Contextual social capital: Linking the contexts of social media use to its outcomes

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Abstract
The established link between social media use and social capital reflects the understanding that these media are useful for establishing and maintaining relationships. Yet, social media are frequently used for other purposes, such as entertainment, information seeking and companionship. Using a uses and gratifications approach, this study explores how contexts of social media use intersect with social capital. From data gathered in an online survey of approximately 350 social media users, multiple multivariate regression analysis was used to analyze the contributions that individual contexts of social media use make on bridging, bonding, and maintained social capital. This analysis demonstrates that while everyday instrumental communication is a primary contributor to the accrual of all forms of social capital, the use of social media use to express care and concern for others and for entertainment is also important to social capital outcomes. These findings underscore the importance of considering context to understand the effects of social media use.

Keywords: social media; social capital; uses and gratifications

Social media, and in particular social network sites, are relatively recent additions to many individuals’ communication technology repertoires. In the initial phases of their use, efforts to understand their widespread appeal and rapid adoption resulted in the suggestion that these new communication technologies have unique advantages, distinct from more traditional communication forms. Their features—identifiable user-constructed profiles, publicly articulated connection lists, interactive streams of content created by users and their connections—provide a one-to-many communication capability that was previously unavailable in easily accessed communication formats. In addition, streams of system- and user-generated content provide a form of social reminding, enhancing the ambient awareness of one’s connections, and facilitating sociality and social connection.

Attempts to identify the effects of using various platforms such as Facebook and Twitter have resulted in the identification of a number of important social benefits. Perhaps most notable is the way they assist in the accumulation of social capital, especially from weaker forms of social connection (Ellison, Steinfield & Lampe, 2007; Steinfield, Ellison & Lampe, 2008). Social media have become “important tools for managing relationships with a large and often heterogeneous network of people who provide social support and serve as conduits for useful information and other resources” (Steinfield, Ellison, Lampe & Vitak, 2012, p. 115), and researchers have understood these media as being particularly useful for establishing and maintaining interpersonal relationships (Ellison, Vitak, Gray & Lampe, 2014).

A focus on the social capital effects of social media use is an important research trajectory, especially as these technologies move into mundane practice. The question of how these technologies might influence social capital accumulation has gained relevance as evidence mounts that adoption rates are uneven across society. Higher usage patterns are evidenced for those at higher income levels, at younger ages, living in urban areas, and with greater levels of educational attainment (Duggan, Ellison, Lampe, Lenhart & Madden, 2014). It is therefore important to understand how these technologies might amplify traditional influences of disparity, and in particular how their use might influence social capital outcomes.

Studies thus far, however, have tended to treat social media use as unidimensional, implying that utility for relational maintenance is the principal objective for their deployment. Frequency of use has been a defining predictor of social media outcomes in studies, taking the form of intensity (e.g., Ellison, et al., 2007)
or a typology which relies on the frequency of selected activities (e.g., uploading photos, as in Brandtzæg, 2012). While usage patterns are a significant dimension in the accrual of social capital, such approaches pay little attention to the motivation that individuals bring to their social media engagement.

Media scholars have long recognized that audiences bring specific expectations to their use of various media and often use media in active and goal-oriented ways (Katz, 1959; Rubin, 2009). The ‘uses and gratifications’ approach identifies the motivations, or uses, that audiences and, more recently, media users have for employing media and the gratifications sought from such use. Uses and gratifications theory has provided an important framework in emerging media use studies, identifying new usage benchmarks and providing a structure to understand media use’s affective dimensions (Ruggiero, 2000). Prior studies have demonstrated uses of social media to include entertainment, information sharing, and social information seeking, in addition to supporting the maintenance of relationships (e.g., Quan-Haase & Young, 2010; Whiting & Williams, 2013). As a uses and gratifications approach considers audiences and media users as intentional and selective (Rubin, 2009), the context of media use can be specifically tied to outcomes.

While some contexts of social media use are associated with maintaining relationships, others are not; thus, the multiple ways in which uses of social media relate to social capital are not well articulated. How might these varying contexts’ of use, then, map to social capital outcomes? Are some contexts of social media use more relevant to social capital accumulation than others? This study attempts to establish greater clarity to our understanding of these relationships. Using data gathered in an online survey of 352 social media users, this study explores perceptions of the utility and gratification that social media experiences bring and how these might intersect with bridging and bonding social capital. By doing so, we arrive at a richer understanding of the ways in which the use of these everyday media forms provide access to the social resources available to their users.

Social media and social capital

The study of social capital has long captured the attention of sociologists, who have noted the beneficial effects that community building has on factors such as education completion rates (Coleman, 1988) and civic engagement (Putnam, 2000). Defined as resources which are linked membership in a group (Bourdieu, 1986), social capital resides within a network of relationships among members of specific social structures, and facilitates actions among these members (Coleman, 1988).

Social capital theory (Lin, 2001) argues that one’s network of social relationships provides a framework for the production of goodwill, under which benefits such as information, influence and solidarity become available to a collective or an individual (Coleman, 1988; Kwon & Adler, 2014). Because such goodwill aids an individual’s or group’s ability to accomplish or receive social and economic advantage, individuals invest in those relationships with an expectation that they will be able to collect on those resources at some future point in time (Lin & Erikson, 2008). Analogous to forms of economic capital, social capital is easily conceptualized as resources that may be accessed for some purposeful action (Appel, et al., 2014; Bourdieu, 1986), such as gaining access to better employment, experiencing greater trust in the collective/community, or providing needed information.

Sociologists and political scientists examine social capital in two strata: on a collective, community-based level and at a network, or individual, level. At the collective level, social capital is determined to be present by levels of trust and civic or political engagement (e.g., Valenzuela, Park & Kee, 2009). At the individual or network level, all relationships are not equal in their ability to produce social capital. Putnam (2000) distinguished bonding and bridging forms of social capital, and relates these to the strength of individual relationships. Analogous to Granovetter’s (1973) theory of strong and weak ties, close and strong relationships frequently aid in the acquisition of bonding social capital, which takes the form of physical and emotional support or access to tangible financial assets. Weaker relationships extend access to information, good and services and foster a sense of community, resources know as bridging social capital. A third hypothesized form, maintained social capital (Ellison, et al., 2007), refers to resources in networks that
individuals had previously, but no longer, belonged (such as a high school network). This attempt to capture a temporal dimension of social capital resources is intriguing, but little evidence supports this as a distinct form of resources.

Early studies on the internet were mixed on whether its use diminished, supplemented or transformed social capital (Quan-Haase & Wellman, 2004). But as the internet moved into the mainstream, and the profile of its users shifted, it was revealed that negative consequences of internet use on social capital dissipated (Kraut, et al., 2002). More recently, internet use and social capital have been correlated on a collective level, through measuring such factors as civic engagement (e.g., Wellman, Quan-Haase, Witte & Hampton, 2001) and trust (Shah, Kwak & Holbert, 2001). Furthermore, the use of a variety of internet technologies have been linked to increases in individuals’ social network diversity, which likely increases access to social capital at the individual level (Hampton, Lee & Her, 2011).

Social media specifically facilitate communication among one’s connections, providing enhanced access to the social resources embedded therein; hence, attention has focused on its ability to augment social capital (e.g., Burke, Kraut & Marlow, 2011; Ellison, et al., 2007). Social media increases the ability to create and maintain weaker ties, allowing a relatively larger number of connections to be maintained at once (Donath, 2007). Voyeurism, or social searching, is facilitated, enabling users to learn more about their contacts and offline community (Bumgarner, 2007; Lampe, Ellison & Steinfield, 2006). This permits the ability to passively monitor weak connections without significant effort, leaving open the possibility that such connections will become stronger, and thus more valuable, over time (Levin, Walter & Murnighan, 2010).

Several studies have tied social capital outcomes to social media activity. Social media use is positively associated with civic and political participation, both on and offline (Valenzuela, et al., 2009). Social network site users have more acquaintances, greater levels of face-to-face interaction, and higher levels of bridging social capital than non-users (Brandtzæg, 2012; Steinfield, et al., 2008). Social capital benefits are strongly related to the intensity with which social media is used and more active users see greater perceived levels of bridging and bonding social capital (Johnston, Tanner, Lalla & Kawalski, 2011). Time spent using social network sites is a weak predictor of bridging social capital, but specific activities carried out through these platforms, such as seeking out social information, using the ‘Like’ button, and directly communicating with others contribute significantly to social capital as well (Bohn, Buchta, Hornik & Mair, 2014; Burke, et al., 2011; Lee, Kim & Ahn, 2014). As adoption of social media has moved into the mainstream, additional research has confirmed that the social capital benefits of social media use scale to older adult and teen user groups as well as college students (Burke, Marlow & Lento, 2010; Xie, 2014).

Studies have also suggested, however, that traditional assumptions related to the resources found in strong and weak relationships may be altered in social media use (Utz & Muscanell, 2015). The realization of social capital resources from weak connections may have an upward boundary. Access to social capital rises only until networks grow to about 600 connections, at which point additional connections no longer enhance social capital access (Bohn, et al., 2014). This suggests that very large numbers of weak connections hold little value. Weak social media connections have been found to provide little informational support (Krämer, et al., 2014); rather, strong ties provide both emotional and informational support through social media use (Krämer, et al., 2014). Despite this, perceptions of social capital access do increase at a greater rate upon directed communication activity via social media with weaker connections than strong connections (Vitak, 2014). This implies that, contrary to more traditional understandings of social networks and social capital, the value in weak ties may be more nuanced than previously considered and the ways in which social media are used may alter perceptions of where available resources may reside.

These findings are provocative, as they suggest that the facility with which social media enable users to maintain relationships may shift the ways in which social capital resources are perceived and accessed. More detailed study on the ways in which engagement with these media relate to social capital outcomes is warranted to better understand this dynamic.
Uses and gratifications of social media

The ‘uses and gratifications’ approach refers to the uses individuals have for employing or consuming media and the gratifications sought from such media use. It assumes that media selection by individuals is an active process, though not exclusively intentional, and that media users are goal-directed in meeting their needs (Katz, 1959; Rubin, 2009). At the core, it allows that functional processes align with media use, and such use leads to specific psychological or social consequences (Lin, 1996).

When using a uses and gratifications approach to examine the consequences of media use, researchers have been careful to note that not all audiences and users are universally active and have typically examined activity as a combination of motives, attitudes and the psycho-social origins of media consumption (Papacharissi, 2009b; Rubin, 2009). Some have grouped media gratifications into three distinct categories: those based on the content that media carries (content gratifications); those based on actual experience of using the media form (process gratifications); and those based on social interactivity that media facilitate (social gratifications) (Stafford, Stafford & Schkade, 2004).

Those using social media for its content, such as for seeking and finding news and information, use the platforms more frequently (Joinson, 2008; Lampe, et al., 2010), participate more in civic and political activities (Park, Kee & Valenzuela, 2009), and use certain platform features, such as updating their status and using the ‘Like’ button, more often (Smock, Ellison, Lampe & Wohl, 2011; Spiliotopoulos & Oakley, 2013). Use for content gratifications is also predicted by narcissism (Mo & Leung, 2015) and the number of social contexts an individual negotiates on these platforms (Spiliotopoulos & Oakley, 2013). One study found that the use of social media for entertainment purposes predicts bridging social capital (Papacharissi & Mendelson, 2011), however the interaction effects with other uses was not articulated.

Use of social media for convenience or social utility is aligned with process gratifications. Though several studies have noted the relevance of these uses of social media (e.g., Bumgarner, 2007; Whiting & Williams, 2013), examination of how such process gratifications intersect with either the social media’s effects or the characteristics of its use and users has received little scholarly attention.

Social media are assumed to be used extensively for social gratifications, not only because interactivity is a hallmark of these platforms but also because of their ability to facilitate communication. While individuals perceive that the biggest reason to use social media is for social purposes, they do not report their use to be socially gratifying in the short term however (Wang, Tchernev & Solloway, 2012), and that the social benefits are garnered over a longer temporal frame. Social gratifications of social media include its use for connecting with others. Those individuals with larger network sizes are more likely to use social media for these purposes (Spiliotopoulos & Oakley, 2013), as are those with higher levels of self-esteem and group identity (Barker, 2012). Uses of social media for communicative purposes results in more frequent social media use and more time spent with these platforms (Leung, 2013), and also predicts use of specific social media features, such as chat, messaging, and commenting (Lampe, et al., 2010).

Finally some social media uses and gratifications, such as use for entertainment, communication or professional advancement, have been found to be weakly predictive of bridging social capital, though results of these studies have provided conflicting results. These studies included examination of other contributing variables, such as narcissism (Mo & Leung, 2015), communication avoidance (Papacharissi & Mendelson, 2011), and Facebook intensity (Kwon, D’Angelo & McLeod, 2013). In addition, while examining the contribution of social media uses and gratifications, the studies examined social capital forms as independent outcomes (i.e., and individual multiple linear regressions), instead of exploring how these motivations and outcomes might also intersect and overlap with one another.

What stands out in these studies is that some contexts of social media uses are associated with maintaining relationships, but others are not. Moreover, studies on the multiple ways in which the social gratifications might result in social consequence are conflicting, and their relationship with social capital is not well articulated. Further research on how various contexts of social media use map to social capital outcomes would be enlightening.
To explore how social media use might intersect with its social outcomes, this study employs a uses and gratifications approach to explore the evolving contexts of social media use and apply these to an examination of social capital outcomes. The first research question, accordingly addresses the basic question of how individuals use social media routinely. A uses and gratifications approach highlights not only the contexts in which media are used but also the gratifications sought from such use, and provides insight into the motivation for social media use. The first question therefore becomes:

**RQ1: What are salient motives for using social media sites?**

Prior work on social media effects has examined social capital accrual as a leading outcome of social media use, however most studies have not tied these outcomes to the underlying motivations that gird social media use. In addition, studies which examine social capital as an outcome have tended to examine additional explanatory characteristics, such as narcissism, which narrow the ways in which the uses of media map to social capital outcomes. To further explore the contextual dimensions of how social media use impacts social capital outcomes, a second question is proposed:

**RQ2: How do the uses of social media relate to social capital outcomes?**

These questions focus an examination of perceptions of the utility and gratification that social media experiences bring, and how these might intersect with bridging and bonding social capital. As a study of media effects, such exploration will lead to a more nuanced grasp of the ways in which these everyday media forms benefit, and potentially detract from, the resources available to their users.

**Method**

A self-administered, web-based survey tool was used to collect data about the uses and gratifications of social media and the perceptions of social capital resources. To clarify the relevant dimensions of in each of these areas, exploratory factor analysis using principal components extraction was conducted on the survey items. The dimensions of were then employed in a multivariate multiple regression (MMR) model using SPSS to demonstrate how the contexts of social media use relate to the dimensions of social capital.

MMR is a statistical technique that allows for analysis of the relationship between multiple independent variables and more than one quantitatively-measured dependent variable. MMR analysis is useful when dependent variables are conceptually related and moderately correlated, and thus should be analyzed together (Dattalo, 2013). Previous work has confirmed that bridging and bonding social capital, as measured through online means, are “distinct but related dimensions of social capital” (Williams 2006, p. 610).

As a multivariate technique, MMR has the advantage of controlling the compounding of Type I errors, which occur when multiple comparisons are made from data (Dattalo, 2013). Perhaps most importantly multivariate analysis provides an honest reflection of human behavior, which often has multiple causes and effects, permitting examination of these with less distortion. Like ordinary least squares regression (OLS), MMR presents coefficients and standard errors as would be obtained by performing individual OLS on each of the dependent variables; in addition, MMR estimates between-equation covariance. In doing so, MMR tests the significance of the relationships across and between all of the individual equations, highlighting individually significant predictors and their contributions to the measured outcomes.

**Sample**

The sample consisted of 361 undergraduate students attending a large Midwestern US university. Participants were recruited in introductory-level classes, provided with information to the online survey, and received course credit for participation. Data was screened for missing values, multicollinearity, homoscedasticity, and univariate and multivariate outliers prior to canonical correlation analysis. From the
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total number of participants, responses of 6 multivariate outliers were deleted, making the total sample size n=355. This sample size was deemed adequate for the subsequent analyses based on an analysis of communalities and component loadings (for principal components analyses) and variable reliabilities and subject-to-variable ratios (for MMR).

The resulting sample had a mean age of 21.2 years (SD=2.72, range=18-45, M=21.0) and had more female participants (n=217, 61.0%) than males (n=138, 38.8%, 1 missing value). The racial/ethnic composition was diverse: White 39.3% (n=140); Hispanic/Latino 23.3% (n=83); Asian 22.8% (n=81); African-American 4.5% (n=16); Native American/Pacific Islander 2.8% (n=10); Multi-ethnic/Other/Undisclosed 7.0% (n=25). Participants were active users of social media, with 78.4% reporting two or more social media profiles and 87.4% accessing their favored social media site at least once/day.

**Measures**

**Uses of Social Media:** Forty-three uses and gratifications items based on previous uses and gratifications research (Papacharissi & Mendelson, 2011; Papacharissi & Rubin, 2000) were included using a five-point Likert scale. These items related to habitual passing time; relaxing entertainment; expressive information sharing; escapism; social interaction; professional advancement; social information gathering; companionship; and inclusiveness.

**Social capital:** A series of 23 questions were used that were based on previous research related to bridging and bonding social capital (Williams, 2006, as adapted by Ellison, et al., 2007). The questions were modified to exclude references to any specific community, and therefore mitigating the risk of conflating perceptions of social capital with the perceptions of attachment and belonging (Appel, et al., 2014). Again, these items were measured using a five-point Likert scale.

**Other Measures:** Previous research has highlighted that gender, frequency of social media use and socio-economic status are all associated with social media use (boyd & Hargittai, 2010). Parent’s educational attainment has been previously used as a proxy of socio-economic status with student populations (Hargittai, 2008, 2010). Respondents were asked to report gender (shown as Male in the models), the frequency with which they visited their social media accounts, and mother’s educational attainment. Social Media Frequency responses were scored on a five point scale (M=4.40, s=1.02), and Mother’s Educational Attainment was measured on a six point scale (M=3.47, s=1.67).

**RQ1: What are salient motives for using social media sites?**

The items related to the Uses of Social Media were analyzed through exploratory factor analysis, using principal components extraction with Varimax rotation. Examination of the rotated component solution revealed that five items loaded on multiple factors with differences of less than .15, thus were eliminated from the analysis. Nine components resulted from the remaining 38 items, and were consistent with other uses and gratifications studies of social media (e.g., Papacharissi & Mendelson, 2011). The nine retained components showed strong variable loadings in excess of .50 with items loading substantially on only one component (Osborne & Costello, 2005), and explained 77.9% of the total variance. These are summarized in Table 1.

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1 It should be noted that studies in public health have identified contextual social capital as that which is accrued to the individual from the structural features of a community, state, or nation (e.g., Engström, Mattsson, Järleborg & Hallqvist, 2008; Poortinga, 2006); in other words, individuals residing in an area with a specific context are equally exposed to factors such as welfare policies and community trust, but the effects of these factors on health may vary between different individuals. This study similarly refers to the contexts under which social capital may be generated, however, as media use is undertaken at the level of the individual, contextual social capital here only reflects that which is experienced and accrued at the level of the individual.
Table 1 – Factor Loadings for the Uses and Gratifications Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Affect</th>
<th>Companion</th>
<th>Voyeurism</th>
<th>Info Sharing</th>
<th>Habit</th>
<th>Entertain</th>
<th>Communication</th>
<th>Professional Use</th>
<th>Escape</th>
<th>C</th>
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</thead>
<tbody>
<tr>
<td>Help others</td>
<td>0.827</td>
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<td></td>
<td></td>
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<td>0.866</td>
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<td>Show encouragement</td>
<td>0.823</td>
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<td></td>
<td></td>
<td></td>
<td>0.877</td>
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<td>Because I am concerned about others</td>
<td>0.798</td>
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<td>0.829</td>
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<td>Let others know I care</td>
<td>0.763</td>
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<td>0.813</td>
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<td>Thank others</td>
<td>0.725</td>
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<td>0.775</td>
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<td>Makes me feel less lonely</td>
<td>0.831</td>
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<td>0.877</td>
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<td>Reassuring to know someone is there</td>
<td>0.816</td>
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<td>0.846</td>
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<td>So I won’t have to be alone</td>
<td>0.773</td>
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<td>0.822</td>
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<tr>
<td>When there’s no one else to talk to</td>
<td>0.759</td>
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<td></td>
<td>0.800</td>
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<td>Everyone else is doing it</td>
<td>0.575</td>
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<td>0.774</td>
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<td>Find information about people I don’t know</td>
<td>0.783</td>
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<td>0.822</td>
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<td>Enjoy browsing profiles</td>
<td>0.774</td>
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<td></td>
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<td>0.793</td>
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<td>Enjoy stumbling on information about people</td>
<td>0.758</td>
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<td>0.787</td>
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<tr>
<td>Find information on people before I meet them</td>
<td>0.660</td>
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<td>0.630</td>
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<td>Present information about my special interests</td>
<td>0.764</td>
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<td>0.707</td>
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<td>Share useful information</td>
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<td>0.735</td>
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<td>Provide information</td>
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<td>0.630</td>
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<td>Provide personal information</td>
<td>0.675</td>
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<td>0.691</td>
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<tr>
<td>Tell others about myself</td>
<td>0.647</td>
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<td>0.704</td>
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<td>It passes time</td>
<td>0.868</td>
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<td>0.857</td>
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<td>When I have nothing better to do</td>
<td>0.825</td>
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<td></td>
<td>0.754</td>
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<td>Gives me something to do</td>
<td>0.801</td>
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<td>0.784</td>
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<td>It’s a habit</td>
<td>0.670</td>
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<td></td>
<td>0.620</td>
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<td>Relaxes me</td>
<td>0.881</td>
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<td></td>
<td>0.890</td>
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<td>It allows me to unwind</td>
<td>0.859</td>
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<td></td>
<td>0.854</td>
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<tr>
<td>It’s a pleasant rest</td>
<td>0.851</td>
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<td></td>
<td>0.860</td>
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<td>It’s enjoyable</td>
<td>0.608</td>
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<td>0.686</td>
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</tr>
<tr>
<td>Communicate with distant friends</td>
<td>0.803</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.766</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keep in touch with friends/family</td>
<td>0.780</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.767</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To keep in touch with people</td>
<td>0.695</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.738</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How people communicate today</td>
<td>0.564</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.692</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Network with professional contacts</td>
<td>0.898</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.891</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post my resume online</td>
<td>0.867</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.865</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helpful for professional future</td>
<td>0.821</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.803</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Get away from what I am doing</td>
<td>0.813</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.797</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Get away from others</td>
<td>0.779</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.813</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To forget about school or work</td>
<td>0.765</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.791</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of variance</td>
<td>38.0</td>
<td>8.6</td>
<td>7.2</td>
<td>5.9</td>
<td>4.6</td>
<td>4.0</td>
<td>3.5</td>
<td>3.2</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>α</td>
<td>.942</td>
<td>.913</td>
<td>.917</td>
<td>.875</td>
<td>.878</td>
<td>.906</td>
<td>.846</td>
<td>.916</td>
<td>.862</td>
<td></td>
</tr>
</tbody>
</table>
The first component, Affect (M=2.85, SD=1.05, α=.94) relates to the use of social media for affective messaging, to show care or concern for others or express thanks and encouragement. Companionship (M=2.37, SD=1.08, α=.91) refers to social media use to reduce loneliness and enhance feelings of others’ presence. Voyeurism (M=3.10, SD=1.05, α=.92) reflects social media use dedicated to looking up information about others. Information Sharing (M=3.09, SD=.95, α=.94) uses social media to tell others about oneself or post useful information. Habit (M=3.70, SD=1.01, α=.88) describes habitual use of social media out of boredom, to pass time or when there is nothing better to do. Entertainment (M=3.03, SD=1.07, α=.91) is use of social media for enjoyment, pleasure and relaxation. Communication (M=3.57, SD=1.02, α=.85) is use of social media to keep in touch with family or distant friends. Professional Use (M=2.41, SD=1.16, α=.92) indicates use for career advancement, such as posting a resume or networking with professional contacts. Finally, Escape (M=2.80, SD=1.14, α=.86) describes use to escape from everyday concerns or to get away from the task at hand. Examination of the mean scores for each of these factors highlights the primary uses of social media as communication and the sharing and seeking of information. Overall, these factors provide a rich and diverse set of social media uses through which the contexts of social capital can be explored.

RQ2: How do the uses of social media relate to social capital outcomes?

The second research question focuses on the contextual dimensions of social capital, and seeks to identify how various uses of social media relate to forms of social capital. MMR was used to test whether the individual Uses of Social Media identified by our first research question might have differing predictive effects on bridging, bonding, and maintained social capital. Specifically, the first model includes as independent variables: 1) factors influencing social media use (Mother’s Educational Attainment and gender); 2) Social Media Frequency; and 3) Uses of Social Media (Affect, Companionship, Voyeurism, Information Sharing, Habit, Entertainment, Communication, Professional Use, and Escape).

As dependent variables, the three domains of social capital—Bridging, Bonding, and Maintained—were employed. To facilitate a comparison of the relative contribution of each of the independent variables to each of the Social Capital domains, standardized regression coefficients were calculated.

The initial model was found to be statistically significant across all of the social capital dependent variables and is summarized in Table 2. Examination of the model reveals that the use of social media for Communication is a strong predictor of the all forms of social capital, and Gender and the social media use contexts of Entertainment and Companionship are also significant. No statistically significant relationships between the contexts of social media use and social capital outcomes are evident. However, such examination also shows that several genres of social media use did not demonstrate any significance to the model, i.e., they were not significant in predicting any of the social capital outcomes, so backward elimination was deployed on the Social Media Uses to enhance model parsimony and to maintain joint predictive capability (Dattalo, 2013). A special case is the context of social media use for Companionship: significance at the multivariate level, and no significance at the univariate level represents an interaction effect in the dependent Social Capital variables. In other words, the use of social media for Companionship does result in perceptions of greater social capital resources overall, but is not significant to any one form.
A second model, the Refined Model, includes Communication, Entertainment, and Affect as Social Media Use variables, along with Gender and Mother’s Education as predictors. The Refined Model demonstrated only a minor decrease in $R^2$ for each of the dependent variables due to the elimination of the independent variables. In addition, the Lack of Fit tests were significant for all of the dependent variables, indicating that the Refined Model is the most parsimonious solution (Garson, 2015). The Refined Model is summarized in Table 3.
Table 3 – Multiple Multivariate Regression Analysis – Refined Model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Multivariate Tests</th>
<th>Univariate Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wilks’ λ</td>
<td>F\textsubscript{3,346}</td>
</tr>
<tr>
<td>Male</td>
<td>0.976</td>
<td>2.887**</td>
</tr>
<tr>
<td>Mother’s Education</td>
<td>0.983</td>
<td>2.002</td>
</tr>
<tr>
<td>Affect</td>
<td>0.966</td>
<td>4.110**</td>
</tr>
<tr>
<td>Entertainment</td>
<td>0.958</td>
<td>5.110**</td>
</tr>
<tr>
<td>Communication</td>
<td>0.866</td>
<td>17.842***</td>
</tr>
<tr>
<td>R\textsuperscript{2}</td>
<td>.255</td>
<td>.161</td>
</tr>
<tr>
<td>Adjusted R\textsuperscript{2}</td>
<td>.244</td>
<td>.149</td>
</tr>
<tr>
<td>F\textsubscript{3,346}</td>
<td>23.773***</td>
<td>13.320***</td>
</tr>
</tbody>
</table>

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

Multivariate tests indicate whether the predictor variables are significant to the full set of dependent variables, taking into account the covariance between the dependent variables. As noted in Table 3, the use of social media sites for Communication with family and distant friends is a primary predictor of the set of Social Capital variables, and the contexts of Entertainment and Affect, or expressing care and concern for others, are of secondary importance. Gender, and specifically being female, is mildly predictive of Social Capital as well.

Univariate analysis reveals the importance of each of the predictor variables to the individual forms of Social Capital, and that these explain a significant amount of the variance in each form of social capital. Like prior studies, this refined model suggests that the predictor contexts of social media use are primarily important to Bridging social capital (Adjusted \(r^2=.24\), \(F\textsubscript{3,346}=23.77\), \(p<.001\)), but are also significant to Bonding (Adjusted \(r^2=.15\), \(F\textsubscript{3,346}=13.32\), \(p<.001\)) and Maintained (Adjusted \(r^2=.17\), \(F\textsubscript{3,346}=15.77\), \(p<.001\)) social capital outcomes. Individual beta coefficients are analogous to the \(\beta\) coefficients in an ordinary least squares regression.

As illustrated in Table 3, the contexts of social media use provide important influences on social capital outcomes. As anticipated, the use of social media for Communication is important to all three forms of social capital outcomes, Bridging (\(\beta = .327\), \(p<.001\)), Bonding (\(\beta = .259\), \(p<.001\)), and Maintained (\(\beta = .361\), \(p<.001\)). The context of Entertainment, or the use of social media for relaxation and enjoyment, is predictive of both Bridging (\(\beta = .173\), \(p<.001\)) and Maintained (\(\beta = .361\), \(p<.01\)) social capital. This unexpected result contradicts prior research on social capital and uses of traditional media for entertainment (e.g., Putnam, 2000; Shah, 1998), and may suggest that the characteristics of social media, such as interactivity and a focus on social connection, may invite an alternative interpretation of entertainment as a socially isolating use of media.

Affect or the use of social media to express care and concern for others, is weakly predictive of Bonding (\(\beta = .143\), \(p<.05\)) social capital. Expressions of care and concern are important to developing close relationships (Hays, 1984), thus it is perhaps unsurprising that the use of social media in this way builds social capital resources. Women, who use social media more frequently than men (Duggan, et al., 2014), are more likely to gain Bridging social capital from use (\(\beta = -.128\), \(p<.05\)) and Mother’s Education, associated with socio-economic status, is predictive of Maintained social capital (\(\beta = .111\), \(p<.05\)).
In summary, these results provide support to the argument that the ways in which social media are employed influence their social capital effects. Significantly, two important insights can be ascertained. First, social capital outcomes are dependent on specific contexts of social media use and these are additional to the more commonly presumed use of relational maintenance. Second, not every context of social media use results in access to social capital resources, thus greater nuance is called for when examining effects of social media use.

**Discussion**

Social media platforms have become significant in individuals’ repertoires of communication technologies and strategies, and accordingly are valuable to the establishment and maintenance of interpersonal relationships. It follows, then, that these platforms have become important tools for tapping into the social resources that one’s social network provides, resources such as social capital. The results of this study demonstrate that the motivations individuals bring to their social media use are central to understanding their benefits, and specifically point to ways in which social capital might be acquired through these media.

Social media offer many affordances for efficient maintenance of relationships. Important features of these platforms include their broadcast capabilities, which help users disseminate news and important information about interests and life events, as well as their messaging and chat functions which provide one-to-one and small group communication capabilities. Social media host persistent information which is searchable and preserved future reference and enables conversations to be added to or expanded on over time (Treem & Leonardi, 2013); these digital traces of shared information serve to keep relationships in memory and enhance relational closeness (Human & Lane, 2008). Persistence also translates into a stable and dedicated “social address,” which gives others the ability to locate and contact their connections over time and across geographic, temporal and social distance, further extending the ability to tap resources. Algorithms in platform design provide social reminding functionality, such as birthday reminders and timeline ‘look backs,’ which enables individuals to bolster the quality of weak relationships by partaking in the everyday practices necessary for maintaining connection. These features enhance the instrumental function of social media, and encourage their use as communication technologies.

The results of this study have important implications for research on the social capital effects of social media use. First, specific contexts of social media use are attributable to perceptions of social capital resources. Communication with others, and in particular with those with which one shares weaker relational forms, is one such context. It is perhaps not surprising therefore, that use in this manner is an important predictor of all three forms of social capital, Bridging, Bonding, and Maintained. However, this analysis notes that Communication is relatively less important to Bonding social capital than to its other forms. Media multiplexity theory (Haythornthwaite, 2005) suggests that stronger relationships communicate across greater and multiple forms of media than weaker relationships. These findings are very consistent with this idea: social media would only be one technology in communication repertoires that would support strong relationships, and therefore would be comprise a smaller proportion of the tools available to tap those resources.

Affect and Entertainment are also important contexts of social media use. Affect, or the use of social media to show care or concern for others, predicts the outcome of Bonding social capital, or those resources found in close relationships. This finding is consistent with prior work that demonstrates that the expressions of affection and support, while present in the maintenance strategies for all relationships, are more important to close relationships than friends and acquaintances (Canary, Stafford, Hause & Wallace, 1993).
Alternatively, Entertainment is predictive of Bridging and Maintained social capital, or resources found in more distant relationships. This finding contradicts prior studies which suggest that use of mass media, such as television, results in lower levels of social capital accumulation (Beaudoin & Thorson, 2004; Fleming, Thorson & Peng, 2005; Shah, et al., 2001). Mass media forms were traditionally perceived as detrimental to social capital formation because they were perceived amusement and distraction from everyday concerns, not as inducement to engage with others (Shah, 1998). Social media, alternatively, have a strong bias for interactivity and social connection which permeates the uses to which it is put. Accordingly, its entertainment value lies in interaction and connection with others, taking the form of playfulness (Sledgianowski & Kulviwat, 2009) or even co-play of interactive games such as Candy Crush Saga or Farmville (Shin & Shin, 2011). Moreover, studies indicate that individuals play games within social network sites to create mutual areas of interest for future social interaction (Wohn, Lee & Sung, 2010), which suggests that a function of social media use for entertainment aligns with more traditional understandings of social capital building strategies. Ultimately, the uses of Affect and Entertainment, like Communication, extend connection with others and offer additional opportunities to build social capital resources within one’s social network.

A second important result can be found in what is not present in models. Communication technologies often serve two forms of functionality: instrumental, or the technical performance of the technology; and expressive, or its psychological performance (Lee, Garrett, Self & Findley Musgrove, 2012). Examples of the instrumental functionality of social media identified in this study include these uses of Communication and Affect, as they are characterized by leveraging the communicative functionality of the medium. Alternatively, expressive uses include identified in these data include Information Sharing and Professional Use, uses characterized by the use of the medium for image crafting and self-presentation. It is notable that such expressive uses are not significant in predicting social capital outcomes, despite their significance to the ways in which social media are deployed. Expressive functionality is an important dimension of social media activity (e.g., Liu, 2007; Papacharissi, 2009a; Pearson, 2009), thus its absence from models that predict social capital outcomes is notable. This finding underscores that not all context of social media use result in social capital, and provides additional support to the idea that outcomes of social media use are dependent on how such media are deployed.

Finally, it is important to understand that social media use is more nuanced and complex than what is operationalized in many current studies; the nine uses and gratifications identified in this study are evidence of this complexity. Studies that incorporate measures of time, frequency of access, or intensity of use as proxies for social media engagement do not adequately embody the multidimensionality of social media use, and therefore under-represent how different contexts impact outcomes. It is imperative that researchers capture social media use in more differentiated ways, so that the effects of their deployment can be better understood. Future media use studies might explore how dimensions of use—such as uses and gratifications, or expressive and instrumental functionality—might influence important variables of interest, such as civic engagement, social influence, or trust.

These findings add to the literature surrounding social media and social capital by highlighting how various contexts of use result in differing outcomes. While the participants in this study were sampled from an ethnically and racially diverse undergraduate student population, the voluntary nature of student research recruitment precludes generalizability of these results to other populations. In addition, as is often the case with surveys, reliance on self-reported data presents the potential for reporting bias. These results are salient for social media researchers and site designers alike however, as they provide a more detailed view of how social capital resources are developed through social media use.
Conclusion

An important research trajectory on social media’s effects has highlighted effects on social capital accumulation, yet these studies often employ limited dimensions of social media activity, such as intensity of use, or the frequency of selected actions such as uploading photos. Individuals bring specific goals to their use of media, however, and these motivations influence the resultant outcomes in subtle but important ways. This study employs a ‘uses and gratifications’ approach to highlight underlying motivations of social media use, and examines how these relate to social capital outcomes. Findings from this study highlight that instrumental uses of social media, or deployment for communication and conveying supportive information to others, augment social capital resources, but that expressive uses, or use for presentation of oneself, do not contribute to these stores. This study adds nuance to the literature on media use and social capital, and emphasizes the importance of considering the context of use when exploring media use outcomes.

2 Bridging, Bonding, and Maintained Social Capital scales were verified using principal components extraction as recent work has identified that items may not represent distinct constructs (Appel, et al., 2014).
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**Appendix A – Social Capital Scale Analysis**

The 23 social capital items used in prior studies (Williams, 2006; Ellison, Steinfield & Lampe, 2007) were analyzed using exploratory factor analysis with principal components extraction and oblimin rotation with Kaiser Normalization. This technique was used as bridging and bonding social capital have been found to be correlated (Williams, 2006), and was further confirmed as appropriate through analysis of the component correlations. Examination of the correlation matrix prompted elimination of two items with low correlations and another with low communality. The remaining 20 items loaded onto three distinct factors as suggested by visual analysis of the scree plot and confirmed through a Monte Carlo parallel analysis (Ledesma & Valero-Mora, 2007). The Kaiser-Meyer-Olkin measure verified sampling adequacy, KMO = .921. The three components showed strong variable loadings and explained 65.38% of the total variance, as summarized below.

**Factor Loadings for Social Capital Items**

<table>
<thead>
<tr>
<th>Interacting/Talking with people in my social network makes me...</th>
<th>Bonding Social Capital</th>
<th>Bridging Social Capital</th>
<th>Maintained Social Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>feel like part of a larger community</td>
<td>0.847</td>
<td></td>
<td></td>
</tr>
<tr>
<td>feel connected to the bigger picture</td>
<td>0.837</td>
<td></td>
<td></td>
</tr>
<tr>
<td>interested in what people unlike me are thinking</td>
<td>0.779</td>
<td></td>
<td></td>
</tr>
<tr>
<td>curious about other places in the world</td>
<td>0.752</td>
<td></td>
<td></td>
</tr>
<tr>
<td>interested in things that happen outside of my town</td>
<td>0.750</td>
<td></td>
<td></td>
</tr>
<tr>
<td>reminds me that everyone in the world is connected</td>
<td>0.745</td>
<td></td>
<td></td>
</tr>
<tr>
<td>want to try new things</td>
<td>0.710</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| The people I interact with in my social network would...       |                        |                        |                          |
| put their reputation on the line for me.                      | 0.900                  |                         |                          |
| share their last dollar with me.                              | 0.874                  |                         |                          |
| If I needed an emergency loan of $100, I know someone in my social network I could turn to. | 0.825 |                     |                          |
| be good job references for me.                                | 0.690                  |                         |                          |
| help me fight an injustice.                                   | 0.615                  |                         |                          |
| When I feel lonely, there are several people in my social network I can talk to. | 0.611 |                     |                          |
| There is someone in my social network I can turn to for advice about making very important decisions. | 0.608 |                     |                          |
| There are several people in my social network I trust to help solve my problems. | 0.558 |                     |                          |
| I would be able to find information about a job or internship from a high school acquaintance. |  | -.866 |
| I'd be able to stay with a high school acquaintance if traveling to a different city. |  | -.828 |
| It would be easy to find people to invite to my high school reunion. |  | -.743 |
| If I needed to, I could ask a high school acquaintance to do a small favor for me. |  | -.739 |
| I'd be able to find out about events in another town from a high school acquaintance living there. |  | -.734 |
| % of variance | 43.09 | 14.44 | 7.86 |
| Cronbach’s α | .905 | .906 | .887 |

The resulting scales were largely consistent with those propose by Ellison, et al. (2007), though several items did not distinctly load on a single component. These included two reverse-scaled items relating to not knowing people in one’s social network well, and related to bonding social capital, and a weakly loading item relating to willingness to spend time on community activities, an item related to bridging social capital. These items were eliminated from this analysis.