

The Problem of Technology: Human Communication In The Age of Automation

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THE PROBLEM OF TECHNOLOGY:
HUMAN COMMUNICATION IN THE AGE OF AUTOMATION

by

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A thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program in Psychology
in the College of Sciences
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Abstract

This study examined the impact social networking site use had on feelings of loneliness. It additionally examined the role personality plays in loneliness, technology use, and interpersonal relationship dynamics. Lastly, the affective consequences of social media use were examined in relation to feelings of loneliness, personality, and relationship satisfaction. Results show a significant relation between social networking use for academic-related periods and loneliness. Significant associations were also found between personality and loneliness. Lastly, significant associations were found between technology use and relationships satisfaction. Additional research should explore and replicate these findings.

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Introduction

Today, we have access to different technological applications and services, which make it easier for us to reach others. Unfortunately, there can be a downside to this convenience. When people read electronic messages, they can interpret these messages in many different ways. The broader scope of interpretation is due, in part, to the absence of facial cues and the tone of voice of one's conversational partner (Okdie, Guadagno, Bernieri, Geers, & Mclarney-Vesotski, 2011). As a result, electronic messages are more likely to be interpreted negatively than other messages and lead to potential conflicts with others.

By and large, technology allows us to communicate 24/7 and reach people all around the globe, but does it make us closer or not? This research will examine how individuals might use technology to alleviate feelings of loneliness. For those individuals who are already lonely, it may be possible that technology is a coping mechanism used to combat these negative feelings. Overall, a fuller understanding of the social and emotional impact of technology use is required in this tech-savvy age.

Recent research has started to explore the similarities and differences between online and face-to-face interactions. In the study by Okdie, Guadagno, Bernieri, Geers, and Mclarney-Vesotski (2011), compared online interactions to face-to-face ones. Specifically, they wanted to find out if first impressions were somehow affected when different modes of communication were chosen (face-to-face vs. online). There were two conditions in the study. In the first one, subjects were asked to complete a modified version of the BFI. Then, they interacted with another subject through a computer, for a total of 10 minutes. Then, participants completed a questionnaire, in which they reported on their experience (Okdie et

al., 2011). In the second one participants interacted with each other face-to-face, with a time limit of 10 minutes. Each of them filled a questionnaire again.

It was found that participants felt closer with their conversational partner in face-to-face interactions (Okdie et al., 2011). Subjects who interacted face-to-face tended to like their partner more, compared to computer interactions. Okdie et al., (2011) believe that, compared to computer-mediated communications, face-to-face interactions make people feel more attached and amiable, which may increase long-term closeness between individuals. The only downside to face-to-face interactions in this study was that participants reported difficulty in keeping a conversation going and talking about different topics with each other.

It seems that sometimes face-to-face conversations can be difficult, but having no interaction can be worse. Individuals have a need to communicate with others. In fact, the lack of communication is suggested to have an adverse effect on the physical and psychological health of people. In a meta-analytic review by Holt-Lunstad, Smith, and Layton (2010), they analyzed 148 previously published studies on topics of health and mortality associated with social isolation. By reviewing the results from 148 previous studies, researchers found a connection between one's social relationships and mortality (Holt-Lunstad, 2010). This finding indicates the consequences of one's social life and its impact on longevity. It may be that lonely individuals can experience some physical or mental problems later on in their lives because of the lack of interaction with others. In a study by Joo and Teng (2017) people who used the Internet in isolation show high levels of loneliness and deterioration in their relationships.

Another critical component to examine is the question of whether or not the personality of an individual might play a role in social interactions. Two personality traits are

of particular interest in this study – introversion and extroversion. Experiences of an introvert may be different from that of an extrovert. Zhou et al., (2017) state that extroverts are uninhibited, amiable, and exhibit high levels of energy, while introverted individuals are loners and prefer to experience lower volumes of stimulation from the environment. Since the two personality types can differ significantly in the way they communicate in real-life, it might be assumed that these communication tendencies translate into their virtual communication patterns.

The current research examined personality's effect on online behavior. A study by Zhou, Xu, and Zhao (2017) examined tweets of extraverts and introverts on the Weibo-Chinese analog of American Twitter. They asked 293 Weibo users to complete the BFI inventory and used these responses to train a machine to identify introverts and extroverts automatically. Seven thousand active users were labeled as either one or the other. It was found that the two personality types behaved differently when using the platform (Zhou et al., 2017). For instance, introverts tended to post more, compared to extroverts. Extroverts visited different websites with a higher frequency, while introverts stayed on one. Extroverts tended to post while at work, while introverts tended to check their account(s) during shopping (Zhou et al., 2017). Extrovert's and introvert's technological behaviors differ substantially. It seems that one's personality plays a role in online interactions.

In the same study, Zhou, Xu, and Zhao (2017) found that when introverts felt lonely, they tried to suppress their feelings of loneliness by tweeting excessively. Compared to introverts, who reposted the news, extroverts shared both their selfies and music with others. Interestingly, extroverts tended to mention their friends more than introverts did. Perhaps introverts preferred to keep to themselves, rather than to announce their relationships/connections publicly.

Also, researchers categorized tweets into different emotional states such as “fear, anger, happiness, sadness, and disgust” (Zhou et al., 2017). Experimenters found that “introverts post more angry and fearful (high arousal) tweets and extroverts post sadder (low arousal) ones” (Zhou et al., 2017). Since interactions on Weibo were the only ones examined in the above-described study, it is uncertain if the findings could be applied to other social networking sites or not. The current research examined if other social platforms have the same effect on interactions based on personality trait.

This study investigated how the use of different technological platforms such as e-mail, text messaging, and social media affects people’s relationships with their significant others (parents, friends, romantic partners). The current study attempted to address whether increased feelings of closeness are associated with social media use. For example, the founder of Facebook, Mark Zuckerberg (2017), argues that his social networking site (SNS) is a means of becoming closer to others. During a "Facebook Community Summit," Zuckerberg proclaimed that Facebook's new mission was to "bring the world closer together" (Zuckerberg, 2017). Although Facebook may bring people technologically closer, closing the physical distance and overcoming obstacles to communicating with those who are far away, it is still unclear if this platform brings us "psychologically" closer to others.

The investigation of the type and quality of people’s interactions through the use of technology are not new in the domain of Psychology. Palchykov, Kertesz, Dunbar, and Kasi (2013) examined the strength of people’s relationships by measuring the frequency and duration of mobile phone communication (MPC). Specifically, they looked at mobile phone records of 3.2 million subscribers from a European provider. The results of the study showed “differences in the "best friend" (the most frequently contacted individual), as well as, less-significant relationships for female and male participants.” Researchers found a positive

association between more frequent calls, increased the duration of calls, and the overall improvement in the strength of interpersonal relationships (Palchykov et al., 2013). It was also shown in this study, that women tended to communicate more with other younger women (i.e., their daughters) as they got older. Therefore, technology use as a means to maintain and sustain, familial and non-familial interpersonal relationships is supported in research.

Other research has examined a broader range of technology use, beyond phone conversations. Liu and Yang (2016) studied the association between technology use (mobile phone conversations, texting, IM, SNS, and gaming), the type of technology selected, and friendship closeness. These researchers hypothesized that the level of electronic intimacy was dependent on the chosen method of technological communication. Data from the U.S., Canada, Netherlands, Greece, Finland, China, and Taiwan was used. The sample sizes ranged from 102-3,669 participants. The average age of the samples ranges from 11.88-44 years. These researchers used a large, diverse sample measuring a variety of ways in which people can use technology to communicate.

Moreover, the findings of Liu and Yang indicated that cell phone calls and texting had a positive association with friendship closeness. According to Liu and Yang (2016), correlations were not as strong for “instant messaging, social network sites, and online gaming” (p.1). These findings help to inform our understanding of how people are using technology, which technologies are preferred for communication, and how the use of those technologies influence closeness. While a correlation between friendship closeness, cellular calls, as well as, instant messaging was found, it is unclear if romantic and family relationships are positively affected by these channels.

A study by Fan, Liu, Wang, and Wang (2017) was trying to investigate a user's dependency on technological tools and their behaviors and attitudes related to tool utilization. The data for this study was collected by the usage of a questionnaire. The study sample was selected by asking potential participants of whether or not they were smartphone users. If they were, there was an invitation given to them for study participation (Fan et al., 2017).

The above sample consisted of undergraduate, graduate, and MA students from the University of Seoul, Korea. There were a total of 265 participants in this study. The method for data analysis used in this study was structural equation modeling (Fan et al., 2017). It was found that user satisfaction, as well as, engagement were predictors for technology dependence. Engagement and responsiveness of technology tools were indicative of user satisfaction. In addition, interactivity, control, responsiveness, and communication were significant for the feeling of engagement in users (Fan et al., 2017). The findings of this study are important for the current research because they give a glimpse into how consumers utilize technology and the feelings it generates in the minds of users. While the hypotheses of the present study have no association with these results, it is essential to know how and why people use technology nowadays.

Another study by Joo and Teng (2017) attempted to find the effects of online communications on people, the levels of media dependency among users, and cognitive, behavioral, and affective effects of social media (FB) on individuals. The method of gathering data for this study was an online survey, which consisted of 28 questions. The questionnaire was distributed to 217 individuals from a friend's list on Facebook, using the account of a student volunteer. The subject's ages in this study ranged from 18 to 34 (Joo et al., 2017). Participants needed to use their Facebook accounts mainly for social purposes –

communication with others, for participation. Gender, educational background, and the current location of individuals were not considered for the purposes of this study.

In the same study by Joo and Teng (2017), there were 89 total responses (Joo et al., 2017). It was found that 62.3% of respondents use their mobile phones to access Facebook, 80.3% of respondents stated that Facebook is of a great need to them, while 11.5% of individuals said that it was critical to them. 50.5% of the sample agreed on having an addiction to Facebook. It was found that the average time the subjects spent on Facebook was 4.3 hours a day (Joo et al., 2017). The majority of the participants in this study (89%) preferred to communicate with their family through Facebook, instead of face-to-face. The overall importance of a social networking site was correlated to the individual's dependency on it. It was concluded that Facebook is an important tool for the enhancement and improvement of relationships with family and friends (Joo et al., 2017).

The reviewed research is relevant to this project, given that it is related to technology and its impact on human's psychological and physiological states. The previous studies found how technology use affected people's behaviors. A study Joo and Teng (2017), found how Facebook use affects people's relationships with their families and friends, something to expand on with the current research. This review has also added to the understanding of other issues that exist in people's technology use, like the addiction to technology many individuals have nowadays. Social networking use is also likely to create dependency in users.

This study hypothesizes that technology use will be correlated to lower levels of relationship closeness. Previous research on the topic indicates that people form positive impressions of others when they interact face-to-face (Okdie et al., 2011). The opposite is true when individuals decide to use technology to communicate with someone. While a prior

study indicates that people prefer the online method of communication, it does not mean to be beneficial when it comes to close relationships.

The second hypothesis of this study is that technology use will be correlated to the individual's feelings of loneliness. Previous research shows that when some individuals feel lonely, they tend to use technological devices/platforms to tweet excessively (Zhou et al., 2017). It will be interesting to see if the current study will have similar results with technology usage. It should be noted that participants in the stated study were from China. This finding might not apply to other countries and cultures.

The third hypothesis of this study examines if an extraversion/introversion personality traits will be correlated to the individual's use of technology. Past research finds how extraverts and introverts interact with technological tools (Zhou et al., 2017). It is, however, unclear if all websites and applications affect how individuals interact with others. The current study will attempt to answer this question.

Method

Participants

It was expected for this study to gather responses from at least 500 participants. However, the number of participants who had complete and usable data for all surveys in the study was 496. All of the participant's data was kept, even incomplete cases. SPSS uses pair-wise deletion, which means that it calculated all results, with the exception of missing values. Valid data, presented below, is based on 522 total cases.

The number of participants who had complete and usable data for all surveys before the addition of the last questionnaire - ACSMU was 435. The number of participants who had complete data for at least one survey was none. No survey was completed entirely. For the BFI, there were 501 valid cases. For the UCLA Loneliness, there were 493 valid cases. For SONTUS, there were 477 valid cases. For the MRQ, there were 451 valid cases. For the ACSMU, there were 422 valid cases. 40% of males, and 60% of females participated in this study. All were students from the University of Central Florida.

For the ethnicity variable, 26% of participants identified themselves as Hispanic/Latino(a), 57% as Non-Hispanic/Latino(a), and 17% identified themselves as other. For the race variable, 71% of participants identified themselves as White, 13% as Black or African American, .4% as American Indian or Alaska Native, 7% as Asian, .4% as Native Hawaiian or Pacific Islander, and 8.2% as other. For the year in school variable, 38% of participants identified themselves as freshmen, 23% as sophomore, 20% as junior, and 19% as senior. For the relationship status variable, 4% of participants identified themselves as

married, .2% as widowed, .2% as divorced, .4% as separated, 20% as never married, and 75.2% as single. For the income variable, 64% of participants indicated earning less than \$10,000, 15% of participants indicated earning from \$10,000 to \$19,999, 6% of participants indicated earning from \$20,000 to \$29,999, 4% of participants indicated earning from \$30,000 to \$39,999, 2% of participants indicated earning from \$40,000 to \$49,999, 1% of participants indicated earning from \$50,000 to \$59,999, 1% of participants indicated earning from \$60,000 to \$69,999, .6% of participants indicated earning from \$70,000 to \$79,999, 1% of participants indicated earning from \$80,000 to \$89,999, .4% of participant indicated earning from \$90,000 to \$99,999, 2.5% of participants indicated earning from \$100,000 to 149,999, 2.5% indicated earning more than \$150,000. Participant's ages ranged from 18 to 60 years old ($M= 20.91$ yrs, $SD= 4.4$).

Completes and Incompletes

Additional analysis was conducted for those, who completed this study fully and those, who have not. Completers were considered responses, which only had one or two items missing on an entire survey. This amounts to less than 5% of the overall data collected in a single case. Individuals who had more than that amount were classified as non-completer. Cases were also classified as complete if they had less than 5% of missing data but had not completed the last survey ACSMU due to its late addition to the study.

For the sex variable, there were 35% male, and 48% female completes and 5% male and 12% female incompletes. For the year in school, there were 33.9% freshmen, 19.8% sophomores, 16.3% juniors, and 13.3% seniors who completed the study fully, while 4.3% freshmen, 2.8% sophomores, 3.8% juniors, and 5.8% seniors have not. For the race variable, 55.5% completes were White, 11.3% were Black/African American, 0.4% were American Indian or Alaska Native, 6.7% were Asian, 0.2% Native or Pacific Islander, and 5.4% were other. 11.7% incompletes were White, 1.8% were Black/African American, 0% Native or Pacific Islander, and 0.8% were Asian, 0.4% were Native or Pacific Islander, and 5.8% were other. For ethnicity variable, 21.6% completes were Hispanic/Latino(a), 47.2% were Non-Hispanic/Latino(a), and 14.5% other. 4.2% incompletes were Hispanic/Latino(a), 9.5% Non-Hispanic/Latino(a), and 3.0% other. For the income variable, 54.8% completes and 9.9% incompletes indicated earning less than \$10,000, 12.6% completes and 2.0% incompletes indicated earning from \$10,000 to \$19,999, 4.9% completes and 1.6% of incompletes indicated earning from \$20,000 to \$29,999, 3.2% completes and 0.6% incompletes indicated earning from \$30,000 to \$39,999, 1.0% completes and 0.8% incompletes indicated earning from \$40,000 to \$49,999, 1.2% of completes and 0%

incompletes indicated earning from \$50,000 to \$59,999, 0.6% completes and 0.2% incomplete indicated earning from \$60,000 to \$69,999, 0.4% completes and 0.2% incomplete indicated earning from \$70,000 to \$79,999, 0.6% completes and 0.2% incomplete indicated earning from \$80,000 to \$89,999, 0.2% complete and 0.2% incomplete indicated earning from \$90,000 to \$99,999, 2.2% complete and 0.4% incomplete indicated earning from \$100,000 to 149,999, 1.6% complete and 0.6% incomplete participants indicated earning more than \$150,000. For relationship status, 2.8% complete and 1.6% incomplete participants identified themselves as married, 0.2% complete and 0% incomplete as widowed, 0.2% complete and 0% incomplete as divorced, 0.2% complete and 0.3% incomplete as separated, 15.7% complete and 4.2% incomplete as never married, and 64.1% complete and 10.7% incomplete as single. From the following analysis, it can be seen that more participants completed the study in its entirety, were younger, were in their freshman year in school, were female, White, Non-Hispanic, earned less than \$10,000, and were never married.

Materials

Big Five Inventory (BFI) Scale by John and Strivastava (1999). This scale was used to measure the participant's personalities. It uses such dimensions as a) extraversion vs. introversion, b) agreeableness vs. antagonism, c) conscientiousness vs. lack of direction, d) neuroticism vs. emotional stability, e) openness vs. closedness to experience. These were the reliabilities for each: extraversion ($\alpha=.85$), agreeableness ($\alpha=.77$), conscientiousness ($\alpha=.79$), neuroticism ($\alpha=.85$), and openness ($\alpha=.77$). Responses were solicited on a 5-point scale, ranging from 1 (disagree strongly) to 5 (agree strongly). Higher scores on the BFI subscales indicate higher levels of the trait, while lower scores indicate lower levels of the trait.

UCLA Loneliness Scale by Peplau and Ferguson (1978). This scale measures the individual's feelings of loneliness and social isolation. Responses were solicited on a 4-letter scale, ranging from O (I often feel this way) to N (I never feel this way). The total number of questions on this scale is 20. The reliability of this scale is ($\alpha=.95$). For responses, all O's=3, all S's=2, all R's=1, and all N's=0. Higher scores on UCLA scale indicate decreased levels of loneliness, while lower scores indicate increased loneliness.

Social Networking Time Use Scale (SONTUS) by Olufadi (2015). This scale measures the amount of time individuals spend using social networks in different social situations. The subscales had the following reliabilities: relaxation and free periods ($\alpha=.75$), academic-related periods ($\alpha=.61$), public-places-related use ($\alpha=.61$), stress-related periods ($\alpha=.60$), and motives for use ($\alpha=.50$). Responses were solicited on an 11-point scale, ranging from 1 (not applicable to me during the past week) to 11 (I used it more than three times during the past week but spent more than 30 minutes each time). The total number of questions on this scale is 52. In scoring the SONTUS, five component scores were derived. The components scores were summed to produce a global score that ranged from 5 to 23. An individual with a global score that ranges from 5 to 9 was regarded as a low user of SNSs. An individual with a global score that ranges from 10 to 14 was regarded as an average user of SNSs. An individual with a global score that ranges from 15 to 19 was regarded as a high user of SNSs. An individual with a global score that is more than 19 was regarded as an extremely high user of SNSs.

The Multidimensional Relationship Questionnaire (MRQ) by Snell, Schicke, and Arbriter (2002)-Turkish version. The original version of the MRQ can only be applied to intimate/romantic relationships, which is why the Turkish version was utilized for this study

and applied to other relationship types (e.g., family and friendships). This scale was used to measure an individual's relationships with significant others (family, friends, and romantic partners). The responses were coded from 0 (not at all characteristic of me) to 4 (very characteristic of me). The total number of questions on this questionnaire is 53. The subscales had the following reliabilities: relationship esteem ($\alpha=.76$), relationship preoccupation ($\alpha=.87$), internal relationship control ($\alpha=.66$), relationship consciousness ($\alpha=.65$), relationship motivation ($\alpha=.82$), relationship anxiety ($\alpha=.83$), relationship assertiveness ($\alpha=.44$), relationship depression ($\alpha=.89$), external relationship control ($\alpha=.81$), relationship monitoring ($\alpha=.78$), fear of relationship ($\alpha=.31$), and relationship satisfaction ($\alpha=.80$).

Affective Consequences of Social Media Use Scale (ACSMU) by White (2018). This rationally derived scale was created to assess the affective consequences after using social media a lot and after not using it for a while. Items on the scale attempt to determine the interpersonal implications (i.e., feeling closer to others) and the emotional consequences (e.g., generalized positive and negative affect). The scales for time on social media ($\alpha=.73$) and the time off social media ($\alpha=.81$) were all reliable. Responses were solicited on a 5-point scale, ranging from 1 (disagree strongly) to 5 (agree strongly). The total number of questions on this scale is 24. To calculate scores on the subscales (time on social media/time off social media), items from the respective scales were added together. Higher scores indicate higher levels of affective, social media use, while lower scores indicate lower levels of affective, social media use.

Procedures

Participants were recruited and self-selected into the study through the online study participant system SONA. The study availability was also announced in Webcourses.

Participants would select the link to the study and sign-up through the SONA system where they were re-directed to Qualtrics-a software survey system where they responded to study questions. The surveys were presented to participants in the following order: 1) Big Five Inventory (BFI) Scale by John and Strivastava (1999), 2) UCLA Loneliness Scale by Peplau and Ferguson (1978), 3) Social Networking Time Use Scale (SONTUS) by Olufadi (2015), 4) The Multidimensional Relationship Questionnaire (MRQ) by Snell, Schicke, and Arbriter (2002)-Turkish version, 5) Affective Consequences of Social Media Use Scale (ACSMU) by White (2018), and 6) Demographics questions. Completion of study measures was estimated to take approximately 40 minutes. Renaming of variables was done. The descriptive statistic was performed for variables such as age, sex, race/ethnicity, number of years in school, marital status, and income. Correlational and reliability, analyses were done as well. All of these operations were performed by the use of a statistical program-SPSS.

Results

When comparing participants on the demographic variable of age, completers ($M=20.19$, $SD=3.78$) in comparison to non-completers ($M=21.63$, $SD=5.17$) were significantly younger ($t(493)=-2.96$, $p=.003$). Gender was found to be significant in relation to completion and incompletion ($X^2(1)=6.20$, $p<.05$). 0 cells (.0%) have expected count less than 5. The minimum expected count is 33.13; the expectation was not met. Therefore, there were more women completers. There was a significant association between the year in school and completing the study ($X^2(3)=19.07$, $p<.001$). 0 cells (.0%) have expected count less than 5; this assumption was met. The minimum expected count is 15.90. Therefore, there were more freshmen completers. Race was not significant for completers and non-completers ($X^2(5)=3.26$, $p=ns$). 4 cells (33.3 %) have expected count less than 5. The minimum expected count is .32. Ethnicity was not significant for completers and non-completers ($X^2(3)=5.08$, $p=ns$). 2 cells (25.0%) have count less than 5. The minimum expected count is .17. Income was not significant for completers and non-completers ($X^2(11)=12.71$, $p=ns$). 13 cells (54.2%) have expected count less than 5. The minimum expected count is .33. 13 cells (54.2%) have expected count less than 5. The minimum expected count is .33. Relationship status was not significant for completers and non-completers ($X^2(5)=11.10$, $p=ns$). 7 cells (58.3%) have expected count less than 5. The minimum expected count is .17.

To study if the first hypothesis, that relates to a possible correlation between technology use and close relationships being affected negatively, “Social Networking Time Use Scale (SONTUS)” by Olufadi (2015) and “The Multidimensional Relationship Questionnaire (MRQ)” by Snell, Schicke, and Arbriter (2002)-Turkish version were

compared. Relaxation use had a significant, positive correlation ($r(443)=.234, p<.01$) with relationship preoccupation. As relaxation use increased, relationship preoccupation tended to increase. Stress use had a significant, positive correlation ($r(443)=.152, p<.01$) with fear of relationship. As stress use increased, fear of relationship increased as well. Stress use had a significant, positive correlation ($r(443)=.337, p<.01$) with relationship depression. As stress use increased, relationship depression increased. Significant and insignificant associations were found for the remaining variables (See Table 1). It can be stated that technology can hurt relationships. The hypothesis was supported.

To examine the second hypothesis, that relates to a possible correlation between technology use and individual's feelings of loneliness, "Social Networking Time Use Scale (SONTUS)" by Olufadi (2015) and "UCLA Loneliness Scale" by Peplau and Ferguson (1978) were compared. Academic-related periods had a significant negative correlation ($r(478)=-.109, p<.05$) with loneliness. As academic use increased, loneliness increased. All remaining associations were not significant (See Table 2). It can be stated that participants felt lonelier when using social media during academic periods. The hypothesis was partially supported.

To investigate the third hypothesis, which relates to a possible correlation between an extraversion personality trait and an individual's use of technology, "Social Networking Time Use Scale (SONTUS)" by Olufadi (2015) and "Big Five Inventory (BFI) Scale" by John and Strivastava (1999) were compared. Relaxation and free periods had an insignificant, positive correlation ($r(485)=.036, p=ns$) with extroversion. Academic-related periods had an insignificant, negative correlation ($r(485)=-.029, p=ns$) with extraversion. It can be concluded that there were no significant associations between social networking use and extraversion

personality trait. The hypothesis was unsupported. However, some of the remaining associations were found to be significant (See Table 3).

To inquire if personality correlated to affective consequences after using social media a lot and after not using it for a while, Big Five Inventory (BFI) Scale by John and Strivastava (1999) and Affective Consequences of Social Media Use Scale by White (2018) were compared. Extraversion had a significant, negative correlation ($r(419)=-.118, p<.05$) with time on social media and a significant, positive correlation ($r(419)=.133, p<.01$) with time off social media. Agreeableness had a significant, negative correlation ($r(419)=-.130, p<.01$) with time on social media and a significant, positive correlation ($r(419)=.215, p<.01$) with time off social media. Other significant associations for personality traits were found (See Table 4). As scores on extraversion and agreeableness increased, affective consequences for time on social media decreased and as scores on extraversion and agreeableness increased, affective consequences time off social media increased. It can be concluded that personality plays a role in affective consequences of time on and off social media.

To inspect if loneliness correlated with affective consequences after using social media a lot and after not using it for a while, UCLA Loneliness Scale by Peplau and Ferguson (1978) and Affective Consequences of Social Media Use Scale by White (2018) were compared. Loneliness had a significant, negative correlation ($r(414)=-.402, p<.01$) with time on social media and a significant, positive correlation ($r(414)=.183, p<.01$) with time off social media (See Table 5). These results suggest that higher levels of loneliness were associated with higher levels of adverse affective reactions to time spent on social media. Whereas, lower levels of loneliness also indicate lower levels of negative affect in time spent off of social media.

To see if individual's relationships satisfaction with significant others (family, friends, and romantic partners) had a correlation with affective consequences after using social media a lot and after not using it for a while The Multidimensional Relationship Questionnaire (MRQ) by Snell, Schicke, and Arbriter (2002)-Turkish version and Affective Consequences of Social Media Use Scale by White (2018) were compared. Time on social media had a significant, positive correlation ($r(387)=.274, p<.01$) with relationship anxiety. As time on social media increased, relationship anxiety increased. Time on social media had a significant, negative correlation ($r(387)=-.144, p<.01$) with relationship satisfaction. As time on social media increased, relationship satisfaction decreased. Time on social media had a significant, positive correlation ($r(387)=.291, p<.01$) with fear of relationship. As time on social media increased, fear of relationship increased as well. For associations between other variables see Table 6. It can be stated that time on social media tended to impact an individual's relationships adversely.

To analyze if social networking time use correlated to affective consequences after using social media a lot and after not using it for a while, "Social Networking Time Use Scale (SONTUS)" by Olufadi (2015) and Affective Consequences of Social Media Use Scale by White (2018) were compared. Stress-related periods had an insignificant, positive correlation ($r(410)=.095, p<.05$) with time on social media and a significant, negative correlation ($r(410)=-.196, p<.01$) with time off social media. Relaxation and free periods had a significant, negative correlation ($r(410)=-.160, p<.01$) with time off social media. Academic-related periods had a significant, negative correlation ($r(410)=-.172, p<.01$) with time off social media. Public-places-related use had a significant, negative correlation ($r(410)=-.215, p<.01$) with time off social media. Motives for use had a significant, negative correlation ($r(410)=-.203, p<.01$) with time off social media. Other correlations were found to

be insignificant (See Table 7). It can be inferred that as stress, relaxation, academic, public-places, and motives uses increased, affective consequences for time off social media decreased. As stress-use increased, affective consequences tended to increase as well.

To learn if there was a possible correlation between personality and loneliness, Big Five Inventory (BFI) Scale by John and Strivastava (1999) and UCLA Loneliness Scale by Peplau and Ferguson (1978) were compared. Extraversion, agreeableness, and conscientiousness had significant, positive correlations with loneliness ($r(490)=.382, p<.01$), ($r(490)=.185, p<.01$), ($r(490)=.258, p<.01$) respectively. Neuroticism had a significant, negative correlation ($r(490)=-.567, p<.01$) with loneliness. A correlation between openness and loneliness was found to be insignificant. (See Table 8). Neuroticism significantly predicted loneliness in the sample. It seems that participants with higher scores for the trait of neuroticism tended to be lonelier. It can be stated that one's personality is a great predictor of loneliness.

Discussion

The first hypothesis in this study was supported. Positive and negative use of social media seems to have harmful consequences for relationship preoccupation, fear of relationship, and relationship depression. A study by Okdie et al., 2011 found that individuals felt closer to their conversational partner after face-to-face interactions. It may be that they tended to feel this way because they experienced other's immediate presence and received instant facial and auditory feedback, which could help them to detect the actual feelings towards them from the other individual(s). This type of feedback is not possible when technological tools are used for texting and e-mailing, which may worry people, given that they can only guess someone else's true reactions to something that was stated in the IM.

The second hypothesis was partially supported since only academic use of social media increased loneliness in the sample. Joo and Teng, 2017 found that people felt lonelier by using the Internet in isolation. They also found that these individual's relationships tended to deteriorate as a result. It is likely that when people use technological tools for academic tasks, they need to be able to concentrate. To do that, they may need to find calm places, where they will not be disturbed by anyone. Some may feel lonely by isolating themselves from the presence of others, even if temporary.

The third hypothesis in this study was unsupported. Extraversion/introversion seems to have a small effect on how people with these personality traits interacted with others using social networking sites. The results from a study by Zhou et al., 2017 seem to contradict with these findings, taking into account that they found a personality to be a great predictor of online behavior. A cultural factor might have played a substantial role in how Chinese introverts and extraverts used their technological tools, compared to participants in the

current sample, which included individuals from diverse cultural backgrounds. It may also be that individuals in this study were not responding honestly, or did not pay attention to the study's questions. It should be taken into consideration that some participants answered validity questions incorrectly.

Personality seems to play a role in emotional responses to time on and off social media. These findings indicate that the use of social media may have either a positive or negative emotional effect, depending on who uses it. Lonely individuals who spend time on social media, for instance, tended to experience antagonistic affective reactions because of their social networking use, and those who are less lonely spend time off social media and tend not to experience negative emotions common to use of social media. So, it seems that only certain individuals seem to experience adverse effects from the time they spend on social media., but not others.

Strengths and Limitations

One strength in this study was a sample size of 496 students. Another strength of this study was that it looked at many variables and found numerous correlations, which could impact people's perceptions of technology, its use, and effects. Additional strength in this study was the addition of Affective Consequences of Social Media Use Scale (ACSMU) by White (2018). This scale was very useful in measuring emotional responses to social media use, which was not previously done. Also, it should be noted that ACSMU scale was added later in the research and not all of the participants were able to answer questions from it because of that. It is likely that correlations in this study could have been higher if the scale was to be included earlier.

The limitations in this study were low-reliability scores for four subscales in Social

Networking Time Use Scale (SONTUS) by Olufadi (2015). Subscales for academic-related periods ($\alpha=.61$), public-places-related use ($\alpha=.61$), stress-related periods ($\alpha=.60$), and motives for use ($\alpha=.50$) all had reliabilities less than .70, so the results for these subscales are considered unreliable. Some subscales on The Multidimensional Relationship Questionnaire (MRQ) by Snell, Schicke, and Arbritter (2002)-Turkish version questionnaire had low reliabilities as well. Internal relationship control ($\alpha=.66$), relationship consciousness ($\alpha=.65$), relationship assertiveness ($\alpha=.44$), and fear of relationship ($\alpha=.31$) had small reliability values.

Future Directions

This study could be expanded in including middle school, high school, and college students and seeing how their lives are affected by the use of technology. It would be interesting to see the general attitudes and usage patterns of older adults, who belong to a different generation entirely. People, who avoid technology, altogether could add insight into how to limit technology use for people who are heavy-users or those who might have an addiction to technology. It could be interesting to find if an individual's income is associated with social media use. It is likely that people from higher socioeconomic strata can buy more technological tools, and as a consequence can use them for more extended periods of time, compared to people from the low-income bracket. In addition, it is important to expand this study and see if technology affects the mood of the user.

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Appendix

Table 1.

Inter-Correlations among Relationship Subscales and Social Media Use Subscales

Subscale	1	2	3	4	5	6	7	8	9	10
1. SONTUS_R	---									
2. Academic_Use	.67**	---								
3. Public_Use	.71**	.57**	---							
4. Stress_Use	.72**	.59**	.58	---						
5. Motives_Use	.58**	.53**	.59**	.58**	---					
6. Rel_Esteem	.06	.01	-.00	.01	.02	---				
7. Rel_Preoccupat	.23**	.15**	.21**	.24**	.20**	.25**	---			
8. Int_Rel_Cont	.11**	.04	.11*	.09	.06	.56**	.43**	---		
9. Rel_Conscious	.22**	.17**	.19**	.20**	.16**	.33**	.79**	.41**	---	
10. Rel_Motivat	.12*	.14**	.08	.06	.09	.41**	.62**	.40**	.74**	---

Note. $N=444$. Correlations .40 and above are highlighted. ** $p < .01$, 2-tailed. SONTUS_R = SONTUS Relaxation, Rel_Esteem=Relationship Esteem, Rel_Preoccupat=Relationship Preoccupation, Int_Rel_Cont=Internal Relationship Control, Rel_Conscious=Relationship Consciousness, Rel_Motivat=Relationship Motivation.

(Continued)

Subscale	1	2	3	4	5	6	7	8	9	10
1. SONTUS_R	---									
2. Academic_Use	.67**	---								
3. Public_Use	.71**	.57**	---							
4. Stress_Use	.72**	.59**	.58	---						
5. Motives_Use	.58**	.53**	.59**	.58**	---					
6. Rel_Anxiety	.19**	.13**	.27**	.25**	.27**	---				
7. Rel_Depression	.25**	.13**	.28**	.34**	.29**	-.19**	---			
8. Ext_Rel_Cont	.09	.08	.12**	.12**	.14**	.03	.30**	---		
9. Rel_Satisfact	.02	.01	.01	-.01	.02	.60**	.16**	.52**	---	
10. Fear_of_Rel	.08	.11**	.07	.15**	.16**	-.34**	.14**	-.15**	.01	---

Note. $N=444$. Correlations .40 and above are highlighted. ** $p < .01$, 2-tailed. SONTUS_R =

SONTUS Relaxation, Rel_Anxiety=Relationship Anxiety, Rel_Depression=Relationship Depression, Ext_Rel_Control=External Relationship Control, Rel_Satisfact=Relationship Satisfaction, Fear_of_Rel=Fear of Relationship.

(Continued)

Subscale	1	2	3	4	5	6	7
1. SONTUS_R	---						
2. Academic_Use	.67**	---					
3. Public_Use	.71**	.57**	---				
4. Stress_Use	.72**	.59**	.58	---			
5. Motives_Use	.58**	.53**	.59**	.58**	---		
6. Rel_Assert	.02	-.03	.03*	.02	-.06	---	
7. Rel_Monitor	.22**	.16**	.24**	.25**	.26**	.03	---

Note. N=444. Correlations .40 and above are highlighted. * $p < .05$, ** $p < .01$, 2-tailed. SONTUS_R = SONTUS Relaxation, Rel_Assert=Relationship Assertiveness, Rel_Monitor=Relationship Monitoring.

Table 2.

Inter-Correlations among Loneliness and Social Media Use Subscales

Subscale	1	2	3	4	5	6
1. UCLA_TOTAL	---					
2. SONTUS_R	-.02	---				
3. Public_Use	-.05	.72**	----			
4. Stress_Use	-.08	.72**	.59**	----		
5. Motives_Use	-.02	.58**	.53**	.59**	----	
6. Academic_Use	-.11**	.67**	.58**	.59**	.53**	---

Note. N=479. Correlations .40 and above are highlighted. ** $p < .01$, 2-tailed. SONTUS_R = SONTUS Relaxation.

Table 3.

Inter-Correlations among Personality Subscales and Social Media Use Subscales

Subscale	1	2	3	4	5	6	7	8	9	10
1. SONTUS_R	---									
2. Academic_Use	.67**	---								
3. Public_Use	.71**	.57**	---							
4. Stress_Use	.72**	.59**	.58	---						
5. Motives_Use	.58**	.53**	.59**	.58**	---					
6. Extraversion	.04	-.03	.02	.03	.02	---				
7. Agreeableness	-.12**	-.04	-.18**	-.11**	-.11**	.15**	---			
8. Conscientious	-.19**	-.19**	-.16**	-.16**	-.15**	.19**	.36**	---		
9. Neuroticism	.14**	.21**	.07	.18**	.09	-.30**	-.25**	-.38**	---	
10. Openness	-.03**	-.02	-.06	-.03	-.12**	.24**	.22**	.05	-.03	---

Note. N=486. Correlations .40 and above are highlighted. ** $p < .01$, 2-tailed. SONTUS_R = SONTUS Relaxation.

Table 4.

Inter-Correlations among Personality Subscales and Affective Consequences of Social Media Use Subscales

Subscale	1	2	3	4	5	6	7
1. Extraversion	---						
2. Agreeableness	.15**	---					
3. Conscientious	.19**	.36**	----				
4. Neuroticism	-.30**	-.25**	-.38**	----			
5. Openness	.24**	.22**	.05*	-.03	----		
6. Time_on_sm	-.12**	-.13**	-.15**	.35**	.12**	----	
7. Time_off_sm	.13**	.22**	.18**	-.14**	.09	.22**	---

Note. N=420. $p < .05$ ** $p < .01$, 2-tailed. Time_on_sm = Time on social media. Time_off_sm = Time off social media.

Table 5.

Inter-Correlations among Affective Consequences of Social Media Use and Loneliness

Subscale	1	2	3
----------	---	---	---

1. Time_on_sm	---		
2. Time_off_sm	.22**	---	
3. UCLA_total	-.40**	.18**	---

Note. N=415. Correlations .40 and above are highlighted.

** $p < .01$, 2-tailed. Time_on_sm = Time on social media.

Time_off_sm = Time off social media.

Table 6.

Inter-Correlations among Relationship Subscales and Affective Consequences of Social

Media Use Subscales

Subscale	1	2	3	4	5	6	7	8	9	10
1. Time_on_sm	---									
2. Time_off_sm	.22**	---								
3. Rel_Esteem	-.07	.24**	---							
4. Rel_Preoccupat	.26**	-.02	.25**	---						
5. Int_Rel_Cont	.02	.11*	.56**	.43**	---					
6. Rel_Conscious	.22**	.04	.33**	.79**	.41**	---				
7. Rel_Motivat	.14**	.13**	.41**	.62**	.40**	.74**	---			
8. Rel_Anxiety	.27**	-.34**	-.31*	.31**	-.01	.19**	.02	---		
9. Rel_Depression	.32**	-.36**	-.19**	.38**	.04	.25**	.05	.77**	---	
10. Ext_Rel_Cont	.22**	-.09	.03	.30**	.17**	.25**	.18**	.35**	.41**	---

Note. N=388. Correlations .40 and above are highlighted. * $p < .05$, ** $p < .01$, 2-tailed.

Time_on_sm= Time on social media. Time_off_sm = Time off social media.

Rel_Esteem=Relationship Esteem, Rel_Preoccupat=Relationship Preoccupation,

Int_Rel_Cont=Internal Relationship Control, Rel_Conscious=Relationship Consciousness,

Rel_Motivat=Relationship Motivation, Rel_Anxiety=Relationship Anxiety,

Rel_Depression=Relationship Depression, Ext_Rel_Control=External Relationship Control.

(Continued)

Subscale	1	2	3	4	5	6
1. Time_on_sm	---					
2. Time_off_sm	.22**	---				

3. Rel_Satisfact	-.14**	.25**	---			
4. Fear_of_Rel	.29**	-.20**	-.31**	---		
5. Rel_Assert	-.12*	.17**	.43**	.10**	---	
6. Rel_Monitor	.18**	-.13**	.02	.37**	-.11**	---

Note. N=388. Correlations .40 and above are highlighted. * $p < .05$, ** $p < .01$, 2-tailed. Time_on_sm= Time on social media. Time_off_sm = Time off social media. Rel_Satisfact=Relationship Satisfaction, Fear_of_Rel=Fear of Relationship, Rel_Assert=Relationship Assertiveness, Rel_Monitor=Relationship Monitoring.

Table 7.

Inter-Correlations among Social Media Use and Affective Consequences of Social Media

Use Subscales

Subscale	1	2	3	4	5	6	7
1. Time_on_sm	---						
2. Time_off_sm	.22**	---					
3. SONTUS_Rel	.04	-.16**	----				
4. Academis_Use	-.01	-.17**	.67**	----			
5. Public_Use	.03	-.25**	.72**	.58**	----		
6. Stress_Use	.10*	-.20**	.72**	.59**	.69**	----	
7. Motives_Use	.03	-.20**	.58**	.53**	.59**	.58**	---

Note. N=411. Correlations .40 and above are highlighted. * $p < .05$, ** $p < .01$, 2-tailed. Time_on_sm = Time on social media. Time_off_sm = Time off social media. SONTUS_Rel = SONTUS Relaxation

Table 8.

Inter-Correlations among Personality and Loneliness

Subscale	1	2	3	4	5	6
1. UCLA_Total	---					
2. Openness	-.08	---				
3. Neuroticism	-.57**	-.03	----			
4. Conscientiousn	.26**	.05	-.38**	----		

5. Agreeableness	.19**	.22**	-.25**	.36**	----	
6. Extraversion	.38**	.24**	-.30**	.19**	.15**	----

Note. $N=491$. Correlations .40 and above are highlighted. ** $p < .01$, 2-tailed.

Big Five Inventory (BFI)

by John and Strivastava (1999)

This survey is a 44-item inventory that measures an individual on the Big Five Factors (dimensions) of personality. Provided are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please respond to each statement to indicate the extent to which you agree or disagree with that statement.

1. Is talkative.
2. Tends to find fault with others.
3. Does a thorough job.
4. Is depressed, blue.
5. Is original, comes up with new ideas.
6. Is reserved.
7. Is helpful and unselfish with others.
8. Can be somewhat careless.
9. Is relaxed, handles stress well.
10. Is curious about many different things.
11. Is full of energy.
12. Starts quarrels with others.
13. Is a reliable worker.
14. Can be tense.
15. Is ingenious, a deep thinker.
16. Generates a lot of enthusiasm.
17. Has a forgiving nature.

18. Tends to be disorganized.
19. Worries a lot.
20. Has an active imagination.
21. Tends to be quiet.
22. Is generally trusting.
23. Tends to be lazy.
24. Is emotionally stable, not easily upset.
25. Is inventive.
26. Has an assertive personality.
27. Can be cold and aloof.
28. Perseveres until the task is finished.
29. Can be moody.
30. Values artistic, aesthetic experiences.
31. Is sometimes shy, inhibited.
32. Is considerate and kind to almost everyone.
33. Does things efficiently.
34. Remains calm in tense situations.
35. Prefers work that is routine.
36. Is outgoing, sociable.
37. Is sometimes rude to others.
38. Makes plans and follows through with them.
39. Gets nervous easily.
40. Likes to reflect, play with ideas.
41. Has few artistic interests.

42. Likes to cooperate with others.

43. Is easily distracted.

44. Is sophisticated in art, music, or literature.

Possible responses include: 1) Disagree strongly, 2) Disagree a little, 3) Neither agree nor disagree, 4) Agree a little, 5) Agree strongly.

UCLA Loneliness Scale

by Peplau and Ferguson (1978)

A 20-item scale designed to measure one's subjective feelings of loneliness as well as feelings of social isolation.

1. I am unhappy doing so many things alone.
2. I have nobody to talk to.
3. I cannot tolerate being so alone.
4. I lack companionship.
5. I feel as if nobody really understands me.
6. I find myself waiting for people to call or write.
7. There is no one I can turn to.
8. I am no longer close to anyone.
9. My interests and ideas are not shared by those around me.
10. I feel left out.
11. I feel completely alone.
12. I am unable to reach out and communicate with those around me.
13. My social relationships are superficial.
14. I feel starved for company.
15. No one really knows me well.
16. I feel isolated from others.
17. I am unhappy being so withdrawn.
18. It is difficult for me to make friends.
19. I feel shut out and excluded by others.
20. People are around me but not with me.

Response options: O indicates “I often feel this way,” S indicates “I sometimes feel this way,” R indicates “I rarely feel this way,” N indicates “I never feel this way.”

Social Networking Time Use Scale (SONTUS)

by Olufadi (2015)

A 52-item scale used to measure time use on social networking sites. Kindly use the scale below to indicate how often you have used social networking sites like Facebook, Instagram, WhatsApp, Twitter, Myspace, Pinterest etc., during the past week in the following situations and places.

1. When you are at home sitting idly.
2. When you are watching TV, news, football, films, sports, etc.
3. When you are in the office but idle.
4. When you are waiting for someone (e.g., friends) either in their house or at a pre-arranged place.
5. When you are waiting for a bus/train at the bus/train station.
6. When you are in the company of friends/family/colleagues having fun.
7. When you are at a place to repair your car, house appliances, etc.
8. As a driver when trapped in heavy traffic for at least 2 min.
9. When you are eating or drinking outside your home e.g., cafeteria.
10. When you are relaxing.
11. When you are in bed about to sleep.
12. When you are at the clinic/hospital waiting to be attended to by the doctor.
13. When you are listening to music, radio, religious lectures etc.
14. When you are a passenger in a car/bus/train for at least 2 min.
15. When you are waiting for your boss in her office for at least 2 min when she is not attending to you.
16. When you are at the market, shopping mall etc.

17. When you are sitting in a religious place (e.g., church/mosque) and religious activities like prayer or sermon is in progress.
18. When you are at the place of work with a lot of work to do.
19. When you are at the clinic/hospital receiving treatment.
20. When you are sitting in a religious place (e.g., church, mosque) and activities like sermon or prayer is yet to start.
21. When you are walking on the street, road-side, class corridors etc.
22. When you go to the stadium to watch football, basketball etc.
23. When you are reading in the library for non-academic purpose e.g., reading the newspaper.
24. When you are at a social gathering like/(wedding ceremony, birthday party, reception etc.).
25. When you go to the cinema house to watch movie(s).
26. When you are in the class receiving lecture.
27. When you are reading/studying for academic purpose outside the library e.g., at home.
28. When you are reading in the library for academic purpose e.g., recommended text for class.
29. When you are reading or studying something related to your work/job.
30. When you are online doing school or job-related works e.g., project, homework.
31. When you are at a seminar/workshop or training program.
32. When you are doing school or job-related assignment at home.
33. Watching academic-related video lectures or those related to your job.
34. When you are sitting in a religious place (e.g., church, mosque) to learn about your religion.

35. When you need to reduce your mental stress.
36. When you want to reduce the pressure of your daily routines.
37. When you have emotional worries.
38. When you have gone through a lot of stress.
39. When you are trying to forget your financial challenges.
40. When you need to reduce your emotional stress.
41. When you need to reduce your physical stress.
42. When you need to find people you haven't seen for a while.
43. When you need to find out more about people you met offline.
44. When you need to communicate with your families and friends.
45. When you need to maintain contact with existing friends.
46. When you are cooking.
47. When you are eating or drinking at home.
48. When you are dressing up for class or office.
49. When you wake up in the morning.
50. When you wake up in the midnight and couldn't sleep again.
51. When you are on a queue for at least 2 min.
52. When you are in a meeting.

Possible responses include: 1) not applicable to me during the past week, 2) I never used it during the past week, 3) I used it once during the past week but spend less than 10 min, 4) I used it once during the past week but spend between 10 and 30 min, 5) I used it once during the past week but spent more than 30 min, 6) I used it between 2 and 3 times during the past week but spend less than 10 min each time, 7) I used it between 2 and 3 times during the past week but spend between 10 and 30 min each time, 8) I used it between 2 and 3 times during

the past week but spent more than 30 min each time, 9) I used it more than 3 times during the past week but spend less than 10 min each time, 10) I used it more than 3 times during the past week but spend between 10 and 30 min each time, 11) I used it more than 3 times during the past week but spent more than 30 min each time.

The Multidimensional Relationship Questionnaire (MRQ)

by Snell, Schicke, and Arbriter (2002)-Turkish version

This survey is a 53-item inventory that measures people's relationships with their families, friends, and romantic partners. Note that some questions can be applied to the three relationships types mentioned above, while some are very specific and relate to romantic relationships only.

1. I am confident of myself as a partner in close relationships.
2. I continuously think about close relationships.
3. I excessively think about close relationships.
4. I want/am motivated to be in a close relationship very much.
5. Close relationships make me feel angry and anxious.
6. I feel depressed about close relationships.
7. Generally my close relationships develop by chance.
8. I am excessively interested in thoughts of others about my relationships.
9. I am afraid a bit of being in a close relationship.
10. I am satisfied about the way my needs are met in my current relationship.
11. I consider myself as a good partner in close relationships.
12. I think about close relationships more than anything else.
13. Generally my behaviors are characteristic in my close relationships.
14. Generally I spend sometimes to think about my close relationships.
15. I am very willing/motivated to spend time and effort for a close relationship.
16. I am a bit awkward and anxious in close relationships.
17. I directly express my choices in close relationships.
18. I feel myself unhappy about close relationships.

19. I give importance to presentation/appearance of my close relationships.
20. I am sometimes afraid of close relationships.
21. I am very happy/satisfied about my close relationships.
22. I am better than many people in close relationships.
23. My mind is busy with close relationships.
24. Generally relationship control is in my hands.
25. I want to be in a close relationship very much.
26. I feel anxious about being in a close relationship with the opposite gender.
27. I am a bit passive to express my wishes in close relationships.
28. I feel discouraged in close relationships.
29. Chance plays an important role in my close relationships.
30. I am generally worried about the impression of my relationship on other people.
31. Sometimes I am afraid to be in a close relationship with someone.
32. My basic needs are met in my close relationship.
33. I consider myself as a preferred partner for close relationships.
34. I continuously think about being in a close relationship.
35. My performance has basic influence on close relationships.
36. To be in a close relationship is very important for me.
37. I am more anxious than many people in close relationships.
38. I do not hesitate to express my wishes in close relationships.
39. I feel myself disappointed about close relationships.
40. I believe in the role of chance (negative/positive) in close relationships.
41. Generally I am sensitive to reactions of other people about my close relationships.
42. I am not much afraid of being in a close relationship.

43. My close relationships are better than many others.
44. I trust myself in close relationships.
45. I spend a lot of time thinking about close relationships.
46. My close relationships are under my control and responsibility.
47. I want much to be in and carry on a close relationship.
48. I feel ashamed and hesitant in close relationships.
49. I generally express my wishes about close relationships.
50. I feel upset when I think of close relationships.
51. I think that a close relationship is a matter of fate/chance.
52. Reactions of other people to my relationship are important for me.
53. Close relationships that are a part of my life are very satisfactory.

Responses include: 1) Not at all characteristic of me, 2) Slightly characteristic of me, 3)

Somewhat characteristic of me, 4) Moderately characteristic of me, 5) Very characteristic of me.

Affective Consequences of Social Media Use

by White (2018)

The 24-item scale designed to measure affective consequences related to time on and time off social media. The next set of statements are related to feelings or emotions people can experience when using social media. Please use the provided response format to indicate your agreement with how much each statement reflects your thoughts, emotions, or feelings when using social media.

1. After spending a lot of time on social media, I feel closer to my friends or family.
2. After spending a lot of time on social media, I feel closer to the person I am dating/my significant other.
3. After spending a lot of time on social media, I regret not spending time with my friends or family in real life.
4. After spending a lot of time on social media, I regret not spending time with the person I am dating/my significant other in real life.
5. After spending a lot of time on social media, I don't feel closer to people.
6. After spending a lot of time on social media, I miss interacting with people in real life.
7. After spending a lot of time on social media, I feel happy.
8. After spending a lot of time on social media, I feel joyful.
9. After spending a lot of time on social media, I feel energized.
10. After spending a lot of time on social media, I feel anxious.
11. After spending a lot of time on social media, I feel depressed.
12. After spending a lot of time on social media, I feel irritable.
13. When I don't spend a lot of time on social media, I feel closer to my friends or family.

14. When I don't spend a lot of time on social media, I feel closer to the person I'm dating/significant other.
15. When I don't spend a lot of time on social media, I feel closer to people.
16. When I don't spend a lot of time on social media, I feel happy.
17. When I don't spend a lot of time on social media, I feel joyful.
18. When I don't spend a lot of time on social media, I feel energized.
19. When I don't spend a lot of time on social media, I feel anxious.
20. When I don't spend a lot of time on social media, I feel depressed.
21. When I don't spend a lot of time on social media, I feel irritable.
22. When I don't spend a lot of time on social media, I miss interacting with friends or family online.
23. When I don't spend a lot of time on social media, I miss interacting with my dating partner/significant other online.
24. When I don't spend a lot of time on social media, I miss being online.

Possible responses include: 1) Strongly disagree, 2) Somewhat disagree, 3) Neither agree nor disagree, 4) Somewhat agree, 5) Strongly agree.