Beyond the Power of Networks:

Differentiating Network Structure from

Social Media Affordances for Perceived Social Support

Weixu Lu

Department of Communication, Rutgers University, USA

Keith N. Hampton*

Department of Communication, Rutgers University, USA

***Corresponding author**: Keith N. Hampton, Department of Communication, Rutgers University, 4 Huntington Street, New Brunswick, NJ 08901, Email: keith.hampton@rutgers.edu.

Bios

Weixu Lu is a PhD Candidate in the Department of Communication at Rutgers University. His research interests focus on the relationship between locative media and the urban environment.

Keith N. Hampton is the Endowed Professor in Communication and Public Policy and Co-Chair of the Social Media & Society Cluster in the School of Communication and Information, he is Associate Professor in the Department of Communication, and an affiliate member of the graduate faculty in the Department of Sociology at Rutgers University.

Abstract

Existing research suggests that social media use is associated with higher levels of social capital – the resources contained within a person's network of friends, family, and other acquaintances. However, in predicting access to these resources, it has been impossible to distinguish the affordances of social media from the underlying advantage of maintaining a favorable social network of relationships on- and offline. Based on data from a representative, national survey, we compare the relationship between social network structure and various activities on Facebook for one type of resource: informal support in the form of companionship, emotional support, and tangible aid. In addition to a positive association between number of close ties, overall network size and diversity and support, we find that Facebook status updates and private messaging are independently associated with perceived support. We argue that these affordances are an outcome of the "pervasive awareness" provided by social media.

Keywords

core network, diversity, network size, Facebook, pervasive, persistent, social capital.

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Introduction

An extensive literature has emerged on the relationship between the use of social media and social capital. This research has focused on how social media are associated with access or awareness of resources within a person's social network (where a social network refers to relationships that can exist both *on- and offline*) (e.g., Hampton et al., 2011c; Hampton et al., 2011b). Conceptualizing social capital as the resources embedded within social structure (Lin and Erickson, 2008), few studies on this topic have attempted to identify specifically what type of resources (e.g., different types of support) people perceive as more or less accessible in relation to their use of these technologies. In addition, it has generally been impossible to distinguish the affordances of social media from the underlying advantage of maintaining a good social network. Previous studies suggest that connections through social media, such as Facebook, are often to people known offline, including family, and friends from school, work, and other social settings. (Hampton et al., 2011a). Those with a better network of connections may gravitate to social media and report access to more resources. Thus, the association between social capital and social media might have more to do with the structure of a person's network than how they use social media.

We suspect that social media do offer an affordance for the awareness of resources that is separate and in addition to the social capital advantage of being embedded in a favorable network structure. It has previously been difficult to verify this affordance because of: 1) a

failure to control for the structure of a person's personal social network, 2) a focus on awareness of resources based on broad measures of social capital, rather than measures of specific resources, and 3) a measure of the intensity of social media use over measures of specific social media activities (Hargittai and Hsieh, 2010).

By focusing on the perception of one type of resource – social support – and by differentiating activities on one social media platform – Facebook – while controlling for the structure of a person's social network, we separate the affordances of social media from any advantage related to personal network characteristics. In doing so, we address three questions:

- How much perceived social support can be attributed to the structural characteristics of a person's network?

- Is the use of social media, specifically Facebook use, associated with higher levels of perceived social support beyond what can be accounted for by the structure of personal network?

- If Facebook use is associated with a higher level of perceived social support, what specific type(s) of use afford awareness of support?

To answer these questions, we first explore network characteristics related to access to social resources – overall size, close ties, and diversity – and their association to social support. We then add in differentiated Facebook activities to see whether there is an independent relationship to social support that cannot be attributed to network structure.

Social Support

A primary function of a person's social network is the provision of social support. (When we use the term "social network," we are not referring to Facebook or social media, but to a person's network of relationships to friends, family, and other acquaintances, both on- and

offline). Social support is not social capital, but it is one type of resource that can flow through a person's network (Appel et al., 2014). The structural characteristics of a network (e.g., size and diversity), dyadic characteristics of ties (e.g., frequency of contact, multiplexity, and tie strength), and the attributes of the individual network members (e.g., age and gender of alters and ego) combine to make social support more or less accessible (Wellman and Frank, 2001). Within this model, there are at least three different ways to conceptualize social support: *perceived*, *enacted*, and *received* (MacGeorge et al., 2011). Networks provide support through directed communication (either *enacted* or *received)*, and through a variety of channels, e.g., face-to-face, via the phone, and possibly via social media (Kim, 2014; Li et al., 2015). The extent to which an individual believes that his or her need for support can be fulfilled is his or her *perceived* social support (Procidano and Heller, 1983).

Supportive relations typically use multiple channels of communication to provide social support (Haythornthwaite, 2005). Most social ties provide specialized support and frequency of contact to exchange support may be relatively rare. The same person could be the source of support on- and offline. The rarity of some types of supportive exchange may mean that potential support is seldom utilized, and different types of support may be more or less appropriate for exchange through different media (e.g., borrowing a cup of sugar compared to emotional support). A person might become aware of the need to provide support through an online interaction, but could ultimately enact support in-person. To focus on the exchange of support through any one medium at any one moment in time risks missing the broader role that communication technologies play for social support. As such, a study of enacted or received support on one social media platform is likely to underestimate the role, which that platform plays in a person's ability to access social support. Other research also suggests that in predicting

well-being and adjustment to stressful life events, the perception that adequate support is available when needed is more important than actual support (Wethington and Kessler, 1986; Cohen and Wills, 1985).

Social support is not a one-dimensional construct but is typically studied along multiple dimensions. While there are many types of support, three of the most common dimensions identified in the literature include instrumental or *tangible aid* (e.g., access to material resources and help in an emergency)*, companionship* (e.g., having other people with whom to participate in activities)*,* and *emotional* support (e.g., having people to offer advice, feedback and understanding) (Cutrona, 1990; Wills and Shinar, 2000; Sherbourne and Stewart, 1991).[i] Each of these dimensions may be related to different network characteristics as well as different uses of social media.

Social Media and Social Support

A number of studies of Facebook have found a positive relationship between frequency of overall use and perceived support (Goulet, 2012; Hampton et al., 2011a). However, these studies measured Facebook use based on a single measure of "intensity" that did not differentiate practices on the platform. As with variation in the design and use of other objects (Norman, 1988), we should expect that variation in how people interact with a social media platform will be related to different outcomes. Some activities may create possibilities – affordances – to provide social support that other activities do not. Other studies have identified as many as nineteen, differentiated types of interaction with the Facebook platform (Hampton et al., 2012). The most common activities on Facebook include "status updates," a way for users to broadcast information to their connections, "comments" on other people's status updates, "likes"

(analogous to placing a checkmark next to another person's status update), and "private messaging," which is similar to email.

Hampton and colleagues (Hampton et al., 2011c; Hampton et al., 2011b; Hampton, 2016) have argued that social media is particularly good at providing awareness of the activities and resources of social ties. They have found that social media users have a heightened awareness of others' political opinions (Hampton et al., 2014) and major life events (Hampton et al., 2015). They have argued that this *pervasive awareness* is a result of frequent, short, asynchronous exchanges through social media. In the case of social support, status updates may be a particularly good medium for awareness.

When a Facebook user updates his/her status, he/she not only writes about personal experiences or opinions but also conducts a performance of self-disclosure to his or her social network. Previous studies suggest that expressions of emotional state are one of the dominant forms of self-disclosure on Facebook (Manago et al., 2012). This form of self-disclosure may facilitate communication about stressful events, provide a means for coping with unpleasant events and a way to access social support (Derlega et al., 1993). In addition, unlike many forms of digital communication, in which exchanges are often directly reciprocal or biased toward more frequent sending (Hogan and Fisher, 2006), status updates are characterized by unbalanced exchange in the favor of receiving feedback (Hampton et al., 2011a). The monitoring of feedback to status updates (e.g., received comments and likes), some of which may come offline (e.g., phone calls and face-to-face conversation), also provides an awareness of the attentiveness of others to one's need for support. This gives a cue to the readiness of ties to provide future social support. Status updates provide for social sharing through a broadcast from person-to-network;

they are a means to access social support and a way to reassure individuals that their network is responsive. All of these processes may contribute to a higher level of perceived support.

In this study, we expect a positive relationship between status updates and perceived support. However, this relationship is likely to be specific to certain domains of support. Because tangible support often depends on receiving physical goods, we feel that this domain of support is less likely to be related to status updates. Thus, we hypothesize that it is not frequency of overall use or other specific uses, but:

H1: Frequent status updates through social media are positively associated with higher levels of perceived a) total social support, b) emotional support, and c) companionship, but d) not tangible support.

Beyond the Power of Social Networks

Any positive association between the use of social media and perceived support may be spurious if it does not control for the relationship between support and the structure of a person's social network. In this study, we examine four network characteristics commonly associated with support: number of close social ties, core network heterogeneity, overall network diversity, and overall network size.

Studies of received support suggest that a relatively small number of strong ties tend to play a disproportionate role. Strong, core ties are the most likely to provide emotional support and tangible support in an emergency and at other times (Wellman and Wortley, 1990). However, other than a spouse, because many of a person's closest ties are often not local (Wellman, 1979) – i.e., they are not based in the neighborhood or the workplace – they may not be as accessible for everyday companionship as other social ties. Companionship is the ability to conduct positive

activities with other people, it is distinct from emotional support, and often involves in-person

contact (Sherbourne and Stewart, 1991). Thus, we expect:

> H2: Core network size to be positively associated with perceived a) total social support,
>
> b) tangible support, and c) emotional support, but d) not companionship.

Heterogeneity within a person's network of close relationships may also predict higher

levels of perceived support. Stokes (1983) argues that dissatisfaction in the availability of

support is often a result of network with a large number of relatives. Other studies have

demonstrated that close kin and nonkin provide distinct forms of social support (Wellman and

Wortley, 1990). We expect that the presence of nonkin ties is likely to boost perceived support.

Because most people report having few close ties, and nonkin core ties are in decline

(McPherson et al., 2006), consistent with the literature, we believe that the presence of close,

nonkin ties, rather than a proportion of nonkin ties, is important. As such, we expect:

> H3: Having nonkin ties in a person's core network is positively associated with perceived
>
> a) total social support, b) tangible support, and c) emotional support, but d) not
>
> companionship.

Although researchers have often argued that strong ties are disproportionately

responsible for social support, the majority of a person's social network consists of ties that

would be characterized as not particularly close (Lin et al., 2001). The diversity of a person's

network is a good indicator of the overall resources contained within a network; it may also

provide assurances to the individual that his/her broad needs for social support can be met (Lin et

al., 2001).

> H4: Overall network diversity is positively associated with perceived a) total social
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> support, b) tangible support, c) emotional support, and d) companionship.

Researchers often emphasize network diversity rather than network size when studying the resources contained within a network (Lin et al., 2001). A general tone within the network literature emphasizes that network size is an unreliable predictor of social support (Wellman and Wortley, 1990). However, there is a lack of empirical evidence that explores the relationship between overall network size and perceived social support, possibly because of the obstacles to measuring network size (Killworth et al., 1990). When network size is used to predict support, the focus tends to be on core networks, a limited set of strong ties. However, we believe that in the context of studying perceived support, individuals may attribute access to support to an ability to maintain a large network. Indeed, as the size of a person's social network increases, so does the potential for redundancy; alters who might provide support when others are unavailable. Redundancy can be an important strategy for access to some types of resources (Burt, 1995). We expect that the relationship between total network size and perceived support exists only for types of support that are not specialized within the domain of a person's closest social ties, such as emotional support.

H5: Total network size is positively associated with perceived a) total social support, b) tangible support, and c) companionship, but not d) emotional support.

After controlling for network characteristics, if the relationship between social media use and social support can be explained by network characteristics alone, any significant relationships between Facebook activities, including the hypothesized positive relationship to status updates (H1), will disappear. However, we argue that:

H6: After controlling for network characteristics, the positive relationship between frequency of status updates and levels of perceived a) total social support, b) emotional support, and c) companionship will persist.

To demonstrate that a relationship between status updates and support persists after controlling for personal network characteristics would show a unique affordance of social media for awareness of social resources.

Methods

This paper uses data collected from a telephone survey of 2,255 adults, aged 18 and older, living in the United States in the fall of 2010. The survey was conducted in partnership with the Pew Internet & American Life Project. The sample was selected using random digit dialing, including 746 mobile phone interviews and 610 interviews that were callbacks from a random sample first interviewed in 2008. A two-stage, weighting procedure was used to weight the sample; the first stage was used to account for the inclusion of dual-users (landline and mobile phone) in both sample frames, and the second stage balanced sample demographics to population parameters. The sample was balanced to match national population parameters for sex, age, education, race, Hispanic origin, region, population density, and telephone usage. The response rate, as a product of the contact rate (74.7%), cooperation rate (24.8%), and completion rate (96.2%), was 17.8%.

Perceived Social Support

The dependent variable, perceived social support, was assessed using an abridged version of the Medical Outcomes Study (MOS) social support scale (Sherbourne and Stewart, 1991). This version includes fifteen items that measure support on three dimensions: emotional support, tangible aid, and companionship. Participants were asked, "*People sometimes look to others for companionship, assistance, or other types of support. How often is each of the following kinds of support available to you if you need it?*" e.g., "*someone to help you if you were confined to bed*" and "*someone you can count on to listen to you when you need to talk.*" Participants responded

on a 5-point Likert-scale. A score for each subscale was calculated based on the average of the scores for each item in the subscale. The overall support index was calculated as the average of the scores for all 15 items included in the subscales (Sherbourne and Stewart, 1991). Each item was given equal weight. For ease of interpretation, the scale for total support and each subscale was converted to a 0-100 scale (RAND Health, 2015): total support (M=75.3, SD=20.3, α=0.94), tangible support (M=75.4, SD=25.3, α=0.87), companionship (M=76.4, SD=22.8, α=0.85), and emotional support (M=74.8, SD=21.8, α=0.92).[ii]

Core Network Size

A participant's core network size – the number of his/her closest relationships – was measured using a name generator. Name generators are among the most common tools used to measure core networks (Marin and Hampton, 2007). A single name generator, from the U.S. General Social Survey, was used to elicit a list of zero to five names.

> *From time to time, most people discuss important matters with other people. Looking back over the last six months — who are the people with whom you discussed matters that are important to you?*

This generator elicits the names of a close set of confidants from the participant's core interpersonal network of strong, close ties (Burt, 1986; Bailey and Marsden, 1999; Marin, 2004). Our operationalization of core network size, based on the important matters name generator, is consistent with previous studies (McPherson et al., 2006; Marsden, 1987; Hampton et al., 2011c). The name generator yielded a mean core network size of 2.16 ties (SD = 1.42).

Core Network Heterogeneity

Participants were asked a series of name interpreters for each unique name provided in response to the name generator (Marin and Hampton, 2007). The following name interpreter was used to distinguish kin from nonkin relations:

People can have many different connections to others. For example, a woman can be your co-worker and also be your neighbor. Or a man could be your brother and also a member of your church. Now, I would like to go through the names you just gave me. Please list all the ways that person is connected to you. How is [each name elicited from the previous question] connected to you?

Responses to the name interpreter were converted into a dichotomy; 50% of participants reported that they had a nonkin tie.

Overall Network Diversity

A position generator (Lin and Dumin, 1986) was used to measure the diversity of a participant's overall social network. This measure is based on the understanding that people in different social locations in society are likely to have access to different resources. Occupation is a good measure of difference, because occupations vary in prestige, and people in high prestige occupations tend to have special resources and skills that provide access to unique opportunities and resources. The more people a person knows from a range of occupations, the more likely he or she is to have access to a range of unique resources. A long literature has documented the validity of the position generator as a measure of network diversity (Lin and Erickson, 2008), and position generators have been used in a variety of network studies to predict outcomes that include perceived social support (Verhaeghe et al., 2012). Our participants were read a list of twenty-two occupations and asked if they knew anyone, "relatives, friends, and acquaintances,"

who had a job as a nurse, farmer, lawyer, middle-school teacher, full-time babysitter, janitor, personnel manager, hair dresser, a bookkeeper, production manager, operator in a factory, computer programmer, taxi driver, professor, policeman, chief executive officer of a large company, writer, administrative assistant in a large company, security guard, receptionist, Congressman, or hotel bell boy.[iii] Each item was coded as a dichotomy, "yes" or "no." Consistent with how this index has been used elsewhere (Lin and Dumin, 1986), we calculated a measure of diversity by summing the responses and then transformed to a 0 to 100 scale (M = 41.90, SD = 22.64).

Overall Network Size

Total network size was measured using the scale-up method. The scale-up method estimates the total number of people a respondent knows in a population, based on how many people they know from a series of subpopulations of known size. In our survey, we adopted an approach proposed by McCormick, Salganik, and Zheng (2010) that builds on the scale-up method designed by Killworth, et al. (1998). Participants were asked, "How many people do you know named" each of twelve first names, equally divided between male and female names.[iv] The names were selected to minimize known reliability issues with the scale-up estimator that pertain to transmission barriers, barrier effects, and recall problems. Participants' total network size (M=575.89, SD=630.30) was estimated using the following equation:

$$\hat{d}_i = \frac{\sum_{k=1}^{K} y_{ik}}{\sum_{k=1}^{K} N_k} \, N \tag{1}$$

where $\hat{d}_i$ is the network size of person i, y_{ik} is the number of people whom person i knows in subpopulation k, N_k is the size of subpopulation k, and N is the size of the total population. Because of the skewed distribution of the variable, overall network size was log-transformed for our analyses.

Social Media Use

Social media use was measured based on each participant's self-reported use of the Facebook platform. At the time of our survey, 59% of adult Internet users in the United States reported that they used Facebook (Hampton et al., 2011a). Participants reported the frequency with which they participated in a variety of activities, including how often per month they use the Facebook platform (M=16.03, SD=30.10), post status updates (M=4.74, SD=14.77), comment on other people's status updates (M=7.34, SD=20.47), and use private messaging (M=3.54, SD=12.46). The reliability of self-reported Facebook use was supported by an analysis of a subsample of participants (269 Facebook users who provided their email addresses), conducted in partnership with Facebook, that compared participants' self-reports with transactional activity on Facebook. The results of that analysis suggest that self-reports are generally consistent with actual Facebook use (Goulet, 2012; Hampton et al., 2012). The survey collected the frequency of use on a number of additional interactions with the Facebook platform, including how often participants "like" other people's content and how often they comment on other people's photos. However, a post-hoc analysis (not shown) revealed high multicollinearity – the variance inflation factor (VIF) was greater than 2.5. As such, we excluded "likes" and commenting on photos from the final analysis; the inclusion/exclusion of these variables did not have a substantive impact on the direction or magnitude of other variables in the analysis.

Control Variables

Additional controls were included for a number of demographic variables. Perceived support is typically lower with age (M = 46.58, SD = 17.65), with the decline flattening over time (age^2). Women tend to perceive more support than men (51.7% female). There may be

cultural variation in perceived support by both race (23.0% non-Caucasian) and ethnicity (9.8% Hispanic). Those with more years of education might be expected to have resources that increase available support (M = 13.62, SD = 2.723). Living with a spouse or partner has an established relationship to perceived support (60.6%). In addition, our sample includes non-Internet users (21.5% non-Internet users). The inclusion of non-Internet users allows us to generalize the relationship between network characteristics and support to all, adult Americans, not just social media users. By including an additional dummy variable for Internet user/non-Internet user we isolate an additional relationship between social support and Internet use not captured by our social media variables. The inclusion of Internet user/non-Internet user reduces the possibility that coefficients associated with Facebook use will be inflated due to other Internet activities or the self-section of those with higher perceived support to use the Internet.

Analysis Procedure

A series of ordinary least squares (OLS) regression were conducted to model the relationship between perceived social support, total network size, core network size, heterogeneity of core networks, overall network diversity, differentiated Facebook activities, and demographic controls. A total of 1,954 cases were included in the final analysis; 249 participants refused to answer the core network name generator, and missing demographic information were responsible for the exclusion of an additional 52 cases.

<div align="center">

Results

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Social Media and Support

There is a positive relationship between general Internet use (when compared to non-users) and all measures of perceived support. Focusing on social media, we hypothesized that frequency of status updates on Facebook would have a positive relationship with total support,

emotional support, and companionship, but not tangible support (H1). To test the role of status

updates in comparison to other Facebook activities, we included in our model a range of

Facebook practices: frequency of visiting Facebook, frequency of commenting on other people's

status, and frequency of sending private messages. Our initial analysis, not controlling for

network characteristics (Table 1), supports H1. There is a positive relationship between status

updates and all forms of support, excluding tangible support. In addition, there is a positive

relationship between frequency of private messaging and emotional support and companionship.

Do these relationships hold when controlling for network characteristics?

[Table 1]

Network Characteristics and Support

As reported in Table 2, core network size (H2) is positively associated with total social

support, tangible support, and emotional support, but not companionship. Holding other factors

constant, a person who has one more core tie in his/her network tends to score about one point

higher on a 0-100 point scale of perceived support (1.1 points higher for total support, 1.1 point

higher for tangible support, and 1.3 points higher for emotional support). Although these

coefficients may appear small, they are relatively substantive in comparison to other variables.

For example, when predicting total support, having one more core tie in the network has the

same effect of a 12-point increase on the 0-100 scale of network diversity.

We suggested (H3) that nonkin core ties would provide an additional boost in support.

Our analysis suggests that there is no significant relationship between the presence of nonkin

core ties and perceived support. However, some types of kinship relationships may matter more

than others. We found that people living with a spouse or partner perceive 11.9 units more of

total social support, 16.5 units more of tangible support, 12.4 units more of social companionship, and 9.6 units more of emotional/informational support on the 0-100 scales.

As anticipated (H4), the overall diversity of a person's network is positively associated with all dimensions of perceived support. Holding other variables constant, a person who has a network that is 22.6 units higher in diversity (one standard deviation) would tend to perceive 2.0 units more overall social support, 2.3 more tangible support, 1.8 more companionship, and 2.3 more emotional support (on our 0-100 scale). Network diversity is consistently a larger contributor to the dimensions of support than is core network size. For example, a one standard deviation increase in overall diversity is associated with a .11 standard unit increase in overall support. This compares with core network size, where a one standard deviation increase is associated with an increase in .08 standard units of overall support.

As anticipated, total network size (H5) has a positive relationship to perceived support, overall, and specifically for tangible support and companionship, even when we control for diversity and other network characteristics. However, total social network size does not tend to be as substantive a contributor to perceived support as other network measures. A one standard deviation increase in logged total network size is associated with a 0.05 standard unit increase in total perceived support. This compares to a one standard unit increase in core network diversity being associated with a 0.11 standard unit increase in total support. Holding all other variables constant, a person with an average-sized social network (576 ties) would perceive 3.2 points more overall support, compared to a person with a network of half that size (288 ties).

[Table 2]

Social Media, Beyond Networks

After introducing controls for network characteristics, as hypothesized (H6), we find that Facebook status updates are still positively associated with total support, companionship, and emotional support. Notably, when controls for network characteristics were introduced, a previously significant positive relationship between private messaging and emotional support disappeared. This demonstrates the importance of controlling for social network structure. Controlling for network structure eliminated evidence of what was a spurious affordance for perceived emotional support provided by Facebook private messaging.

An affordance does exist for perceived support and Facebook status updates. When compared to someone who updates his or her Facebook status weekly, someone who updates his or her Facebook status daily scores 2.4 points higher in total support, 2.7 points higher on companionship, and 2.4 points higher on emotional support. This relationship is substantive. Facebook status updates are often, but not always, as strong a predictor as individual network variables when predicting total support ($\beta = .06$, compared to .05 for total network size), companionship ($\beta = .06$, compared to .06 for total network size), and emotional support ($\beta = .06$, compared to .09 for core network size).

Discussion

This paper explores the contribution of social network characteristics and the differentiated use of social media for awareness of a specific type of resource – social support. In other research, it has generally not been possible to distinguish the affordances of social media from the advantages of having a good social network. It is necessary to control for network characteristics to ensure that we disentangle the benefits of having an advantageous set of connections from uses of social media that may facilitate access to resources from those

connections. Our argument is consistent with the theory of pervasive awareness (Hampton, 2016) that social media provide a heightened awareness of the resources embedded in person's social network. Short, frequent, asynchronous exchanges through social media provide for the perception of higher levels of social support.

An examination of a person's social network – the structure of his/her connections to friends, family, and acquaintances both on- and offline – revealed that the number of close social ties, total network size, and the diversity of their overall network predict higher levels of perceived support. As hypothesized, overall network diversity is a good predictor off awareness of all types of support, while other network characteristics tend to be more specialized (see Table 3 for a summary). A large core network is associated with higher total support, tangible support and emotional support. Contrary to common assumptions in the network literature, overall network size, beyond a large core network, is associated with higher levels of total social support, tangible aid, and companionship. We suspect that overall network size serves as an indicator of the presence of redundancy within a person's network, which may be advantages for support (Hampton and Ling, 2013). Counter to our hypothesis and expectations from the literature, we found that the existence of a close, nonkin tie, other than living with a spouse or partner, had no bearing on perceived support.

Failing to control for the structure of a person's social network, when exploring the relationship between social media and a person's access to social resources, introduces the risk of falsely attributing affordances to social media that can be explained instead by an advantageous network. We identified one such spurious relationship, between use of Facebook private messaging and emotional support. This relationship disappeared from our model once we controlled for network characteristics. Network structure accounts for variation in awareness of

emotional support that otherwise would have been attributed to the use of Facebook to send private messages.

When controlling for network structure, we find that those who frequently update their status on Facebook have higher levels of most types of perceived support, excluding tangible aid. We found a similarly robust, but unanticipated positive relationship between Facebook private messaging and companionship. Prior research suggest that some one-to-one digital communication technologies, such as text messaging, afford the hyper-coordination of everyday activities (Ling and Yttri, 2009). The relationship between Facebook private messaging and companionship might be interpreted as a similar affordance for the coordination of activities, and thus companionship. As anticipated, when controlling for specific types of Facebook use, we did not find that an overall measure of Facebook intensity (visits to the platform per month) predicted support. We note that a significant and substantive relationship between Internet use and all dimensions of support also persists after controlling for network structure. The Internet use/non-use variable captures additional variation in perceived support not explained by Facebook use. This suggests that Internet use can be further differentiated into other activities associated with higher levels of perceived support (Shillair et al., 2015).

However, when combined, network characteristics are a stronger predictor of all types of support than Internet and social media use combined. A favorable network structure – one that is large and diverse with a number of close ties – is substantively more predictive of perceived support. That said, controlling for person's social network, Internet users in general and specifically those who update their status on Facebook are likely to perceive higher levels of support.

All studies have their limitations, and it is conceivable that we are still underestimating the power of networks. Since our data provided a snapshot of one point in time, it is possible that, in our sample, social media use contributed to larger or more diverse networks of relationships, and thus more support, that would only be apparent with longitudinal data. While our measures of network characteristics have demonstrated validity, they may underestimate the number of close ties, overall network size, and network diversity. More robust network measures may account for additional variation that we are attributing to social media. There is also a difference between "awareness" of support and "more" support. We do not know if social media use creates more support, or if it simply makes people aware of support that was already present, but otherwise would have gone unnoticed. However, the relationship between this use of social media and support is consistent with other evidence of pervasive awareness, including heightened knowledge of others' political opinions and major life events (Hampton et al., 2014; Hampton et al., 2015).

Why status updates? Status updates offer an opportunity for self-disclosure. Expressions of emotional state are often a dominant part of these disclosures (Manago et al., 2012), and this is likely to provide opportunities for supportive exchange. Unlike many other communication technologies, such as email, where exchanges are often directly reciprocal or biased toward more frequent sending (Hogan and Fisher, 2006), status updates tend to be unbalanced. The typical Facebook user posts status updates infrequently, but, in response to a status update, most people receive more feedback from their network (in the form of "likes" and comments) than they individually contribute (Hampton et al., 2012).[v] The unbalanced nature of these interactions likely leads to a perception of a wealth of support. In addition, by monitoring feedback in response to status updates, including feedback that might be communicated in-person or through

another medium, this activity provides an awareness of specific others who are attentive to the

need to enact support and their readiness to provide support in the future. The association

between frequent status updates on Facebook and perceived social support might in part be

attributed to what we can describe as "awareness of other's awareness."

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[i] Emotional and informational support are frequently discussed as distinct dimensions of support, but scales designed to measure support are often unable to distinguish between these constructs (see Sherbourne and Stewart 1991). We believe that this discrepancy results from a failure to differentiate *generalized feedback and advice* (e.g., reassurance and help copping) from informational support that tends to be more specialized (e.g., job and housing information). Consistent with the empirical evidence, we believe that it is appropriate to consider generalized feedback and advice as part of emotional support. We do not follow the practice of Sherbourne and Stewart (1991) and others of using the label "emotional/informational" support in reference to this construct, but apply the more limited label of "emotional support." While we recognize that informational support is likely to be related to social media use, the specialized and infrequent nature of informational support makes it difficult to obtain reliable measures (Wellman and Wortley, 1990). Given the complexities in defining and measuring this construct, we omit a discussion and analysis of a fourth common dimension of support, "informational support."

[ii] We performed factor analysis on the MOS to conform reliability (not shown); our analysis confirmed factor loadings as specified by Sherbourne and Stewart (1991).

[iii] This list of occupations is based on the work of Nan Lin, Yang-chih Fu, and Chih-jou Jay Chen, at the Institute of Sociology, Academia Sinica.

[iv] Walter, Rose, Bruce, Tina, Kyle, Emily, Ralph, Martha, Alan, Paula, Adam, and Rachel

[v] Unfortunately our data do not measure the feedback people received in response to their status updates.

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Table 1: OLS regression predicting social support from Facebook activities without network characteristics (N=1,954).

	Total support			Tangible support			Companionship			Emotional support		
	Coefficient	(Beta)	SE	Coefficient	(Beta)	SE	Coefficient	(Beta)	SE	Coefficient	(Beta)	SE
Constant	74.23	***	3.70	82.18	***	4.73	82.60	***	4.21	67.20	***	4.02
Controls												
Female	1.89	(0.05) *	0.84	-0.64	(0.01)	1.08	-0.37	(0.01)	0.96	3.98	(0.09) ***	0.92
Non-Caucasian	1.97	(0.04)	1.04	-0.85	(0.01)	1.33	4.22	(0.08) ***	1.18	2.56	(0.05) *	1.13
Hispanic	-4.04	(0.06) **	1.39	-3.31	(0.04)	1.78	-2.95	(0.04)	1.58	-4.92	(0.07) **	1.51
Years of education	0.37	(0.05) *	0.17	0.14	(0.02)	0.22	0.14	(0.02)	0.19	0.57	(0.07) **	0.18
Age	-0.82	(0.72) ***	0.14	-1.08	(0.76) ***	0.18	-1.14	(0.89) ***	0.16	-0.57	(0.47) ***	0.15
Age2	0.01	(0.66) ***	0.00	0.01	(0.75) ***	0.00	0.01	(0.83) ***	0.00	0.00	(0.39) **	0.00
Living w/ spouse or partner	12.15	(0.30) ***	0.94	17.03	(0.33) ***	1.20	12.43	(0.27) ***	1.07	9.69	(0.22) ***	1.02
Internet user	6.07	(0.13) ***	1.22	6.09	(0.10) ***	1.56	8.86	(0.16) ***	1.39	5.04	(0.10) ***	1.32
Facebook activities /month												
Visits	0.03	(0.04)	0.02	0.03	(0.04)	0.02	-0.00	(0.00)	0.02	0.04	(0.05)	0.02
Status updates	0.07	(0.06) *	0.04	0.05	(0.03)	0.05	0.09	(0.06) *	0.04	0.08	(0.06) *	0.04
Comments	0.00	(0.00)	0.03	0.00	(0.00)	0.04	0.02	(0.02)	0.03	-0.00	(0.00)	0.03
Private messages	0.06	(0.04)	0.04	-0.00	(0.00)	0.05	0.10	(0.06) *	0.04	0.09	(0.05) *	0.04
Adjusted R-squared	0.147	***		0.118	***		0.138	***		0.129	***	

$*\, p < 0.05, \;\, **\, p < 0.01, \;\, ***\, p < 0.001$

Table 2: OLS regression predicting perceived social support from Facebook activities controlling for network characteristics (N=1,954)

	Total support			Tangible support			Companionship			Emotional support		
	Coefficient	(Beta)	SE	Coefficient	(Beta)	SE	Coefficient	(Beta)	SE	Coefficient	(Beta)	SE
Constant	71.06		*** 3.95	76.98		*** 5.08	78.55		*** 4.52	65.39		*** 4.30
Controls												
Female	1.77	(0.04) *	0.84	-0.77	(0.02)	1.08	-0.35	(0.01)	0.96	3.81	(0.09) ***	0.91
Non-Caucasian	1.63	(0.03)	1.02	-1.10	(0.02)	1.32	3.84	(0.07) **	1.17	2.18	(0.04)	1.11
Hispanic	-4.35	(0.07) **	1.37	-3.47	(0.04) *	1.76	-3.27	(0.04) *	1.57	-5.30	(0.08) ***	1.49
Years of education	0.09	(0.01)	0.17	-0.12	(0.01)	0.22	-0.13	(0.02)	0.20	0.28	(0.04)	0.19
Age	-0.91	(0.80) ***	0.14	-1.17	(0.82) ***	0.18	-1.22	(0.95) ***	0.16	-0.67	(0.55) ***	0.15
Age2	0.01	(0.73) ***	0.00	0.01	(0.80) ***	0.00	0.01	(0.88) ***	0.00	0.01	(0.46) ***	0.00
Living w/ spouse or partner	11.94	(0.29) ***	0.94	16.51	(0.32) ***	1.21	12.44	(0.27) ***	1.08	9.56	(0.22) ***	1.02
Internet user	5.36	(0.11) ***	1.20	5.45	(0.09) ***	1.55	8.19	(0.15) ***	1.38	4.27	(0.08) **	1.31
Network measures												
Core network size	1.08	(0.08) **	0.34	1.05	(0.06) *	0.44	0.64	(0.04)	0.39	1.29	(0.09) ***	0.37
Core has nonkin	0.37	(0.01)	0.95	-1.53	(0.03)	1.22	1.60	(0.04)	1.09	0.86	(0.02)	1.03
Overall diversity	0.09	(0.11) ***	0.02	0.10	(0.09) ***	0.03	0.08	(0.08) **	0.03	0.10	(0.10) ***	0.02
Total network size (lg10)	1.61	(0.05) *	0.72	2.71	(0.07) **	0.93	2.02	(0.06) *	0.82	0.88	(0.03)	0.78
Facebook activities /month												
Visits	0.02	(0.03)	0.02	0.02	(0.03)	0.02	-0.01	(0.01)	0.02	0.03	(0.05)	0.02
Status updates	0.08	(0.06) *	0.04	0.05	(0.03)	0.05	0.09	(0.06) *	0.04	0.08	(0.06) *	0.04
Comments	-0.00	(0.00)	0.03	-0.00	(0.00)	0.04	0.01	(0.01)	0.03	-0.01	(0.01)	0.03
Private messages	0.05	(0.04)	0.04	-0.01	(0.00)	0.05	0.09	(0.05) *	0.04	0.07	(0.04)	0.04
Adjusted R-squared		0.173 ***			0.138 ***			0.156 ***			0.147 ***	

$* p < 0.05, ** p < 0.01, *** p < 0.001$

Table 3: Summary of findings

	Total support	Tangible support	Companionship	Emotional support
Supported hypotheses				
Status updates without network characteristics (H1)	+		+	+
Core network size (H2)	+	+		+
Overall network size (H4)	+	+	+	
Network diversity (H5)	+	+	+	+
Status updates controlling for network characteristics (H6)	+		+	+
Unsupported hypothesis				
Core network has nonkin ties (H3)				
Unanticipated findings				
Private messaging without network characteristics			+	+
Private messaging controlling for network characteristics			+	