, M.S. The Strength of Weak Ties. *Amerian Economic Review*, *78* (6). 1360-1480.
14. Joinson, A.N., Looking at, looking up or keeping up with people?: motives and use of facebook. in *Conference on Human Factors in Computing Systems (CHI)*, (Florence, Italy, 2008), ACM Press, 1027-1036.
15. Lampe, C., Ellison, N. and Steinfield, C., A Face(book) in the Crowd: Social Searching vs. Social Browsing. in *ACM Special Interest Group on Computer-Supported Cooperative Work*, (Banff, Canada, 2006), ACM Press.
16. Lampe, C., Ellison, N. and Steinfield, C., Profile Elements as Signals in an Online Social Network. in *ACM Conference on Human Factors in Computing Systems (CHI)*, (San Jose, CA, 2007), ACM Press.
17. Lampe, C. and Roth, R. Social Media in Public Sector Organizations: Strangers Among Us. Foth, M. ed. *Communities & Technologies 2011*, Brisbane, Australia, 2011.
18. Lenhart, A. Adults and Social Network Websites, Pew Internet & American Life Project, Washington, DC, 2009.
19. Lin, N. Building a network theory of social capital. . *Connections*, *22*. 28-51.
20. Madden, M. and Zickuhr, K. 65% of Online Adults Use Social Networking Sites, Pew Internet & American Life Project, Washington, DC, 2011.
21. Morris, M.R., Teevan, J. and Panovich, K. What do people ask their social networks, and why?: a survey study of status message q&a behavior *Proceedings of the 28th international conference on Human factors in computing systems*, ACM, Atlanta, Georgia, USA, 2010.
22. Nardi, B.A. and O'Day, V.L. *Information Ecologies: Using Technology with Heart*. MIT Press, Cambridge, MA, 1999.
23. Papacharissi, Z. and Mendelson, A. Toward a new(er) sociability: Uses, gratifications and social capital on Facebook. in Papathanassopoulos, S. ed. *Media perspectives for the 21st century*, Routledge, New Tork, 2011, 212-230.
24. Pirolli, P. An elementary social information foraging model *Proceedings of the 27th international conference on Human factors in computing systems*, ACM, Boston, MA, USA, 2009.
25. Pirolli, P. and Card, S. Information Foraging. *Psychological Review*, *106* (4). 643-675.
26. Putnam, R.D. *Bowling Alone*. Simon & Schuster, New York, 2000.
27. Resnick, P. Beyond Bowling Together: SocioTechnical Capital. in Carroll, J. ed. *HCI in the New Millenium*, Addison-Wesley, 2001.
28. Rosenberg, M. *Society and the Adolescent Self-image*. Wesleyan University Press, Middletown, CT, 1989.
29. Savolainen, R. Everyday life information seeking: Approaching information seeking in the context of "way of life". *Library & Information Science Research*, *17* (3). 259-294.
30. Skeels, M.M. and Grudin, J. When social networks cross boundaries: a case study of workplace use of facebook and linkedin *Proceedings of the ACM 2009 international conference on Supporting group work*, ACM, Sanibel Island, Florida, USA, 2009.
31. Smock, A.D., Ellison, N.B., Lampe, C. and Wohn, D.Y. Facebook as a toolkit: A uses and gratification approach to unbundling feature use. *Computers in Human Behavior*, *27* (6). 2322-2329.
32. Steinfield, C., DiMicco, J.M., Ellison, N.B. and Lampe, C. Bowling online: social networking and social capital within the organization *Proceedings of the fourth international conference on Communities and technologies*, ACM, University Park, PA, USA, 2009.
33. Teevan, J., Morris, M.R. and Panovich, K., Factors Affecting Response Quantity, Quality, and Speed for Questions Asked via Social Network Status Messages. in *ICWSM - International Conference on Weblogs and Social Media*, (Barcelona, Spain, 2011).
34. Williams, D. On and Off the 'Net: Scales for Social Capital in an Online Era *Journal of Computer Mediated Communication*, *11* (2).
35. Williamson, K. Discovered by Chance: The Role of Incidental Information Acquisition in an Ecological Model of Information Use. *Library & Information Science Research*, *20* (1). 23-40.
36. Yang, J., Morris, M.R., Teevan, J., Adamic, L. and Ackerman, M., Culture Matters: A Survey Study of Social Q&A Behavior. in *ICWSM - International Conference on Weblogs and Social Media*, (Barcelona, Spain, 2011).