

Psychology of Popular Media Culture

Connecting Offline Social Competence to Online Peer Interactions

Stephanie M. Reich

Online First Publication, February 15, 2016. <http://dx.doi.org/10.1037/ppm0000111>

CITATION

Reich, S. M. (2016, February 15). Connecting Offline Social Competence to Online Peer Interactions. *Psychology of Popular Media Culture*. Advance online publication. <http://dx.doi.org/10.1037/ppm0000111>

Connecting Offline Social Competence to Online Peer Interactions

Stephanie M. Reich
University of California, Irvine

Decades of research have documented the importance of social competence in children's development and the risks of lacking these skills for physical, social, emotional, and academic outcomes. Social interactions today are increasingly technologically mediated, with a large number of children and adolescents interacting with others online. Nonetheless, little effort has been made to connect the construct of social competence to online interactions. This article reviews recent research (up to 2014) on social interactions online and tries to identify ways in which components of social competence from offline settings (e.g., adaptability, social skills, perspective-taking) might apply to online contexts. Challenges of applying the construct to online peer interactions are highlighted and the current gaps in research are identified, raising questions about whether social competence from offline settings can be applied to online ones. Lastly, this review argues for the need for more research directly assessing competence in social interactions online, especially in light of user characteristics such as age and gender.

Keywords: Facebook, peer interactions, social competence, social media, social networking

Ample research has demonstrated the benefits of social competence for children's development and the drawbacks of lacking these social skills (Rubin, Bukowski, & Laursen, 2009). Although there are many definitions of social competence, core characteristics involve social skills, social communication, and adaptability to social situations (Cavell, Meehan, & Fiala, 2003; Semrud-Clikeman, 2007). Further, research suggests that social competence is context dependent (Rose-Krasnor, 1997). Because the Internet is an increasingly important context for children's social interactions, it is feasible that key components of the construct exist in online settings as well. This review uses a qualitative synthesis of research on social skills and peer interactions online in an attempt to determine whether the offline construct of social competence is the same or different when used

to assess online peer interactions. Because research to date has yet to explore social competence in online interactions explicitly, this review identifies potential skills and platform norms that might be indicators of social competence. In this process of identifying potential indicators of social competence, attention is paid to which features of technology-mediated interactions may necessitate different skills than offline settings. Because the bulk of the research in this area is done with adolescents and emerging adults, the majority of studies presented include participants from 10 years to college-aged. The review concludes with an argument for the need for research to more directly assess competence in online social interactions, especially in light of developmental stages, differences in user characteristics, and platform features.

Social Competence

Research on social competence has identified a range of characteristics that appear to be important for harmonious social interactions. These skills involve the ability to communicate appropriately, adapt to social situations, have emotional awareness and regulation skills, consider others' perspective, and learn from previous experience (Semrud-Clikeman, 2007).

This review is based on work supported by the National Science Foundation under Grant 1218705. Special thanks to Rebecca Black, Jacquelynne Eccles, Joanna Yau, and Kaveri Subrahmanyam for their suggestions and guidance.

Correspondence concerning this article should be addressed to Stephanie M. Reich, School of Education, University of California, Irvine, 3200 Education, Irvine, CA 92697-5500. E-mail: smreich@uci.edu

These characteristics tend to work in conjunction, promoting positive peer interactions. For instance, socially competent children understand that their communication content and style should vary in different settings and with different partners, such as talking differently to parents and peers and when interacting one-on-one or in a group. Further, socially competent children are aware of the appropriateness of their communication style throughout their interactions with others, an awareness which requires perspective-taking skills, emotional awareness, and adaptability (Rose-Krasnor & Denham, 2009). In considering social competence in online interactions, one would expect some aspects to be similar to offline interactions such as perspective-taking and adaptability, whereas other aspects, such as communication style, might depend on the platform features (e.g., asynchronous, one-to-many).

In describing the construct of social competence, Greenspan (1981) uses a golf analogy. To have “golfing competence,” a player needs to have knowledge of the rules of golf, be able to select the appropriate club for each swing, understand the etiquette of the golf course, control one’s temper, use good judgment, and be familiar with golf courses. In peer interactions, similar social skills, adaptability, and awareness of rules and norms are needed. In considering online peer interactions, it is feasible that greater understanding of the norms, platform characteristics (e.g., timing, one-to-one, audience), and available features (e.g., text, images, avatars) factor into social competence. Thus, exploring social competence in online interactions should consider the features that are unique to technologically mediated interactions.

Because social competence predicts success in social relationships (e.g., harmonious interactions, being liked, establishment of friendships), measurement of the construct relies on self, parent, peer, or teacher report of children’s social skills and relationships or direct observations of social interactions. Survey measures assess key elements of social competence such as perspective-taking, empathy, social skills, emotion regulation, and impulse control as well as the absence of behaviors that can be detrimental to social interactions such as aggression, shyness, and social anxiety (Brody, Flor, & Gibson, 1999; Kotler & McMahon, 2002; Kurdek & Krile, 1982; Raver & Zigler, 1997).

Another common way of measuring social competence is to assess success in social situations, such as having friends (not being friendless), being popular (not being rejected), and having good social network standing (Rubin et al., 2009). These peer outcomes are typically measured through surveys or observations (Green, Forehand, Beck, & Vosk, 1980; Rubin et al., 2009). Lastly, researchers can observe how children interact with others and gauge their social competence in that context (Asher, 1983).

In trying to assess social competence in online interactions, many of these common offline indicators may not apply in cyberspace. For instance, friendship may not be a useful metric, as most online platforms require reciprocation of a friend request for communication (e.g., Facebook, Instagram, Linked In, Google+, Club Penguin). Thus, having friends may not differentiate more socially competent children from those that are less so. Further, some evidence suggests that having too few or too many friends on some platforms, like Facebook, is unattractive (Tong, Van Der Heide, Langwell, & Walther, 2008; Utz, 2010; Utz, Tanis, & Vermeulen, 2012), making popularity harder to gauge online. Additionally, what is perceived as attractive could vary based on the private and public nature of the online space and adaptability may depend on the timing of the interactions (real-time vs. asynchronous).

Given these key characteristics and methods of measuring social competence from offline interactions and the common and unique features of online spaces, this article reviews studies of online peer interactions that involve some type of survey or observational assessment of variables considered to be components of social competence. The aim is to identify indicators of social competence online and assess what might be similar or different to the well-studied offline construct. In this process, efforts are made to highlight the gaps in research and suggest areas of future inquiry. Since studies of social competence online are not available, this study is reliant on indicators drawn from offline research. Specifically the following questions are addressed:

1. How might characteristics of offline social competence connect to peer interactions online?

2. What aspects of peer interactions might be similar online and offline and which are unique to online spaces?
3. What additional research is needed to better understand social competence in online settings?

Method

This research synthesis of studies up to early 2014 began with a search for “online social competence.” When that search term yielded no results in PsycInfo, ERIC, or Google Scholar, an effort was made to cross reference social competence and social skill terms with Internet and social media terms. The following terms that are conceptually related to social competence were used: social competence, social skills, prosocial behavior, aggression, bullying (cyberbullying/cybervictim), adaptability, social anxiety, likability, attractiveness, friends, peers, social comparison, shyness, extraversion, loneliness, social connection, social interaction, emotional awareness/regulation, and social communication. The findings of each of these searches were then cross-listed with a social media/Internet term: Internet, online, social media, synchronous/asynchronous, chat, blog/microblog, social networking, profile, posts, e-mail, messaging, instant messaging, virtual worlds, Facebook, Twitter, MySpace, Pinterest, Instagram, Reddit, MMORPG, and posting/broadcasting. This process generated many unrelated articles, as most journals have online versions and social media accounts (Facebook page, Twitter account). Thus, all abstracts were screened for relevance to the aims of this review. This resulted in the identification of 172 articles and reports that addressed online behaviors and peer interactions.

Using the results of the search, a thematic coding process (Boyatzis, 1998) was used to sort research findings into patterns related to user characteristics, social skills, behaviors, impacts, and relationships. Special note was made of user characteristics such as age, gender, and race/ethnicity as well as online features like platform (social networking site, virtual world), timing (synchronous/asynchronous), and type of interaction (one-to-one/one-to-many). The review included studies from youth throughout the world. However, the bulk of the research was from the U.S., so cross-cultural compari-

sons were not possible. The patterns that emerged are described below.

Results

Question 1: Connections Between Offline Social Competence and Peer Interactions Online

To date, no studies have explicitly studied social competence in online spaces, although a few have correlated offline social competence with online use (e.g., Kowert & Oldmeadow, 2013; Navarro, Yubero, Larrañaga, & Martínez, 2012; Schoffstall & Cohen, 2011; Valkenburg & Peter, 2008). These studies tend to connect offline characteristics to online behaviors. One focus of this inquiry explores whether socially savvy (e.g., outgoing, likable) youth are more proficient in meeting, interacting, and befriending online peers, known as the rich-get-richer hypothesis, than their more socially awkward peers (e.g., shy, withdrawn anxious), known as the poor-get-poorer hypothesis (Selfhout, Branje, Delsing, ter Bogt, & Meeus, 2009; Valkenburg & Peter, 2007, 2009b). Another approach to this question tests whether online spaces provide social compensation for those who typically struggle in social interactions due to anxiety, loneliness, or introversion (Selfhout et al., 2009; Valkenburg & Peter, 2007).

Rich-get-richer/poor-get-poorer. A possible interpretation of the rich-get-richer and poor-get-poorer hypotheses is that the social skills needed to be successful in face-to-face settings are also needed in online settings. Those individuals who have these skills will be successful interacting with others in both spaces and those that do not will be less successful. Research to date supports both of these hypotheses, as studies have found that youths’ use of online communication platforms (instant messaging, chatrooms, social networking sites) is associated with improved friendship quality and feelings of connection with peers (Desjarlais & Willoughby, 2010; Kraut et al., 2002; Valkenburg & Peter, 2007, 2009a). However, few studies have contrasted how these online activities affect friendships over time or may apply differentially to improving the quality of existing friendships versus the formation of new friendships online (Tufekci, 2010; Valkenburg & Peter, 2009a; Van Zalk, Branje, Denissen, Van

Aken, & Meeus, 2011), as social competence online might involve different skills when interacting with known or unknown peers. Further, using online interactions to strengthen existing relationships may necessitate different skills than those needed to attract and befriend unknown others. To date, there is a growing body of literature finding that online resources are often used to enhance already existing, offline relationships (i.e., social enhancement process; Desjarlais & Willoughby, 2010; Kraut et al., 2002). Studies of personality traits have found that extraverted people tend to spend more time and have more friends on Facebook (Gosling, Augustine, Vazire, Holtzman, & Gaddis, 2011; Quercia, Lambiotte, Stillwell, Kosinski, & Croccroft, 2012) and online gamers tend to rate higher on extraversion than nonplayers (Teng, 2008).

In considering poor-get-poorer processes, some studies have found that people with more social anxiety and lower self-esteem spend more time online but make few new friends (Anderson, Fagan, Woodnutt, & Chamorro-Premuzic, 2012; Peter, Valkenburg, & Schouten, 2005; Valkenburg & Peter, 2007). A recent study of Facebook profiles found that viewers of these profiles could identify those participants with social anxiety by the length and content of their posts (Fernandez, Levinson, & Rodebaugh, 2012), suggesting that some social skill challenges from offline contexts are apparent online as well. Along these lines, youth with poor social skills and more social anxiety report being more likely to report falsifying information about themselves online (Harman, Hansen, Cochran, & Lindsey, 2005; Valkenburg & Peter, 2008), which may reduce peer trust and perceptions of likability (Dwyer, Hiltz, & Passerini, 2007; Manago, Graham, Greenfield, & Salimkhan, 2008). Comparisons of Facebook profiles found that shy individuals have fewer Facebook friends than their nonshy peers (Orr et al., 2009), further implying that introversion offline extends to online interactions as well. Interestingly, studies have found that increased online social interactions can reduce feelings of depression and social anxiety, a correlation that suggests a possible social compensation process (Selfhout et al., 2009).

Social compensation. It is also possible that social skills needed to be competent online are different than those needed for in-person

interactions. In such cases, there could be a social compensation process in which people who have difficulties with social interactions offline might be more successful online. Studies of people with social anxiety, introversion, and low self-esteem support social compensation processes of social media use. For instance, college students with low self-esteem report using Facebook to build social connections (social capital; Ellison, Steinfield, & Lampe, 2007) and the more lonely users of virtual worlds are, the more likely they are to spend more time online and feel more social connection with others (Shen & Williams, 2011). Studies have found that lonely youth spend more time online and make more efforts to meet new people than their less lonely peers (Bonetti, Campbell, & Gilmore, 2010) and that both loneliness and social anxiety predict more time online (Caplan, 2007; Fernandez et al., 2012). Further, shy people report a preference for online communication over offline interactions (Ebeling-Witte, Frank, & Lester, 2007) and shy youth frequently prefer to share intimate information online rather than offline (Birmie & Horvath, 2002). Similarly, lonely individuals report being better able to express themselves online (Bargh, McKenna, & Fitzsimons, 2002; Caplan, 2005) and for individuals with low levels of extraversion, chatting online with people not known in face-to-face contexts can increase self-esteem and decrease depressive symptoms (Van Zalk et al., 2011). There is evidence that some people are able to express themselves more openly online, due to online disinhibition effects (Suler, 2004, 2005) and that some teens that feel disconnected from peers offline can seek out and befriend similar peers online (Alexander, 2002; Amichai-Hamburger, Kingsbury, & Schneider, 2013).

Most of the research on social compensation demonstrates more interactions with others online than offline, but few specify success in making friends in cyberspace. Nonetheless, interactions are clearly a needed step in that direction. Importantly, there is evidence that shyness (Ebeling-Witte et al., 2007) and lower emotional intelligence (e.g., emotional awareness, social skills) are related to more problematic (i.e., addictive) online use (Caplan, 2005; Engelberg & Sjoberg, 2004). Although outside the scope of this review, problematic online use could relate to social competence skills.

Social compensation research suggests that youth can be more socially competent online than offline, signifying that skills may be different in these two types of spaces or perhaps similar but weighted differently in importance.

Gender associations. Social compensation and rich-get-richer/poor-get-poorer hypotheses are supported in the extant literature (Desjarlais & Willoughby, 2010; Lee, 2009; Van Zalk et al., 2011) and one study indicates that these effects may differ by gender. Desjarlais and Willoughby (2010) found that when boys and girls have good social skills, their computer-mediated interactions with others increase their friendship quality (rich-get-richer). However, for boys with social anxiety, online interactions could provide social compensation. This compensation was not found for girls. Another study found that for males, extraversion was associated with social media use (rich-get-richer), but this pattern was not found for females (Correa, Hinsley, & de Zuniga, 2010). Conversely other studies have found that although girls reported feeling both more anxious and closer to friends than males (Valkenburg & Peter, 2007), patterns of social compensation were equivalent for males and females (Tufekci, 2010; Valkenburg & Peter, 2007). However, a recent survey of college students found that females were significantly more likely than males to state that they felt closer to Facebook friends than friends they see every day (Thompson & Loughed, 2012), suggesting a potential social compensation process. Thus, the ways in which gender impact these processes are largely unknown, yet existing research suggests that more research along these lines is needed.

Connecting online and offline skills. Rich-get-richer/poor-get-poorer and social compensation research findings suggest that some, but not all, social skills from offline contexts may transfer to online interactions. Thus, socially savvy children in face-to-face settings seem to be successful in online interactions as well. However, these online and offline skills do not seem to be synonymous, as traits that limit offline interactions, such as shyness, do not necessarily preclude online interactions. Further, findings that some children prefer to and are better at interacting online than offline inti-

mates that being socially competent online might involve different skills than offline interactions and that these skills might vary by gender.

Question 2a: Similarities of Social Competence Indicators Offline and Online

Because no studies to date have explicitly studied social competence in online spaces, efforts to identify connections between online and offline social competence are reliant on reviewing studies of online interactions that included characteristics previously identified to be aspects of offline social competence. For example, research on social competence offline has noted several behaviors that are beneficial for (e.g., prosocial behaviors, attractiveness) and detrimental to (e.g., aggression, impulsivity) peer interactions. Thus, this literature synthesis included a range of studies from descriptive content analyses to longitudinal studies of users' behaviors and characteristics and their beneficial and detrimental impacts in online peer interactions.

Prosocial behaviors online. In traditional social competence research, prosocial behaviors such as empathy, helpfulness, and kindness are beneficial for peer interactions (Berndt & McCandless, 2009; Rose-Krasnor & Denham, 2009). Content analyses of online messages in blogs, chat forums, and social networking profiles have found supportive and empathetic messages to be commonplace (Baym, 2006; Preece & Ghazati, 2001; Thelwall, Wilkinson, & Uppal, 2010). There is also evidence that people who are prosocial offline also engage in prosocial behaviors online (Wright & Li, 2011). For instance, survey studies have found prosocial intentions for playing to be common in online gaming (Wang & Wang, 2008) and interviews with children have also found a preference for prosocial behaviors when visiting virtual worlds (Reich & Black, 2011). One longitudinal study comparing offline with online behaviors found that adolescents' social skills (e.g., prosocial behaviors) in offline peer relationships predicted their adult online activities (Mikami, Szwedo, Allen, Evans, & Hare, 2010). Though few, these studies suggest an association between online and offline prosocial behaviors. However, their impact on online peer relationships has yet to be studied.

Aggression: Cyberbullies and cybervictims. Although prosocial online behaviors are not a frequent focus of research, studies of aggressive behaviors, especially cyberbullying, are increasing. The bulk of this research has connected online experiences with offline behaviors and peer interactions. These studies have found that cyberbullies are often bullies offline and cybervictims also tend to be victims offline (Hinduja & Patchin, 2008; Kowalski, Giumetti, Schroeder, & Lattanner, 2014; Smith et al., 2008; Twyman, Saylor, Taylor, & Comeaux, 2010; Vandebosch & Van Cleemput, 2009). Further, those third through sixth graders who engage in cyber-aggression also tend to have problems with peers offline (fewer friends, less popularity, lower peer optimism and acceptance) (Schoffstall & Cohen, 2011). Along these lines, those children experiencing cyber-victimization tend to also have difficulties with offline social skills such as poor interpersonal skills, social anxiety, and lower ratings of social competence (Navarro et al., 2012; Vandebosch & Van Cleemput, 2009).

Some of the research on cyberbullying has included measurement of offline characteristics that are important for peer interactions. These studies have found that cyberbullies have lower levels of empathy (Ang & Goh, 2010), less self control (Vazsonyi, Machackova, Sevcikova, Smahel, & Cerna, 2012), and overall lower levels of offline social competence (Vandebosch & Van Cleemput, 2009) than nonbullies. These studies demonstrate that poor offline social competence contributes to online bullying and victimization, which could be an indication that deficits in offline social competence extend to online settings as well. However, research has yet to observe the quality of peer interactions online for either cyberbullies or cybervictims. Given the growing evidence of social information processing challenges for aggressive children and bullies (Dodge, 1993; Dodge & Rabiner, 2004), it is feasible that some online platform features, such as asynchronous communication, could offer social compensation in which these children could be more socially competent online. Unfortunately, no studies addressing this could be identified.

Online interactions and socially competent offline behaviors. Research has found that some online behaviors predict ratings of offline social competence such as teens' online identity

experiments (e.g., varying types of pictures posted, profile content) and communication with a diversity of people (Valkenburg & Peter, 2008). Interestingly, providing fake information online is associated with characteristics that are risky for offline friendships such as low self-esteem, social anxiety, poor social skills, and aggression (Harman et al., 2005). Further, there is evidence that falsifying information could reduce peer trust and perceptions of likability (Dwyer et al., 2007; Manago et al., 2008). Research studies suggest that falsifying information online is not common (Reich, Subrahmanyam, & Espinoza, 2012; Subrahmanyam, Reich, Waechter, & Espinoza, 2008) and when it does occur, it is typically in anonymous online spaces, such as chatrooms (Subrahmanyam & Smahel, 2011). This finding suggests that being adaptable online might involve knowing that the social consequences of specific behaviors vary by site and platform features.

It is also possible that socially competent behaviors online could promote peer interactions offline. In a study of online presentation, researchers found that those individuals who reported portraying their "true self" online were also more likely to report forming close virtual relationships leading to face-to-face relationships that sustained for at least 2 years (McKenna, Green, & Gleason, 2002). Using an experimental design, these same researchers found that people who met online first were more likely to report liking each other when meeting later in person than those people who initially met face-to-face (McKenna et al., 2002). Accordingly, social interactions online might facilitate offline peer relationships for some people. However, little is known about how or why.

Attractiveness and likability. Decades of peer research have noted that attractive people are more successful in peer interactions (Huston & Levinger, 1978; Xie, Li, Boucher, Hutchins, & Cairns, 2006) and often viewed as more socially skilled (Feingold, 1992), and this pattern may apply online as well. For instance, studies have found that the attractiveness of online game characters contributes to being perceived as having greater appeal and social standing (Lo, 2008a) and children report accepting friend requests in virtual worlds from avatars that "look cool" as determined by their clothes (Reich, Black, Wheeler, & Korobkova, 2013). In applying the concept of social com-

petence to online settings, there is mounting evidence that youth try to be attractive to others online. For instance, users of social networking sites like Facebook make efforts to post attractive images of themselves, alter photographs to be more flattering, and untag unattractive images from others' posts (Kapidzic & Herring, 2015; Manago et al., 2008; Mehdizadeh, 2010; Muscanell & Guadagno, 2012; Zywicki & Danowski, 2008). Even the content of the pictures seems to connect to gendered expectations of attractiveness, as females are more likely to post pictures highlighting relationships and sexiness whereas males are more likely to post more active, masculine photographs (Manago et al., 2008; Strano, 2008). Researchers have also found that people whose Facebook use is oriented toward social interactions are also more likely to have self-monitoring and promotion goals (Rosenberg & Egbert, 2011), suggesting an awareness of what promotes peer attractiveness online.

Studies of first impressions online indicate that attractiveness is, indeed, important. For instance, the perceived likability of people introduced in a face-to-face setting is correlated with the anticipated likability of a person from seeing their web page. This correlation is stronger when there is disclosure of personal information verbally (in-person) or through online posts of pictures and comments (Weisbuch, Ivcevic, & Ambady, 2009). However, the correlation is far from perfect ($r = .36$), suggesting that different sources of information may be weighted differently during online and offline interactions.

Although the importance of attractiveness to peers might apply equally online and offline, what is viewed as attractive might vary. For online social networking sites specifically, profile enhancements (adding pictures, posts) are associated with having more online friends (Utz et al., 2012). Research has found that posting personal information through status updates on Facebook is commonplace as a method for promoting intimacy (Manago, Taylor, & Greenfield, 2012), but oversharing may be viewed as uncool (Barash, Ducheneaut, Isaacs, & Bellotti, 2010). Using self-reported Facebook activities of college undergraduates, Gosling and colleagues (2011) found that people could accurately identify personality characteristics (e.g., extraversion, openness) of profile owners, but

these identifications were not as accurate as in face-to-face interactions.

How things are displayed and with whom one is friends may also affect attractiveness. Experimental manipulation of the number and extraverted characteristics of "friends" predicted users' perceived popularity (Utz, 2010). The characteristics of one's "friends" and the messages they leave about the user are also associated with perceived attractiveness (Walther, Van Der Heide, Kim, Westerman, & Tong, 2008). Research has shown that impressions of users are more influenced by the attractiveness of "friends" leaving the post than the content of the message (Walther, Van Der Heide, Hamel, & Shulman, 2009) and that perceptions of popularity might be derived by the amount and content of posts (Zywicki & Danowski, 2008) and active or passive images of "friends" (Utz, 2010). In light of this, social competence in online settings might involve being selective about the types of posts youth allow on their profile and who they add, delete, or block as friends (Reich, 2010). In spaces in which one's presentation is annotated by others (e.g., comments, likes, uploads), it is possible that socially competent behaviors include not only one's own use of text and images but also the presentation of "friends" as sources of attractiveness, popularity, and disclosure. In exploring attractiveness in online settings, more research is needed on both individuals' behaviors and the impact and management of the actions of the friends they accept into these spaces.

From this review, it appears that some offline characteristics of social competence such as prosocial behavior, aggression, and attractiveness have similar connections to success in peer interactions online. However, the literature base on these topics is thin and the patterns identified suggest that more work is needed to identify what might be unique about such things as attractiveness, helping, empathy, or aggression in being socially competent in online interactions.

Question 2b: Unique Characteristics of Social Competence Online

Although research suggests that people's online and offline networks are connected (Reich et al., 2012; Subrahmanyam & Greenfield, 2008), positive online interactions in distinct

activities such as e-mailing, social networking, instant messaging, gaming, tweeting, chatting, and blogging may necessitate different or perhaps additional social skills and personality characteristics than those occurring offline (Hancock & Dunham, 2001). Some online behaviors involve one-to-one interactions (e.g., instant messaging, e-mailing), some encompass one-to-many interactions (e.g., tweeting, chatting, blogging), and others involve both one-to-one and one-to-many interactions (e.g., social networking sites, virtual worlds, gaming). Further, some interactions happen in real time (e.g., instant messaging, chatting) whereas others are asynchronous (e.g., blogging, social network posting). Therefore, it is reasonable to expect that some social skills are similar across these online contexts but that some contexts require unique social skills for successful interactions online.

Communication via text. There are many ways in which people can interact online, however most one-to-one and one-to-many technologies are devoid of physical contact and accompanying body cues. Therefore, some features, such as the phrasing of text, might be more salient in online interactions than offline ones, and users might need to compensate for the lack of facial expressions by adding emoticons or other indicators of tone such as text-speak (e.g., LOL, BTW, xo). Research using the same text with and without emoticons has found that tone and purpose are altered with the inclusion of these pictorial representations of faces (Lo, 2008b) and that emoticons can sway perceptions of mood more than changes to the accompanying text (Walther & D'Addario, 2001). Experimental manipulations of text and photographs on Facebook profiles have been shown to alter viewers' perceptions of users' popularity, extraversion, introversion, and communal orientation (Utz, 2010). Studies have shown that subtleties in online posts can alter the ways in which others respond. For example, adding a question mark to the end of a Facebook post can significantly increase the quantity and quality of "friend" responses to the post (Te-evan, Morris, & Panovich, 2011). Thus, it is possible that social competence online involves proficiency in tailoring posts through phrasing, punctuation, and emoticons to be adaptive to the type of interactions and/or norms of the site.

Avatar movement. Some platforms include avatars, visual representations of users that can be individualized in some way (e.g., species, hair colors, gender). Experimental manipulations of verbal and nonverbal behaviors of avatars (e.g., friendly and assertiveness text bubbles) have found these behaviors to be important for people attributing personality characteristics (e.g., introverted, extraverted) to these characters (Isbister & Nass, 2000). Interestingly, the perceived likability of online users lessens when there is inconsistency in the style of language (assertive vs. questioning) and movement quality of avatars (Isbister & Nass, 2000). Thus, like offline social competence in which people must make accurate assessment of appropriate behaviors and regulate emotions to match that behavior (Dodge, Pettit, McClaskey, Brown, & Gottman, 1986), online spaces seem to necessitate congruence of behavior (from avatar to text) in the setting.

Gendered uses of text, images, and avatars. Interestingly, the text and image-based components of online communication may be interpreted differently for each gender. For instance, in critiquing a fictitious Facebook profile, college females discussed the common use of misspellings and capitalization as a way for females to "dumb down" their posts (Bailey, Steeves, Burkell, & Regan, 2013). There also appears to be gender differences in the emotional tone of social networking site posts, with females using more positive emotions (Thelwall, Wilkinson, & Uppal, 2010). Further, a recent study found that users rate female Facebook profiles as more trustworthy than male profiles (Scott, 2014). Studies of avatars in virtual worlds and games have found avatar gender to alter perceptions of users' behaviors. For instance, female avatars are more likely to be offered material aid than male avatars and females are more likely to help male than other female avatars (Lehdonvirta, Lehdonvirta, & Baba, 2011). Male avatars are also less likely to receive sought-after help, and these users receive more assistance when they change to a female avatar (Lehdonvirta, Nagashima, Lehdonvirta, & Baba, 2012). These findings suggest that norms online may differ by gender and subsequently, socially competent behaviors might vary by gender on these sites. This is quite feasible, as socially acceptable ways of

interacting offline are often gendered (Martin, 1998).

Social cues and adaptability. In considering the social cues available online, some have proposed that users might provide different information online than would be appropriate or relevant during in-person interactions. For instance, it would be odd to brag about one's own accomplishments, such as winning a soccer tournament, but such statements (and even accompanying pictures) are commonly found on Facebook profiles. In addition, the lack of physical contact in online interactions might free cognitive and emotional resources typically used to assess nonverbal behavior, allowing these resources to be redirected toward crafting thoughtful and carefully worded text (Suler, 2005; Walther & Burgoon, 1992). Further, social cues may be present but different online, and socially competent users might be strategic in their use of site features such as profile pictures, biographical information, and emoticons (Kapidzic & Herring, 2015; Lo, 2008b; Manago et al., 2008; Mehdizadeh, 2010; Muscanell & Guadagno, 2012; Tanis & Postmes, 2003; Zy-wica & Danowski, 2008). One example of this is the social presence hypothesis, in which the presence of still pictures used in computer-mediated communication (e.g., profile picture, buddy icon) promotes greater feelings of affiliation and connection than picture-free text (Walther, 2011), and that features of the pictures, like attractiveness, can influence others' efforts to initiate a friendship (Wang, Moon, Kwon, Evans, & Stefanone, 2010). There is also the possibility that online interactions offer opportunities for more open and sincere communication and one study found that youth reported feeling greater attraction, social communication, and expected value over time for computer-mediated interactions than face-to-face or initially computer-mediated then in-person interactions (Ramirez & Zhang, 2007).

Images. How pictures and video can be used to promote likability or be a component of social competence in online settings has not been well explored. This paucity of research is important given that many new forms of online communication like Instagram, Pinterest, and Vine are dependent almost exclusively on images for communication. Further, some platforms greatly limit the amount of text possible (e.g., 140 words or less on Twitter), and suc-

cessful social skills might involve more parsimonious and witty posting. One study found different patterns of image posting on Instagram (e.g., selfie-posters, food image-posters), but that the content of the images was not related to the number of followers each user had (Hu, Manikonda, & Kambhampati, 2014). Studies have found that girls tend to post more attractive and seductive images than boys (Kapidzic & Herring, 2015; Manago et al., 2008), and a study of images and comments of Flemish teens found that girls comment on pictures much more than boys (De Ridder & van Bauwel, 2013).

Timing: Synchronous and asynchronous communication. Some online platforms provide unique channels of communication that involve varying levels of people in which to interact. Messages can go to individuals, large groups, or simply allow all "friends" in the network to view messages, if they chose to. This would require a socially competent user to adapt to varying levels of intimacy and public display. Interestingly, such communications might be synchronous (e.g., instant messaging, chat), or asynchronous (e.g., social networking sites, email, blogs).

If social competence involves "flexible, adaptive responses" (Waters & Sroufe, 1983, p. 79), then the timing of interactions might influence how adaptive people are when engaging in online social activities. Some have proposed that when there is a delay in responding (asynchronous communication), users experience less pressure for crafting appropriate responses, as they are given additional time to plan, organize, and edit their communication (Wellman, 1999) and do not have to worry about conversational turn-taking (Honeycutt, 2001). Conversely, real-time (synchronous) communication might demand a different set of skills; some that may be akin to those needed for in-person interactions. Further, real-time communication can support a sense of flow to interactions and tends to utilize more casual language (Honeycutt, 2001). Thus, in trying to connect the construct of social competence to online settings, it is important to consider the timing of communication.

Research has found that the timing of online communication can influence the perception of social presence online, with faster responses indicating a greater presence (Tu, 2002). Syn-

chronous interactions have been described as inherently social whereas asynchronous activity allows communication when individuals may not be available at the same time or want to communicate with more than one person at a time (i.e., one-to-many; Wellman, Quan-Haase, Witte, & Hampton, 2001). Discussions with youth have found asynchronous communication to be beneficial when needing time to think carefully about responses while synchronous communication is best for retaining a more conversational style to an interaction (Madell & Muncer, 2007). Given these different characteristics of timing, it is plausible that social competence in online interactions might be impacted by the timing of communication and that the application of the construct could vary with platform types. For instance, it is feasible that a person could demonstrate high social competence in asynchronous communication when they have ample time to think and craft responses but show poor social competence when they must engage in real-time interactions.

Audience. Although offline peer interactions often involve private communication between friends, most online platforms involve an audience of some sort (e.g., newsfeeds on Facebook, followers on Twitter, other avatars in virtual worlds). Although many of these online spaces have private communication options, the majority of activities is before a real or imagined audience (boyd, 2007; Marwick & boyd, 2011). Social networking sites, like Facebook for instance, make social networks (i.e., names of all friends) public and searchable by people within the social network (and beyond if no privacy settings are utilized; boyd & Ellison, 2008). Further, posts and comments are publicly displayed for the social network to see and depending on settings, a newsfeed or timeline might update all members of the social network about users' activities (e.g., adding friends, commenting on others' profiles, watching videos), even if the person doing the activity is not aware of these updates. Such site features have led some researchers to argue that these public displays of connection are important for identity presentation (Schmitt, Dayanim, & Matthias, 2008), feelings of connection to others (Köbler, Riedl, Vetter, Leimeister, & Krcmar, 2010), and users' successful navigation through social interactions (Manago et al., 2008), which often involves a mixture of close friends and acquaintances

(Manago et al., 2012). As such, users must learn to distinguish between a "public" and a "private" voice in such networks (boyd, 2008; Rheingold, 2008). Although these are all aspects of adaptability and social skills, they likely involve unique skills for online interactions compared to offline ones.

Considering that online interactions include possible known and unknown spectators (e.g., friends vs. followers or friends of friends), it is reasonable to expect that different social skills could be more beneficial online than offline. For instance, a study of the phrasing of Facebook posts found differences in the number and timing of responses to questions based on whether the post was generic (e.g., "Should I do ____") or directed to the peer network (e.g., "Does any one think I should ____"; Teevan et al., 2011).

Research on adolescent identity presentation on social networking sites has found that youth are strategic in the types of personal information they share, the content and attractiveness of the images they post, and the presentation of their connection to others/"friends" (Manago et al., 2008). For instance, in a survey of 799 teens (12–17 years of age), 55% reported not posting something online for fear that it would reflect badly on them (Lenhart et al., 2011). In a study of Facebook behaviors, users were more likely to hide unattractive friends and negative comments and unfriend people who posted content that made the user look bad (Peña & Brody, 2014). Further, qualitative studies have found online activities are often focused on reputation management (Woodruff, 2014). Although not well studied, it appears that the audience component of online interactions is important and that consideration of social competence in online settings should consider that many peer interactions are performed within the purview of others.

Question 3: Research Needed to Connect Offline Social Competence to Online Settings

Although research on likability and social skills online is increasing, there are many striking gaps in the literature on social competence in online interactions, especially considering that about 2/3 of children under eight years (Gutnick, Robb, Takeuchi, & Kotler, 2011) and 95% of those 12 to 17 years of age

use the Internet (Lenhart et al., 2011), with the majority of teens using social networking sites (Lenhart & Madden, 2007; Lenhart et al., 2011). Some of these omissions are highlighted here.

Diversity of online environments. As computer use and online access increase, so do the diversity of activities and platforms with which people engage. Thus far, much of the research has looked at patterns of specific types of social media by children. However, because the popularity of online activities changes often (e.g., shift from instant messaging to texting or from MySpace to Facebook), developmental scientists would do well to consider how these spaces are used by children and youth to address their developmental needs (Subrahmanyam & Greenfield, 2008; Subrahmanyam et al., 2008) and which characteristics are common across them. One important skill is social competence, and it would be helpful to consider how it looks in synchronous (e.g., chat, instant messaging) or asynchronous (e.g., email, Facebook) platforms, when activities are provided to an individual (e.g., email, instance messaging) or to an audience (e.g., blog, twitter), or when third parties can provide feedback to the individual and the group (e.g., social networking sites, YouTube). This is especially important because there is evidence that different platforms are used for different social purposes, such as students' reports of using Facebook to stay current and connected with one's social network and instant messaging for relationship development and support (Quan-Haase & Young, 2010). Similarly, differences in platform use are also associated with different personality characteristics (Hughes, Rowe, Batey, & Lee, 2012). In addition to considering the online platform features in service of children and adolescents' social needs, it is also important to explore how uses of these online spaces for social interactions might vary for different types of users and even how they might be used in conjunction during media-multitasking (Pea et al., 2012).

Offline social competence applied differently for different aged online users. The bulk of research on children's online use has involved samples of adolescents and emerging adults, with college students being the most

commonly studied population. Although these groups are heavy users of social media, younger children spend considerable time online (Child Trends Data Bank, 2010; Gutnick et al., 2011). Even though most online spaces have age restrictions for use (e.g., 13 years old is the most common), research shows that these restrictions do not impede younger children from using these sites (Livingstone & Brake, 2010; Minor Monitor, 2012). Additionally, many online social activities are designed specifically for children, such as Club Penguin, Wizard 101, and Webkinz World, which attract millions of unique visitors each month (Compete, 2012).

Further, research on social competence has noted that characteristics and importance of the construct vary with age (Semrud-Clikeman, 2007; Waters & Sroufe, 1983). In thinking about online spaces being used to address developmental needs, it is reasonable to expect that different aged users would gravitate to different types of online spaces or use the same platform in different ways (e.g., identity exploration for teens, sexuality/flirtation for tweens, fantasy play for young children). In considering social skills, social communication, and adaptability to social situations, it is also possible that social competence online may entail different activities and skills for different aged users. Traditional research on social competence has stressed the need to view it as a developmental construct (Waters & Sroufe, 1983) and has identified the importance of different skill sets at different ages (Howes, 1987). Several studies including a range of ages have found age to be an important covariate. For instance, activities online such as amount of time online, identity experiments, flirting behaviors, and efforts to meet new people vary with age (Bonetti et al., 2010; Clarke, 2009; Subrahmanyam, Smahel, & Greenfield, 2006), as such these behaviors might impact peer interactions differently for different aged users. Additionally, the influence of peer interactions online on relationships might also vary with age. In considering social networks, different aged users describe their emotional closeness to online friends differently, as well as how much of their online network is comprised of "close friends" (Clarke, 2009). In assessing the qualities and influences of social competence when interacting online, emphases should be placed on the age of the users and the skills that are most

supportive of successful peer interactions at these ages.

Applying social competence to different types of online users. In addition to considering child age, there is reason to believe that social competence in online settings may be characterized differently according to gender, distinct racial and ethnic groups, and varying levels of socioeconomic status. Studies exploring online behaviors for males and females have found the types of activities to differ. For instance, Calvert and colleagues, in a study of preadolescents' activities on an online multiuser domain, found that boys interacting with other boys tended to use more physical movement of their avatar, change emotional expressions often, and move from scene-to-scene as compared to same-gender girl pairs who used more written dialogue and less action and scene changing. When the children interacted in mixed-gender pairs, girls' avatars were more active and boys increased their use of text (Calvert, Mahler, Zehnder, Jenkins, & Lee, 2003). These changes based on partner gender might demonstrate adaptability and awareness of appropriate social responses.

In the area of social networking, others have found that males and females present themselves differently (Kapidzic & Herring, 2015; Manago et al., 2008) and that their purposes for using these sites may also vary, with boys being more likely to report seeking new friends and flirting (Lenhart & Madden, 2007) and girls being more likely to use sites to maintain existing relationships (Muscanell & Guadagno, 2012). Further, the impact of online interactions on friendships might vary as some have found gender differences in the impact of online communication and friendship quality for boys and girls (Punamäki, Wallenius, Hölttö, Nygård, & Rimpelä, 2009). For instance, Valkenburg and Peter (2009b) found that boys benefitted more from online communication with existing friends and were better able to offer self-disclosures online than girls. Muscanell and Guadagno (2012) found that females were more likely to use social networking sites for friendship maintenance while males were more likely to use them to meet new people. Collectively, these intimate that gender differences in social competence online might exist when making new friends or connecting with existing, offline friends in an online context. Further, the im-

pacts of social competence in online interactions could also differ by gender. For instance, Quinn and Oldmeadow (2013) found that boys (9–13 years) who used social networking sites to contact friends had consistent feelings of belonging over time. This relationship was not found for girls. Thus, socially competent behaviors in online settings might differ by gender and their impacts on users might vary as well. However, much more research is needed.

Studies into the ways in which race and ethnicity are associated with online activities also suggest that differences might exist. In comparisons of social networking site use, several studies have found differences in the types of sites used. For instance, European American and Asian American students are more likely to use Facebook whereas Latino students are more likely to be on MySpace (Hargittai, 2007; Reich et al., 2012). Although engaged in the same sort of activity (social networking), different sites have different features, which alter the ways in which users can interact, especially since social competence is context dependent. Further, ethnic and racial differences may exist in the characteristics and purposes of social media use and the success in online interactions. For instance, in a study of more than 600 college students, Tufekci (2010) found African American students to be significantly more likely to meet new friends online than other ethnic groups. Additionally, Lopez and Livingston (2010) found that Latinos were more likely to access the Internet from a mobile device than Caucasians, which has implications for the speed and length of responses to peers online. Further, racial stereotypes and discourse are associated with online interactions (Tynes, 2007) as well as discourse around race, ethnicity and identity (Tynes, Garcia, Giang, & Coleman, 2010).

As Chen and French (2008) note, cultural values and norms influence which behaviors are viewed as socially competent. The prevalence of research on online interactions in Asia, Australia, and Europe as well as within North America provides some evidence of cultural variations in the popularity of certain online sites, the size of peer networks, and the methods of interactions online (e.g., Lenhart & Madden, 2007; Livingstone, Ólafsson, O'Neill, & Donoso, 2012). Thus, consideration of the characteristics of social competence when interacting online should include awareness of the po-

tential variations within and between racial and ethnic groups. Unfortunately, this review did not have sufficient contrasts between race, ethnicity, or countries to offer insight into patterns.

Just as age, race, ethnicity, and gender might contribute to peer interactions online, social class might correlate with behaviors and skills that are most adaptive in online interactions.

Exploration into online activities has found family income and parental education to contribute to the types of social networking sites youth use (Hargittai, 2007). Further, teens' activities and self-presentations online might also demonstrate social class such as flashy MySpace profiles being considered a "pimp out" by some and "gaudy" or "tacky" by others (boyd, 2011). Although studies have noted the impact income has on access to the Internet (Ching, Basham, & Jang, 2005), research has found that more privileged users (e.g., better computers, faster Internet access) are more likely to engage in capital enhancing behaviors online that promote information gathering and building social connections (Zillien & Hargittai, 2009)—behaviors that may be considered part of social competence.

Impacts of being socially competent online.

Ample research has demonstrated the importance of social competence for a host of developmental outcomes such as wellbeing, academic performance, and peer relationships (Denham & Holt, 1993; Guralnick, 1990). However, research has yet to identify what are the key components of social competence in online settings, how these skills may vary by platform features (e.g., synchronous, one-to-many) and/or user (e.g., age, gender, ethnicity) type, or demonstrate how socially competent online skills might relate to developmental outcomes.

Conclusion

Decades of research have supported the importance of social competence for children's development (Rubin et al., 2009). Nowadays, the majority of children are online, using social media. Therefore, it is time to consider how this offline construct connects to online interactions, especially when users are connecting with known others (and maintaining/enhancing relationships) or befriending new people. From this review, there are some components of social

competence offline, such as adaptability, attractiveness, social skills, prosocial behaviors, absence of aggression, and likability that appear to apply to online peer interactions. However, other offline indicators such as popularity and friendship clearly do not fit in the same way. Additionally, there are some aspects of online communication that are different from offline interactions and therefore appear to necessitate different skills and adaptabilities. Such things as the timing of communication (asynchronous or real time), reliance on text, images, avatars, and emoticons, and the input and presentation of "friends" all might impact social competence online.

Given that adaptability is a key component of social competence, how users adapt to the current and changing features of these spaces is important. For instance, real time messaging might necessitate different skills than a face-to-face conversation, and sites like Facebook have evolved from asynchronous communication to optional live messaging (Facebook messenger). Fortunately, some research reviewed here, has identified aspects of online interactions that might be important for measuring children and adolescents' social communication, social skills, and adaptability online. However, much more research is needed. Although some studies have noted users' ability to identify mood and personality characteristics from social networking site profiles and websites (Fernandez et al., 2012; Gosling et al., 2011), studies of perspective-taking online are lacking. However, perspective-taking skills are often identified as important for social competence in face-to-face interactions (Asher, 1983). Further, social skills associated with offline social competence involve an understanding of the social norms of the context of interactions. Although a few studies have highlighted some of the social norms on social networking sites like Facebook (Bryant & Marmo, 2012) and virtual worlds for children (Reich, Black, & Korobkova, 2014) and adults (Yee, Bailenson, Urbanek, Chang, & Merget, 2007), little is known about what are appropriate behaviors for various online platforms. Given the diversity of timing of communication, private or public nature of communication, and the limitations of text length and image or avatar use, social norms online might vary greatly from offline interactions as well as from one platform to the next. This review of

the existing literature is a first step in considering how the well-studied construct of social competence might apply to online interactions. Ample research has supported the importance of social competence in face-to-face interactions. As more and more children are interacting online, it is time to expand the study of social competence to online settings.

References

- Alexander, J. (2002). Queer webs: Representations of LGBT people and communities on the world wide web. *International Journal of Sexuality & Gender Studies*, 7, 77–84. <http://dx.doi.org/10.1023/A:1015821431188>
- Amichai-Hamburger, Y., Kingsbury, M., & Schneider, B. H. (2013). Friendship: An old concept with a new meaning? *Computers in Human Behavior*, 29, 33–39. <http://dx.doi.org/10.1016/j.chb.2012.05.025>
- Anderson, B., Fagan, P., Woodnutt, T., & Chamorro-Premuzic, T. (2012). Facebook psychology: Popular questions answered by research. *Psychology of Popular Media Culture*, 1, 23–37. <http://dx.doi.org/10.1037/a0026452>
- Ang, R. P., & Goh, D. H. (2010). Cyberbullying among adolescents: The role of affective and cognitive empathy, and gender. *Child Psychiatry and Human Development*, 41, 387–397. <http://dx.doi.org/10.1007/s10578-010-0176-3>
- Asher, S. (1983). Social competence and peer status: Recent advances and future directions. *Child Development*, 54, 1427–1434. <http://dx.doi.org/10.2307/1129805>
- Bailey, J., Steeves, V., Burkell, J., & Regan, P. (2013). Negotiating with gender stereotypes on social networking sites: From “bicycle face” to Facebook. *The Journal of Communication Inquiry*, 37, 91–112. <http://dx.doi.org/10.1177/0196859912473777>
- Barash, V., Ducheneaut, N., Isaacs, E., & Bellotti, V. (2010, May 23–26). *Faceplant: Impression (mis) management in Facebook status updates*. Proceedings of 4th International AAAI Conference on Weblogs and Social Media (ICWSM), Washington, DC.
- Bargh, J. A., McKenna, K. Y. A., & Fitzsimons, G. M. (2002). Can you see the real me? Activation and expression of the “true self” on the internet. *Journal of Social Issues*, 58, 33–48. <http://dx.doi.org/10.1111/1540-4560.00247>
- Baym, N. (2006). Interpersonal life online. In L. Lievrouw & S. Livingstone (Eds.), *Handbook of new media* (pp. 35–54). Thousand Oaks, CA: Sage.
- Berndt, T. J., & McCandless. (2009). Methods for investigating children’s relationships with friends. In K. Rubin, W. Bukowski & B. Laursen (Eds.), *Handbook of peer interactions, relationships and groups* (pp. 63–81). New York, NY: Guilford Press.
- Birnie, S. A., & Horvath, P. (2002). Psychological predictors of Internet social communication. *Journal of Computer-Mediated Communication*, 7, online. <http://dx.doi.org/10.1111/j.1083-6101.2002.tb00154.x>
- Bonetti, L., Campbell, M. A., & Gilmore, L. (2010). The relationship of loneliness and social anxiety with children’s and adolescents’ online communication. *CyberPsychology, Behavior and Social Networking*, 13, 279–285. <http://dx.doi.org/10.1089/cyber.2009.0215>
- Boyatzis, R. (1998). *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks, CA: Sage.
- boyd, D. (2007). Social network sites: Public, private, or what? *Knowledge Tree*, 13.
- boyd, D. (2008). None of this is real. In J. Karaganis (Ed.), *Structures of participation in digital culture* (pp. 132–157). New York, NY: Social Science Research Council.
- boyd, D. (2011). White flight in networked publics? How race and class shaped American teen engagement with MySpace and Facebook. In L. Nakamura & P. Chow-White (Eds.), *Digital race anthropology* (pp. 203–222). London, UK: Routledge.
- boyd, D., & Ellison, N. (2008). 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>
- Brody, G. H., Flor, D. L., & Gibson, N. M. (1999). Linking maternal efficacy beliefs, developmental goals, parenting practices, and child competence in rural single-parent African American families. *Child Development*, 70, 1197–1208. <http://dx.doi.org/10.1111/1467-8624.00087>
- Bryant, E. M., & Marmo, J. (2012). The rules of Facebook friendship: A two-stage examination of interaction rules in close, casual, and acquaintance friendships. *Journal of Social and Personal Relationships*, 12, 1–23. <http://dx.doi.org/10.1177/0265407512443616>
- Calvert, S. L., Mahler, B. A., Zehnder, S. M., Jenkins, A., & Lee, M. S. (2003). Gender differences in preadolescent children’s online interactions: Symbolic modes of self-presentation and self-expression. *Journal of Applied Developmental Psychology*, 24, 627–644. <http://dx.doi.org/10.1016/j.appdev.2003.09.001>
- Caplan, S. E. (2005). A social skill account of problematic internet use. *Journal of Communication*, 55, 721–736. <http://dx.doi.org/10.1111/j.1460-2466.2005.tb03019.x>
- Caplan, S. E. (2007). Relations among loneliness, social anxiety, and problematic Internet use. *Cy-*

- berPsychology & Behavior*, 10, 234–242. <http://dx.doi.org/10.1089/cpb.2006.9963>
- Cavell, T., Meehan, B., & Fiala, S. (2003). Assessing social competence in children and adolescents. In C. Reynolds & R. W. Kamphaus (Eds.), *Handbook of psychological and educational assessment of children* (2nd. ed., pp. 433–469). New York, NY: Guilford Press.
- Chen, X., & French, D. C. (2008). Children's social competence in cultural context. *Annual Review of Psychology*, 59, 591–616. <http://dx.doi.org/10.1146/annurev.psych.59.103006.093606>
- Child Trends Data Bank. (2010). Home computer access and Internet use. Retrieved May 27, 2012 <http://www.childtrendsdatabank.org/?q=node/298>
- Ching, C. C., Basham, J. D., & Jang, E. (2005). The legacy of the digital divide: Gender, socioeconomic status, and early exposure as predictors of full-spectrum technology use among young adults. *Urban Education*, 40, 394–411. <http://dx.doi.org/10.1177/0042085905276389>
- Clarke, B. H. (2009). Early adolescents' use of social networking sites to maintain friendship and explore identity: Implications for policy. *Policy & Internet*, 1, article 3.
- Compete. (2012). Site Comparison of <http://www.webkinz.com>, <http://www.clubpenguin.com>, <http://www.zwinky.com>. Compete. <http://siteanalytics.com>. Retrieved May 27, 2012, from <http://siteanalytics.com>
- Correa, T., Hinsley, A., & de Zuniga, H. (2010). Who interacts on the web?: The intersection of users' personality and social media use. *Computers in Human Behavior*, 26, 247–253. <http://dx.doi.org/10.1016/j.chb.2009.09.003>
- Denham, S. A., & Holt, R. W. (1993). Preschoolers' likability as cause or consequence of their social behavior. *Developmental Psychology*, 29, 271–275. <http://dx.doi.org/10.1037/0012-1649.29.2.271>
- De Ridder, S., & van Bauwel, S. (2013). Commenting on pictures: Teens negotiating gender and sexualities on social networking sites. *Sexualities*, 16, 565–586. <http://dx.doi.org/10.1177/1363460713487369>
- Desjarlais, M., & Willoughby, T. (2010). A longitudinal study of the relation between adolescent boys and girls' computer use with friends and friendship quality: Support for the social compensation or the rich-get-richer hypothesis? *Computers in Human Behavior*, 26, 896–905. <http://dx.doi.org/10.1016/j.chb.2010.02.004>
- Dodge, K. A. (1993). Social-cognitive mechanisms in the development of conduct disorder and depression. *Annual Review of Psychology*, 44, 559–584. <http://dx.doi.org/10.1146/annurev.ps.44.020193.003015>
- Dodge, K., Pettit, G. S., McClaskey, C., Brown, M., & Gottman, J. (1986). Social competence in children. *Monographs of the Society of Research in Child Development*, 51, 0–90. <http://dx.doi.org/10.2307/1165906>
- Dodge, K. A., & Rabiner, D. L. (2004). Returning to roots: On social information processing and moral development. *Child Development*, 75, 1003–1008. <http://dx.doi.org/10.1111/j.1467-8624.2004.00721.x>
- Dwyer, C., Hiltz, S. R., & Passerini, K. (2007). *Trust and privacy concern within social networking sites: A comparison of Facebook and MySpace*. Paper presented at the Americas Conference on Information Systems.
- Ebeling-Witte, S., Frank, M. L., & Lester, D. (2007). Shyness, Internet use, and personality. *CyberPsychology & Behavior*, 10, 713–716. <http://dx.doi.org/10.1089/cpb.2007.9964>
- Ellison, N., 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, article 1.
- Engelberg, E., & Sjöberg, L. (2004). Internet use, social skills, and adjustment. *CyberPsychology & Behavior*, 7, 41–47. <http://dx.doi.org/10.1089/109493104322820101>
- Feingold, A. (1992). Good-looking people are not what we think. *Psychological Bulletin*, 111, 304–341. <http://dx.doi.org/10.1037/0033-2909.111.2.304>
- Fernandez, K. C., Levinson, C. A., & Rodebaugh, T. L. (2012). Profiling: Predicting social anxiety from Facebook profiles. *Social Psychological and Personality Science*, 3, 706–713. <http://dx.doi.org/10.1177/1948550611434967>
- Gosling, S. D., Augustine, A. A., Vazire, S., Holtzman, N., & Gaddis, S. (2011). Manifestations of personality in online social networks: Self-reported Facebook-related behaviors and observable profile information. *CyberPsychology, Behavior, and Social Networking*, 14, 483–488. <http://dx.doi.org/10.1089/cyber.2010.0087>
- Green, K. D., Forehand, R., Beck, S. J., & Vosk, B. (1980). An assessment of the relationship among measures of children's social competence and children's academic achievement. *Child Development*, 51, 1149–1156. <http://dx.doi.org/10.2307/1129556>
- Greenspan, S. (1981). Social competence of handicapped individuals: Implications of a proposed model. In B. K. Keogh (Ed.), *Advances in special education* (Vol. 3, pp. 41–82). Greenwich, CT: JAI Press.
- Guralnick, M. J. (1990). Social competence and early intervention. *Journal of Early Intervention*, 14, 3–14. <http://dx.doi.org/10.1177/105381519001400101>

- Gutnick, A. L., Robb, M., Takeuchi, L., & Kotler, J. (2011). *Always connected: The new digital media habits of young children*. New York, NY: The Joan Ganz Cooney Center at Sesame Workshop.
- Hancock, J. T., & Dunham, P. J. (2001). Impression formation in computer-mediated communication revisited: An analysis of the breadth and intensity of impressions. *Communication Research*, 28, 325–347. <http://dx.doi.org/10.1177/009365001028003004>
- Hargittai, E. (2007). Whose space? Differences between users and non-users on social networking sites. *Journal of Computer-Mediated Communication*, 13, 276–297. <http://dx.doi.org/10.1111/j.1083-6101.2007.00396.x>
- Harman, J. P., Hansen, C. E., Cochran, M. E., & Lindsey, C. R. (2005). Liar, liar: Internet faking but not frequency of use affects social skills, self-esteem, social anxiety, and aggression. *CyberPsychology & Behavior*, 8, 1–6. <http://dx.doi.org/10.1089/cpb.2005.8.1>
- Hinduja, S., & Patchin, J. (2008). Cyberbullying: An exploratory analysis of factors related to offending and victimization. *Deviant Behavior*, 29, 129–156. <http://dx.doi.org/10.1080/01639620701457816>
- Honeycutt, L. (2001). Comparing e-mail and synchronous conferencing in online peer response. *Written Communication* 2001 18, 26, 18, 26–60. <http://dx.doi.org/10.1177/0741088301018001002>
- Howes, C. (1987). Social competence with peers in young children: Developmental sequences. *Developmental Review*, 7, 252–272. [http://dx.doi.org/10.1016/0273-2297\(87\)90014-1](http://dx.doi.org/10.1016/0273-2297(87)90014-1)
- Hu, Y., Manikonda, L., & Kambhampati, S. (2014). *What we instagram: A first analysis of Instagram photo content and user types*. Paper presented at the ICWSM, Ann Arbor, MI.
- Hughes, D., Rowe, M., Batey, M., & Lee, A. (2012). A tale of two sites: Twitter vs. Facebook and the personality predictors of social media usage. *Computers in Human Behavior*, 28, 561–569. <http://dx.doi.org/10.1016/j.chb.2011.11.001>
- Huston, T. L., & Levinger, G. (1978). Interpersonal attraction and relationships. *Annual Review of Psychology*, 29, 115–156. <http://dx.doi.org/10.1146/annurev.ps.29.020178.000555>
- Isbister, K., & Nass, C. (2000). Consistency of personality in interactive characters: Verbal cues, non-verbal cues, and user characteristics. *International Journal of Human-Computer Studies*, 53, 251–267. <http://dx.doi.org/10.1006/ijhc.2000.0368>
- Kapidzic, S., & Herring, S. C. (2015). Race, gender, and self-presentation in teen profile photographs. *New Media & Society*, 17, 958–976.
- Köbler, F., Riedl, C., Vetter, C., Leimeister, J. M., & Krcmar, H. (2010). *Social connectedness on Facebook—An explorative study on status message usage*. Paper presented at the Americas Conference on Information Systems, Lima, Peru.
- Kotler, J. C., & McMahon, R. J. (2002). Differentiating anxious, aggressive, and socially competent preschool children: Validation of the Social Competence and Behavior Evaluation-30 (parent version). *Behaviour Research and Therapy*, 40, 947–959. [http://dx.doi.org/10.1016/S0005-7967\(01\)00097-3](http://dx.doi.org/10.1016/S0005-7967(01)00097-3)
- Kowalski, R., Giumetti, G., Schroeder, A., & Lattanner, M. (2014). Bullying in the digital age: A critical review and meta-analysis of cyberbullying research among youth. *Psychological Bulletin*. [Advance online publication]. <http://dx.doi.org/10.1037/a0035618>
- Kowert, R., & Oldmeadow, J. A. (2013). (A)Social reputation: Exploring the relationship between online video game involvement and social competence. *Computers in Human Behavior*, 29, 1872–1878.
- Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). Internet paradox revisited. *Journal of Social Issues*, 58, 49–74. <http://dx.doi.org/10.1111/1540-4560.00248>
- Kurdek, L. A., & Krile, D. (1982). A developmental analysis of the relation between peer acceptance and both interpersonal understanding and perceived social self-competence. *Child Development*, 53, 1485–1491. <http://dx.doi.org/10.2307/1130075>
- Lee, S. J. (2009). Online communication and adolescent social ties: Who benefits more from Internet use? *Journal of Computer-Mediated Communication*, 14, 509–531. <http://dx.doi.org/10.1111/j.1083-6101.2009.01451.x>
- Lehdonvirta, M., Lehdonvirta, V., & Baba, A. (2011). Prosocial behaviour in avatar-mediated interaction: The influence of character gender on material versus emotional help-giving. *On the Horizon*, 19, 165–173. <http://dx.doi.org/10.1108/10748121111163878>
- Lehdonvirta, M., Nagashima, Y., Lehdonvirta, V., & Baba, A. (2012). The stoic male: How avatar gender affects help-seeking behavior in an online game. *Games and Culture*, 7, 29–47. <http://dx.doi.org/10.1177/1555412012440307>
- Lenhart, A., & Madden, M. (2007). Social networking websites and teens: An overview. *Pew Internet & American Life Project, 2008–2001*. Retrieved from http://www.pewinternet.org/~media/Files/Reports/2007/PIP_SNS_Data_Memo_Jan_2007.pdf
- Lenhart, A., Madden, M., Smith, A., Purcell, K., Zickuhr, K., & Rainie, L. (2011). *Teens, kindness and cruelty on social network sites: How American teens navigate the new world of “digital citizen-*

- ship." Washington, DC: Pew Research Center's Internet & American Life Project.
- Livingstone, S., & Brake, D. (2010). On the rapid rise of social networking sites: New findings and policy implications. *Children & Society, 24*, 75–83. <http://dx.doi.org/10.1111/j.1099-0860.2009.00243.x>
- Livingstone, S., Ólafsson, K., O'Neill, B., & Donoso, V. (2012). *Towards a better internet for children: Findings and recommendations from EU Kids Online to inform the CEO coalition*. London, UK: EU Kids Online, The London School of Economics and Political Science.
- Lo, S.-K. (2008a). The impact of online game character's outward attractiveness and social status on interpersonal attraction. *Computers in Human Behavior, 24*, 1947–1958. <http://dx.doi.org/10.1016/j.chb.2007.08.001>
- Lo, S.-K. (2008b). The nonverbal communication functions of emoticons in computer-mediated communication. *CyberPsychology & Behavior, 11*, 595–597. <http://dx.doi.org/10.1089/cpb.2007.0132>
- Lopez, M. H., & Livingston, G. (2010). *How young Latinos communicate with friends in the digital age*. Washington, DC: Pew Hispanic Center.
- Madell, D. E., & Muncer, S. J. (2007). Control over social interactions: An important reason for young people's use of the Internet and mobile phones for communication? *CyberPsychology & Behavior, 10*, 137–140. <http://dx.doi.org/10.1089/cpb.2006.9980>
- Manago, A., Graham, M., Greenfield, P., & Salimkhan, G. (2008). Self-presentation and gender on MySpace. *Journal of Applied Developmental Psychology, 29*, 446–458. <http://dx.doi.org/10.1016/j.appdev.2008.07.001>
- Manago, A. M., Taylor, T., & Greenfield, P. M. (2012). Me and my 400 friends: The anatomy of college students' Facebook networks, their communication patterns, and well-being. *Developmental Psychology, 48*, 369–380. <http://dx.doi.org/10.1037/a0026338>
- Martin, K. A. (1988). Becoming a gendered body: Practices of preschools. *American Sociological Review, 63*, 494–511.
- 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>
- McKenna, K. Y. A., Green, A., & Gleason, M. (2002). Relationship formation on the Internet: What's the big attraction? *Journal of Social Issues, 58*, 9–31. <http://dx.doi.org/10.1111/1540-4560.00246>
- Mehdizadeh, S. (2010). Self-presentation 2.0: Narcissism and self-esteem on Facebook. *CyberPsychology, Behavior, and Social Networking, 13*, 357–364. <http://dx.doi.org/10.1089/cyber.2009.0257>
- Mikami, A. Y., Szwedo, D. E., Allen, J. P., Evans, M. A., & Hare, A. L. (2010). Adolescent peer relationships and behavior problems predict young adults' communication on social networking websites. *Developmental Psychology, 46*, 46–56. <http://dx.doi.org/10.1037/a0017420>
- Minor Monitor. (2012). Kids' safety on Facebook. Retrieved July 18, 2012, from <http://www.minormonitor.com/resource/infographic/>
- Muscanel, N. L., & Guadagno, R. E. (2012). Make new friends or keep the old: Gender and personality differences in social networking use. *Computers in Human Behavior, 28*, 107–112. <http://dx.doi.org/10.1016/j.chb.2011.08.016>
- Navarro, R., Yubero, S., Larrañaga, E., & Martínez, V. (2012). Children's cyberbullying victimization: Associations with social anxiety and social competence in a Spanish sample. *Child Indicators Research, 5*, 281–295. <http://dx.doi.org/10.1007/s12187-011-9132-4>
- Orr, E. S., Sisic, M., Ross, C., Simmering, M. G., Arseneault, J. M., & Orr, R. R. (2009). The influence of shyness on the use of Facebook in an undergraduate sample. *CyberPsychology & Behavior, 12*, 337–340. <http://dx.doi.org/10.1089/cpb.2008.0214>
- Pea, R., Nass, C., Meheula, L., Rance, M., Kumar, A., Bamford, H., . . . Zhou, M. (2012). Media use, face-to-face communication, media multitasking, and social well-being among 8- to 12-year-old girls. *Developmental Psychology, 48*, 327–336. <http://dx.doi.org/10.1037/a0027030>
- Peña, J., & Brody, N. (2014). Intentions to hide and unfriend Facebook connections based on perceptions of sender attractiveness and status updates. *Computers in Human Behavior, 31*, 143–150. <http://dx.doi.org/10.1016/j.chb.2013.10.004>
- Peter, J., Valkenburg, P. M., & Schouten, A. P. (2005). Developing a model of adolescent friendship formation on the internet. *CyberPsychology & Behavior, 8*, 423–430. <http://dx.doi.org/10.1089/cpb.2005.8.423>
- Preece, J., & Ghozati, K. (2001). Observations and explorations of empathy online. In R. R. Rice & J. E. Katz (Eds.), *The internet and health communication: Experience and expectations* (pp. 237–260). Thousand Oaks, CA: Sage. <http://dx.doi.org/10.4135/9781452233277.n11>
- Punamäki, R.-L., Wallenius, M., Hölttöä, H., Nygård, C.-H., & Rimpelä, A. (2009). The associations between information and communication technology (ICT) and peer and parent relations in early adolescence. *International Journal of Behavioral Development, 33*, 556–564. <http://dx.doi.org/10.1177/0165025409343828>

- Quan-Haase, A., & Young, A. L. (2010). Uses and gratifications of social media: A comparison of Facebook and instant messaging. *Bulletin of Science, Technology & Society*, *30*, 350–361. <http://dx.doi.org/10.1177/0270467610380009>
- Quercia, D., Lambiotte, R., Stillwell, D., Kosinski, M., & Crowcroft, J. (2012). *The personality of popular Facebook users*. Paper presented at the Computer Supported Cooperative Work, Seattle, WA.
- Quinn, S., & Oldmeadow, J. A. (2013). Is the generation a 'we' generation? Social networking use among 9- to 13-year-olds and belonging. *British Journal of Developmental Psychology*, *31*, 136–142. <http://dx.doi.org/10.1111/bjdp.12007>
- Ramirez, A., Jr., & Zhang, S. (2007). When online meets offline: The effect of modality switching on relational communication. *Communication Monographs*, *74*, 287–310. <http://dx.doi.org/10.1080/03637750701543493>
- Raver, C. C., & Zigler, E. (1997). Social competence: An untapped dimension in evaluating Head Start's success. *Early Childhood Research Quarterly*, *12*, 363–385. [http://dx.doi.org/10.1016/S0885-2006\(97\)90017-X](http://dx.doi.org/10.1016/S0885-2006(97)90017-X)
- Reich, S. M. (2010). Adolescents' sense of community on MySpace and Facebook: A mixed methods approach. *Journal of Community Psychology*, *38*, 688–705. <http://dx.doi.org/10.1002/jcop.20389>
- Reich, S. M., & Black, R. W. (2011). *Peer interactions on and around children's virtual worlds*. Paper presented at the Society for Research in Child Development Montreal, Canada.
- Reich, S. M., Black, R. W., & Korobkova, K. (2014). Connections and communities in virtual worlds designed for children. *Journal of Community Psychology*, *42*, 255–267. <http://dx.doi.org/10.1002/jcop.21608>
- Reich, S. M., Black, R. W., Wheeler, A., & Korobkova, K. (2013). *Skills for being socially competent in a virtual world*. Paper presented at the Society for Research in Child Development, Seattle, WA.
- Reich, S. M., Subrahmanyam, K., & Espinoza, G. (2012). Friending, IMing, and hanging out face-to-face: Overlap in adolescents' online and offline social networks. *Developmental Psychology*, *48*, 356–368. <http://dx.doi.org/10.1037/a0026980>
- Rheingold, H. (2008). Using participatory media and public voice to encourage civic engagement. In W. L. Bennett (Ed.), *Civic life online: Learning how digital media can engage youth* (pp. 97–118). Cambridge, MA: The MIT Press.
- Rose-Krasnor, L. (1997). The nature of social competence: A theoretical review. *Social Development*, *6*, 111–135. <http://dx.doi.org/10.1111/j.1467-9507.1997.tb00097.x>
- Rose-Krasnor, L., & Denham, S. A. (2009). Social-emotional competence in early childhood. In K. Rubin, W. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships and groups* (pp. 162–179). New York, NY: Guilford Press.
- Rosenberg, J., & Egbert, N. (2011). Online impression management: Personality traits and concerns for secondary goals as predictors of self-presentation tactics on Facebook. *Journal of Computer-Mediated Communication*, *17*, 1–18. <http://dx.doi.org/10.1111/j.1083-6101.2011.01560.x>
- Rubin, K., Bukowski, W., & Laursen, B. (2009). *Handbook of peer interactions, relationships, and groups*. New York, NY: Guilford Press.
- Schmitt, K. L., Dayanim, S., & Matthias, S. (2008). Personal homepage construction as an expression of social development. *Developmental Psychology*, *44*, 496–506. <http://dx.doi.org/10.1037/0012-1649.44.2.496>
- Schoffstall, C. L., & Cohen, R. (2011). Cyber aggression: The relation between online offenders and offline social competence. *Social Development*, *20*, 587–604. <http://dx.doi.org/10.1111/j.1467-9507.2011.00609.x>
- Scott, G. (2014). More than friends: Popularity on Facebook and its role in impression formation. *Journal of Computer-Mediated Communication*, *19*, 358–372.
- Selfhout, M. H. W., Branje, S. J. T., Delsing, M., ter Bogt, T. F. M., & Meeus, W. H. J. (2009). Different types of Internet use, depression, and social anxiety: The role of perceived friendship quality. *Journal of Adolescence*, *32*, 819–833. <http://dx.doi.org/10.1016/j.adolescence.2008.10.011>
- Semrud-Clikeman, M. (2007). *Social competence in children*. New York, NY: Springer. http://dx.doi.org/10.1007/978-0-387-71366-3_1
- Shen, C., & Williams, D. (2011). Unpacking time online: Connecting Internet and massively multiplayer online game use with psychosocial well-being. *Communication Research*, *38*, 123–149. <http://dx.doi.org/10.1177/0093650210377196>
- Smith, P. K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008). Cyberbullying: Its nature and impact in secondary school pupils. *Journal of Child Psychology and Psychiatry*, *49*, 376–385. <http://dx.doi.org/10.1111/j.1469-7610.2007.01846.x>
- Strano, M. (2008). User descriptions and interpretations of self-presentation through Facebook profile images. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *2*(2), article 1.
- Subrahmanyam, K., & Greenfield, P. M. (2008). Online communication and adolescent relationships. *The Future of Children*, *18*, 119–146. <http://dx.doi.org/10.1353/foc.0.0006>
- Subrahmanyam, K., Reich, S. M., Waechter, N., & Espinoza, G. (2008). Online and offline social net-

- works: Use of social networking sites by emerging adults. *Journal of Applied Developmental Psychology*, 29, 420–433. <http://dx.doi.org/10.1016/j.appdev.2008.07.003>
- Subrahmanyam, K., & Smahel, D. (2011). *Adolescents' digital worlds*. New York, NY: Springer.
- Subrahmanyam, K., Smahel, D., & Greenfield, P. (2006). Connecting developmental constructions to the internet: Identity presentation and sexual exploration in online teen chat rooms. *Developmental Psychology*, 42, 395–406.
- Suler, J. (2004). The online disinhibition effect. *CyberPsychology & Behavior*, 7, 321–326. <http://dx.doi.org/10.1089/1094931041291295>
- Suler, J. (2005). The online disinhibition effect. *International Journal of Applied Psychoanalytic Studies*, 2, 184–188. <http://dx.doi.org/10.1002/aps.42>
- Tanis, M., & Postmes, T. (2003). Social cues and impression formation in CMC. *Journal of Communication*, 53, 676–693. <http://dx.doi.org/10.1111/j.1460-2466.2003.tb02917.x>
- Teevan, J., Morrisv, M., & Panovich, K. (2011). *Factors affecting response quantity, quality, and speed for questions asked via social Network status messages*. Paper presented at the International Conference on Weblogs and Social Media, Barcelona, Spain.
- Teng, C.-I. (2008). Personality differences between online game players and nonplayers in a student sample. *CyberPsychology & Behavior*, 11, 232–234. <http://dx.doi.org/10.1089/cpb.2007.0064>
- Thelwall, M., Wilkinson, D., & Uppal, S. (2010). Data mining emotion in social network communication: Gender differences in MySpace. *Journal of the American Society for Information Science and Technology*, 61, 190–199. <http://dx.doi.org/10.1002/asi.21180>
- Thompson, S., & Lougheed, E. (2012). Frazzled by Facebook? An exploratory study of gender differences in social network communication among undergraduate men and women. *College Student Journal*, 46, 88–98.
- Tong, S. T., Van Der Heide, B., Langwell, L., & Walther, J. B. (2008). Too much of a good thing? The relationship between number of friends and interpersonal impressions on Facebook. *Journal of Computer-Mediated Communication*, 13, 531–549. <http://dx.doi.org/10.1111/j.1083-6101.2008.00409.x>
- Tu, C.-H. (2002). The impacts of text-based CMC on online social presence. *Journal of Interactive Online Learning*, 1, 1–24.
- Tufekci, Z. (2010). *Who acquires friends through social media and why? "Rich get richer" versus "seek and ye shall find."* Paper presented at the Proceedings of the Fourth International AAAI Conference on Weblogs and Social Media.
- Twyman, K., Saylor, C., Taylor, L. A., & Comeaux, C. (2010). Comparing children and adolescents engaged in cyberbullying to matched peers. *CyberPsychology, Behavior, and Social Networking*, 13, 195–199. <http://dx.doi.org/10.1089/cyber.2009.0137>
- Tynes, B. M. (2007). Role taking in online “classrooms”: What adolescents are learning about race and ethnicity. *Developmental Psychology*, 43, 1312–1320. <http://dx.doi.org/10.1037/0012-1649.43.6.1312>
- Tynes, B., Garcia, E., Giang, M., & Coleman, N. (2010). The racial landscape of social network sites: Forging identity, community, and civic engagement I/S: *A Journal of Law and Policy for the Information Society*, 7, 1–30.
- Utz, S. (2010). Show me your friends and I will tell you what type of person you are: How one's profile, number of friends, and type of friends influence impression formation on social network sites. *Journal of Computer-Mediated Communication*, 15, 314–335. <http://dx.doi.org/10.1111/j.1083-6101.2010.01522.x>
- Utz, S., Tanis, M., & Vermeulen, I. (2012). It is all about being popular: The effects of need for popularity on social network site use. *CyberPsychology, Behavior, and Social Networking*, 15, 37–42. <http://dx.doi.org/10.1089/cyber.2010.0651>
- Valkenburg, P. M., & Peter, J. (2007). Preadolescents' and adolescents' online communication and their closeness to friends. *Developmental Psychology*, 43, 267–277. <http://dx.doi.org/10.1037/0012-1649.43.2.267>
- Valkenburg, P., & Peter, J. (2008). Adolescents' identity experiments on the Internet: Consequences for social competence and self-concept unity. *Communication Research*, 35, 208–231. <http://dx.doi.org/10.1177/0093650207313164>
- Valkenburg, P., & Peter, J. (2009a). The effects of instant messaging on the quality of adolescents' existing friendships: A longitudinal study. *Journal of Communication*, 59, 79–97. <http://dx.doi.org/10.1111/j.1460-2466.2008.01405.x>
- Valkenburg, P., & Peter, J. (2009b). Social consequences of the Internet for adolescents: A decade of research. *Current Directions in Psychological Science*, 18, 1–5. <http://dx.doi.org/10.1111/j.1467-8721.2009.01595.x>
- Vandebosch, H., & Van Cleemput, K. (2009). Cyberbullying among youngsters: Profiles of bullies and victims. *New Media & Society*, 11, 1349–1371. <http://dx.doi.org/10.1177/1461444809341263>
- Van Zalk, M. H., Branje, S. J., Denissen, J., Van Aken, M. A., & Meeus, W. H. (2011). Who benefits from chatting, and why? The roles of extraversion and supportiveness in online chatting and emotional adjustment. *Personality and Social Psy-*

- chology *Bulletin*, 37, 1202–1215. <http://dx.doi.org/10.1177/0146167211409053>
- Vazsonyi, A. T., Machackova, H., Sevcikova, A., Smahel, D., & Cerna, A. (2012). Cyberbullying in context: Direct and indirect effects by low self-control across 25 European countries. *European Journal of Developmental Psychology*, 9, 210–227. <http://dx.doi.org/10.1080/17405629.2011.644919>
- Walther, J. (2011). Visual cues in computer-mediated communication: Sometimes less is more. In A. Kappas & N. Kramer (Eds.), *Face-to-face communication over the Internet: Emotions in a web of culture, language and technology* (pp. 17–38). Cambridge, UK: Cambridge University Press. <http://dx.doi.org/10.1017/CBO9780511977589.003>
- Walther, J. B., & Burgoon, J. (1992). Relational communication in computer-mediated interaction. *Human Communication Research*, 19, 50–88. <http://dx.doi.org/10.1111/j.1468-2958.1992.tb00295.x>
- Walther, J., & D’Addario, K. P. (2001). The impacts of emoticons on message interpretation in computer-mediated communication. *Social Science Computer Review*, 19, 324–347. <http://dx.doi.org/10.1177/089443930101900307>
- Walther, J. B., Van Der Heide, B., Hamel, L., & Shulman, H. (2009). Self-generated versus other-generated statements and impressions in computer-mediated communication: A test of warranting theory using Facebook. *Communication Research*, 36, 229–253. <http://dx.doi.org/10.1177/0093650208330251>
- Walther, J., Van Der Heide, B., Kim, S.-Y., Westerman, D., & Tong, S. T. (2008). The role of friends’ appearance and behavior on evaluations of individuals on Facebook: Are we known by the company we keep? *Human Communication Research*, 34, 28–49. <http://dx.doi.org/10.1111/j.1468-2958.2007.00312.x>
- Wang, C.-C., & Wang, C.-H. (2008). Helping others in online games: Prosocial behavior in cyberspace. *CyberPsychology & Behavior*, 11, 344–346. <http://dx.doi.org/10.1089/cpb.2007.0045>
- Wang, S. S., Moon, S.-I., Kwon, K. H., Evans, C. A., & Stefanone, M. A. (2010). Face off: Implications of visual cues on initiating friendship on Facebook. *Computers in Human Behavior*, 26, 226–234. <http://dx.doi.org/10.1016/j.chb.2009.10.001>
- Waters, E., & Sroufe, L. A. (1983). Social competence as a developmental construct. *Developmental Review*, 3, 79–97. [http://dx.doi.org/10.1016/0273-2297\(83\)90010-2](http://dx.doi.org/10.1016/0273-2297(83)90010-2)
- Weisbuch, M., Ivcevic, Z., & Ambady, N. (2009). On being liked on the web and in the “real world”: Consistency in first impressions across personal webpages and spontaneous behavior. *Journal of Experimental Social Psychology*, 45, 573–576. <http://dx.doi.org/10.1016/j.jesp.2008.12.009>
- Wellman, B. (1999). The social affordances of e-mail. *SIGGROUP Bulletin*, 20, 63. <http://dx.doi.org/10.1145/331982.332011>
- Wellman, B., Quan-Haase, A., Witte, J., & Hampton, K. (2001). Does the Internet increase, decrease, or Suppl. social capital? Social networks, participation, and community commitment. *American Behavioral Scientist*, 45, 436–455. <http://dx.doi.org/10.1177/00027640121957286>
- Woodruff, A. (2014, April 26). Necessary, unpleasant, and disempowering: Reputation management in the internet age. Proceedings of the CHI 2014, Toronto, Canada. <http://dx.doi.org/10.1145/2556288.2557126>
- Woodruff, A. (2014). Necessary, unpleasant, and disempowering. Proceedings Of The 32Nd Annual ACM Conference On Human Factors In Computing Systems - CHI’14. <http://dx.doi.org/10.1145/2556288.2557126>
- Wright, M. F., & Li, Y. (2011). The associations between young adults’ face-to-face prosocial behaviors and their online prosocial behaviors. *Computers in Human Behavior*, 27, 1959–1962. <http://dx.doi.org/10.1016/j.chb.2011.04.019>
- Xie, H., Li, Y., Boucher, S. M., Hutchins, B. C., & Cairns, B. D. (2006). What makes a girl (or a boy) popular (or unpopular)? African American children’s perceptions and developmental differences. *Developmental Psychology*, 42, 599–612. <http://dx.doi.org/10.1037/0012-1649.42.4.599>
- Yee, N., Bailenson, J. N., Urbanek, M., Chang, F., & Merget, D. (2007). The unbearable likeness of being digital: The persistence of nonverbal social norms in online virtual environments. *CyberPsychology & Behavior*, 10, 115–121. <http://dx.doi.org/10.1089/cpb.2006.9984>
- Zillien, N., & Hargittai, E. (2009). Digital distinction: Status-specific types of Internet usage. *Social Science Quarterly*, 90, 274–291. <http://dx.doi.org/10.1111/j.1540-6237.2009.00617.x>
- Zywica, J., & Danowski, J. (2008). The faces of Facebookers: Investigating social enhancement and social compensation hypotheses; Predicting Facebook and offline popularity from sociability and self-esteem, and mapping the meanings of popularity with semantic networks. *Journal of Computer-Mediated Communication*, 14, 1–34. <http://dx.doi.org/10.1111/j.1083-6101.2008.01429.x>

Received April 28, 2014

Revision received November 13, 2015

Accepted November 20, 2015 ■