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The Relationship between Social Media and Empathy

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THE RELATIONSHIP BETWEEN SOCIAL MEDIA

AND EMPATHY

by

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(Under the Direction of Michael E. Nielsen)

ABSTRACT

The relationship between social media and empathy has not been explored extensively. Research on the expression of emotion and the association with empathy displayed on social media websites have been minimally explored. This study sought to support findings that chatting online leads to expressions of empathy (Rosen, 2012) and a positive relationship exists between conversing with others online and empathic expression (Ivcevic & Ambady, 2012. Empathic concern was hypothesized to show a positive relationship with one's likelihood to chat, time on Facebook, and emotional connection to Facebook or Facebook usage. Empathic concern also was predicted to be greater among computer users, relative to tablet or mobile phone users. Finally, it was predicted that the extent to which one uses Facebook would be associated with greater expression of empathic concern. Pearson's r was calculated to assess the correlation of empathic concern with the variables likelihood to chat, time on Facebook, and Facebook usage, and an independent samples t-test was conducted in order to compare concern by device type. Analyses confirmed the positive correlation of empathic concern with likelihood to chat, time on facebook, and Facebook usage, but did not find that empathy varied by device type. A regression analysis revealed that Facebook usage did not improve predictions of empathic concern beyond that of the control variables. Strengths, limitations and implications for future research were discussed.

INDEX WORDS: Empathy, Social media, Correlation, Regression, Georgia Southern University

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DEDICATION

To my fiancé, Brittainee Brown,

I am so thankful for your relentless support,

care and love.

You truly are a godsend

and a blessing.

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INTRODUCTION

Purpose of the Study

Social media is a form of computed-mediated communication, like email and online chat forums that enable content to be exchanged between people via the internet (Ahlqvist, Back, Halonen, & Heinonen, 2008). Websites like Facebook, which are called social networking sites, have been used to observe the behavior of online users. Among the characteristics that social media researchers have examined are personality traits and their prevalence online (Rice & Markey, 2009), the creation of social capital by businesses (Ellison, Steinfield & Lampe, 2007), social media's effects on well-being (Kim & Lee, 2011) and its influences on student grades (Jacobsen & Forste, 2011). Research investigating the relationship between social media and empathy, however, has not received much scholarly attention (Rosen, 2012). Instead, social media's relationship with empathy has been relegated to personal blogs and other opinion-based websites (e.g., thesocialmediamonthly.com; millenialinflux.com) which contain contrasting sentiments about the actions of those who use social media and how it relates to empathy. Claims about empathy online have been the subject of little scientific study. Hence, the purpose of this study is to ask, is there a relationship between social media and empathy towards other people? This is the guiding question of the present study.

Social Media and Self-Disclosure

Social media users comprise 67% of all internet users (Duggan & Brenner, 2013)**.** In contrast to websites based on traditional media such as newspapers, television, and film, social media provides a means for online users to create, share, and exchange information, and other content in virtual communities and networks with others (Jones, 2011). Social media also cultivate an online community of people that not only provide important information, but also

express care and support to those involved (Sandberg, 2013). Maggiani (2012) notes that there are generational differences between older adults and teens' acceptance of social media. Baby Boomers, born 1946-1964, see less value and benefit in social media compared with those in the Generation Y age group, those born 1980-2000 (Maggiani, 2012).

Bargh and McKenna (2004) note that the internet is widely used and allows us to find, contact and engage in conversations with others who are not currently geographically near us. Moreover, McKenna, Green, and Gleason (2002) found that self-disclosure online is generally more accepted than it is during face-to-face conversations. Although there is disagreement regarding the benefits of the internet regarding identity and friendship formations, Bargh, McKenna and Fitzsimons (2002) found that the internet facilitates the expression and effective communication of one's true self to new acquaintances. The internet allows for the creation of relationships with people who are outside the user's already established social network. Internet communication allows people to present their true selves to others, due to the anonymity offered by chat rooms and forums online. Once such relationships are formed, internet interactions can facilitate the development of a relationship, leading to yet more online interactions (Bargh et al., 2002). In other words, once I have a relationship with you in which my real self is disclosed, I may then also present more of my ideal self as well. This is seen in the research by McKenna et al. (2002), who found that those who self-disclosed and were better at disclosing their "true" selves online were found to be more likely to use a social media network and have connections with their friends online. The researchers found that these connections remained strong for a period ranging from 3 months up to 2 years. Interactions like these, in which relationships have formed and maintained both online and offline have been observed on social media sites, like Facebook.

Facebook

Social media, particularly Facebook, can be a means of social support (Manago, Taylor, & Greenfield, 2012). There are 1.1 billion people on Facebook worldwide (Rainie, Smith, & Duggan, 2013). One out of every seven people is reported to be a Facebook user (Kiss, 2012). In 2010, Nielsen reported that Americans spend an average of 7 hours per month on social media. This increases the opportunity to connect to others, which carries both positive and negative consequences. Although Maggiani (2012) contends that Facebook allows people to communicate, contribute and build community with others, Cain (2012) contests that Facebook has encouraged less meaningful communication in exchange for a higher volume of messages. According to Cain, we are socially available, but often self-disclose excessively. What has not been investigated, however, is the possibility that sharing personal information may result in acts of empathy. Perhaps sharing information may increase responses, reactions or attempts to exchange similar emotions, feelings, or to console, support and comfort another person.

People who have greater needs to connect with others and to feel loved may use Facebook in order to meet those needs (Sheldon, Abad & Hinsch, 2011). Those who frequently used Facebook "felt both more connected *and* more disconnected, more close to others *and* unappreciated by others, and so on" (Sheldon et al., 2011, p. 2). In a series of studies, Sheldon et al. (2011) found that feeling disconnected resulted in increased Facebook use, and that returning to Facebook acted as a reward to people who had been deprived of it for a 48-hour period of time. Sheldon et al. concluded that disconnection may motivate Facebook use, and connection may reward it. They found that the when usage ceased, there was a reduction in connection but not in disconnection during this period, and that becoming more disconnected during this period caused increased use of Facebook during a subsequent free period. Disconnection, or feeling

unappreciated, would result in the drive to initiate Facebook usage, and connection, or feelings

of closeness, would build from use of Facebook with would reward a person's relatedness need.

It is possible to see how, through Facebook use, feelings of support can create closeness. Also,

through conversations with others on Facebook, social support is received from other Facebook

users by reaching out to each other to comfort, provide emotional support and display empathy.

Facebook can be a means of social support; the major function of a status update is

emotional disclosure, which is a key feature of intimacy (Manago et al., 2012). Using a

hierarchical linear regression, Manago et al. examined network size and what type of

communication behaviors on Facebook predicted life satisfaction and perceived social support.

People with larger social networks also reported higher levels of life satisfaction and perceived

social support on Facebook, which emphasizes the psychological importance of networks in the

Facebook environment. This research indicated that Facebook, through its status update features

and relationship with well-being and self-esteem, might foster more public, emotionally

expressive responses. The ability to express and receive emotional support may be transformed

on Facebook, from the exchange of emotional support, to the displaying of social skills. Manago

et al. conclude that those who feel that their expressions are being noticed are more likely to feel

that they gain social resources by using Facebook.

Although there are correlations between Facebook usage and both self-esteem and well-

being (Manago et al., 2012), research has not yet addressed the potential correlation between

social media usage and the empathic behaviors of its users. A relationship between how we use

Facebook (e.g., what content we share), and the likelihood that we may respond to content of

others online may exist; how one uses the Facebook website may increase the likelihood of the

exchange of support and emotional comfort to other people.

Active and Passive Social Media Usage

There are various ways to interact with others when using social media sites. Askalani (2012) suggests that users can be distinguished by how actively or passively they use the site. Depending on the website, users can look at pictures, share their thoughts and experiences, click a link or symbol to indicate that they like something that was posted online, or simply scroll up and down the page. The terms active and passive usage refer to how an individual uses different functions on a social media network. Active usage involves more online engagement and interaction with other users, through the many features on a social media website, such as, commenting on another user's walls, posting and sharing status updates and photos about one's life, and using the inbox or chat feature. Whereas an active participant would initiate these activities, a passive participant would be less involved with the online features and simply scroll up and down their or other users' social media profiles.

Askalani (2012) gives us a prototype for grouping individuals by their activity. Askalani divided individuals across four quadrants that are positioned according to the interaction between online exposure (low/high) and participation type (passive/active). The quadrants are mediated by the amount of perceived trust and control an individual has. An active user is one who "actively control[s] the dialogue and freely share[s] personal details" (p. 7). Askalani describes a user being involved with the social media site, but does this in the context of companies marketing products to people, not in relation to individuals connecting to each other to give and receive emotional support.

Empathy

Empathy in the broadest sense refers to the reactions of one individual to the observed experiences of another (Davis, 1983). Davis explains empathy in terms of a multidimensional construct that takes into account both the intellectual and affective states of another individual to understand another's perspective and have an emotional response to it. Aronson (1995) considers empathy to be our ability to experience pain after seeing someone else in pain. This ability, Aronson continues, determines whom we help and in what situations we assist others. It allows us to tune in to how someone else is feeling, or what he or she might be thinking (Baron-Cohen & Wheelwright, 2004). Empathy occurs when we suspend our single-minded focus and, instead, adopt a double-minded focus of attention (Baron-Cohen, 2011). It leads to helping (Maner, Luce, Neuberg, Cialdini, Brown, & Sagarin, 2002).

Batson, O'Quin, Fultz, Vanderplas, and Isen (1983) suggest that empathy leads to altruism. They state that our ability to experience our own distress and contemplate the current state of distress of another person leads to our empathic concern. Ultimately, empathic concern leads to an altruism that is selfless and focused more on reducing the distress of others than on reducing one's own distress. There is a motivation to help others. Although the initial experiment Batson et al. employed to test empathic concern was criticized due to sample bias, in later experiments, they sought to correct this deficiency. For instance, in a follow-up study, it was found that even in situations that resulted in no social reward, empathy promoted altruistic behavior (Fultz, Batson, Fortenbach, McCarthy & Varney, 1986). In the Fultz et al. experiment, a person was given a set of statements from a confederate and offered an option either to think about the facts or to think about the way the confederate feels. The researchers showed that social evaluation manipulation was successful in affecting participants' perceptions of the

circumstances under which their decision about helping was made. In other words, by being placed in a situation where one feels empathy for someone, one is able to assess a confederate's current state of feelings and is more likely to help that person.

Bartat, Decety, and Mason (2011) argue that empathy may be extended to non-human animals. They observed that in the presence of a live rat being trapped in a restraining mechanism, its cagemate would help free the rat is distress. Furthermore, Bartat et al. concluded that even when a treat like chocolate was presented, the rat would still respond by helping the restrained rat. The empathy observed in the Bartat et al. study had been based on the idea of emotional contagion, which posits that an animal may be more sensitive to pain if it observes pain in another animal (Langford et al., 2006). Although both the Fultz et al. and Bartat et al. experiments raise concern about external validity, e.g., Fultz et al. only involved female participants and Bartat et al. only involved rats, their work suggests how empathy functions, and how empathy affects behavior.

There are both affective and cognitive components to empathy. In a summary of the literature on empathy, Levenson and Ruef (1992) establish that empathy is knowing what another person is feeling, feeling the same emotions that another person experiences, and responding to a person in need in a compassionate way. Affective empathy is defined as "an observer's emotional response to the affective state of another" (Baron-Cohen & Wheelwright, 2004, p. 164). The same authors also defined cognitive empathy as the comprehension, understanding and prediction of someone else's mental state. In order to measure different types of empathy, Lawrence et al. (2007) used items such as "I am good at predicting how someone will feel" (cognitive empathy), and "Seeing people cry doesn't really upset me" (emotional reactivity, reverse-scored). These researchers also used items to assess relevant social skills, such

as "I find it hard to know what to do in a social situation" (Lawrence et al., 2007, p. 297). These items are what the researchers used to measure a person's emotional quotient, or EQ. There is also reactive empathy, which refers to forms of affective empathy such as sympathy and compassion, (Lawrence et al., 2007). These forms of empathy show that there is an emotional component, a cognitive component and an action component to empathy and appear in the different theories that researchers have developed to understand empathy.

Theories of Empathy

Attempts to account for empathy fall into two primary explanations: theory of mind (ToM) and simulation theory. ToM is described as the way we make attributions about the intentional states of others (Adams, 2001). This theory, also called mindreading in much of the literature, is similar to cognitive empathy. Čavojová, Belovičová, and Sirota (2011) noted that the ability to "read minds" leads to prosocial behavior. Other aspects of empathy, described as the more affective traits further define ToM. Affective traits include positive sharing, emotional attention, feeling for others, and emotional contagion, which are measured on the Emotional Empathy Scale, developed by Caruso and Mayer (1998). Nettle and Liddle (2008) found that this cognitive aspect of ToM is positively related to agreeableness. Both the social-cognitive ToM and agreeableness are related to a person's linguistic capabilities, and are important in cognitively assessing the mental states of others and relaying thoughts toward the target of our empathic concern (Nettle & Liddle, 2008).

Neuman (2010) discussed empathy in terms of the mindreading similar to that of ToM literature. In order to express empathy with another person, we have to understand how our personal experiences and understanding affect our comprehension of the other person's emotional output. Neuman related empathy to how people read a distant text, or a text not

familiar to the reader, like a religious passage. He wanted to know how a person would approach such a text. While reading a distant text, Neuman stated, a person tries to project oneself into another language. In an excerpt from the Talmud, a religious text, Neuman explains how one of the characters did not show empathy toward a calf who cried out for help. Neuman insists that the calf's cry was not met, as it was in a language different from the character that the calf cried out towards.

At times, we may encounter people from divergent backgrounds, who use unfamiliar jargon. Differences in language occur between online users with differing backgrounds, experiences, and texting/typing styles. In such situations, communication becomes more complex. However, having the presence of mind to understand the experiences and language others use could possibly lead to having more opportunities to engage in conversations and express empathy. This idea is useful in our current proposal because assessing the emotional states of other people via textual communication is more difficult than is the same task when engaged in F2F or telephone conversation (Cummings, Butler, & Kraut, 2000). However, it may be possible that having a greater number of opportunities to engage with others in textual communication may offer more opportunities to establish an emotional connection with another person. That is, interactions on social media may aid in the comprehension of textual exchanges between users online. If there is an increase in comprehension of messages, the likelihood that people engage in conversations with others may also increase. This potential increase in comprehension of textual exchanges online could lead to an increase in expressing empathy.

The simulation theory of empathy explains the way we use our cognitive abilities to simulate actions (Adams, 2001). According to simulation theory, empathy provides us with experiential access to other minds; it is our way to mirror, mimic and simulate the actions and

emotional states of others (Zahavi, 2008). Zahavi further explains that this defines empathy as our ability to predict and explain the actions of others. The ability to explain the actions of others is dependent on our ability to project ourselves imaginatively into their situation. A person has to comprehend the written or posted messages of another before fully determining how to respond. In terms of empathy in an online setting, being able to respond to another person in an emotionally congruent way may be the same as mirroring or simulating the actions of others. In such a case, the ability to understand another person's emotions may be observed online. If people are spending higher amounts of time engaging in conversations with others, then this may lead to more opportunities to express feelings of concern, compassion and warmth to those we have learned to speak the same language. This would allow for a clearly foundation of what type of relationship exists between social media usage and empathy. This integral relationship is examined in the following sections.

What leads to empathy?

Although there are different definitions of empathy, there is agreement that empathy is learned during the first few years of life (Decety & Michalska, 2010: van Lissa et al., 2014). Children between the ages of seven and 12 appear to be naturally inclined to feel empathy for others in pain (Decety, Michalska, & Akitsuki, 2008). Examining fMRI scans, Decety et al. found that children show responses in the same areas of their brains as adults do in seeing another person in pain. Children also are socialized to have empathy from the interactions and opportunities to engage in situations where they can speak about their emotions (Taylor, Eisenberg, Spinrad, Eggum, & Sulik, 2013). Gender differences in empathy favor female over male and socialization is the factor in which these changes occur (Wölfer, Cortina & Baumert, 2012; Eisenberg & Lennon, 1983). Empathy is present in both genders, with differences

beginning to occur when each gender is groomed in a traditionally "feminine" or "masculine" way (Wölfer et al., 2012).

Empathy is also developed from modeling in a child's youth. When a mother or parent engages in actions that are empathic, or prosocial, the child through mimicking and rehearsing, learns empathy through prosocial behavior. Children are most likely to grow up to be empathically concerned adults when both of their parents enjoyed being involved with them, especially a father's involvement in childcare and maternal tolerance of dependency, and when their needs were differentially responded to (Koestner, Franz & Weinberger, 1990). In other words, empathy is facilitated by limiting displays of aggression and increasing opportunities to communicate about emotions.

Koestner et al. suggested that parenting styles, with traits resembling that of the authoritative type, seemed to be significant precursors to the development of one's empathy. Additionally, Diamond, Fagundes, & Butterworth (2012) suggest that attachment styles can influence the ability to empathize. For instance, they contend that both anxiety and avoidance are associated with a teen's capacity to be empathic. Parents who are high in avoidance and anxiety may inhibit the ability of affective states of others to be acknowledged. In contrast, parents with a secure attachment style tend to show the foundation of a teen's positive empathic capacities, which is displayed by an attention to the affective states and interpretation of affective cues of others in a social situation. In other words, appropriately attending to the sensitivity of their child's needs, and being a safe base for emotional expressions and positive affective interactions, tends to result in higher levels of self-esteem and empathic capabilities in youth and adolescent teens.

In early adolescence, family members who modeled empathy supported young people in developing prosocial intentions (Malin, Reilly, Quinn, & Moran, 2014). Wölfer et al. (2012) found that empathy in adolescence is also created or developed from how embedded, or connected, that teen is to their environment. The capacity and ability to experience and understand the affective state of another person is demonstrated in the intensity of adolescents' social connectedness. Teens' empathy is affected by their peer group and the broader social context, such that teens in environments with people who are more accepting and open to sharing emotions expressing emotions more readily than in environments where emotional expression is not encouraged.

The importance of the environment on the development of empathy is confirmed in research by Barr and Higgins-D'Alessandro (2009). When a school environment suggests a caring and more open community, Barr and Higgins-D'Alessandro suggest that students' feelings of connectedness and cooperation become stronger. The researchers observed students from a traditional high school and from a "Just Community School," which focused on democratic principles and activities designed to facilitate moral development and increase perspective-taking. Analyses revealed that ratings of school culture correlated positively with empathy and were higher in the Just Community School than in the traditional high school. That perception of school culture or the social environment can lead to more positive interactions, which increase the opportunity to become more emotionally close. The environment and the actions in the environment may influence one's empathy.

A relationship exists between prosocial behaviors and empathy, such that empathic concern for others is heightened when one shares the same or similar experiences as you (Hodges, Kiel, Kramer, Veach, & Villanueva, 2010). Seeing others model prosocial behaviors

increase the likelihood that one behaves in a prosocial way. Modeling and encouraging children to be aware of their emotions and to express their feelings, leads to the development of empathy, and empathy leads to a development of prosocial behavior.

Similarity and group membership can also influence the expression of empathy (Maner, Luce, Neuberg, Cialdini, Brown, & Sagarin, 2002). However, empathy is also present for those that are not the same as us (Lamm, Meltzoff, & Decety, 2010). Using fMRI comparisons, Lamm et al. compared brain regions of participants' ratings of them viewing pain that was both similar to theirs and dissimilar to the participants. They found that brain regions overlapped in the participants watching viewing both types of images.

Not only do people react empathically to those who are similar; we also respond empathically to those who are attractive (Müller, Leeuwen, Baaren, Bekkering, & Dijksterhuis, 2013). Participants were tested to see how fast and how accurately they imitated the perceived movement of either an attractive or and unattractive model's actions. Afterwards, participants completed the empathic concern and perspective-taking subscales from the Dutch version of the Interpersonal Reactivity Index (De Corte, Buysse, Verhofstadt, Roeyers, Ponnet, & Davis, 2007). In a regression analysis, Müller et al. found that empathic concern was a significant predictor of the participant to imitate the more attractive target (b = −0.696, $t(17) = 4.00$, $p < 0.001$, $R^2 = 0.48$). Müller et al. did not find an effect for the unattractive target.

The literature reviewed here indicates that empathy is influenced by social context. When a mother or parent engages in actions that are empathic, or prosocial, the child through mimicking and rehearsing, learns empathy through prosocial behavior. The child learns how to express emotions and how to notice cues and communicate with others. Through adolescence, teens maintain and increase their ability to empathize with others. Affective states can be

acknowledged when one reads information online, although the information is predominantly textual. When one uses Facebook to post a status or comment, others may respond with an empathetic reply, a gesture to comfort the person. Empathy can be expressed on Facebook through various ways, such as wall posts, inbox messaging, and liking their status(es) to name a few.

Social Media and Empathy

Emotional expression in an online setting has been observed in previous research (Cummings, Butler, & Kraut, 2000; Derks, Fischer, & Bos, 2008; Rosen, 2012; Wolf, 2000). Many studies that examine emotion and computer-mediated communication predate the creation of social media sites like Facebook and observe internet users that are members of listservs and newsgroups (Kraut, Patterson, Landmark, Kiesler, Mukopadhyay, & Scherlies, 1998; Kraut, Steinfield, Chan, Butler, & Hoag, 1998). Researchers in these studies compare participant's use of email, phone and their face-to-face interactions. For example, Cummings et al. (2000) asked participants to rate their email, phone and face-to-face relationships, finding that face-to-face communication was associated with stronger relationships (Beta =.36), followed by phone (Beta = .27) and email (Beta = .15). This may indicate that the medium for interaction is associated with the strength of one's relationship with another. Extending this notion to electronic media, different modes of communication, i.e., computer vs. phone, may be associated with different levels of empathy. What has not been examined is whether or not effects such as these are observed with current technology, and if such factors as experience with a technology affects the empathy one conveys on that technology. For instance, it might be that devices that are more accessible might lead to higher levels of empathy being expressed

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There may be some relationship between using social media and engaging emotionally with others. Overall, people who use the Internet for social purposes tend to be socially engaged offline as well (Kraut & Kiesler, 2003). Although the relationship between social media usage and empathy is a relatively new topic of study, there is empirical research showing the relationship between empathy and computer mediated communication (CMC) in the form of instant messaging, which is a feature of social media sites like Facebook. People who spend more time on social networks and who instant message more frequently are better at expressing empathy online (Rosen, 2012). Unfortunately, Rosen's research, which leads to an interesting question regarding the relationship of social media with empathy, is reduced to an exploratory claim as he did not report the measures of empathy used in reaching his conclusion.

This is consistent with research by JinJuan, Lazar, and Preece (2004), who found that communication type and response type were significantly related to interpersonal trust online. Participants in the study were asked to participate in a role-playing exercise, which included reading dialogues in four different communication styles. JinJuan et al. used an instant messaging (IM) chat box to examine how four different communication styles compared in terms of the degree of trust conveyed by people online. The four communication styles were based on a 2 x 2 design, where people were compared in terms of whether or not they were accurate in their empathy, and whether or not their response was supportive. The two variables interacted, such that dialogues that conveyed accurate empathy and supportive response were associated with significantly higher trust scores that the other three types. Empathy may be present on social media networks like Facebook, and one's use of the site may predict the empathy expressed on Facebook.

Basic social and personality processes are alive and well on social networking sites, and these processes parallel those observed in face-to-face environments (Gosling, Augustine, Vazire, Holtzman, & Gaddis, 2011). For example, extraverts seek out social engagement online just as they do offline (Gosling et al., 2011). In addition, in a review of literature on computer-mediated communication (CMC) and face-to-face communication (F2F), (Derks, Bos, & von Grumbkow, 2008a) concluded that those engaging in CMC tend to have patterns of sharing emotions with others that are similar to those they employ in F2F communication, and that people may even communicate more through CMC than through F2F. The communication of emotion was regularly illustrated in CMC, through internet chat, blogs, and online dating sites. In these forms of CMC, people rely on emoticons to display support to friends, and to communicate emotions more effectively (Derks et al., 2008a; Derks, Bos, von Grumbkow, 2008b; Lo, 2008). For instance, Derks et al. (2008b), found that a positive message accented with a smile emoticon is more likely to be rated more positively than a positive message without a smile emoticon, and that a negative message with a supporting frown is more negative than one without a frown. Social context is important in both CMC and F2F media, with people in both settings showing greater accuracy in picking up social cues in negative situations than in positive ones, as well as in terms of people adjusting their emotional expressions to fit the social context in daily conversations (Derks, Bos & von Grumbkov, 2007).

Ivcevic and Ambady (2012) found that behavior is relatively consistent among participants, whether they are online or not. For instance, individuals with higher levels of extraversion tend to have larger online social networks. In addition, individuals who are agreeable in face-to-face interactions also had more Facebook posts by their friends than those who are less agreeable. Likewise, people who experienced more emotional support in everyday

life had more friends on Facebook, as well as more emotionally expressive messages from friends on their Facebook walls than those who do not receive as much support. Ivcevic and Ambady (2012) also found similarities between online and offline communication in terms of the number of conversations participants reported. For example, they found that extraverts engaged in more conversations both offline and online, when compared to those who were less extraverted.

Rosen (2012) found that those who spend more time on social networks and who spent more time using instant messaging were better at showing what he called virtual empathy. In a study of nearly 1400 young adults, Rosen distributed online surveys asking about empathy in the real world, empathy shown online, and their feelings of support along with the type of devices they use on a day-to-day basis. Young adults in the study who were better at expressing empathy online were also better at expressing empathy face to face. In other words, social networking and instant messaging were significant predictors of expressing virtual empathy, which in turn has predictive ability of empathy in the real world. Rosen concludes that empathy online, which he calls "virtual empathy," is a real concept and although not as significant as real world empathy, has a place for the relationship between online communication and the expression of emotions and emotional support. However, these claims have not been appropriately validated or supported.

Research investigating social media has not been focused on the display of empathy. The present investigation extends social media research to begin to rectify that gap in the literature. The primary focus of this study was to examine the relationship between how one uses social media and the expression of empathy. Facebook supplements face-to-face interactions (Kujath, 2011) offering features that allow users to actively engage in interpersonal communication, or to

be passive observers. Based on this, I hypothesize that there will be a positive relationship between individuals' social media network usage and their empathy ratings. That is, those who interact more frequently with others online, and who use more Facebook features, are predicted to have higher empathy scores compared to those who interact less frequently with others online, and who use fewer Facebook features. This prediction builds on research by Rosen (2012), as well as Ivcevic and Ambady (2012), showing positive correlations between the frequency with which people instant message and empathic expression. To assess this, we will use the Facebook Intensity Scale and the Interpersonal Reactivity Scale.

Hypotheses

It was hypothesized that…

1. Individuals who score more highly in empathy, as measured using the empathic concern subscale from the Interpersonal Reactivity Index (Davis, 1980), would be more likely use the engage in individual conversations using Facebook's chat function.

2. The amount of time a person spent online would be positively correlated with empathy scores, as measured by the Interpersonal Reactivity Index.

3. Facebook usage, defined as emotional connectedness to Facebook and its integration into individuals' daily activities (Ellison et al., 2007), and empathy would be positively correlated.

4. Facebook usage, defined as emotional connectedness to Facebook and its integration into individuals' daily activities (Ellison et al, 2007) would predict scores on empathic concern, even after statistically controlling for the effects of extraversion, sociability, shyness, gender, or the number of contact methods used when reaching out to a person in grief.

5. The type of device used to access Facebook would impact the expression of empathy, such that computer users would have higher empathy subscale scores compared to those primarily using phones.

CHAPTER 2

METHOD

Participants

The sample included 204 students from an Introductory to Psychology participant pool, which typically includes first- and second-year university students. Sixty-nine percent (141) were women and 30% (63) of the participants were men. Participants' ages ranged from 19 to 39 ($M = 19.5$, $SD = 2.48$). Over 59% (121) of the participants were single, 38.7% (79) in a relationship, and two percent (4) were married. Sixty-seven percent (137) were Non-Hispanic White or European, 24.5% (50) were listed as Black, Afro-Caribbean, or African American, 4.4% (9) were multiracial, 1.5% (3) were Latino or Hispanic American, 1% (2) were East Asian, or Asian American, 1% (2) were South Asian or Indian American, .5% (1) were Native American or Alaskan Native. Participants were awarded course credit and/or extra credit for participation in the study.

Materials

This study included five surveys, an informed consent form (see Appendix A), and a debriefing statement. The Interpersonal Reactivity Index (IRI) (Davis 1980; 1983) is a 28-item scale that assesses empathy (see Appendix B). The measure is divided into four seven-item subscales, which include perspective taking (PT), empathic concern (EC), fantasy scale (FS), and personal distress (PD). The 28 items are rated on a five-point Likert-type response scale, ranging from 0 (*does not describe me* well) to 4 (*describes me very well*). Each subscale was assessed for validity by comparing it with the Mehrabian and Epstein Emotional Empathy Scale (emotional) developed by Albert Mehrabian and Norman Epstein, (1972), and the Hogan Empathy Scale (cognitive), developed by Robert Hogan (1969). The subscale scores range from zero to 28. The subscales are all to be assessed individually; there is no score for adding the four scales together.

Several items on the scale (3, 4, 7, 12, 13, 14, 15, 18, and 19) are reversed scored). The IRI was also assessed for test-retest reliabilities with a period ranging from 60-75 days (Davis, 1980). Davis found that for males, the test-rest correlations ranged from .61 to .79, and for females correlations ranged from .62 to .81.

The IRI has been applied to several populations, which include children and adolescents (Davis, Fabes, Eisenberg, & Eisenbud, 1993), French-speaking adults (Gilet, Studer, Mella, Grühn, & Labouvie-Vief, 2013), Spanish-speaking college students (Fernández, Dufey, & Kramp, 2011) and even those who read fiction (Nomura & Akai, 2012). Results support the assertion that the IRI subscales measure four different empathy dimensions. In addition, gender differences on the scales were seen in the replicated studies; women rated higher on all four subscales than men. Each of the four subscales show adequate reliability for gender (coefficient alpha for Fantasy scale [women = .79, men = .78]; Perspective Taking scale [.75, .71]; Empathic Concern scale [.73, .68]; Personal Distress scale [.75, .77][Davis, 1983]).

The Facebook Intensity scale (FBI, Appendix C), constructed by Ellison et al. (2007), measures Facebook usage while also incorporating emotional connectedness to the site and its integration into the user's daily activities. It includes items such as, "I am proud to tell people I am on Facebook," and "Facebook has become part of my daily routine." Items one through six on the FBI were rated on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Items 7 and 8 can be posed as either an open-ended or a closed-ended question. For the purposes of this study, the items were closed-ended; item number seven ranges 1-6 and item eight ranges from 0-5 in the closed-ended version; item seven ranges up to 8. The Facebook Intensity score is computed by calculating the mean of all of the items in the scale. Cronbach's alpha for eight FBI items were .83 (M = -0.08, SD = 0.79). The items on the FBI were

standardized before taking an average to create the scale due to differing item scale ranges. Facebook intensity was found to have a positive correlation with self-esteem and life satisfaction (Ellison et al., 2007). The Ellison et al. study has been cited over 2000 times. Additionally, our Hypothesis concerning time spent online was an item from this survey.

The Social Activity and Emotional Reactivity scale (see Appendix D) is an original measure that measures use of social media sites and emotional reactivity online. It includes items such as "Which of the following (Wall comments, status updates, inbox messages) do you use to talk to people on Facebook?" and "When you see statuses or comments that are emotionally charging (sad news, happy moments, etc.) online, how often do you attempt to reach out to the person?" This scale was used to augment the Facebook Intensity Scale and the Interpersonal Reactivity Index, with items addressing concepts not appearing in those scales. Items one and two were created with Likert-type anchor options and were based on items used by Vagias (2006). Item four was developed in order to ascertain the type of device normally used in accessing Facebook. Other items are designed to measure ways that people may use Facebook features, or the extent to which they interact to others who express distress.

The Shyness and Sociability Scales for Adults (see Appendix E), was created by Asendorpf and Wilpers (1998). This is a 10-item measure with items rated on a Likert-type scale using anchors ranging from 1 (*not at all*) to 5 (*completely*), indicating how true the statement is to the respondent. The scale authors define shyness as tension and inhibition with others, and define sociability as a preference for being with others rather than being alone. Coefficient alpha is good, with alpha =.80 for shyness, and =.70 for sociability.

The Ten-Item Personality Inventory, or TIPI (see Appendix F), was developed by Gosling, Rentfrow, and Swann (2003). It is a brief word pair measure assessing the Big Five

personality factors. Each item consists of two descriptors, rated on a 7-point scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). The scale has 5 reverse-scored items, one for each personality trait. The items of interest for the present study were the extraversion items, items 1 and 6. Validity of the TIPI was compared to the Big-Five Inventory (BFI), developed by John and Srivastava (1999), and found to be good, correlating highly with BFI scores (Extraversion = .87, Agreeableness = .70, Conscientiousness = .75, Emotional Stability = .81, and Openness to Experience = .65). Cronbach's alpha for the TIPI Big-Five items alphas were .68, .40, .50, .73, and .45, for extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience, respectively.

Demographic questions (see Appendix G) asked about participants' age, ethnicity, relationship status, years in school, and involvement in school organizations and followed all other surveys in the study.

Procedure

Participants signed up for the study via an online site called the SONA research system. They went to went to the website to read the online informed consent form and, after providing consent, were connected to the surveys in the study. Participants completed the IRI, FBI, Social Activity and Emotional Reactivity Scale, TIPI and the Shyness and Sociability scale questionnaires via the Qualtrics online research survey program. Items on the FBI, IRI, TIPI and Shyness and Sociability surveys were randomized. Demographic information was gathered after participants completed the FBI and IRI scales as well as the Social Activity and Emotional Reactivity survey.

After the surveys were completed, the participants were debriefed by reading a document explaining the study and giving providing information if they had questions about the study. The debriefing statement read:

"Thank you for you your participation in the current study. From your participation, the surveys you completed will be used to examine relationships between social networking and empathy online. In particular, I am interested in seeing if Facebook use is correlated with having more empathy. If you have any questions about the study, please contact me at fc00033@georgiasouthern.edu or my faculty advisor, Dr. Nielsen at mnielsen@georgiasouthern.edu."

CHAPTER 3

RESULTS

Descriptive statistics for the empathic concern subscale, self-reported likelihood to chat, the Facebook intensity scale, and self-reported time spent online each day in a week's time (computed in minutes) are shown in Table 1. Responses from the empathic concern subscale of the Interpersonal Reactivity Index were normally distributed. The participants scored above the midpoint on self-rated warmth, compassion and concern for others undergoing negative experiences. Facebook intensity scale scores indicated that participants tend to incorporate Facebook in their daily lives regularly, scoring at about the midpoint of the scale. Participants from the sample reported reaching out to others online between 30-50% of the times that they could have, on average. The sample also reported spending a little over 60 minutes each day within the past week on Facebook actively.

Table 1 also shows data regarding the number of people who used various devices in order to access Facebook. More participants reported having used the phone (N = 151) than used a computer (N = 87) or table (N = 15) to access Facebook. Participants were able to select more than one option, preventing chi-square analysis from being used to verify the statistical significance of this pattern. In terms of primary device use, participants reported mainly using their phones (N = 142) to access Facebook, whereas 46 relied on a computer, and only a small number used a tablet device (N = 3) for this purpose, $\chi^2 (2) = 159.089$, $p < .0001$. An additional 27 participants indicated that they did not use the chat function of Facebook, and 13 participants did not use Facebook at all.

A correlation matrix of the continuous variables used in later analyses is shown in Table 2. As Table 2 shows, all variables correlate positively with each other.

Table 1

Descriptive Statistics of Empathic Concern, Likelihood to Chat, Facebook Intensity and Time Spent online.

Descriptive Statistic	Empathic Concern	Likelihood to Chat	Facebook Intensity	Time Spent Online
M	16.80	2.05	3.45	2.16
SD	3.40	1.09	.93	1.26
Range	4.00-27.00	1-5	1.00-5.63	1-6

Note. N = 204

	Mode of Access		
	Computer	Tablet	Phone
N	87	15	151

	Primary Mode of Access		
	Computer	Tablet	Phone
N	46	3	142

Note. For mode of access, participants were asked, "Which of the following do you use to talk to people (Wall comments, status updates, and inbox messages) on Facebook?" Respondents could indicate more than one mode of access. For the primary mode of access, participants were asked, "Which type of device do you use the most when you are on Facebook?" Respondents chose the device they primarily used.

Table 2

Correlations Between Empathic Concern and Likelihood to Chat, Facebook Intensity and Time Spent online.

Measure	Empathic Concern	Facebook Intensity	Likelihood to Chat	Time Spent Online
Empathic Concern	-	.183**	.271**	.184**
Facebook Intensity	.183**	-	.251**	.728**
Likelihood to Chat	.271**	.251**	-	.297**
Time Spent Online	.184**	.728**	.297**	-

*Note. p ** < .01.*

It was hypothesized that self-rated likelihood to chat after seeing emotionally charging information would be positively associated with empathy. A Pearson's correlation supported this hypothesis, which was statistically significant $r(202) = .27$, $p < .01$. The more an individual engages in conversation with others online, the higher their scores of empathic concern.

The second hypothesis was that time on Facebook would have a positive relationship with empathy. This hypothesis also was supported. It was asked, "In the past week, on average, approximately how much time PER DAY have you spent actively on Facebook?" People who reported devoting more time on Facebook, also reported greater empathic concern, $r(202) = .18$, $p < .01$.

The third hypothesis predicted a positive relationship between Facebook usage and empathy. Facebook usage data was measured using the Facebook intensity scale, and empathy was measured with the empathic concern subscale. A Pearson's correlation also supported this hypothesis, showing a significant positive relationship between Facebook usage and empathic concern, $r(202) = .18$, $p < .01$.

Our final hypothesis was that levels of empathic concern differ based on the electronic device used to access Facebook. An independent samples t-test was conducted to compare the empathic concern between phone and computer users (too few tablets were used for meaningful analysis of tablet data). There was not a significant difference in the scores of those who use the computer ($M = 17.72$, $SD = 3.96$) and those who used phones ($M = 16.80$, $SD = 2.93$), $t(61.745) = 1.45$, $n.s.$, with degrees of freedom adjusted for unequal variances. Results suggest that those who use computers as their primary mode of access for Facebook conversations are not significantly different, in terms of their apparent empathic concern, from those who use a phone.

Regression

The fourth hypothesis was that Facebook usage, defined as emotional connectedness to Facebook and its integration into individuals' daily activities (Ellison et al, 2007) would predict scores on empathic concern, even after statistically controlling for the effects of extraversion, sociability, shyness, gender, or the number of contact methods used when reaching out to a person in grief. This was tested using a hierarchal regression analysis with extraversion, sociability, shyness, number of contact methods, gender, and Facebook intensity scale scores serving as predictors of empathic concern. Because the focus of this analysis is in Facebook intensity, the first five variables were entered in Model 1, and Facebook intensity was entered into Model 2. Model 1 indicated that gender, sociability, and number of contact methods significantly predicated variability in empathic concern, $R^2 = .23$, adjusted $R^2 = .21$, $F(5,198) = 11.79$, $p < .01$. Extraversion and shyness did not add significant contributions to the model. The summary table for this analysis is shown in Table 3.

In Model 2, Facebook intensity scores were added. Although the overall model predicts empathic concern, $F(6,197) = 9.85$, $p < .01$, Facebook intensity scores did not add significant predictive power, $\Delta R^2 = .001$. Even though Facebook intensity and empathic concern scores correlate significantly, as shown in Hypothesis 2, Facebook intensity does not add unique variance when controlling for the other predictors in the model.

Table 3

Predictors of Empathic Concern

	Beta Weights	
Predictor	Model 1	Model 2
Extraversion	.023	.021
Sociability	.324*	.316*
Shyness	.122	.120
Number of Contact methods	.158*	.146*
Gender	.363*	.359*
Facebook Intensity		.040
R^2	.229	.231
Adjusted R^2	.210	.207
F	11.786**	9.848**
ΔR^2		.001
ΔF		.351
Constant	B = 5.42, SE = 2.33	B = 5.177, SE = 2.38

Note. * $p < .05$. ** $p < .01$.

CHAPTER 4

DISCUSSION

The goal for this research was to examine the relationship between social media and empathy. This was broken down into several hypotheses. The first hypothesis, that chat is positively associated with empathy, was supported. The second hypothesis that time on Facebook is positively correlated with empathy, was also supported. The third hypothesis, that Facebook usage and empathy are positively correlated, also was supported. A fourth hypothesis, that there would be a difference in empathy between those using different devices to access Facebook was not supported. Finally, a regression analysis showed that our proposed predictor, Facebook usage, was not significant in predicting empathic concern beyond the predictive ability of sociability, the number of contact methods, and gender.

Underlying the hypotheses examined in this study was the notion that social media offers users an opportunity to express empathy. Overall, results suggest that people actively involved on Facebook, also show higher ratings of empathy. These findings go a step beyond the research of Askalani (2012), and suggest that empathy is associated with the amount of time spent on Facebook, the likelihood that one reaches out to others on Facebook, and how involved one is on Facebook. The current study complements the research from Ellison et al. (2007), in that both studies demonstrate socially desirable qualities associated with Facebook usage. The Ellison et al. study found that Facebook intensity had a positive correlation with self-esteem and life satisfaction. The current study showed that Facebook intensity also had a positive correlation with empathic concern. Also, by using the Interpersonal Reactivity Index, the current study adds to the body of empathy research done by Davis (1980), who created the IRI.

The current research parallels prior research conducted by Rosen (2012), as well as Ivcevic and Ambady (2012), whose studies showed positive correlations between empathic

expression and the frequency with which people instant message. This study supports Rosen's research by showing a positive relationship between a person using the Facebook chat function (instant messaging) and the expression of empathy online.

Strengths, Limitations and Future Directions

Overall, a majority of our hypotheses were supported by data. Simply, social media usage, time online and chatting online with others was associated with empathy in some form. The direct relationship between those variables is not demonstrated in the present study. That is to say, that it is not known whether social media influences empathic behavior, or if one's predisposition for empathy leads to more social media usage, time online, or tendency to chat. This study supports Rosen's (2012) conclusion that empathy is being expressed on social media. In addition, our regression analysis showed that the number of contact methods an individual uses, along with one's sociability, could predict one's empathic concern. This can give us insight regarding how involved an individual can be when expressing empathic concern toward others. Possibly, increased activity online creates more opportunity to engage with others and increase behaviors that are more empathic. Future research might be directed towards investigating this relationship offline, to see if people who use more methods to communicate with friends and others, and who are more sociable, also express more empathic concern.

Although the study included 204 participants, the sample was smaller than that used in similar research (Ellison et al., 2007). Larger numbers may lead to more stable estimates of the relationships among the variables. In addition, because the participants were predominantly 18-20 years old, the results here may not generalize to other populations. Also, the study was conducted entirely through self-report, and bears the strengths and limitations normally associated with self-report data.

The Social Activity and Emotional Reactivity scale, the study's only original measure, included question items that were unclear. For example, question item 16, "How many close friends do you have both online and offline?" was an open-ended question, but participants' responses indicate that they were confused whether to report the number of close online and offline friend separately, or to report a combined total. An updated version of this measure would also include question items that are specific to the emotional reactions on social media and how users interact with others enduring emotionally charged information. For example, items would include scenarios that one may face online when using social media sites. Improving these measures would result in a better study.

Because the present data are correlational and quasi-experimental, conclusions about causality are not appropriate. Future directions for this research could include experimentally manipulating time online, opportunity to chat, and other variables that might impact Facebook interactions to see what effects are shown on empathic concern. In addition, future researchers may wish to consider explicit comparisons of offline and online behavior in terms of empathy. Being able to compare face-to-face and computer-mediated conversations would demonstrate limitations associated with each medium, and show how the mode of communication might impact empathic expression. Conducting experiments that measure actual acts of empathy would give more insight into the relationship between social media and empathy. For example, an experiment could allow researchers to manipulate Facebook users' activity to explore the interaction between Facebook and empathy. Such a study would allow researchers to count words per status, the number of status updates, the number of times an individual posts comments, and code comments to see if these activities are associated with empathy in any way.

The measures in this study included a combination of highly replicated and original measures. It would be of interest to explore a test-retest format in which participants' scores would be compared before and after an experiment is completed. With participants taking measures once, an effect could not be assessed to see if usage was increasing empathic concern scores.

For future studies, an expansion of the research to include individuals both inside and outside of a university setting may provide better generalizations to different populations in terms of empathy and activity online. Such an expansion in the sample also could reveal possible differences in Facebook usage and empathy due to age. Also, because there are other social media websites, one could assess the extent to which empathy may vary across different social media websites, such as Twitter and Pinterest. Because of its multidimensional interface and various features, expressions of empathy would be expected to be greater on Facebook, relative to Pinterest and Twitter. In addition, comparing empathic concern across social media websites would test Cain's (2012) assertion that social media encourages less meaningful conversations for a higher volume of messages. The present data indicate that social media usage is positively correlated with empathy. Extending this to other meaningful and socially desirable behavior would present a more complete picture of the relationship between social media usage and empathy.

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APPENDIX A

FACEBOOK AND ONLINE BEHAVIOR- Consent form

Hello, my name is Franklin Collins. I am a second year student in the Psychology Masters program. This is an online survey for the interactions of individuals online. This research is sparked by my interest in the ways that people interact with each other online. The purpose of this research is to improve our knowledge of how our online interactions are influenced by the way we use a social media site. This form explains the current study as well as your rights as a participant.

This study is entirely web-based, and is expected to take no more than thirty (30) minutes of your time. Before taking part in this study, please read the consent form below and click on the "I AGREE" option at the bottom of the page. Choose the "I AGREE" option if you understand the statements and freely consent to participate in the study. You do **NOT** have to participate in this research; you may end your participation at any time. There is no penalty for deciding not to participate in the study; you may decide at any time that you do not want to participate further and may withdraw without penalty or retribution.

Participation in this research will include completion of the following: reading this informed consent statement as well as completing three questionnaires. One of the questionnaires will ask you general information about yourself, while the other two will ask questions about your interactions with people online, especially via social media. There may be risks, which are minor. Minor risks may include psychological stress from answering personal questions about your behavior while online. By clicking on the "I Agree" button at the bottom of this webpage, you are agreeing with the following statement: "If the possibility of injury exists, whether physical or psychological, I understand that medical care is available in the event of injury resulting from research but that neither financial compensation nor free medical treatment is provided. I also understand that I am not waiving any rights that I may have against the University for injury resulting from negligence of the University or investigators." If you wish to seek assistance, you should contact the University Counseling Center, at (912) 478-5541, for psychological risks. For physical risks, you should contact the University Health Services center at (912) 478-5641 or your local public safety department.

There is also some benefit to participating in this study. The benefits to participants include, being given an opportunity to learn about this research, which may be useful to you in your course or in understanding yourself and others. There also are potential societal benefits that come from the opportunity to contribute to social science by participating in this research, and by better understanding factors that influence people's online interactions.

 This information will be accessed by the main researcher (principal investigator) as well as the faculty advisor, with contact information listed below. The information that you complete will be used for the research in this study. Your name will not be attributed to any survey information. Data will be maintained on a password-protected computer for a minimum of 3 years following completion of the study, and your name will not be associated with your responses.

Participation in this study results in you having the right to ask questions and have those questions answered. If you have questions about this study, please contact the researcher named above or the researcher's faculty advisor, whose contact information is located at the end of the informed consent. For questions concerning your rights as a research participant, contact Georgia Southern University Office of Research Services and Sponsored Programs at 912-478-0843.

Last, if you are an undergraduate student in psychology, you may be eligible to receive research credit for psychology research studies and/or experiments. To receive credit for participating, you have to register for the SONA system. Instructions are below.

Registering on the SONA System:

You will have to register on SONA in order to receive credit for participating. If you need to register, for those who do not have an account, please go to **http://psychresearchgeorgiasouthern.sona-systems.com.** When you register, be sure to enter the beginning of your GA Southern e-mail account as your User ID and be sure to select the correct course or study from the drop-down menu.

This project has been reviewed and approved by the GSU Institutional Review Board under tracking number H14193.

As stated before, you do **NOT** have to participate in this research; you may end your participation at any time. There is no penalty for deciding not to participate in the study and there is no penalty for withdrawing.

If you have further questions about this study or their rights, you may contact the principal investigator, Franklin M. Collins, by email at fc00033@georgiasouthern.edu or the faculty advisor, Dr. Michael E. Nielsen, by email at mnielsen@georgiasouthern.edu. If you are 18 years of age or older, understand the statements above, and freely consent to participate in the study, choose the "I Agree" button to begin the experiment. The "I Agree" option is your affirmation of consent confirmation to continue with the study. If you decline to participate in this study, please close this window or navigate to a different website.

[I AGREE]

INTERPERSONAL REACTIVITY INDEX

Directions: The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page: A, B, C, D, or E. When you have decided on your answer, fill in the letter next to the item number. **READ EACH ITEM CAREFULLY BEFORE RESPONDING.** Answer as honestly as you can. Thank you.

ANSWER SCALE: A   B   C   D   E

DOES NOT   DESCRIBES

DESCRIBE   ME VERY

ME WELL   WELL

1. I daydream and fantasize, with some regularity, about things that might happen to me.

2. I often have tender, concerned feelings for people less fortunate than me.

3. I sometimes find it difficult to see things from the "other guy's" point of view.

4. Sometimes, I don't feel very sorry for other people when they are having problems.

5. I really get involved with the feelings of the characters in a novel.

6. In emergency situations, I feel apprehensive and ill-at-ease.

7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.

8. I try to look at everybody's side of a disagreement before I make a decision.

9. When I see someone being taken advantage of, I feel kind of protective towards them.

10. I sometimes feel helpless when I am in the middle of a very emotional situation.

11. I sometimes try to understand my friends better by imagining how things look from their perspective.

12. Becoming extremely involved in a good book or movie is somewhat rare for me.

13. When I see someone get hurt, I tend to remain calm.

14. Other people's misfortunes do not usually disturb me a great deal.

If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

16. After seeing a play or movie, I have felt as though I were one of the characters.

17. Being in a tense emotional situation scares me.

When I see someone being treated unfairly, I sometimes don't feel very much pity for them.

19. I am usually pretty effective in dealing with emergencies.

20. I am often quite touched by things that I see happen.

21. I believe that there are two sides to every question and try to look at them both.

22. I would describe myself as a pretty soft-hearted person.

23. When I watch a good movie, I can very easily put myself in the place of a leading character.

24. I tend to lose control during emergencies.

25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.

27. When I see someone who badly needs help in an emergency, I go to pieces.

28. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

FACEBOOK INTENSITY SCALE

Directions: The following items ask about your involvement with Facebook. Answer to the best of your ability.

1. Facebook is part of my everyday activity

   a) Strongly disagree
   b) Disagree
   c) Neither agree nor disagree
   d) Agree
   e) Strongly agree

2. I am proud to tell people I'm on Facebook

   a) Strongly disagree
   b) Disagree
   c) Neither agree nor disagree
   d) Agree
   e) Strongly agree

3. Facebook has become part of my daily routine

   a) Strongly disagree
   b) Disagree
   c) Neither agree nor disagree
   d) Agree
   e) Strongly agree

4. I feel out of touch when I haven't logged onto Facebook for a while

   a) Strongly disagree
   b) Disagree
   c) Neither agree nor disagree
   d) Agree
   e) Strongly agree

5. I feel I am part of the Facebook community

   a) Strongly disagree
   b) Disagree
   c) Neither agree nor disagree
   d) Agree
   e) Strongly agree

6. I would be sorry if Facebook shut down

    a) Strongly disagree
    b) Disagree
    c) Neither agree nor disagree
    d) Agree
    e) Strongly agree

7. Approximately how many TOTAL Facebook friends do you have?

    a) 0=10 or less
    b) 1=11-50
    c) 2=51-100
    d) 3=101-150
    e) 4=151-200
    f) 5=201-250
    g) 6=251-300
    h) 7=301-400
    i) 8=more than 400

8. In the past week, on average, approximately how much time PER DAY have you spent actively using Facebook?

    a) 0=less than 10 minutes
    b) 1=10-30 minutes
    c) 2=31-60 minutes
    d) 3=1-2 hours
    e) 4=2-3 hours
    f) 5=more than 3 hours

SOCIAL ACTIVITY AND EMOTIONAL REACTIVITY SURVEY

Directions: This survey asks about your general use of computers and online activity. Answer to the best of your ability.

1. **Generally speaking, how comfortable do you feel using a computer?**
   a) Very comfortable
   b) Somewhat comfortable
   c) Not very comfortable
   d) Not at all comfortable

2. **How often do you use the Internet?**
   a) Once or more a day
   b) A few times a week
   c) A few times a month
   d) Hardly ever
   e) Never

3. **How long have you used Facebook?**
   a) I do not use Facebook
   b) 1-30 days
   c) 2-12 months
   d) 2-5 years
   e) 5+ years

4. **What type of device do you use the most when you are on Facebook?**
   a) Computer
   b) Tablet
   c) Phone
   d) I do not use Facebook

5. **Which of the following do you use to talk to people (Wall comments, status updates, inbox messages) on Facebook?** (Select all that apply)
   a) Computer
   b) Tablet
   c) Phone
   d) I do not talk to people on Facebook

6. **How much time during the past week did you use a computer to access Facebook?**
   _____ **hrs.** and _____ **min.**

7. **How much time during the past week did you use a tablet to access Facebook?**
   _____ **hrs.** and _____ **min.**

8. **How much time during the past week did you use a phone to access Facebook?**
   _____ **hrs.** and _____ **min.**

9. **Do you use Facebook while doing other tasks?**
   a) Yes
   b) No

10. **What type of relationships do you have on Facebook?** (Select all that apply)
    a) Personal
    b) Business
    c) Academic

11. **Do you have more than one profile page?**
    a) Yes
    b) No

12. **If you do have more than one profile page, do you post content to one profile that is not visible to other profiles?**
    a) Yes
    b) No
    c) I do not have a Facebook profile/more than one Facebook profile

13. **What features do you use when on Facebook?** (Select all that apply)
    a) Inbox
    b) Wall
    c) Status update
    d) Sharing (Posting photos and information from other people/sources)
    e) Poke/Games

14. **When you see statuses or comments that are emotionally charging (sad news, happy moments, etc.) online, how often do you attempt to reach out to the person?**
    a) Rarely, in less than 10% of the chances when I could have
    b) Occasionally, in about 30% of the chances when I could have
    c) Sometimes, in about 50% of the chances when I could have
    d) Frequently, in about 70% of the chances when I could have
    e) Usually, in about 90% of the chances I could have.

15. **If you do reach out to the person, which method do you use?** (Check all that apply)
    a) Like their status
    b) Inbox message
    c) Wall posting
    d) Phone message (text, or call)
    e) I do not reach out

16. **How many close friends do you have both online and offline?** (You can look at your Facebook profile)_____

SHYNESS AND SOCIABILITY SCALES FOR ADULTS (authorized English version)

Directions: Please read each item carefully and decide to what extent it is characteristic of your feelings and behavior. Fill in the blank next to each item by choosing a number from the scale printed below.

Shyness

1. I feel shy in the presence of others
2. I feel inhibited when I am with other people
3. I easily approach others *
4. It is easy for me to get in touch with strangers *
5. I feel uneasy at parties and in large groups

Sociability

6. I like to have many people around me
7. I really like to talk to other people
8. I usually prefer to do things alone *
9. I find people more stimulating than everything else
10. I prefer to work with others rather than alone

True for me: 1 (not at all) - 5 (completely)

* = Reverse-coded item

APPENDIX F

TEN-ITEM PERSONALITY INVENTORY

Directions: Here are a number of personality traits that may or may not apply to you. Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

1(Disagree strongly) 2 (Disagree moderately) 3 (Disagree a little) 4 (Neither agree nor disagree) 5 (Agree a little) 6 (Agree moderately) 7 (Agree strongly)

I see myself as:

1. _____ Extraverted, enthusiastic.

2. _____ Critical, quarrelsome.

3. _____ Dependable, self-disciplined.

4. _____ Anxious, easily upset

5. _____ Open to new experiences, complex.

6. _____ Reserved, quiet

7. _____ Sympathetic, warm.

8. _____ Disorganized, careless.

9. _____ Calm, emotionally stable.

10. _____ Conventional, uncreative.

APPENDIX G

DEMOGRAPHICS SURVEY

Demographic information

1. **What is your gender?**
   a) Male
   b) Female

2. **Age (in years) _____**

3. **Which of the following best represents your racial or ethnic heritage?**
   a) Non-Hispanic White or Euro-American
   b) Black, Afro-Caribbean, or African American
   c) Latino or Hispanic American
   d) East Asian or Asian American
   e) South Asian or Indian American
   f) Middle Eastern or Arab American
   g) Native American or Alaskan Native
   h) Multiracial

4. **Relationship status**
   a) Single
   b) Relationship
   c) Married

5. **What is the current number of hours completed at your academic institution?**
   _____

6. **How many university organization(s) are you and member of? (Greek organization, honor societies, club sports, athletic team, Student organization, etc)**
   _____

APPENDIX H

INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

Georgia Southern University Office of Research Services & Sponsored Programs **Institutional Review Board (IRB)**		
Phone: 912-478-0843		Veazey Hall 2021 P.O. Box 8005
Fax: 912-478-0719	IRB@GeorgiaSouthern.edu	Statesboro, GA 30460

To: Franklin M. Collins
Dr. Michael Nielsen

CC: Charles E. Patterson
Vice President for Research and Dean of the Graduate College

From: Office of Research Services and Sponsored Programs
Administrative Support Office for Research Oversight Committees
(IACUC/IBC/IRB)

Initial Approval Date: 12/12/13

Expiration Date: 5/31/14

Subject: Status of Application for Approval to Utilize Human Subjects in Research –
**Expedited Process**

After a review of your proposed research project numbered **H14193** and titled **"The Relationship Between Social Media and Empathy"** it appears that (1) the research subjects are at minimal risk, (2) appropriate safeguards are planned, and (3) the research activities involve only procedures which are allowable. You are authorized to enroll up to a maximum of __1__ subjects.

Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that the Institutional Review Board has approved your proposed research. – **This research will examine Facebook usage and its possible relationship with empathy online.**

If at the end of this approval period there have been no changes to the research protocol; you may request an extension of the approval period. Total project approval on this application may not exceed 36 months. If additional time is required, a new application may be submitted for continuing work. In the interim, please provide the IRB with any information concerning any significant adverse event, **whether or not it is believed to be related to the study**, within five working days of the event. In addition, if a change or modification of the approved methodology becomes necessary, you must notify the IRB Coordinator **prior** to initiating any such changes or modifications. At that time, an amended application for IRB approval may be submitted. Upon completion of your data collection, you are required to complete a *Research Study Termination* form to notify the IRB Coordinator, so your file may be closed.

Sincerely,
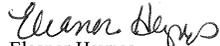
Eleanor Haynes
Eleanor Haynes
Compliance Officer