Social Network Site Affordances and their Relationship to Social Capital Processes

Nicole Ellison, University of Michigan

Jessica Vitak, University of Maryland

To cite: Ellison, N., & Vitak, J. (2015). Social media affordances and their relationship to social capital processes. In S. Sundar (Ed.), The handbook of psychology of communication technology (pp. 205-227). Boston: Wiley-Blackwell.

Website: http://www.wiley.com/WileyCDA/WileyTitle/productCd-1118413369.html

Social Network Site Affordances and their Relationship to Social Capital Processes

This chapter considers the mechanisms by which social network site (SNS) use is associated with social capital processes, such as supporting beneficial interactions, information exchanges, and relationship maintenance. In doing so, we consider both the high-level affordances of SNSs, such as the persistence and visibility of content, as well as specific features of these sites, such as the profile. The chapter will proceed as follows: First, it will provide a review of research on social media and social network sites, highlighting the primary features and affordances of these sites. It will then synthesize the social capital literature, which is helpful for understanding how we access important human resources such as social and informational support from our social connections, before linking the two streams of research on SNSs and social capital by highlighting some of the key findings in recent years. In the next section, we turn to Ellison and boyd's (2013) revised definition of SNSs to consider the role played by the profile, the articulated network, and the broadcasted stream of content in social capital formation and development. To conclude the chapter, we draw from multiple research streams to examine social grooming practices in SNSs, focusing on the role of visible micro-transactions such as "liking" a comment on Facebook.

Overview of Social Media

Today, Internet-enabled communication technologies are pervasive, reshaping the ways millions of individuals search for life partners (Ellison, Hancock, & Toma, 2012), access information and share opinions (Jeong, Morris, Teevan, & Liebling, 2013), and even grieve for deceased loved ones (Marwick & Ellison, 2012). Social network sites are particularly well-suited for relationship maintenance (Tong & Walther, 2011), and individuals use sites like Facebook and Twitter to keep in touch with a wide range of contacts (Binder, Howes, & Sutcliffe, 2009;

Vitak, 2012a) such as professional colleagues, family members (Burke, Adamic, & Marciniak, 2013), friends, and acquaintances, including those from previously inhabited locations and across physical distances (Ellison, Steinfield, & Lampe, 2007).

Social media support patterns of information flow and interpersonal communication that differ in important ways from traditional mass media like television and radio. While no uniformly adopted definition of social media has emerged, the term is used colloquially to describe a set of features and tools that enable peer-to-peer communication in ways not supported by mass media which use a 'one-to-many' broadcast model. The term encompasses social network and micro-blogging sites (e.g., Facebook, Twitter), peer production communities (e.g., Wikipedia), content sharing and discussion forums (e.g., Reddit), and online dating sites (e.g., Match.com, eHarmony)—although many of these platforms are converging and now support multiple kinds of activities. For the 85% of US adults that are online (Pew Internet & American Life Project, 2013), social media are reshaping mundane tasks, like finding a restaurant, and more significant ones, such as finding a life partner.

Social media environments evolve rapidly—user practices change over time, services update their user-facing interfaces and back-end technology, and the larger social and legal frameworks surrounding their development, regulation, and use shift. In order for researchers to avoid producing scholarship that merely describes a particular site and set of users at a particular moment in time, scholars who use the notion of higher-level affordances as a lens for understanding their findings have the added benefit of producing work that will be useful even after the sites have long changed, or even disappeared. Thus, social media researchers seeking to contextualize their findings in relation to higher-level patterns of behavior or to better understand

the mechanisms behind some of the relationships they have identified have used an affordance approach to do so.

In the context of social media, an affordance-based approach[1] has been utilized by a wide range of technology researchers (boyd, 2010; Ellison, Lampe, Steinfield & Vitak, 2011b; Resnick, 2002; Sundar, 2008; Treem & Leonardi, 2012; Wellman, 2001), perhaps because they value the opportunity to frame their insights in relation to higher-level characteristics as opposed to the idiosyncratic features of a particular technology or site. The affordance framing enables us to consider the materiality of a technology (Leonardi, Nardi, & Kallinikos, 2012) without the technologically deterministic assumptions of 'impact' that historically accompany the introduction of any new communication technology (Sturken, Thomas, & Ball-Rokeach, 2004).

Researchers focus on different affordances of social media, typically driven by their specific area of study, and employ the term in slightly different ways. For example, Treem and Leonardi (2012) outline a set of four affordances that differentiate social media in organizational settings from other forms of online and offline communication: (1) *visibility*, which highlights the ease with which social media enable users to make previously invisible information visible, as well as the ease with which other users can then locate that information; (2) *persistence*, also known as reviewability, which refers to the accessibility of content—in its original format—after it has been posted; (3) *editability,* which relates to the asynchronous nature of communication in social media and describes users' ability to carefully craft a message before posting, as well as the ability to edit it after it has been posted; and (4) *association*, which refers to both the articulated connections between users (e.g., Facebook Friends, Twitter followers), as well as the connections between users and the content they post. They note that social media rank high across all four affordances, unlike many other forms of mediated communication. Thus, in the

workplace, enterprise social media are potentially transformative with regard to communication patterns and organizational knowledge-sharing (Leonardi, Huysman, & Steinfield, in press) and are increasingly being used—in both planned and unplanned ways—to supplement other channels of communication and to encourage knowledge-sharing, identification of expertise, and information discoverability, especially among distributed workers (Ellison, Gibbs, & Weber, in press-a). Leonardi et al. (in press) highlight the visibility and persistence affordances of enterprise social media that expand users' access to people and content, and thus result in increased opportunities for social learning in the workplace.

Looking at social media use more broadly, danah boyd (2010) describes a similar set of affordances, including persistence, replicability (the ability to duplicate content), scalability (akin to Treem and Leonardi's [2012] visibility affordance), and searchability, noting that these affordances introduce new dynamics, such as those surrounding instances of context collapse (to be discussed later). Similarly, Ellison and colleagues (e.g., Ellison et al., 2007, 2011a, 2011b; Ellison, Vitak, Gray, & Lampe, in press-b) highlight the role Facebook's affordances play in allowing users to form and maintain relationships with a wide range of contacts. As they have noted, the lowered transaction costs of relationship maintenance behaviors on these sites enable users to form "social supernets," a term coined by Judith Donath (2007) to describe the large networks supported by SNSs that would be difficult, if not impossible, to maintain without the technology. As noted by Ellison et al. (2011a) and Vitak and Ellison (2013), Facebook's affordances enable users to employ features like status updates and wall posts to request a variety of resources, including emotional support and information, from their connections on the site. For instance, in a qualitative study of adult Facebook users, Vitak and Ellison (2013) found that the broadcasting affordance—the ability to quickly disseminate content across one's entire

network with the click of a button—was an important channel to participants for accessing various resources from their network.

From both the literature and our everyday experiences, it seems clear that social media are enabling new patterns of communication, interaction, and affiliation; how, why, and to what ends social media use is related to social capital outcomes is the focus of this chapter. In the section below, we synthesize the literature on social network sites and social capital in order to describe these dynamics.

Social Network Sites

Social network sites are a particularly vibrant form of social media, well-suited for the kinds of interpersonal exchanges that serve to maintain and strengthen social bonds. Ellison and boyd (2013) articulate three key elements of SNSs in their revised definition. They write,

> A social network site is a *networked communication platform* in which participants 1) have *uniquely identifiable profiles* that consist of user-supplied content, content provided by other users, and/or system-level data; 2) can *publicly articulate connections* that can be viewed and traversed by others; and 3) can consume, produce, and/or interact with *streams of user-generated content* provided by their connections on the site (p. 158).

This definition differs slightly from their earlier definition, which included the profile, the articulated network, and the ability to view and traverse their connections (boyd & Ellison, 2007), with the primary difference being the inclusion of the media stream, acknowledgement of the co-constructed nature of the profile, and the more explicit acknowledgement of communication as the engine driving usage patterns.

SNS usage has grown tremendously over the last decade, and the practice of checking profiles and posting updates on one or more site has become part of everyday life for many

Americans, not just teenagers. The Pew Internet and American Life Project, which tracks Internet usage trends over time, notes that while growth peaked early for younger adults, in more recent years, older adults have increasingly been joining sites like Facebook: from 2008 to 2013, SNS use by Internet using-American adults ages 30-49 increased from 25% to 78%, while for those ages 50-65, the increase was from 11% to 60% and for those 65 and above, it was from 7% to 43% (Brenner & Smith, 2013). Furthermore, while Facebook remains the dominant site for interaction—and is an active site for relationship maintenance due to its support for fostering communication between pre-existing ties—several other SNSs have become popular among the general population in recent years. For example, Twitter doubled its American user base between 2010 and 2012, with 16% of Internet-using American adults and 24% of American teens maintaining an account. The site is especially popular among young, urban blacks (Duggan & Brenner, 2013; Madden et al., 2013). Twitter differs from Facebook in that it allows unidirectional connections, meaning reciprocal approval is not needed for one user to "follow" another; this enables users to grow networks that can include friends, celebrities, news organizations, strangers, and other people of interest.

Why do people use SNSs? The vast majority of people asked this question say they do so to stay in touch with family and friends (e.g., Joinson, 2008; Smith, 2011). For example, Joinson (2008) identified seven unique motivations for using Facebook, with social connection being primary amongst them; additional motivations related to relationship maintenance included a factor he labeled "shared identities," which captures activities related to identifying and establishing common ground, as well as passive browsing activities on the site to potentially maintain relationships or keep up to date on other users' activities without interaction. Likewise, when asking American adults about their reasons for using SNSs, Smith (2011) found that nearly

all said that staying in touch with current friends and family and reconnecting with old friends was a major or minor reason for using the site, while nearly half (49%) said they used SNSs to interact with people with shared interests.

Researchers have examined a variety of social, psychological, and behavioral outcomes associated with use of SNSs. Specific personality traits, including extroversion (Ross et al., 2009) and narcissism (Carpenter, 2012), have been positively linked to use of the site, while a number of other studies have established positive correlations between use of the site and increased well-being (Burke, Marlow, & Lento, 2010; Kim & Lee, 2011; Steinfield, Ellison, & Lampe, 2008). A substantial research stream has focused on the relationship between SNS use and social capital, which will be discussed in further detail below.

Overview of Social Capital

Research in multiple domains, including health communication, nursing, psychology, and sociology, highlights the important and tangible benefits we receive from our social relationships. Different disciplines focus on different dimensions of these benefits: for instance, those in psychology might study the extent to which different kinds of relationships are associated with one's self-esteem, whereas those in the medical arena might examine social support as an important coping mechanism during periods of stress. But cutting across these perspectives is the assumption that meaningful social connections are critical for our happiness and well-being.

Among sociologists and others, one framework that has been used to explore the benefits of interpersonal relationships and social networks is social capital, which saw some of its earliest development in the work of Bourdieu (1985) and Coleman (1988). In comparing social capital to other forms of capital, such as financial or cultural capital, Bourdieu (1985) defined it 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 mutual acquaintance and recognition" (p. 51). Bourdieu further stressed that these relationships are maintained through social interaction which, presumably, enables the transference of resource requests and provisions. Based on this definition, it becomes clear that the breadth and depth of social capital resources available to individuals will depend on their network composition, as well as how they communicate with that network. Lin (2001a) echoes this thinking in his conceptualization of social capital, framing the concept in economic terms: he frames social capital as "investment in social relations with expected returns in the marketplace" (p. 19). Furthermore, as is the case for other kinds of capital, many researchers have noted that social capital can be converted into other forms of capital (Bourdieu, 1985; Burt, 1992; Resnick, 2002).

Lin's (2001a) definition highlights another central construct of social capital: reciprocity. The "expected returns in the marketplace" he references speaks to the idea that individuals perform certain actions because they expect that action to be reciprocated at some point in the future. Putnam (2000) distinguishes between two forms of reciprocity in communities. Specific reciprocity refers to reciprocity at the individual level (e.g., one favor for another), whereas generalized reciprocity refers to actions individuals perform with no expectation of an immediate return on investment (e.g., donating blood, changing a flat tire for a stranger). Putnam (2000) notes that communities characterized by a norm of generalized reciprocity will be more efficient because "trustworthiness lubricates social life" (p. 21).

Individuals access different kinds of resources from their social relationships. Putnam (2000) divided network-provided resources into two major categories, bridging and bonding social capital, based largely on the characteristics of the individuals providing the resources.

Bridging social capital includes resources ranging from access to new or hard-to-access information (such as when one is looking for a new job) to being exposed to more diverse perspectives and feeling part of a broader community. When considering bridging social capital, the most important network members are those who span multiple clusters (i.e., bridging ties), as these individuals help information spread quicker and more efficiently through a network and close "structural holes" between otherwise unconnected groups (Burt, 1992). The resources associated with bonding social capital are largely derived from individuals' inner circle of connections, including close friends and family members. These resources include emotional and more substantive support, "big favors," such as when a family member asks for a loan, as well as creating a sense of group solidarity and exclusivity.

Bridging the Gap: Social Capital and Social Network Site Research

Research has explored the extent to which SNSs can be used to support the development, accrual, and conversion of social capital. One stream of scholarship has documented how social media, specifically SNSs such as Facebook, have been used to support the informational and social support exchanges that comprise important aspects of social capital (Burke et al., 2010; Burke, Marlow, & Kraut, 2011; Ellison et al., 2007, 2011a, in press-b). This literature addresses how Facebook and other SNSs can be used for question-asking (Morris, Teevan, & Panovich, 2010; Paul, Hong, & Chi, 2011), exchanges of emotional support (Vitak & Ellison, 2013; Vitak, Ellison, & Steinfield, 2011), and sharing of information (Gray, Ellison, Vitak & Lampe 2013; Lampe, Vitak, Gray, & Ellison, 2012). As highlighted above, many of these social capital exchanges are dependent on processes that benefit from being embedded within a social context and from the specific affordances of mediated technology. For instance, Morris et al. (2010) found that respondents preferred to ask questions on SNSs as opposed to question-and-answer

sites (e.g., Quora) or search engines because they could pose their query to people that knew them and because they trusted their network more than the strangers found on other online sources. Similarly, the generalized reciprocity that is associated with social capital exchanges benefits from interactions that are visible and persistent, and thus can serve as public prompts to "pay it forward."

In contrast to earlier work in this area employing general measures of use (e.g., time on site, number of Friends), more recently researchers have focused on identifying the specific kinds of activities that are predictive of social capital. First, as social capital is derived from *interactions* with one's network, researchers have begun exploring specific communication behaviors users perform on the site and their relationship to social capital outcomes. For example, research employing surveys and Facebook server log data by Burke and colleagues (2011) found a positive correlation between directed communication (i.e., messages a user receives from another Facebook Friend in the form of a wall post, "Like," etc.) and self-reported bridging social capital. Notably, the two non-interactive variables examined in this study—broadcasting updates and passively consuming content—were not significant predictors, which highlights the importance of active engagement with one's network. Likewise, research by Ellison et al. (in press-b) found a positive relationship between bridging social capital and a measure labeled "Facebook Relationship Maintenance Behaviors" (FRMB, called Signals of Relational Investment (SRI) in earlier work, such as Lampe et al., 2012). FRMB activities include responding to requests expressed via status updates, presumably with messages providing social, informational, or emotional support, or wishing a Facebook Friend 'happy birthday.'

Second, network composition appears to be a significant predictor of users' social capital perceptions. Ellison et al. (2011a) found that the number of "actual" friends a user reported having on Facebook was a significant predictor of bridging and bonding social capital while the total number of Facebook Friends was not. The authors argue the actual friends variable provides a more meaningful measure of a user's network. In a study of network diversity, Vitak (2012a) found that as users' networks increased in size and diversity (i.e., number of unique social groups identified within the network), so did their perceived bridging social capital. This finding is in line with research on network structure, which posits that networks including a large number of weak ties are more likely to include bridging ties, which help facilitate information diffusion (Burt, 1992); in the context of Facebook, it is also supported by research showing that weak ties are the primary drivers of information diffusion on the site (Bakshy, Rosenn, Marlow, & Adamic, 2012).

In addition to empirical work identifying specific behaviors or attributes that are linked to social capital gains, other work examines how SNSs can reshape communication networks and the kinds of interactions that occur via SNSs. For instance, scholars point to SNSs' lowered barriers for communicating with strong and weak ties (Ellison et al. 2011b), which are typically associated with bonding and bridging social capital, respectively. Weak-tie interactions are typically framed in relation to informational benefits; weak ties, including Friends of Friends, are more likely to hold different opinions and worldviews and to have access to novel information (Burt, 1992; Granovetter, 1973). Conversely, emotional support (as captured by the concept of bonding social capital; see Putnam, 2000) is generally understood to be provided by closer ties, such as family members. However, considering that an average SNS user has more than 200 Friends (Hampton, Goulet, Rainie, & Purcell, 2011a), that many ties on SNSs are weaker ties

(Bakshy et al., 2012), and that individuals are disclosing health information and requests for emotional support on SNSs (Greene, Choudhry, Kilabuk, & Shrank, 2011; Vitak & Ellison, 2013), it may be that these weak-tie interactions are providing other kinds of meaningful support, above and beyond access to novel information and diverse worldviews. For instance, in their qualitative interviews with adult Facebook users, Vitak and Ellison (2013) found that supportive messages from weaker ties were comforting to users because, in the words of one participant, "you know somebody at least cares enough to respond" (p. 250).

Additionally, SNSs may reshape network composition. The ability of SNSs to support larger networks of weaker ties was first noted by Donath and boyd (2004) in one of the earliest academic treatments of SNSs. Writing about the impact of social network sites, they note that while they did not expect SNSs to significantly impact the number of strong ties individuals had, the number of weak ties could grow significantly because the cost of maintaining relationships in these spaces is low. Furthermore, they argue that SNSs should lead to an overall increase in available information because the influx of weaker ties should create a more diverse network. It is this ability to expand one's reach and create Donath's (2007) "social supernets" with more connections than otherwise possible that makes SNSs so important when considering social capital processes, because a reshaped network, especially one with many more bridging ties, has the potential to increase one's access to various resources, such as novel information and diverse perspectives.

Other ways in which SNSs may restructure users' social networks is by allowing them to better connect with latent ties (Ellison et al., 2007), by keeping in touch with individuals from previously inhabited environments, and by accessing "Friends of Friends" (who are more visible and accessible due to the association affordance). Ellison and colleagues (2007) point out that

SNSs like Facebook are likely to provide the impetus to convert latent ties to weak (or strong) ties because they highlight users' identity characteristics. Latent ties, as defined by Haythornthwaite (2005) are social ties that are "technically possible but not activated socially" (p. 137). As Ellison et al. (2007) write about their undergraduate sample:

> Facebook might make it easier to convert latent ties into weak ties, in that the site provides personal information about others, makes visible one's connections to a wide range of individuals, and enables students to identify those who might be useful in some capacity (such as the math major in a required calculus class), thus providing the motivation to activate a latent tie (p. 1162).

The association and visibility affordances play an important role in facilitating this conversion, especially in terms of connecting Friends of Friends, who may "meet" through comments on a mutual Friend's status update. Additionally, SNSs might help individuals maintain, initiate, or re-invigorate weak-tie relationships that might otherwise have decayed without the social lubrication provided by online contexts. Hampton, Lee, and Her (2011b) note that the persistent and pervasive nature of information and communications technologies (ICTs) like Facebook should reduce the likelihood that weak tie relationships will ever truly become dormant because these connections will always be just a click away.

When studying social media, it is important to remember that communication processes as well as social capital outcomes may be influenced by the sites' affordances. Resnick (2002) was one of the earliest to describe this relationship in his discussion of "sociotechnical capital," a phrase he developed in dawn of the social media era to describe "productive combinations of social relations and information and communication technology" (p. 250). Resnick highlights six technological affordances that may impact social capital processes in online spaces, such as the

removal of temporal and special boundaries, expanded communication reach, and archiving capabilities. Resnick argues these affordances may enhance individuals' ability to accrue social capital, especially as it becomes easier and less time-consuming to maintain connections, coordinate and support large groups, and diversify one's network by making new connections.

Looking at a more traditional definition of social capital, Lin (2001a) highlights three key components of social capital that he deems to be particularly important to understanding the construct. He writes:

> It has been proposed that social capital, as an investment in social relations with an expected return in the marketplace, should be defined as *resources embedded in a social structure that are accessed and/or mobilized in purposive actions*. In this definition, three critical components present themselves for analysis: (1) the resources, (2) being embedded in a social structure, and (3) action (p. 29).

When thinking about these components within the context of SNS use, a number of social and technical affordances seem especially relevant. First, SNSs have the potential to widen and reshape the network itself, thus increasing potential *resources*, while elements of the profile (e.g., place of employment) highlight the resources available to them from others and make them more salient. Second, these resources are *embedded in a system* that is rich with social cues. In SNSs, social ties are visibly articulated, enabling access to Friends of Friends, and social grooming activities (e.g., "liking" or commenting on a Friend's status update) are visible, persistent, and often salient. The ability to mobilize social resources through these sites may be amplified, because these connections are embedded in a system that supports these visible signals of attention and the maintenance of persistent social relationships they enable. Third, *action* is made possible via technical features such as the ability to broadcast messages to a wide group.

Synthesizing the scholarship on SNSs, there is evidence that suggests that sites like Facebook serve to make social resources more accessible because they enable social information-seeking (Ellison et al., 2011a), allow for the broadcasting of requests or provisions of support, and surface relevant connections within the broader network of Friends of Friends.

Lin (2001b) offers four explanations for why embedded resources in a network can benefit an individual, i.e., why social capital works. The first mechanism he describes is the way in which social networks reshape the flow of *information*. Being in a strategic location in a network, for instance, can enable access to novel information about opportunities that can benefit individuals and organizations. Applying this to the context of SNSs, it is clear that the composition of one's Twitter network—the kinds of individuals or organizations one follows—clearly shapes the kinds of links, information, and opinions one consumes on the site. Second, social ties can exert *influence*. Lin offers the example of a powerful agent who "puts in a word" or recommends an individual. Professionally oriented SNSs such as LinkedIn explicitly include recommendations in their design, no doubt capitalizing on the fact that a referral from a known, high-status individual carries weight in many circles. The third explanation is around *social credentials*. As Lin (2001b) writes: "social-tie resources, and their acknowledged relationships to the individual, may be conceived by the organization or its agents as certifications of the individual's social credentials" (p. 7). These ties are made more visible via SNSs' affordances (i.e., association and visibility). Finally, *reinforcement* speaks to the ways in which social relationships reinforce membership in a group (and access to its resources) and identity. In addition to explicit groups (e.g., LinkedIn Groups, Facebook Groups, and Twitter Lists), implicit group identity is signaled by visible interaction patterns such as "@" exchanges in Twitter or comments on Facebook posts.

The size and composition of the network are related to the kinds of resources one possesses—social status, financial resources, cultural capital, and domain-specific knowledge are some of resources one might consider. A personal recommendation from a higher-status individual will carry more weight that that of a lower-status individual, for instance. Because of this, some network members may be better equipped to provide certain kinds of resources over others. For example, Weiss' (1974) research on social support identified six categories of social provisions as well as the types of social ties best equipped to provide each type of support; nurturing was most likely to take the form of a parent-child relationship, while attachment—having a sense of belonging—came from one's closest friends and female-female dyads. When considering this issue, one benefit of SNSs is that individuals can organize and maintain a large network of diverse connections with little effort; the sites serve as a "virtual rolodex" (Vitak, 2012b) where contact information is automatically updated and, as long as the connection is active, a potential resource is a click away.

To summarize, research finds that use of social network sites is positively associated with perceived access to a variety of social capital resources. While SNSs appear to be particularly well-suited to the accrual of bridging social capital due to the sites' technical structure, which allows users to maintain large and diverse networks of connections and interact with them through a variety of channels, these sites also provide a medium through which individuals can request and provide social and emotional support. Several factors emerge as especially important to consider when looking at social capital processes on SNSs, most notably, users' interaction patterns and network composition.

In the following section, we continue to explore the relationship between SNSs and social capital by looking at how social capital exchanges are facilitated by the three elements of SNSs,

as delineated by Ellison and boyd (2013): the profile, the articulated network, and the content stream.

Three Elements of SNSs and Their Role in Social Capital Processes

As noted above, Ellison and boyd's (2013) updated definition of SNSs reflects the increasing focus on both communication—via static disclosures in the profile and more dynamic sharing through posts distributed to one's entire network—and co-creation of identity through users' interactions with their network. The three elements the authors highlight—the profile, the articulated network, and the stream of content and updates—each play a role in users' ability to request and provide resources to members of their network. Below, each of these element's role in social capital processes is discussed in further detail.

Element One: The Profile

As Ellison and boyd (2013) argue, SNS profiles have changed over time, evolving from static portraits created by the profile owner to a more fluid collection of content co-created by profile owners, their Friends, and their actions. The authors write, "Over time, the profile has shifted from a self-presentational message created by the individuals to a portrait of an individual as an expression of action, a node in a series of groups, and a repository of self- and other-provided data" (p. 154). The sharing of identity information via SNS profiles and content streams is one way in which SNSs support relationship development and, via these relationships, the exchange of resources. Nie and Sundar (2013) found that the amount of information in users' Facebook profiles was positively related to the extent to which they felt their profile reflected their personal identity (as opposed to their social identity). The authors noted that Facebook can be used in two ways— to engage in more self-directed identity work (as described by Mead's [1967] concept of "I") or to create an outward-facing public persona (akin to Mead's concept of

"Me"). Here, we focus on the kinds of profile information that can be used as a social lubricant, smoothing social interaction by highlighting commonalities and differences.

Feld's (1981) notion of foci is useful for thinking about the role of this information in bringing people together. Feld (1981) argues that:

> relevant aspects of the social environment can be seen as foci around which individuals organize their social relations. A focus is defined as a social, psychological, legal, or physical entity around which joint activities are organized (e.g., workplaces, voluntary organizations, hangouts, families, etc.). As a consequence of interaction associated with their joint activities, individuals whose activities are organized around the same focus will tend to become interpersonally tied and form a cluster (p. 1016).

Offline, events that bring together people with shared interests, such as a political rally or musical performance, can initiate relationships and enable individuals to convey identity information (e.g., a political affiliation or taste in music) by their presence. In SNS contexts, the profile does some of this work of highlighting shared interests and helping users find like-minded others because the profile enables individuals to signal their interests and other characteristics that might serve to coalesce groups or attract others. Although it is rare for people to try to Friend total strangers on Facebook (Ellison et al., 2011a), it is the case that Groups, hashtags, or other SNS features can make people more aware of others who share a particular interest, and to engage in communication around that topic. From these interactions, more stable relationships can form. On sites like Twitter, where it is more normative to "follow" people one has not met face-to-face or from another context, conversations around hashtags allow those with shared interests to come together and, in some cases, mobilize for a cause (Bruns & Burgess, 2011).

As Ellison and boyd (2013) point out, the profile has become less prominent in SNS activities, as users spend more time with aggregated media streams such as Facebook's News Feed. Still, the profile is a key component of how identity information is communicated in SNSs. By viewing one's connections, self-reported identity characteristics, and history, it becomes easier to identify common ground. Clark (1996) refers to the shared expectations that are relied upon during communication as *communal common ground*. Clark and Brennan (1991) note that individuals "cannot even begin to coordinate on content without assuming a vast amount of shared information or common ground—that is, mutual knowledge, mutual beliefs, and mutual assumptions. …All collective actions are built on common ground and its accumulation" (p. 127). In the SNS context, Lampe, Ellison, and Steinfield (2007) found that some Facebook profile fields were more likely than others to be associated with higher Friend counts, and attributed this to the fact that these profile fields (such as hometown) enabled individuals to establish common ground with one another. Knowing what you have in common with someone else means that communication can be more efficient, because interactants can use shared references without explaining them. Thus, the identity information shared in SNSs serves to promote social capital processes by bringing together people who share characteristics and by smoothing interactions by making it easier for them to identify their common ground. As Ellison and colleagues (2011a) argue, profile information acts as a "social lubricant" in interactions and may be instrumental in network expansion and resource accrual.

Identity information as expressed via the profile enables users to engage with weaker ties in a context that supports socially relevant interactions. As Ellison et al. (2011a) note, having the *technical* ability to communicate is not sufficient for relationship development; for example, people are unlikely to call a total stranger on the phone and strike up a conversation because they

do not have access to socially relevant information that can help guide interactions. Facebook, they state, provides users with a "rich collection of social context cues, such as mutual friends or shared interests, which can guide conversations to socially relevant topics and better enable participants to find common ground" (p. 887). Thus, the profile is an important component of social capital processes via SNSs, even if the profile itself has morphed over time and is less central to the daily experience of many SNS users now than it has been in the past.

Element Two: The Public Articulation of Network

The public articulation of users' networks—typically through a list of connections that users and their connections can browse—serves multiple roles. In addition to supporting social capital exchanges, they also "are employed to mark and display relationships, delineate who can access what content, and serve as a filter through which viewers can browse profiles and discover friends in common" (Ellison & boyd, 2013, p. 155).

The ability to view other users' connections serves a vetting process and helps establish one's identity by showing mutual friends (Donath & boyd, 2004), which in turn may help users grow their network on SNSs. The articulation of the network and public communication features like comments and replies also enable Friends of Friends to interact, which may further amplify social capital accrual because these Friend of Friend encounters expand the speed and range of information diffusion. The association of connections and visibility of content are especially important in facilitating Friend of Friend interactions, and likely increases the chance that these encounters occur and that they are positive, because the profile information helps signal shared interests and establish common ground (Lampe et al., 2007).

On sites with reciprocal networks (in which both users must approve a connection), the articulation of the network typically demarcates a basic degree of boundary access: most (58%)

adult American SNS users restrict their accounts to "Friends Only" (Madden, 2012); in this way, being a "Friend" enables access to specific rights and information that non-Friends cannot see. It is also important to note that a user's connections are typically aggregated in a central location—whether in the Friend List, Contacts, or Following—and enables users to click through to each profile and browse individual profiles. These passive consumption behaviors, although not directly linked to social capital outcomes in prior research (Burke et al., 2011) have been positively associated with a number of relational outcomes, including closeness, satisfaction, and access to emotional and instrumental resources (Vitak, 2012b). Most SNSs explicitly signal the connections two users share; knowing that another person shares connections is likely to increase trust, an important construct in the social capital literature (Burt, 1992).

Finally, the public articulation, or association, of ties enables social capital exchanges to occur, by linking individuals to one another and to content, and by directing attention to content produced by one's ties (i.e., content passes through the media stream or becomes available on the connection's profile). As noted above, researchers have linked social capital outcomes to specific activities on Facebook, including receiving comments from a Friend and attending to resource requests posted by one's Facebook Friends (Burke et al., 2011; Ellison et al., in press-b). Many SNSs have features that allow users to "tag" other users in an update, which directly associates them with the content being shared. As has been suggested in other research (e.g., Ellison et al., 2011b), linking network members to an update may serve as a form of social grooming, signaling attention and highlighting the relationship in a public forum. This more directed form of communication is also more likely to be seen by the tagged individual than a general broadcast message that might get lost in the stream.

Element Three: Streams of User-Generated Content

The third element of Ellison and boyd's (2013) SNS definition focuses on the aggregated collection of content from one's network presented to the user via features like the News Feed in Facebook or the home page in Twitter. Called 'social awareness streams' by some researchers (Naaman, Boase, & Lai, 2010), these aggregated collections serve "as the point of departure for other activities on the site or the Web, replacing the act of surfing from profile to profile to discover updated content" (Ellison & boyd, 2013, p. 159). Crafting a message, such as a resource request, and disseminating it throughout one's network via these media streams allows users to quickly and easily broadcast messages to a large potential audience.

The broadcasting of content to a large audience is especially productive in some situations, such as times when one is seeking information but does not know who exactly holds the needed information. It is also useful for distributing information to large audiences, as when one is sharing information about a significant life event, such as a new job, an engagement, or a death in the family. At the same time, broadcasting to such as large audience—which can easily number in the hundreds—may be problematic for many users, especially when the information being disclosed is sensitive or could be misinterpreted when taken out of context. For example, Vitak and Ellison (2013) found that while Facebook users recognized the benefits of broadcasting updates on the site, they also voiced a number of concerns related to sharing information in a pseudo-public space and many employed strategies to minimize those risks, including moving conversations to a private channel or using the site's privacy settings to restrict access to content. These concerns are best understood through the lens of *context collapse*: the aggregation of distinct audiences, or segments of one's social network, into one group, introducing self-presentational and other challenges. Although context collapse can happen in offline settings, such as a wedding, online spaces that enable communication among groups

traditionally associated with different facets of one's identity are often sites of context collapse. For instance, technological innovations and environmental concerns in the late 1990s ushered in a wave of home-based "teleworkers" who were often troubled by the lack of physical separation between their home and work roles and the "blurring" (or collapsing) of these identity roles that followed (Ellison, 2004). Context collapse is particularly salient in SNSs that condense all of one's contacts into a single group such as "Friends" or "contacts."

Individuals tend to vary their self-presentational disclosures based on their audience (Goffman, 1959) in order to achieve goals specific to that particular audience. In most offline contexts, audiences are fairly discrete and homogenous. For instance, in one's workplace, one is surrounded by co-workers, is attempting to achieve work-related self-presentational goals (e.g., to be perceived as hard-working, competent, and responsible), and can tailor behavior and outward appearance to this particular context. When network members from multiple contexts co-mingle, self-presentation can be more difficult because presentational goals often differ across contexts.

Many SNS users experience context collapse on a daily basis, because SNS networks tend to be large and often represent multiple facets of one's identity: professional colleagues, neighbors, old friends, family members, hobby buddies. Because the default setting in sites like Facebook and Twitter is to group all connections a user makes under a single moniker ("Friends," "Followers"), sharing content under the default settings becomes a complex process. Context collapse complicates the disclosure process in SNSs, as users no longer have the luxury of varying self-presentation across each group without employing advanced privacy settings to recreate some of the offline boundaries between groups (Vitak, 2012a).

Context collapse likely has both positive and negative implications for social capital processes. From one standpoint, a diverse network comprised of ties from a wide variety of social contexts may lead users to censor their disclosures or not disclose any potentially sensitive information at all due to concerns about who will see the content and how different connections could interpret it (Hogan, 2010). Withholding disclosures could limit users' ability to reap social capital benefits from their SNS use: Ellison et al. (2011c) argue that if one considers social capital to be the resources obtained through interactions with one's social network, Facebook users must be willing to share resource requests (i.e., to acknowledge a need) in order for their network to be able to respond appropriately. Indeed, Vitak (2012a) positively linked the amount and conscious intention (i.e., how much thought was behind posting) of disclosures to users' perceived bridging social capital. Those who do not disclose needs to their network—either due to context collapse or other factors—presumably receive less support from them.

On the other hand, the flattening of groups enables these otherwise-unconnected groups to interact through shared communication features (e.g., comments on a mutual Friend's status update). As argued earlier, these Friend of Friend connections, linked to bridging social capital, may encourage the spread of information, spark new ideas, and lead to productive new connections. Putnam (2000) points to the important role of groups that bring together people from different life contexts, such as bowling leagues. A book club that brings together women from different professional contexts serves as a site for exchanging book-related opinions, but also enables the formation of bridging social capital, as participants learn more about one another and engage in exchanges about other topics. Interacting with a diverse group of people on SNSs can have positive outcomes, as with the participants in Vitak and Ellison's (2013) study, who

noted that they were able to access various types of information through Facebook that would have been difficult or impossible to do through other channels.

Social Grooming in Social Network Sites

Thus far, this chapter has considered the history of social capital and social network site research, with a specific aim at highlighting the role that SNS affordances play in the process, as well as providing an in-depth analysis of how Ellison and boyd's (2013) three main elements of SNSs create new opportunities and challenges to facilitating social capital transactions. In this final section, we turn our attention to the specific relational behaviors that we believe drive site use, enable resource-sharing, and aid relationship maintenance. Because of the unique affordances of SNSs that facilitate communication with a large network of ties—including Friends of Friends—and make those interactions both highly visible and persistent, we believe that social grooming practices on these sites should be of particular interest to researchers studying social capital transactions in dynamic online spaces.

SNSs can be compared to other communication channels, such as face-to-face communication. In general, computer-mediated communication (including SNSs) is more visible and persistent than face-to-face communication, but contains fewer non-verbal cues. For instance, in a face-to-face setting, it is usually apparent whether one's audience is attending to the speaker, especially in a small group or one-on-one setting. In a SNS, signals of attention operate differently. A Facebook Friend may read a post and laugh out loud, sympathize profoundly, or clench her fists in anger, but none of these emotions will be conveyed to the poster unless she enters keystrokes that leaves a visible and explicitly constructed trace on the site. This is in contrast to face-to-face settings, and to a lesser degree true for other channels, where non-verbal cues such as the sound of laughter or an empathetic expression is apparent. In

a SNS, in fact, it is often not clear whether the original message was read at all. Tweets scroll off the screen, it's unclear which posts are hidden by Facebook's algorithm and which are not, and other technical features serve to obfuscate audience. Even when messages are 'delivered,' they may not be attended to: the sheer number of messages can overwhelm readers, such that it becomes harder to separate the wheat from the chaff and to allocate attention.

The lack of passive signals of attention, such as eye gaze, in SNS contexts shapes user behavior and social dynamics. In order to signal that a piece of content has been seen and attended to, users need to take explicit actions that leave visible traces. These actions can include a comment left on a status update, "liking" a piece of content in Facebook, "favoriting" or retweeting a post on Twitter, liking or commenting on an Instagram photo, or liking a YouTube video. As Bernstein, Bakshy, Burke, and Karrer (2013) write:

> Posting to a social network site is like speaking to an audience from behind a curtain. The audience remains invisible to the user: while the invitation list is known, the final attendance is not. Feedback such as comments and likes is the only glimpse that users get of their audience (p. 21).

An important characteristic of these behaviors is that they leave visible traces—traces that can be counted and serve as quantifiable metrics. These content-free, lightweight signals of attention, in aggregate, become metrics that can be used as crude measures of popularity or audience reach, or are considered by users when attempting to gauge audience size (Bernstein et al., 2013). The 'like' button on Facebook is one example of a user action on Facebook that leaves a visible trace; it "provides a one-click shortcut to express a variety of affective responses such as excitement, agreement, compassion, understanding, but also ironic and parodist liking" (Gerlitz & Helmond, in press). These traces are visible to the poster of the content receiving

them as well as a larger audience, which introduces self-presentational pressures. Among teen Facebook users, "likes" are seen as a proxy for social status, causing these users to edit their content accordingly by deleting photos with too few likes (Madden et al., 2013). Similarly, Marwick and Ellison (2012) describe the way in which creators of memorial sites on Facebook focused on "likes" and group size as a metric signaling the impact or importance of the person being memorialized, noting that pages often included comments such as the following: "I just noticed there are over 3300 people who like this page—that speaks volumes about how many hearts Beth and Cord have touched" (p. 386).

In regards to social capital and interpersonal dynamics, however, these signals of attention are important, because they are visible traces that can contribute to social capital dynamics on SNSs. When users take advantage of these opportunities to signal to others their attention to that relationship and their willingness to contribute to it, they help ensure that their requests will be positively received to due to the norms of reciprocity that govern social interactions at both the interpersonal and societal level. These relational micro-transactions, such as 'liking' a Friend's positive post, help create an environment in which reciprocal attention and low-level social grooming is productively enacted.

Social grooming practices are activities that build trust and create expectations of reciprocal attention among network members. In primate groups, grooming enhances hygiene and general well-being of apes and builds social bonds; humans use language to engage in equivalent trust-building and relationship-nurturing activities (Dunbar, 1996). SNSs allow individuals to engage in social grooming when they engage in actions that signal "I'm thinking of you" such as sending a virtual gift (Donath, 2007). Tong and Walther (2011) describe the technical features of SNSs that are helpful for relationship maintenance practices, including the

ways in which SNSs foster participation, feedback, and interaction through various communication channels. Empirically exploring this issue, Ellison et al. (in press-b) identify a set of Facebook practices, such as writing 'happy birthday' on a Friend's Wall and answering questions posed by Facebook Friends, which they argue serve to maintain relationships by visibly signaling attention to one's connections. They find that engaging with one's Facebook network in this way is positively linked to higher levels of bridging social capital, and argue that the behaviors captured in their social grooming measure help users by elevating their visibility in the system, by triggering expectations of reciprocal assistance, and by giving them access to an extended network (their Friends' Friends).

These expectations of reciprocal assistance reflect Lin's (2001a) understanding of social capital—the "investment in social relations with expected returns in the marketplace" (p. 19). In Lin's framing, social capital is a product of investments in relationships and the expectations of reciprocity that result from them. We can view these "investments" as the building blocks of relationships—investments such as time, emotional vulnerability, attention or social grooming, as well as other components of interpersonal relationship creation and development. The persistence, association, and visibility associated with SNS practices mean that social grooming that occurs on SNSs often leaves behavioral traces which serve to make social structures more apparent to both those embedded within them and those outside the social cluster. Through these visible traces such as comments, Wall posts, @ replies, and "favoriting" or "liking" content, exchanges among ties and the relationships they represent are visible to a larger audience. Recently introduced features, such as the Timeline and Social Graph on Facebook, make these trace patterns increasingly persistent and searchable. Importantly, these social grooming and

visible micro-transactions enable Friend of Friend interactions and the bridging social capital they are likely to represent.

A final implication of the articulated network for social capital processes stems from the visibility and association affordances of SNSs as articulated by Treem and Leonardi (2012)—the ways in which social connections (networks of ties) are articulated on these sites and the particular way in which interactions are structured to enable Friends of Friends to interact. Looking specifically at Facebook, when content is pushed to Friends via the News Feed, individuals who are mutual Friends with a user but not Friends with one another can interact via the stream of comments that are visible to all Friends of the original poster (depending on the user's privacy settings). In Facebook, comments to status updates enable cross-network communication, because they are seen by the Friends of the original poster, not the network of the commenter. Ellison et al. (in press-b) point out that, when considering social capital benefits, commenting on a Friend's message is a more productive pathway for accessing new ties than contributing one's own status update: "Comments on Friends' posts may be more likely to generate bridging social capital than status updates or other broadcasting behaviors because these comments are seen by the poster's network in addition to one's own." They note that responding to a Friend's post gives a user access to a new collection of people. Importantly, these users are interacting not as strangers with no common ground, but rather as individuals with a shared connection (i.e., the mutual Friend) and access to each other's identity information via the profile.

Conclusion

The ability to create and share user-generated content is not limited to social network sites. Even older forms of communication typically considered broadcast channels (such as

newspapers or call-in radio shows) have included elements of this many-to-many communication dynamic. In fact, the first multipage newspaper in the U.S., the 1690 *Publick Occurences Both Forreign and Domestick*, had a blank sheet intended for individuals to write their own news and comments before passing it on to the next reader (DiPiazza, 2012). However, SNSs are a unique combination of mass and more directed, interpersonal communication channels.

Social network sites enable users to broadcast messages to a broad audience and to engage in one-to-one messaging via a set of features that support private and public utterances, synchronous and asynchronous communication, and personal and corporate presences. Some scholars have argued that sites like Facebook should be studied not as a singular communication tool, but rather a collection of tools or a 'toolkit' (Smock, Ellison, Lampe, & Wohn, 2011), a framing which acknowledges the diversity of user practices. Of these different communication channels, the ability to broadcast messages is probably the most important for generating social capital accrual and development. Importantly, broadcasted requests shared via the status update feature in Facebook are not sent to a mass audience of strangers, but rather situated in a rich context of identity cues and shared with a network of social connections, potentially increasing the chances that they will be positively received. Facebook and other 'masspersonal' SNSs thus share elements of both mass communication—namely, the ability to broadcast requests to a wide audience, which is especially useful for requests and announcements—and dyadic, interpersonal communication, in which messages are embedded in a rich network of social relationships, a visible shared history, and identity signals.

SNS profiles typically include a wide range of personal information about users, such as their preferences, history, social circle, and more. This information serves as signals of identity and are aggregated from a variety of sources including the user, the system, and other users

(Ellison & boyd, 2013). The identity information in social media profiles serves multiple purposes, ranging from social, such as allowing other users to find common ground, to psychological, in that profiles allow users to ideate future versions of self (Ellison et al., 2012), reflect their actual personality (Back et al., 2010) or engage in self-affirmation (Toma & Hancock, 2013). Future research should explore the role of the profile in social capital processes. For instance, Ellison et al. (2011a) found that using Facebook to connect with total strangers was not related to perceptions of social capital but using the site to "check out" or "learn more about" (presumably via the profile) those with some shared connection was. As they write, "The process by which Facebook can be used to scaffold productive social interactions is complex" (p. 887); future research could explore these dynamics in more detail.

Finally, second-order effects of social capital exchanges on SNSs are not well understood. Specifically, what are the implications for viewing others' resource requests and the responses to these requests? Social learning theory (Bandura, 1971) posits that individuals are more likely to adopt a behavior after witnessing others do so. In the case of SNSs, many kinds of activities are made visible to other users, meaning that requests for resources are often seen by those who are incidental audiences—not able to help but still privy to the request. Little is known about the specific dynamics of how the effects of these kinds of user actions and their responses can ripple throughout a network. For instance, consider a Facebook user who asks her Friend network for information. Although research has focused on motivations and dynamics of those who request favors or information from their network (Morris et al., 2010) and those who respond to them (Ellison et al., in press-b), less work has examined the way in which passive observers of these interactions are affected by these exchanges. For instance, those who see positive episodes, in which users receive help, will presumably be more likely to engage in this

behavior themselves, whereas those who witness negative outcomes (such as privacy violations or requests that go unmet) would presumably be less likely to engage in similar behaviors.

To summarize, this essay has described some of the potential ways in which social capital exchanges are enabled by the affordances of SNSs, such as visibility and persistence of content, as well as the low cost to connecting with and maintaining a large network of ties. We believe that SNSs offer an opportunity to revisit and extend a wide range of social science theories in the domains of media use, relationship maintenance, social capital, and computer-mediated communication. For instance, drawing from research in the fields of interpersonal and mass communication may help us understand how these hybrid communication sites support a wide range of communication exchanges, in that SNSs merge components of mass (or broadcast) technologies like the television with characteristics of interpersonal communication as experienced by small groups or dyads. Although the sites we describe here will continue to evolve over time, individuals will continue to rely on their social networks—and the communication technologies that support them—to support them in accomplishing tasks both mundane and monumental.

Bibliography

Back, M. D., Stopfer, J. M., Vazire, S., Gaddis, S., Schmukle, S. C., Egloff, B., et al. (2010). Facebook profiles reflect actual personality, not self-idealization. *Psychological Science, 21,* 372-374.

Bakshy, E., Rosenn, I., Marlow, C., & Adamic, L. (2012). The role of social networks in information diffusion. *Proceedings of the 21st international conference on World Wide Web* (pp. 519-528). New York, NY: ACM.

Bandura, A. (1977). *Social learning theory*. Oxford, England: Prentice-Hall.

Bernstein, M. S., Bakshy, E., Burke, M., & Karrer, B. (2013). Quantifying the invisible audience in social networks. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 21-30). New York, NY: ACM.

Binder, H., Howes, A., & Sutcliffe, A. (2009). The problem of conflicting social spheres: Effects of network structure on experienced tension in social network sites. *Proceedings of ACM CHI 2009* (pp. 965–974). New York, NY: ACM.

Bourdieu, P. (1985). The forms of social capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York: Greenwood.

Brenner, J., & Smith, A. (2013). *72% of online adults are social networking site users.* Washington, DC: Pew Internet and American Life Project.

Bruns, A., & Burgess, J. E. (2011, August). *The use of Twitter hashtags in the formation of ad hoc publics*. 6th European Consortium for Political Research General Conference, Reykjavik, Iceland.

boyd, d. (2010). Social network sites as networked publics: Affordances, dynamics, and implications. In Z. Papacharissi (Ed.), *A networked self* (pp. 39-58). New York:

Routledge.

boyd, d., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13, 210–230.

Burke, M., Adamic, L., & Marciniak, K. (2013). Families on Facebook. *Proceedings of the Seventh International AAAI Conference on Weblogs and Social Media*. (pp. 41-50). Washington, DC: AAAI.

Burke, M., Kraut, R., & Marlow, C. (2011). Social capital on Facebook: Differentiating uses and users. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 571-580). New York: ACM.

Burke, M., Marlow, C., & Lento, T. (2010). Social network activity and social well-being. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 1909-1912). New York: ACM.

Burt, R. S. (1992). *Structural holes: The structure of social capital competition*. MA: Harvard University Press, Cambridge.

Carpenter, C. J. (2012). Narcissism on Facebook: Self-promotional and anti-social behavior. *Personality and Individual Differences*, *52*, 482-486.

Clark, H. (1996). *Using language*. Cambridge, UK: Cambridge University Press.

Clark, H. H., & Brennan, S. E. (1991). Grounding in Communication. In L. B. Resnick, J. M. Levine, & S. D. Teasley (Eds.), *Perspectives on socially shared cognition* (pp. 127-149). Washington: American Psychological Association.

Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, 95-120.

DiPiazza, F. D. (2012). *Friend me! 600 years of social networking in America*. Minneapolis,

MN: Twenty-First Century Books.

Donath, J. S. (2007). Signals in social supernets. *Journal of Computer-Mediated Communication, 13*, 231-251.

Donath, J. S., & boyd, d. (2004). Public displays of connection. *BT Technology Journal, 22*(4), 71-82.

Duggan, M., & Brenner, J. (2013). *The demographics of social media users, 2012*. Washington, DC: Pew Internet and American Life Project.

Dunbar, R. I. M. (1996). *Grooming, gossip, and the evolution of language.* Cambridge, MA: First Harvard University Press.

Ellison, N. (2004). *Telework and social change: How technology is reshaping the boundaries between home and work*. Greenwich, CT: Greenwood Publishing.

Ellison, N. B., & boyd, d. (2013). Sociality through Social Network Sites. In W. H. Dutton (Ed.), *The Oxford handbook of Internet studies* (pp. 151-172). Oxford: Oxford University Press.

Ellison, N. B., Gibbs, J. L., & Weber, M. S. (in press-a). The role of social media for knowledge sharing in distributed work: A conceptual framework. *American Behavioral Scientist*.

Ellison, N. B., Hancock, J. T., & Toma, C. L. (2012). Profile as promise: A framework for conceptualizing veracity in online dating self-presentations. *New Media & Society, 14,* 45-62.

Ellison, N., Lampe, C., Steinfield, C., & Vitak, J. (2011b). With a little help from my Friends: Social network sites and social capital. In Z. Papacharissi (Ed.), *A networked self: Identity, community and culture on social network sites* (pp. 124-145). New York: Routledge.

Ellison, N. Steinfield, C., & Lampe, C. (2007). The benefits of Facebook 'Friends': Exploring the relationship between college students' use of online social networks and social capital. *Journal of Computer-Mediated Communication*, *12*, 1143-1168**.**

Ellison, N. B., Steinfield, C., & Lampe, C. (2011a). Connection strategies: Social capital implications of Facebook-enabled communication practices. *New Media & Society, 13*, 873-892.

Ellison, N., Vitak, J., Gray, R., & Lampe, C. (in press-b). Cultivating social resources: The relationship between bridging social capital and Facebook use among adults. *Journal of Computer-Mediated Communication*.

Ellison, N., Vitak, J., Steinfield, C., Gray, R., & Lampe, C. (2011c). Negotiating privacy concerns and social capital needs in a social media environment. In S. Trepte & L. Reinecke (Eds.), *Privacy online: Perspectives on privacy and self-disclosure in the social web* (pp. 19-32). New York: Springer.

Feld, S. L. (1981). The focused organization of social ties. *American Journal of Sociology, 86,* 1015-1035.

Gerlitz, C., & Helmond, A. (in press). The Like economy: Social buttons and the data-intensive web. *New Media & Society*.

Gibson, J. J. (1986). *The ecological approach to visual perception*. Mahwah, New Jersey: Lawrence Earlbaum.

Goffman, E. (1959). *The presentation of self in everyday life*. Garden City, NY: Anchor.

Gray, R., Ellison, N., Vitak, J., & Lampe, C. (2013). Who wants to know? Question-asking and answering practices among Facebook users. *Proceedings of the 16th ACM Conference on Computer Supported Cooperative Work and Social Computing* (pp. 1213-1224). New

York: ACM.

Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78, 1360-1380.

Greene, J. A., Choudhry, N. K., Kilabuk, E., & Shrank, W. H. (2011). Online social networking by patients with diabetes: A qualitative evaluation of communication with Facebook. *Journal of General Internal Medicine*, 26, 287-292.

Hampton, K., Goulet, L. S., Rainie, L., & Purcell, K. (2011a). *Social networking sites and our lives*. Washington, DC: Pew Internet & American Life Project.

Hampton, K. N., Lee, C. J., & Her, E. J. (2011b). How new media affords network diversity: Direct and mediated access to social capital through participation in local social settings. *New Media & Society*, *13*(7), 1031-1049.

Haythornthwaite, C. (2005). Social networks and Internet connectivity effects. *Information, Communication, & Society, 8*, 125-147.

Hogan, B. (2010). The presentation of self in the age of social media: Distinguishing performances and exhibitions online. *Bulletin of Science, Technology & Society*, 30, 377-386.

Jeong, J.-W., Morris, M. R., Teevan, J., & Liebling, D. (2013). A crowd-powered socially embedded search engine. *Proceedings of the Seventh annual International Conference on Weblogs and Social Media* (pp. 263-272). Washington, DC: AAAI.

Joinson, A.N. (2008). "Looking at", "looking up," or "keeping up with" people? Motives and uses of Facebook. In *Proceedings of the 26th International Conference on Human Factors in Computing Systems* (pp. 1027-1036). New York: ACM.

Kim, J., & Lee, J.-E. R. (2011). The Facebook paths to happiness: Effects of the number of

Facebook Friends and self-presentation on subjective well-being. *CyberPsychology, Behavior, and Social Networking*, *14*, 359-364.

Lampe C., Ellison, N., & Steinfield, C. (2007) A Familiar Face(book): Profile Elements as Signals in an Online Social Network. In *Proceedings of the 25th International Conference on Human Factors in Computing* (pp. 435-444). New York: ACM.

Lampe, C., Vitak, J., Gray, R., & Ellison, N., (2012) Perceptions of Facebook's value as an information source. *Proceedings of the SIGCHI Conference on Human Factors in Computing* (pp. 3195-3204). New York: ACM Press.

Leonardi, P. M., Huysman, M., & Steinfield, C. (in press). Enterprise social media: Definition, history, and prospects for the study of social technologies in organizations. *Journal of Computer-Mediated Communication*.

Leonardi, P. M., Nardi, B.A., & Kallinikos, J. (Eds.). (2012). *Materiality and organizing: Social interaction in a technological world*. Oxford, UK: Oxford University Press.

Lin, N. (2001a). *Social capital: A theory of social structure and action*. London: Cambridge University Press.

Lin, N. (2001b). Building a network theory of social capital. In N. Lin, K. Cook, & R. S. Burt (Eds.), *Social capital: theory and research* (pp. 3-29). New York: Aldine de Gruyter.

Madden, M. (2012). *Privacy management on social media sites*. Washington, DC: Pew Internet and American Life Project.

Madden, M., Lenhart, A., Cortesi, S., Gasser, U., Duggan, M., & Smith, A. (2013). *Teens, social media, and privacy.* Washington, DC: Pew Internet and American Life Project.

Marwick, A., & Ellison, N. B. (2012). “There isn’t Wifi in heaven!” Negotiating visibility on Facebook memorial pages. *Journal of Broadcasting & Electronic Media*, *56*, 378-400.

Mead, G.H. (1967). *Mind, self, and society: From the Standpoint of a Social Behaviorist*. Chicago: University of Chicago Press.

Morris, M. R., Teevan, J., & Panovich, K. (2010). 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* (pp. 1739-1748). New York: ACM.

Naaman, M., Boase, J., & Lai, C.-H. (2010). Is it really about me? Message content in social awareness streams. *Proceedings of the ACM Conference on Computer Supported Cooperative Work* (pp. 189-192). New York: ACM.

Nie, J., & Sundar, S. S. (2013). Who Would Pay for Facebook? Self Esteem as a Predictor of User Behavior, Identity Construction and Valuation of Virtual Possessions. In *Human-Computer Interaction–INTERACT 2013* (pp. 726-743). Springer Berlin Heidelberg.

Paul, S. A., Hong, L., & Chi, E. H. (2011). Is Twitter a good place for asking questions? A characterization study. *Proceedings of the International Conference on Weblogs and Social Media* (pp. 578-581). Washington, DC: AAAI.

Pew Internet and American Life Project (2013). *Demographics of Internet users*. Retrieved from http://pewinternet.org/Static-Pages/Trend-Data-(Adults)/Whos-Online.aspx

Putnam, R. D. (2000). *Bowling alone*. New York: Simon & Schuster.

Resnick, P. (2002). Beyond bowling together: Socio-technical capital. In J. Carroll (Ed.), *HCI in the new millennium* (pp. 247-272). New York: Addison-Wesley.

Ross, C., Orr, E. S., Sisic, M., Arseneault, J. M., Simmering, M. G., & Orr, R. R. (2009). Personality and motivations associated with Facebook use. *Computers in Human Behavior*, *25*, 578-586.

Sundar, S. S. (2008). The MAIN model: A heuristic approach to understanding technology effects on credibility. *Digital media, youth, and credibility*, 73-100.

Smith, A. (2011). *Why Americans use social media.* Washington, DC: Pew Internet and American Life Project.

Smock, A. D., Ellison, N. B., Lampe, C., & Wohn, D. Y. (2011). Facebook as a toolkit: A uses and gratification approach to unbundling feature use. *Computers in Human Behavior*, *27*, 2322-2329.

Steinfield, C., Ellison, N. B., & Lampe, C. (2008). Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *Journal of Applied Developmental Psychology, 29*, 434-445.

Sturken, M., Thomas, D., & Ball-Rokeach, S. (Eds.) (2004). *Technological visions: The hopes and fears that shape new technologies.* Philadelphia: Temple University Press.

Toma, C. & Hancock, J.T. (2013). Self-affirmation underlies Facebook use. *Personality and Social Psychology Bulletin, 39,* 321-331.

Tong, S., & Walther, J. B. (2011). Relational maintenance and computer-mediated communication. In K. B. Wright and L. M. Webb (Eds.), *Computer-mediated communication in personal relationships* (pp. 98-118). New York: Peter Lang Publishing.

Treem, J. W., & Leonardi, P. M. (2012). Social media use in organizations: Exploring the affordances of visibility, editability, persistence, and association. *Communication Yearbook, 36*, 143-189.

Vitak, J. (2012a). The impact of context collapse and privacy on social network site disclosures. *Journal of Broadcasting and Electronic Media, 56,* 451-470.

Vitak, J. (2012b). *Keeping connected in the Facebook age: The relationship between Facebook use, relationship maintenance strategies, and relational outcomes*. Doctoral dissertation, Michigan State University, East Lansing, MI.

Vitak, J., & Ellison, N. (2013). "There's a network out there you might as well tap": Exploring the benefits of and barriers to exchanging informational and support-based resources on Facebook. *New Media & Society*, 15, 243-259.

Vitak, J., Ellison, N., & Steinfield, C. (2011). The ties that bond: Re-examining the relationship between Facebook use and bonding social capital. *Proceedings of the 44th Annual Hawaii International Conference on System Sciences.* Computer Society Press.

Weiss, R.S. (1974). The provisions of social relationships. In Z. Rubin (Ed.), *Doing unto others: Joining, molding, conforming, helping, loving* (pp. 17-26). Englewood Cliffs, NJ: Prentice-Hall.

Wellman, B. (2001). Physical Place and Cyberplace: The Rise of Personalized Networking. *International Journal of Urban and Regional Research, 25*(2), 227-252.

Author Bios:

Nicole B. Ellison (PhD, University of Southern California) is an Associate Professor in the School of Information at the University of Michigan. Her research focuses on how individuals and groups use online tools to initiate, maintain, and benefit from their social relationships.

Jessica Vitak (PhD, Michigan State) is an Assistant Professor in the College of Information Studies at the University of Maryland. Her research examines how the technical structure of SNSs shapes users' experiences, as well as how these technologies help individuals maintain relationships with a variety of connections.

Acknowledgements: We would like to thank Shyam Sundar and the anonymous reviewers for their thoughtful critiques of our work.

---

[1] Treem and Leonardi (2012) point to Gibson's (1986) framing of the concept of