



## Full length article

# as social support: Relational closeness, automaticity, and interpreting social support from paralinguistic digital affordances in social media

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## ABSTRACT

Many social media facilitate paralinguistic digital affordances (PDAs): one-click tools for phatic communication to which senders and receivers alike ascribe meaning. This research explores the nature of social support perceived from the receipt of PDAs within social media, seeking to understand how individuals ascribe supportive meaning to PDAs based on (1) their goal in the post to which the PDA was used as a reply, (2) relational closeness with the PDA provider, and (3) the perceived automaticity of the PDA received. A national survey ( $N = 325$ ) explored the receipt of PDAs across five social media, and facilitated cross-platform analysis. Analyses reveal both main and interaction effects among the three proposed antecedents, so that intentional PDAs from relationally close providers to messages seeking social support were perceived as most supportive. Findings reveal individuals heuristically make idiosyncratic sense of the same cue from different senders in different situations.

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## 1. Introduction

Billions of content items are uploaded to social media to social by individuals every week (Tam, 2012). Once there, this content can be Liked<sup>1</sup> (Facebook), Favorited (Twitter), +1ed (Google Plus), upvoted (Reddit), or otherwise acknowledged through a single small cue associated with the particular content item. Hayes, Carr, and Wohn (2016) referred to these communicative cues within social media and without a specific, predefined meaning as *paralinguistic digital affordances* (PDAs). These content cues are similar in several ways, both technological and social; but may be disparate in other important manners, including in their intended meaning and their interpretation upon receipt (Hayes et al., 2016). Given the substantive communication—both quantitatively and qualitatively—these cues represent in social media, this research explores the use and perceptions of these cues with respect to the

social support received from the relationally-diverse networks media enable individuals to access. As cues without relative or explicit meaning, PDAs offer an opportunity to understand how individuals interpret messages phatically, deriving exchanged meaning in a cue with little innate or denoted meaning.

## 2. Review of literature

## 2.1. Social media, support, and networks

## 2.1.1. Social media

Social media are increasingly the focus of communication research given their unique technical and social characteristics. Carr and Hayes (2015) defined *social media* as, “Internet-based, disentrained, and persistent channels of masspersonal communication facilitating perceptions of interactions among users, deriving value primarily from user-generated content.” (p. 49). Within this definition are social network sites (SNSs), such as the popular Facebook and Twitter services, which allow individuals create profiles, connect with other users, and traverse these complex connections (Ellison & Boyd, 2013). In doing so, social media—and more specifically SNSs—have been noted for their ability to enable individuals to maintain and access their social networks,

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connecting with family, friends, and acquaintances (Ellison, Steinfield, & Lampe, 2007; Rozzell et al., 2014). Maintenance of these social networks has been posited as an important means of developing and maintaining social capital: the tangible and social resources to which an individual has access (Ellison et al., 2007; Putnam, 1995).

### 2.1.2. Social support

Social support refers to information or actions resulting in an individual's perception s/he is, "cared for and loved ... esteemed and valued ... [and] belongs to a network of communication and mutual obligation" (Cobb, 1976, p. 300). An often-researched form of social capital, social support—especially the emotional and informational dimensions of support—are increasingly sought and obtained online (Craig & Johnson, 2011; Rains & Keating, 2011; Wright & Miller, 2010). Moving beyond the anonymous social support of online tools like discussion boards (Walther & Boyd, 2002; Wright, 2000), SNSs like Facebook and Twitter allow individuals to masspersonally<sup>2</sup> broadcast messages to the diverse members and subgroups that comprise their social networks, potentially receiving social support resources from a variety of known interpersonal relational ties, both strong and weak (Blight, Jagiello, & Ruppel, 2015; Krämer, Rösner, Eimler, Winter, & Neubaum, 2014; Olson, Liu, & Shultz, 2012; Rozzell et al., 2014).

### 2.1.3. Relational closeness

In his treatise on relational ties, Granovetter (1973) distinguished between two types of dyadic relationships, bifurcating them as either strong or weak ties. Strong ties, or *close relationships*, includes those with whom an individual feels strongly connected, such as family members and close friends (Adelman, Parks, & Albrecht, 1987; Albrecht & Adelman, 1987; Wright, Rains, & Banas, 2010). Alternately, weak ties, or *nonclose relationships*, includes those with whom an individual may not be relationally close but whom the individual interacts with in limited capacities or contexts, such as coworkers, neighbors, or clergy (Wright et al., 2010). Though Granovetter (1973) initially conceptualized strong and weak ties based on network structure, recent work has utilized and reframed Granovetter's weak tie theory as relational closeness (e.g., Ballard-Reisch, Rozzell, Heldman, & Kramer, 2011; Rozzell et al., 2014).

In addition to their conceptual differences, Granovetter (1973) differentiated between the types of support strong and weak ties offer, specifying that social support come from primarily close relationships. Research has generally supported the dominance of close ties in the provision of social support even in social media (Rains & Keating, 2011; Wright & Miller, 2010), with a few exceptions (e.g., Blight et al., 2015), particularly within health communication. The increased levels of social support from nonclose relationships online within health-related social media has been explained as a result of the reduction of potential stigmatization and increased objectivity of feedback to support-seeking (see Wright et al., 2010). Again, though, research generally supports Granovetter's (1973) initial assertion that social support is primarily derived from individuals perceived to be a relationally close tie, even within social media, which allow for interactions across broader and more relationally-diverse set of ties than via face-to-face communication.

<sup>2</sup> Masspersonal communication refers to messages that are (a) interpersonal or one-to-one in nature but accessible to a large audience, (b) mass or one-to-many in nature but intended for a single receiver, or (c) a combination thereof; and are thus readily facilitated by social media (Carr & Hayes, 2015).

### 2.2. Social support and relational closeness in social media

Individuals often use social media to seek and obtain social support (Ellison, Steinfield, & Lampe, 2011; Wright & Bell, 2003). In addition to their ability to transcend geographic and temporal boundaries, social media also afford users an opportunity to access diverse relational networks and ties. Unlike offline relationships which may fall dormant due to lack of awareness or interaction frequency, "[SNSs] enable users to articulate and make visible their social networks" (boyd & Ellison, 2007, p. 211), making visual and salient diverse relational ties that may not be as salient offline. Additionally, social media—particularly SNSs—afford users the opportunity to simultaneously interact with relational ties from multiple and potentially disparate relational contexts (Marwick & boyd, 2011), potentially tapping into ties that may not be concurrently available offline. Finally, social media readily enable new communicative processes, converging interpersonal and mass communication to allow users the ability to broadcast messages accessible to their entire social network yet receive personalized feedback that may itself be either private or publicly available (Carr & Hayes, 2015). Given the diverse nature of ties accessible via social media and the channel affordances social media offer, it is unsurprising users use social media to seek and obtain social support from both relationally close and nonclose individuals.

Prior research has explored the social support individuals receive from others via personalized messages and images in social media. Vitak and Ellison (2013) interviewed 18 adults regarding their Facebook use and development of social capital, noting many users used the broadcasting feature of Facebook to cast a wide net in their support-seeking typically resulting in the provision of several personalized reply messages perceived as supportive. Rozzell et al. (2014) asked college students to come into a research lab where the comments and Likes to their most recent support-seeking Facebook post were captured. Analyses indicated that while social support was more likely to come from weak ties (unsurprising, given the preponderance of weak ties in general and thus available via social media), the response was perceived as more supportive when provided by a strong tie. Similarly, a survey of 317 SNS users found that strong ties were perceived as providing more emotional and informational support than weak ties via SNSs (Krämer et al., 2014). Finally, Trepte, Dienlin, and Reinecke (2015) utilized a 2-year study of 327 Germans to determine the types of support obtained via SNSs; finding that a myriad of support needs were fulfilled via SNSs, but that informational needs were better-fulfilled via SNSs than instrumental and emotional support.

Taken together, these findings indicate social media facilitate the receipt of abundant social support, as relationally close and nonclose ties alike provide public and private messages to individuals that are perceived as supportive. Although helpful, these findings are mostly limited to the verbal messages, often of explicit social support, articulated within SNSs. There remains a need to further explore how other social media affordances for communication can convey social support, thus reflecting the broader toolbox of channels available via social media.

### 2.3. One-click cues in social media

Social media afford numerous channels and tools for communication, often providing several of these affordances within an individual medium (Smock et al., 2011), including the facilitation of text, photographic, audiovisual, phatic (discussed more below) and system-generated cues. Although these tools are numerous and often-used, there has been substantive contention recently around the term affordance (for review, see Nagy & Neff, 2015). The concept (and theory) of affordances can be traced to Gibson's

(1977) use of the term to describe what an environment provides or offers animals, and subsequent note that environmental properties thusly offer actions for people who perceive them as usable. Technologists subsequently appropriated the term to reflect design or interface features that either enabled or constrained users' actions within a program or service (Gaver, 1991), which Norman (1999) noted may be either real (i.e., buttons or features exhibited by the system) or imagined (i.e., cultural constraints, perceptual loadings). Although Treem and Leonardi (2012) identified four affordances (i.e., properties of social media that allow users to communicate) enabled with relative consistency across social media (visibility, persistence, editability, and association), affordances has been most often used in the communication technology to describe the "qualities, features, or cues within a technology" (Nagy & Neff, 2015: 2). Ultimately, as cues about who, where, and when individuals are communicating with each other (Hogan, 2009), technology affordances can alter communicative practices or habits to create and convey meaning among users (Schrock, 2015). To-date, research has explored systems' material qualities to convey text-based (Rozzell et al., 2014) or system-based cues (Eslami et al., 2015) to convey meaning, and how system processes can affect users' interpretations of meaning (Treem & Leonardi, 2012; but there exists little empirical work into the effects of phatic affordances in social media, and how users utilize and make sense of common one-click tools.

### 2.3.1. Phatic communication

Malinowski (1972) defined *phatic communication* as messages that display sociability yet are comprised of limited or no real information. In face-to-face communication, phatic cues are common, manifest in phrases such as, "Hey" and "um," and gestures like shrugs and thumbs-ups, all of which are primarily used to facilitate relational maintenance more than to express specific meaning associated with the cues. Research has long-demonstrated the supportive nature of offline phatic cues such as politeness (Ford, 1995) and mere acknowledgement of listening (Norbeck, Chafetz, Skodol-Wilson, & Weiss, 1991; Zachariae et al., 2003).

Phatic communication is increasingly becoming part of online culture due to a lack of focus on exchanging substantive content online (Miller, 2008), and thus warrants continued study. Like their offline counterparts, phatic technologies are those developed with the intention of establishing, developing, maintaining, interpersonal relationships (Wang, Tucker, & Rihll, 2011), and emerging research suggests they can likewise provide social support (Ahmadi, Schneider, Kadam, & Wohn, 2016; Robinson, Turner, Levine, & Tian, 2011). Moreover, a relatively unique, though common, affordance of social media—paralinguistic digital affordances—can serve as phatic communication, yet in spite of their ubiquity have not yet received much scholarly attention, particularly with respect to social support.

### 2.3.2. Paralinguistic digital affordances (PDAs)

*Paralinguistic digital affordances* (PDAs) are "cues in social media that facilitate communication and interaction without specific language associated with their messages" (Hayes et al., 2016, pp. 172–173). Exemplified by Likes (Instagram, Facebook), Favorites (Twitter), +1s (Google+), and Upvotes (Reddit and Imgur), PDAs are lightweight means of communication activated by a single click and represented by a single static icon. However, though PDAs are denoted with specific verbiage (e.g., "Like," "Favorite"), PDAs were intended by social media programmers to be devoid of specific meaning (Langley, 2014), and designed to serve as phatic cues. As individuals may encode and decode the use of the same PDA idiosyncratically, PDAs are particularly interesting as static communicative signals associated with meanings uniquely

interpreted by each communicator.

Hayes et al. (2016) explored the meanings individuals attribute to the receipt of PDAs across several social media platforms. Focus groups and interviews revealed individuals often ascribe meaning to PDAs far beyond their literal, faithful interpretation, and overlay additional meanings to PDAs that often transcend the system's designated verbiage. For example, respondents revealed interpreting a PDA provided as feedback to a negative message (e.g., noting the passing of a loved one, disclosure of negative job-related information) a variety of ways, including as acknowledgement of viewing the message, a means of maintaining an interpersonal relationship, archiving and indexing the information for subsequent retrieval and action, and the provision of social support. The bevy of subjective meanings associated with the same one-click action support the idiosyncratic interpretation of PDAs, and respondents indicated their interpretation of each provider's PDA was influenced by the nature of the initial posted content, the specific social medium, and their relationship with the PDA provider. Given these findings, although PDAs may be consistently labeled within each social medium and share the characteristic of a one-click phatic cue across media, the meanings PDAs convey to receivers are highly varied and thus deserve additional exploration. Given SNSs are particularly *apropos* and easy channels for the receipt of social support from diverse relational ties, and are one of the most frequently used tools of SNSs, we sought to probe the nature of social support via PDAs by seeking to understand the social and technical factors that influence how receivers of paralinguistic digital affordances interpret PDAs as social support.

## 2.4. PDAs as social support

To answer the guiding aim of this research to explore the interaction of social and technical features on the interpretation of a PDA as social support, we turn to the results of Hayes et al.'s (2016) qualitative study, which revealed individuals generally interpreted a PDA received based on (a) whether they were seeking social support via the initial post to which the PDA is provided as a reply, (b) their relationship with the PDA provider, and (c) the perceived automaticity of the provided PDA.

### 2.4.1. Support-seeking

One factor that should affect how a PDA is interpreted and subsequent social support is the individual's goal of seeking social support when posting the original message to which the PDA is subsequently applied as feedback. Online, where channels sometimes lack the rich nonverbal cues that accompany feedback messages, communicators can often idealize feedback messages based on their own self-perceptions and strategic communicative goals (Walther, 1996). As messages and subsequent feedback can be more actively selectively-screened and internalized online than face-to-face, individuals with intentional self-presentation goals may overlay the nature of an intended message on subsequent feedback as a form of confirmation bias. *Confirmation bias* refers to the cognitive, and often unwitting, selection and application of evidence commensurate with one's perspective (Nickerson, 1998). In other words, individuals see or perceive that which they expect. Individuals more actively seeking social support should be more likely to perceive feedback as supportive, either controlling for message content or (as with PDAs) in the absence of message content through the use of phatic cues. This expectation has been somewhat supported in the medical field, where individuals seeking support following near-death experiences perceived greater social support when researchers primed the expectation of social support provision during the interaction, even with an ambivalent partner (Reblin, Uchino, & Smith, 2010). Thus, when

receiving equally-communicative feedback (i.e., a phatic PDA), communicators' perceptions of the social supportiveness of that feedback should be affected commensurate with their social support-seeking intentions for the initial message. We therefore hypothesize:

**H1.** *The perceived social support provided by a PDA is positively correlated with the individual's support-seeking intentions in the initial post.*

#### 2.4.2. Relationship with PDA provider

The second factor that should affect the interpretation of PDAs is the dyadic relationship between the individual and the PDA provider. Although the explicit verbal messages of social support online may be equitably supportive between close and nonclose ties (Rozzell et al., 2014), a large part of that support is likely due to the nature of the content of the feedback to the support-seeker. When phatic communication (such as PDAs) are utilized as feedback, it is likely that greater social support is ascribed to stronger, relationally closer ties. As individuals are relationally closer, they are believed to be a source of greater social support (Granovetter, 1973, 1982). This belief has borne out empirically, as individuals internalize phatic haptic and proxemic cues for social support (Andersen, Gannon, & Kalchik, 2013) and in times of bereavement (Stylianou & Vachon, 1993) consistent with the relational closeness of the message provider. In other words, as the provider is to be perceived to be relationally closer, the meaning of the use of space or touch increases. Thus, we hypothesize online PDAs from relationally closer providers are perceived as more supportive.

**H2.** *The perceived social support provided by a PDA is positively correlated with the relational closeness an individual perceives with the PDA provider.*

#### 2.4.3. Automaticity

Finally, one of the interesting findings from Hayes et al.'s (2016) focus groups was that many social media users reported using PDAs automatically, that is, with little rational or cognitive thought behind the provision of a PDA to another's comment. Focus group members reported "aimlessly clicking" PDAs and sometimes just "Liking something for no real reason at all." *Automaticity* refers to behavior that can happen without much active thought, most often the result of repetition. Behaviors may have greater automaticity as the brain tries to achieve cognitive efficiency (Bargh, 1994; Bargh, Chen, & Burrows, 1996), reducing cognitive processing in some behaviors to facilitate greater cognitive loads associated with more demanding or novel tasks. Automaticity occurs with one or more of the following characteristics: lack of control, lack of awareness, lack of intention, or lack of attention (Bargh, 1994). Given the relative ease of using PDAs within social media, a user's perception of the automaticity of another's PDA use has implication in the present research. Specifically, we expect the perceived automaticity of PDAs is related to both the relational closeness of the PDA provider and perceptions of social support from the PDA.

First, although automatic behaviors may be relatively common in social media (e.g., Wohn, Velasquez, Bjornrud, & Lampe, 2012; Wohn, 2012); the behaviors of relationally close ties should be perceived as more deliberate and less automatic. As individuals are closer to an interactant, it is more likely that they pay closer attention to and seek to more meaningfully respond to the other's message, in turn leaving the receiver to interpret the feedback more carefully (Altman & Taylor, 1973). Alternately, relationally nonclose ties may reply more automatically and less deliberately, simply seeking to match their interactant's disclosure. Rozzell et al. (2014)

found that relationally nonclose ties were more likely to reply to, comment on, or like the content of relationally nonclose ties simply as reciprocation of prior relational exchanges; but that relationally close ties provided verbal social support more intentionally as a function of their dyadic relationship. In other words, a close friend may be thought to provide a PDA as a means of conveying specific meaning to empathize with or otherwise augment the meaning of a post, while a mere acquaintance may be thought to provide a PDA simply because you had utilized the same PDA the last time that nonclose tie had posted something online as a means of maintaining relational balance and equity. Thus, we hypothesize that, even for the same PDA, nonclose ties are thought to have used the PDA more automatically and with less thought or intended meaning ascribed to its use than relationally close ties.

Second, as a PDA is perceived to be provided more automatically, it should be perceived as less supportive. Individuals perceive greater social support when a message is thought to have been sent with greater care and deliberation (Jones & Wirtz, 2007). Particularly as PDAs can be quickly provided via a single click and with little deliberation, it can be particularly easy for individuals to provide PDAs without significant meaning encoded in their use, and for receivers of PDAs to decode them likewise. Given their lack of intended meaning, more automated PDAs should be perceived as less supportive, regardless of the relational closeness of the PDA provider. These expectations guide the final two hypotheses.

**H3a.** *The perceived automaticity of a PDA is negatively related to the relational closeness of the PDA provider.*

**H3b.** *The perceived automaticity of a PDA is negatively related to the perceived social support provided by the PDA.*

### 3. Method

#### 3.1. Participants

To test these hypotheses, a nationwide sample of self-identified social media users ( $N_{\text{respondent}} = 325$ ) in the United States were recruited with the assistance of, and compensated according to their agreement with, the Qualtrics research firm, and completed an online survey. Respondents (216 females, 66.5%) had a mean age of 45.81 ( $SD = 14.35$ ; range: 18–80) years; which are comparable to national demographics of social media users in the United States (see Duggan, Ellison, Lampe, Lenhart, & Madden, 2015) with a slight oversampling of females. Respondents were not asked to disclose their socioeconomic status or ethnicity.

#### 3.2. Procedure

From a list of five social media, respondents were initially asked to identify which social medium they had most recently logged into prior to beginning the survey. To provide a broad, representative, cross-section of social media tools represented in the data, we used the five most-accessed social media at the time of data collection (Facebook, Twitter, Pinterest, Instagram, and LinkedIn, per the Alexa service). Our sample self-reported most recently using Facebook ( $n = 210$ ; 64.6%); followed by Twitter ( $n = 30$ ; 9.2%), Instagram ( $n = 29$ ; 8.9%), Pinterest ( $n = 28$ ; 8.6%), and LinkedIn ( $n = 28$ ; 8.6%). A chi-square test revealed an uneven distribution of recently-used social media, with Facebook disproportionately oversampled,  $\chi^2(4) = 404.37$ ,  $p < 0.001$ . Excluding Facebook, the remaining four media were normally distributed,  $\chi^2(3) = 0.10$ ,  $p = 0.99$ . Although Facebook was disproportionately used more often than other social media, this distribution did not affect analysis as (a) data were consistent with reported social media use

and activity behaviors at the time of data collection, and (b) sufficient sample sizes were obtained for the four non-Facebook media for between-group analyses (Cohen, 1988). Thus, analysis continued, mindful of the unequal distribution of groups and subsequent violations of statistical assumptions.

Based on the social medium identified by each respondent, the survey engine adapted a standard instrument with small alterations of verbiage and communication tools to reflect the respondent's selection. Each respondent was first asked to identify the last two posts they had made to the service, indicate the total number of PDAs that post had received, and then the last three network ties within the medium who had provided a PDA to each of the two posts. Subsequent survey items probed into the relational characteristics of each respondent-PDA provider dyad. For those respondents who had not received a PDA to their most recent post were additionally asked to provide similar information on their second-to-last post. Through this process,  $N_{\text{dyad}} = 975$  dyads were identified, with each respondent identifying an average of 2.12 unique network ties who had provided a PDA for their social medium posts. After completing dyad-level measures, respondents completed several general self-report measures, were thanked for their time, and received compensation for their participation.

### 3.3. Measures

Several standardized measures were integrated into the questionnaire to facilitate hypothesis testing. *Relational closeness* was assessed using Aron, Aron, and Smollan (1992) inclusion of others (IoS) measure. This single-item tool consists of seven pairs of increasingly-overlapping circles representing the self and another individual, with greater values associated with greater overlap between circles. Though only a single-item measure, the validity of this measure has been demonstrated through use in numerous studies of relational closeness and network relationships (e.g., Rozzell et al., 2014; Wright & Miller, 2010).

*Effectiveness of social support from a PDA* was operationalized using Rozzell et al. (2014) six-item semantic differential scale. Anchor points included, "Positive/Not Positive," "Encouraging/Not Encouraging," "Not Insulting/Insulting," and "Not Supportive/Supportive," "Not helpful/Helpful," "Hurtful/Not Hurtful," with the first three items being reverse coded. The scale was reliable (Cronbach's  $\alpha = 0.89$ ), and greater means indicated respondents perceived the PDA as more socially supportive.

*Automaticity of PDA* was assessed using the four automaticity items in the Self-Reported Habit Index (Verplanken & Orbell, 2003), a multidimensional construct that includes automaticity as one of its dimensions. These four items of habit have been validated in previous research as a measure of self-reported cognitive (rather than behavioral) automaticity (Gardner, Abraham, Lally, & de Bruijn, 2012; Verplanken, Myrbakk, & Rudi, 2005). Using a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree), respondents completed statements for each person providing a PDA, including, "This person uses PDAs without thinking," "This person uses PDAs automatically," "This person uses PDAs without having to consciously remember," and "This person uses PDAs before they realize they're doing it." The four items demonstrated high reliability ( $\alpha = 0.94$ ); and subsequent Factor analysis extracted only a unidimensional solution (Eigenvalue = 3.35), explaining 83.69% of the variance. The mean of the four items was used as a scale of the automaticity of PDA response, which could range from 1 to 7, which greater values indicating the respondent perceived the PDA was sent more automatically—without deliberate meaning or intent.

Finally, the respondent's intent in posting the original content was assessed using a single item. Using a 7-point Likert-type scale

ranging from 1 (strongly disagree) to 7 (strongly agree), respondents were asked how much they were *motivated to post that specific content to seek social support*. Higher values on this item indicated greater intention in the initial post to access or fulfill social support needs.

## 4. Results

The first hypothesis predicts a positive relationship between the social support sought from a user's post and the social support perceived from a subsequent PDA. A regression model was utilized to test the hypothesis, regressing the social support sought from the initial post (independent variable) onto the perceived social support of the received PDA (dependent variable), controlling for the individual respondent. The model was significant,  $F(2, 971) = 28.69$ ,  $p < 0.001$ ,  $R^2 = 0.05$ ,  $R^2_{\text{adj}} = 0.05$ . After controlling for individual respondents, there was a positive relationship between social support sought from a post and perceived social support via PDAs ( $b^* = 0.23$ ). Thus, H1 was supported.

The second hypothesis predicts PDAs from relationally close ties are perceived as providing greater social support. A univariate linear model was utilized to test the hypothesis, regressing the relational closeness of the PDA provider (independent variable) onto the perceived social support of the received PDA (dependent variable) and controlling for the individual respondent. The model was significant,  $F(7, 961) = 38.74$ ,  $p < 0.001$ ,  $R^2 = 0.22$ ,  $R^2_{\text{adj}} = 0.21$ . After controlling for individual respondents, there was a positive relationship between relational closeness and perceived social support ( $\eta^2_{\text{partial}} = 0.21$ ), so that as a respondent perceived herself/himself to be relationally closer to the PDA provider, the social support provided by the PDA increased, even though all PDAs utilized the same cue. Thus, H2 was supported.

The final set of hypotheses predicted negative relationships between the perceived automaticity of a PDA's use and (a) relational closeness and (b) perceived social support. To initially test these relationships, pairwise correlations were conducted, finding the hypothesized negative relationships between the perceived automaticity of a PDA and the perceived relational closeness with the PDA provider,  $r(969) = -0.06$ ,  $p = 0.05$ , two-tailed, and the social support perceived from the PDA,  $r(974) = -0.31$ ,  $p < 0.001$ , two-tailed (see Table 1). Next, attempting to probe beyond simple correlations and understand possible interaction effects, a univariate linear model was constructed to regress the relational closeness of the PDA provider and perceived automaticity of a PDA (independent variables) onto the perceived social support of the received PDA (dependent variable), controlling (i.e., covarying) for the individual respondent. The model was significant,  $F(112, 856) = 6.41$ ,  $p < 0.001$ ,  $R^2 = 0.46$ ,  $R^2_{\text{adj}} = 0.39$ . The analysis revealed a main effect of automaticity on perceived social support of a PDA,  $F(16, 856) = 7.61$ ,  $p < 0.001$ ,  $\eta^2_{\text{partial}} = 0.13$ , and demonstrating a negative relationship, supporting H3a. The main effect of relational closeness on the social support perceived from a PDA,  $F(6, 856) = 9.33$ ,  $p < 0.001$ ,  $\eta^2_{\text{partial}} = 0.07$ , also demonstrating a negative relationship and thus supporting H3b. Finally, the interaction effect between the automaticity of a PDA and the relational closeness of the PDA provider on perceived social support was significant,  $F(89, 856) = 1.78$ ,  $p < 0.001$ ,  $\eta^2_{\text{partial}} = 0.16$ .

In addition to the hypothesized effects, a *post hoc* full-factorial model was constructed to assess interaction effects among study variables, predicting social support perceived from a PDA. The model was significant,  $F(577, 391) = 3.35$ ,  $p < 0.001$ ,  $R^2 = 0.83$ ,  $R^2_{\text{adj}} = 0.58$ , and indicated all potential interactions among predictor variables were significant. The three main effects identified in previous hypothesis tests remained significant in predicting social support. Additionally, there were significant interaction effects of support-seeking and relational closeness ( $F[131, 391] = 5.77$ ,

**Table 1**  
Descriptive statistics and bivariate correlations of study variables.

	M	SD	1	2	3
1. Relational Closeness	3.96	2.13	–		
2. Effectiveness of social support from a PDA	5.63	1.24	0.40 <sup>†</sup>	–	
3. Perceived Automaticity of PDA	2.59	1.04	–0.06 <sup>*</sup>	–0.31 <sup>‡</sup>	–
4. Social Support Seeking Motivation when Posting Specific Content	4.00	1.90	0.15 <sup>†</sup>	0.23 <sup>‡</sup>	–0.04

\* $p < 0.05$ , <sup>†</sup> $p < 0.01$ , <sup>‡</sup> $p < 0.001$ .

$p = 0.023$ ,  $\eta^2_{\text{partial}} = 0.31$ ), of support-seeking and automaticity ( $F[178, 391] = 1.55$ ,  $p < 0.001$ ,  $\eta^2_{\text{partial}} = 0.41$ ), of relational closeness and automaticity ( $F[73, 391] = 1.54$ ,  $p = 0.005$ ,  $\eta^2_{\text{partial}} = 0.22$ ), and a three-way interaction of support-seeking, relational closeness, and automaticity ( $F[97, 391] = 1.44$ ,  $p = 0.008$ ,  $\eta^2_{\text{partial}} = 0.27$ ) on the perceived social support of a PDA. Table 2 provides complete partial effects for both main and interaction effects within these univariate models.

## 5. Discussion

This study sought to understand how receivers of PDAs within social media interpreted these one-click tools, specifically as socially supportive communication. Though prior work has explored the provision and receipt of social support within social media (e.g., Blight et al., 2015; Krämer et al., 2014; Rozzell et al., 2014), the present study is the first to explore the social support communicated implicitly via one-click tools within each medium: PDAs. Utilizing a general population survey that incorporated the five most often-used social media, our findings indicate that social support can be perceived from PDAs, reinforcing their interpretation by users beyond the specific verbiage by which they are denoted. Analysis further revealed three factors that significantly influenced the degree of social support perceived by an individual receiving a PDA: her/his social support seeking in the initial post, relational closeness with the PDA provider, and the perceived automaticity of the PDA. Taken together, these findings provide a foundational look at the processes underlying the social support perceived from phatic communication within social media.

PDAs are interesting means of communication for two primary reasons. First, although they have specific, medium-specific language associated with the cue (e.g., Like, Favorite), they are typically phatic cues in that there is little or no real information inherent in their use, and their meaning is subjectively interpreted. Different users may signal a bevy of meanings, which may in turn be idiosyncratically interpreted by recipients, all with the same static cue. Second, PDAs exist in most SNSs and are heavily-used by users as a means of lightweight interaction. However, in their universality, PDAs innately span diverse social media platforms, each reflecting different purposes of use (e.g., professional networking, social networking, information dissemination) and diverse social

networks to which they connect users. Taken together, these unique properties of PDAs suggest different affordances and meanings across the multitude of available SNSs. And although our data indicate that social support can be obtained across platforms, specific PDAs, and relational networks, the social support individuals perceive from the same communicative cue is derived from a complex interaction of their initial goals and perceptions of each individual providing a PDA.

### 5.1. Main effects

Support for the first three hypotheses indicate main effects for the social support sought from an initial post (H1), the relational closeness of a PDA provider (H2), and perceived automaticity of a provided PDA (H3) on a receiver's perception of the social supportiveness of an individual PDA. As individuals more actively sought social support via an initial post they perceived PDAs to be more socially supportive, suggesting a confirmation bias partially guides how socially supportive a PDA is perceived to be. Additionally, as the individual perceived a PDA provider to be relationally closer (i.e., a stronger tie) the receiver's perception of the social supportiveness of the PDA increased, supporting Granovetter's (1973) assertion that relationally close ties provide greater support. This finding can be readily observed by bifurcating the sample at its midpoint of relational closeness (3.5), and observing the social support perceived from each sender: It becomes apparent social support is greater when a PDA is received from a relationally close provider regardless of social medium (see Fig. 1).

A particularly unique contribution of these findings is the strong demonstration of the effects of relational closeness on perceptions of social support of feedback by holding constant the denotative meaning of the feedback (i.e., a Like is a Like) to allow examination of users' interpretation of a cue's connotative meaning. Unlike recent research that has found comments and other replies from relationally close (as compared to relationally nonclose) individuals are more supportive (e.g., Krämer et al., 2014; Rozzell et al., 2014), the present findings thus allow close analysis of a receiver's interpretation of feedback while controlling for the feedback message (i.e., the PDA) itself. Finally, previous qualitative work (Hayes et al., 2016) has found that the relatively lightweight means of

**Table 2**  
Univariate regression models predicting social support perceived from an individual PDA.

Independent variables	Model 1 H1	Model 2 H2	Model 3 H3	Model 4 full interaction
	$\eta^2_{\text{partial}}$			
Participant number	0.01 <sup>*</sup>	0.01 <sup>†</sup>	0.001	0.001
Social support sought	0.20 <sup>‡</sup>	–	–	0.30 <sup>‡</sup>
Relational closeness with PDA provider		0.21 <sup>‡</sup>	0.07 <sup>‡</sup>	0.11 <sup>‡</sup>
Automaticity of PDA			0.13 <sup>‡</sup>	0.19 <sup>‡</sup>
Support sought $\times$ relational closeness			–	0.31 <sup>*</sup>
Support sought $\times$ automaticity			–	0.41 <sup>‡</sup>
Relational closeness $\times$ automaticity			0.16 <sup>‡</sup>	0.22 <sup>†</sup>
Support sought $\times$ relational closeness $\times$ automaticity				0.26 <sup>†</sup>
R <sup>2</sup> (adjusted)	0.17 <sup>‡</sup>	0.21 <sup>‡</sup>	0.39 <sup>‡</sup>	0.58 <sup>‡</sup>

\* $p < 0.05$ , <sup>†</sup> $p < 0.01$ , <sup>‡</sup> $p < 0.001$ .

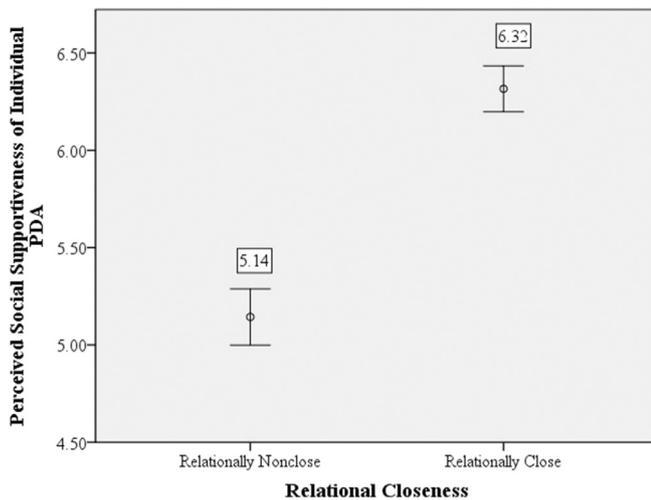


Fig. 1. Social support perceived from an individual PDA based on a bivariate of relational closeness with PDA provider.

communication and ease of use via a single click means users sometimes use PDAs automatically and without much thought encoded in their meaning. The present study quantitatively reveals individuals perceive PDAs from relationally closer providers as more meaningfully and thoughtfully provided, and that PDAs perceived to be provided more deliberately and strategically were perceived as providing greater social support.

Together, these main effects afford a means of conceptualizing and predicting the interpretation of a PDA, specifically with regard to its social supportiveness, that transcends specific SNSs, and may allow for robust theoretical integration and application. Carr and Hayes (2015) suggested a substantive challenge to developing and testing rigorous communication theories within and around social media was doing so in a way that was channel agnostic: A good theory could not be situated only in the current incarnation of Facebook, lest it be rendered unusable in another medium or should Facebook change its interface or communicative properties. By addressing three theoretically-guided and channel agnostic antecedents of the perception of social support from a single cue, these main effects enable future research to explore the communication of social support through the lenses of relational closeness and support seeking rather than being entrenched in a specific social medium or channel affordance.

## 5.2. Interaction effects

Beyond the main effects identified in the hypotheses, *post hoc* analysis revealed complex interaction effects among study variables. These interaction effects help understand some of the complexities that occur as relationally-diverse members of one's network (Marwick & boyd, 2011) utilize the same PDA cue with varying degrees of intentionality as feedback to messages users initially posted seeking achieve diverse communicative goals. Although space limitations prevent discussion of all interaction effects, two interactions are particularly notable and warrant discussion here.

First, the interaction between relational closeness and automaticity of PDA on perceived social support warrants discussion. As evidenced in H3a, there is a negative relationship between relational closeness and perceived automaticity of PDA use, suggesting respondents believed close friends were more careful and deliberate when providing PDAs. Yet what about close friends who may be heavy SNS users or are known for just Liking or Favoriting their

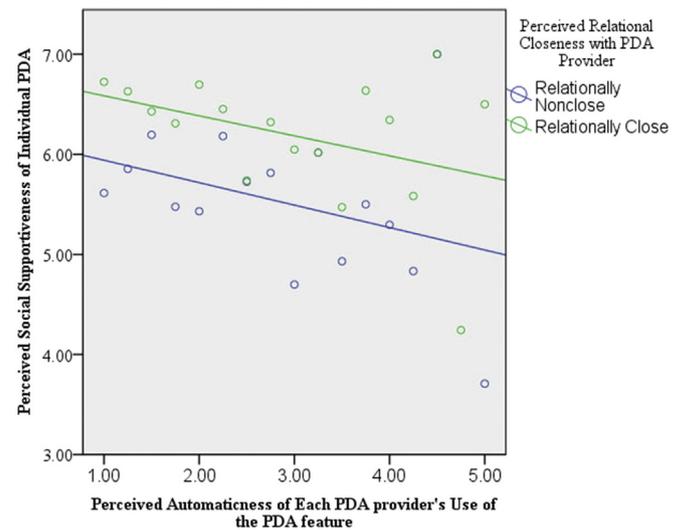


Fig. 2. Daphnis Effect: Social support perceived from an individual PDA based on the perceived automaticity of the provider's PDA use, divided by relationally close and relationally nonclose individuals.

network's contents indiscriminately? Do users take into account the idiosyncratic medium usage and behaviors of individual network relations? Based on the interaction between relational closeness and automaticity in predicting social support, it appears users do, supported by a large effect size ( $\eta^2_{\text{partial}} = 0.22$ ) based on Miles and Shevlin (2001) guidelines. In what we call the *Daphnis effect*,<sup>3</sup> it appears users account for individual others and their friends' SNS usage behaviors, with a PDA provider's automaticity mitigating the social support gains from relational closeness (see Fig. 2). Thus, the Daphnis effect occurs when a relationally close individual provides a PDA, but is known for doing so often and indiscriminately, resulting in low levels of social support perceived from the PDA as the recipient feels the provider's PDA is devalued through overuse.

Second, the three-way interaction among antecedents is particularly interesting, as it suggests individuals engage in complex but subtle cognitive processes to interpret and make sense of PDAs. In the present data, a PDA was perceived as most supportive when applied to an original post seeking social support from a relationally-close tie who used it deliberately, and this interaction ultimately accounted for 58% of the variance in the social support a respondent perceived from any individual PDA. Individuals often report receiving multiple PDAs to a given post: Respondents reported receiving an average of 19.80 PDAs ( $SD = 81.20$ ) in response to each of their two sampled posts. Given the numerous original posts with diverse communicative goals individuals post on social media, and the large quantity of PDAs received from relationally-diverse ties, individuals' perceptions of the social support of an individual PDA is likely processed heuristically and quickly, without much cognitive effort or processing able to be devoted to account for the multiple factors interactively affecting the receiver's interpretation of each individual PDA. Indeed, individuals interpreted the same PDA cue—be it a Like, Favorite, or other PDA—as differing in its social supportiveness considering their relationship with the

<sup>3</sup> Daphnis was a Greek stock character known for his talkativeness, so incessant that it was said he was "more talkative than crickets" (De Temmerman, 2014, p. 231). Thus, the Daphnis effect refers to an individual seeming to constantly or habitually communicate in the form of PDAs, whereby the PDAs from that particular individual eventually lose their perceived meaning due to their ubiquity and overuse.

sender, the sender's perceived intention, and their own goals when posting the initial message. Moreover, this process was idiosyncratic for dozens of PDAs, suggesting individuals did not engage in careful, central processing to derive meaning from a specific PDA. Just as individuals are subtly influenced heuristically when assessing the credibility of a product reviewer (Van Der Heide & Lim, in press), so too do they seem to be subtly influenced by available heuristics within networks of friends, coworkers, and family members, adjusting their perceptions of received social support based on complex bits of discrete information. Thus, the present findings expand beyond either the relational (Granovetter, 1973) or message (Krämer et al., 2014; Rozzell et al., 2014) characteristics to account for broader sociotechnical features that can lead to social support provisions via social media, even using monolithic phatic cues.

### 5.3. Limitations and future research

This research initially and empirically assessed the communicative role of PDAs with respect to social support. However, future research can and should build on this work to similarly determine how other meanings are derived from PDAs. Though social support—specifically emotional support—within social media is an important and often-studied process, additional work may look at PDAs as communicating other forms of social support (e.g., informational support), other facets of social capital, or emotion. As cues without relative or explicit meaning, PDAs offer scholars a distinct opportunity to understand how individuals encode and decode messages phatically, imposing and implying meaning in a channel where there is relatively little innate meaning.

An additional way research can build from the present study is to examine distinct user groups and within-group behaviors. As an initial study of PDAs seeking to generalize the communicative properties and processes of their use, our analysis did not seek to understand how demographic or cultural factors influenced users' interpretations of PDAs. Several models and theories of technology use (e.g., Davis, 1989; Fulk, Steinfield, Schmitz, & Power, 1987) espouse that the social systems and norms of use among groups of users guide how individuals communicate via a medium. As groups within social media often appropriate cues and channels for distinct purposes within their groups (see Carr, Varney, & Blesse, 2016), it may be that narrower groups within the population (e.g., teens, technology professionals) adopt and interpret PDAs distinctly. Relatedly, as social media often facilitate communication that transcend social groups (Marwick & Boyd, 2011), PDAs sent within one group and its corresponding norms but observed by another may be interpreted differently. To exemplify both, consider an employer who sees a job applicant who has posted, "Overslept class today" and has received several PDAs from friends. Is the employer to interpret these PDAs as social support commiserating the accidentally missed class or as affirmations of the applicant privileging sleeping over class attendance? Future research should probe further into the role that demographics, context, culture, and groups may have on the interpretation—both encoding and decoding—of PDAs.

Finally, certain characteristics of the individual—such as personality, media use and self-efficacy, or psychological well-being—could also have an effect on how PDAs are interpreted. Examining these individual-level trait variables as moderators or manipulating more fluid variables such as mood or emotional state may enable us to further unpack how fixed characteristics of the individual, as well as situational factors, contribute to PDA effects.

## 6. Conclusion

This study contributes to our understanding of social support,

social media, relational ties, and paralinguistic digital affordances by seeking to understand how individuals interpret the same one-click cue based on complex factors within SNSs. Findings reveal main effects for initial support-seeking, relational closeness of PDA provider, and the automaticity of PDAs provided by the provider on an individual's perception of a PDA's social supportiveness; and further reveal interaction effects (both two-way and three-way) among those antecedents. Though prior research has looked at use of social network sites to communicate social support explicitly via content such as written comments (e.g., Blight et al., 2015; Rozzell et al., 2014) the present research is the first to propose and empirically support the provision of social support by phatic cues—communicative messages without explicit meaning. Increasingly in channels like Facebook and Twitter, users Like and Favorite (respectively) content posted to the service, but do so attempting to communicate a meaning beyond the verbiage of the specific PDA tool. A Like may not refer to the provider literally liking the posted content; but rather may be sent (or interpreted by a receiver) as a form of emotional support (Hayes et al., 2016). The degree of social support perceived from any given PDA seems to be assessed idiosyncratically by users based on specific interactive (i.e., the initial message posted) and interpersonal (i.e., relational closeness) factors. Thus, not all PDAs communicate the same thing, yet they do seem to be communicatively rich cues, serving as another means of social support provision within these popular media, all for only the effort of a single click.

## References

- boyd, d. m., & Ellison, N. B. (2007). Social network sites: definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13, 210–230. <http://dx.doi.org/10.1111/j.1083-6101.2007.00393.x>.
- Adelman, M. B., Parks, M. R., & Albrecht, T. L. (1987). Beyond close relationships: support in weak ties. In T. L. Albrecht, & M. B. Adelman (Eds.), *Communicating social support* (pp. 126–147). Newbury Park, CA: Sage.
- Ahmadi, M., Schneider, M., Kadam, R., & Wahn, D. Y. (2016). Designing paralinguistic digital affordances for social support. In *Proceedings of the 19th ACM conference on computer supported cooperative work and social computing companion* (pp. 221–224). New York, NY: ACM Press. <http://dx.doi.org/10.1145/2818052.2869120>.
- Albrecht, T. L., & Adelman, M. B. (1987). Communication networks as structures of social support. In T. L. Albrecht, & M. B. Adelman (Eds.), *Communicating social support* (pp. 40–63). Newbury Park, CA: Sage.
- Altman, I., & Taylor, D. A. (1973). *Social penetration: The development of interpersonal relationships*. New York, NY: Holt, Rinehart and Winston.
- Andersen, P., Gannon, J., & Kalchik, J. (2013). Proxemic and haptic interaction: the closeness continuum. In J. A. Hall, & M. L. Knapp (Eds.), *Nonverbal communication*. Berlin, Germany: Walter de Gruyter, 295–321.
- Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, 63, 596–612.
- Ballard-Reisch, D., Rozzell, B., Heldman, L., & Kramer, D. (2011). Microchannels and CMC: short paths to developing, maintaining, and dissolving relationships. In K. B. Wright, & L. M. Webb (Eds.), *Computer-mediated communication in personal relationships* (pp. 56–78). New York, NY: Peter Lang.
- Bargh, J. A. (1994). The four horsemen of automaticity: intention, awareness, efficiency, and control as separate issues. In R. S. Wyer, Jr., & T. K. Srull (Eds.), *Handbook of social cognition* (Vol. 1, pp. 1–40). Hillsdale, NJ: Erlbaum.
- Bargh, J. A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: direct effects of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology*, 71, 230–244. <http://dx.doi.org/10.1037/0022-3514.71.2.230>.
- Blight, M. G., Jagiello, K., & Ruppel, E. K. (2015). "Same stuff different day:" a mixed-method study of support seeking on Facebook. *Computers in Human Behavior*, 53, 366–373. <http://dx.doi.org/10.1016/j.chb.2015.07.029>.
- Carr, C. T., & Hayes, R. A. (2015). Social media: defining, developing, and divining. *Atlantic Journal of Communication*, 23, 46–65. <http://dx.doi.org/10.1080/15456870.2015.972282>.
- Carr, C. T., Varney, E. J., & Blesse, J. R. (2016). Social media and intergroup communication: Collapsing and expanding group contexts. In H. Giles, & A. Maass (Eds.), *Advances in and prospects for intergroup communication* (pp. 155–173). New York, NY: Peter Lang.
- Cobb, S. (1976). Presidential address-1976. Social support as a moderator of life stress. *Psychosomatic Medicine*, 38, 300–314.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2 ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

- Craig, E. A., & Johnson, A. J. (2011). Role strain and online social support for childless stepmothers. *Journal of Social and Personal Relationships*, 28, 868–887. <http://dx.doi.org/10.1177/0265407510393055>.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13, 319–340.
- De Temmerman, K. (2014). *Crafting characters: Heroes and heroines in the ancient Greek novel*. Oxford, UK: Oxford University Press.
- Duggan, M., Ellison, N. B., Lampe, C., Lenhart, A., & Madden, M. (2015). *Social media update 2014*. Internet, Science & Tech. Retrieved February 24, 2016, from [http://www.pewinternet.org/files/2015/01/PL\\_SocialMediaUpdate2014.pdf](http://www.pewinternet.org/files/2015/01/PL_SocialMediaUpdate2014.pdf).
- Ellison, N. B., & boyd, d (2013). Sociability through social network sites. In W. H. Dutton (Ed.), *The Oxford handbook of internet studies* (pp. 151–172). Oxford, UK: Oxford University Press.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook “friends”: social capital and college students’ use of online social network sites. *Journal of Computer-Mediated Communication*, 12, 1143–1168. <http://dx.doi.org/10.1111/j.1083-6101.2007.00367.x>.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2011). Connection strategies: social capital implications of Facebook-enabled communication practices. *New Media & Society*, 13, 873–892. <http://dx.doi.org/10.1177/1461444810385389>.
- Eslami, M., Rickman, A., Vaccaro, K., Aleyasen, A., Vuong, A., Karahalios, K., et al. (2015). I always assumed that I wasn’t really that close to [her]: reasoning about invisible algorithms in news feeds. In *The SIGCHI conference on human factors in computing systems*. Seoul, Republic of Korea (pp. 153–162). ACM.
- Ford, W. S. Z. (1995). Evaluation of the indirect influence of courteous service on customer discretionary behavior. *Human Communication Research*, 22, 65–89. <http://dx.doi.org/10.1111/j.1468-2958.1995.tb00362.x>.
- Fulk, J., Steinfield, C. W., Schmitz, J., & Power, J. G. (1987). A social information processing model of media use in organizations. *Communication Research*, 14, 529–552.
- Gardner, B., Abraham, C., Lally, P., & de Bruijn, G.-J. (2012). Towards parsimony in habit measurement: testing the convergent and predictive validity of an automaticity subscale of the self-report habit index. *International Journal of Behavioral Nutrition and Physical Activity*, 9. <http://dx.doi.org/10.1186/1479-5868-9-102>.
- Gaver, W. W. (1991). Technology affordances. In *The SIGCHI conference on human factors in computing systems* (pp. 79–84). New Orleans, LA: ACM.
- Gibson, J. J. (1977). The theory of affordances. In R. Shaw, & J. Bransford (Eds.), *Perceiving, acting, and knowing: Toward an ecological psychology* (pp. 67–82). Hillsdale, NJ: Erlbaum.
- Granovetter, M. S. (1973). The strength of weak ties. *The American Journal of Sociology*, 78, 1360–1380. <http://dx.doi.org/10.1086/225469>.
- Granovetter, M. S. (1982). The strength of weak ties: a network theory revisited. In P. V. Marsden, & N. Lin (Eds.), *Social structure and network analysis* (pp. 105–130). Newbury Park, CA: Sage.
- Hayes, R. A., Carr, C. T., & Wohn, D. Y. (2016). One click, many meanings: interpreting paralinguistic digital affordances in social media. *Journal of Broadcasting & Electronic Media*, 60, 171–187.
- Hogan, B. J. (2009). *Networking in everyday life*. Toronto, ON: University of Toronto.
- Jones, S. M., & Wirtz, J. G. (2007). “Sad monkey see, monkey do:” nonverbal matching in emotional support encounters. *Communication Studies*, 58, 71–86. <http://dx.doi.org/10.1080/10510970601168731>.
- Krämer, N. C., Rösner, L., Eimler, S. C., Winter, S., & Neubaum, G. (2014). Let the weakest link go! Empirical explorations on the relative importance of weak and strong ties on social networking sites. *Societies*, 4, 785–809. <http://dx.doi.org/10.3390/soc4040785>.
- Langley, H. (2014). *Creator of the Facebook ‘Like’ explains why you’ll never get a ‘Dislike’ button*. *techradar*. Retrieved from <http://www.techradar.com/news/internet/creator-of-the-facebook-like-explains-why-you-ll-never-get-a-dislike-button-1269788>.
- Malinowski, B. (1972). Phatic communion. In J. Laver, & S. Hutchinson (Eds.), *Communication in face-to-face interaction*. Harmondsworth, UK: Penguin.
- Marwick, A. E., & boyd, d (2011). I tweet honestly, i tweet passionately: Twitter users, context collapse, and the imagined audience. *New Media & Society*, 13, 114–133. <http://dx.doi.org/10.1177/1461444810365313>.
- Miles, J., & Shevlin, M. (2001). *Applying regression and correlation: A guide for students and researchers*. London: Sage.
- Miller, V. (2008). New media, networking and phatic culture. *Convergence: The International Journal of Research into New Media Technologies*, 14, 387–400. <http://dx.doi.org/10.1177/1354856508094659>.
- Nagy, P., & Neff, G. (2015). Imagined affordance: reconstructing a keyword for communication theory. *Social Media + Society*, 1.
- Nickerson, R. S. (1998). Confirmation bias: a ubiquitous phenomenon in many guises. *Review of General Psychology*, 2, 175–220. <http://dx.doi.org/10.1037/1089-2680.2.2.175>.
- Norbeck, J. S., Chafetz, L., Skodol-Wilson, H., & Weiss, S. J. (1991). Social support needs of family caregivers of psychiatric patients from three age groups. *Nursing Research*, 40, 208–213. <http://dx.doi.org/10.1097/00006199-199107000-00005>.
- Norman, D. A. (1999). Affordance, conventions, and design. *Interactions*, 6, 38–43.
- Olson, D. A., Liu, J., & Shultz, K. S. (2012). The influence of Facebook usage on perceptions of social support, personal efficacy, and life satisfaction. *Journal of Organizational Psychology*, 12(3/4), 133–144.
- Putnam, R. (1995). Bowling alone: America’s declining social capital. *Journal of Democracy*, 6, 65–78. <http://dx.doi.org/10.1353/jod.1995.0002>.
- Rains, S. A., & Keating, D. M. (2011). The social dimension of blogging about health: health blogging, social support, and well-being. *Communication Monographs*, 78, 511–534. <http://dx.doi.org/10.1080/03637751.2011.618142>.
- Reblin, M., Uchino, B. N., & Smith, T. W. (2010). Provider and recipient factors that may moderate the effectiveness of received support: examining the effects of relationship quality and expectations for support on behavioral and cardiovascular reactions. *Journal of Behavioral Medicine*, 33, 423–431. <http://dx.doi.org/10.1007/s10865-010-9270-z>.
- Robinson, J. D., Turner, J. W., Levine, B., & Tian, Y. (2011). Expanding the walls of the health care encounter: support and outcomes for patients online. *Health Communication*, 26, 125–134. <http://dx.doi.org/10.1080/10410236.2010.541990>.
- Rozzell, B., Piercy, C., Carr, C. T., King, S., Lane, B., Tornes, M., et al. (2014). Notification pending: online social support from close and nonclose relational ties via Facebook. *Computers in Human Behavior*, 38, 272–280. <http://dx.doi.org/10.1016/j.chb.2014.06.006>.
- Schrock, A. R. (2015). Communicative affordances of mobile media: portability, availability, locatability, and multimodality. *International Journal of Communication*, 9, 1229–1246.
- Smock, A. D., Ellison, N. B., Lampe, C., & Wohn, D. Y. (2011). Facebook as a toolkit: a uses and gratification approach to unbundling feature use. *Computers in Human Behavior*, 27, 2322–2329.
- Stylianou, S. K., & Vachon, M. L. S. (1993). Social support in bereavement. In W. Stroebe, & R. O. Hansson (Eds.), *Handbook of bereavement: Theory, research, and intervention* (pp. 397–410). New York, NY: Cambridge University Press.
- Tam, D. (2012, August 22). *Facebook processes more than 500 TB of data daily*. CNET. Retrieved from <http://www.cnet.com/news/facebook-processes-more-than-500-tb-of-data-daily/>.
- Treem, J. W., & Leonardi, P. M. (2012). Social media use in organizations: exploring the affordances of visibility, editability, persistence, and association. In C. T. Salmon (Ed.), *Communication yearbook* (pp. 143–186). Thousand Oaks, CA: Sage.
- Trepte, S., Dienlin, T., & Reinecke, L. (2015). Influence of social support received in online and offline contexts on satisfaction with social support and satisfaction with life: a longitudinal study. *Media Psychology*, 18, 74–105. <http://dx.doi.org/10.1080/15213269.2013.838904>.
- Van Der Heide, B., & Lim, Y.-S. (2016). On the conditional cueing of credibility heuristics: the case of online influence. *Communication Research*. <http://dx.doi.org/10.1177/0093650214565915> (in press).
- Verplanken, B., Myrbakk, V., & Rudi, E. (2005). The measurement of habit. In T. Betch, & S. Haberstroh (Eds.), *The routines of decision making* (pp. 231–247). New York, NY: Psychology Press.
- Verplanken, B., & Orbell, S. (2003). Reflections on past behavior: a self-report index of habit strength. *Journal of Applied Social Psychology*, 33, 1313–1330. <http://dx.doi.org/10.1111/j.1559-1816.2003.tb01951.x>.
- Vitak, J., & Ellison, N. B. (2013). ‘There’s a network out there you might as well tap’: exploring the benefits of and barriers to exchanging informational and support-based resources on Facebook. *New Media & Society*, 15, 243–259. <http://dx.doi.org/10.1177/1461444812451566>.
- Walther, J. B. (1996). Computer-mediated communication: impersonal, interpersonal, and hyperpersonal interaction. *Communication Research*, 23, 3–43. <http://dx.doi.org/10.1177/009365096023001001>.
- Walther, J. B., & Boyd, S. (2002). Attraction to computer-mediated social support. In C. A. Lin, & D. J. Atkin (Eds.), *Communication technology and society: Audience adaptation and uses* (pp. 153–188). Cresskill, NJ: Hampton.
- Wang, V., Tucker, J. V., & Rihll, T. E. (2011). On phatic technologies for creating and maintaining human relationships. *Technology in Society*, 33, 44–51. <http://dx.doi.org/10.1016/j.techsoc.2011.03.017>.
- Wohn, D. Y. (2012). The role of habit strength in social network game play. *Communication Research Reports*, 29, 74–79. <http://dx.doi.org/10.1080/08824096.2011.639912>.
- Wohn, D. Y., Velasquez, A., Bjornrud, T., & Lampe, C. (2012). Habit as an explanation of participation in an online peer-production community. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 2905–2914). New York, NY: ACM Press. <http://dx.doi.org/10.1145/2207676.2208697>.
- Wright, K. B. (2000). The communication of social support within an on-line community for older adults: a qualitative analysis of the SeniorNet community. *Qualitative Research Reports in Communication*, 1(2), 33–43.
- Wright, K. B., & Bell, S. B. (2003). Health-related support groups on the Internet: linking empirical findings to social support and computer-mediated communication theory. *Journal of Health Psychology*, 8, 39–54. <http://dx.doi.org/10.1177/1359105303008001429>.
- Wright, K. B., & Miller, C. H. (2010). A measure of weak-tie/strong-tie support network preference. *Communication Monographs*, 77, 500–517. <http://dx.doi.org/10.1080/03637751.2010.502538>.
- Wright, K. B., Rains, S., & Banas, J. (2010). Weak-tie support network preference and perceived life stress among participants in health-related, computer-mediated support groups. *Journal of Computer-Mediated Communication*, 15, 606–624. <http://dx.doi.org/10.1111/j.1083-6101.2009.01505.x>.
- Zachariae, R., Pedersen, C. G., Jensen, A. B., Ehrnrooth, E., Rossen, P. B., & von der Maase, H. (2003). Association of perceived physician communication style with patient satisfaction, distress, cancer-related self-efficacy, and perceived control over the disease. *British Journal of Cancer*, 88, 658–665. <http://dx.doi.org/10.1038/sj.bjc.6600798>.