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Developing a Social Media Behavior Scale

Heather Otelia Cissel

2018

Master's of Science in Psychological Sciences

School of Arts and Sciences

University of North Florida

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Abstract

When the topic of social media usage arises, the connotation is usually negative, with a focus on the negative impact both on the individual and on society (Greysen, Kind, & Chretien, 2010). In response to these perceived negative effects, some researchers have created a Social Media Disorder Scale (Van Den Eijnden, Lemmens, & Valkenburg, 2016) in order to address a diagnostic cutoff for social media disorder. However, relatively less research has been focused on measuring the potentially positive effects of social media on the individual and on society. In an effort to address this issue, the aim of the present research was to create a scale to evaluate social media behavior in reference to altruism, connectedness and maladaptive behaviors. Exploratory factor analyses revealed five factor subscales comprising our 21-item scale. Predictive validity analyses with the five factor subscales found age and gender differences in predicting Social Media Disorder.

Keywords: social media, connectedness, altruism, maladaptive

Introduction

Social media is a tool used around the world for a variety of purposes, such as a marketing tool used by a large corporation or small business, a method of keeping in touch with friends and family, or an opportunity to make professional connections. Since its development in 2004, Facebook has become one of the most popular social networking sites. According to an article in Forbes, there are currently more than 2 billion users on Facebook today (Chayowski, 2017). Because social media is a ubiquitous part of our social lives, it is important to understand what behaviors are taking place on social media and who is engaging in these behaviors. While the majority of psychological research on social media usage is typically negative, with topics focusing on the harmful impact it can have on the individual and society (Greysen, Kind, & Chretien, 2010), the present study aims to explore some of the more potentially positive aspects of social media, such as the more altruistic behaviors of making donations to an online fundraiser or socially connected behaviors such as initiating conversations or reaching out to others via social media and how to measure them. We first discuss previous research on the impacts of social media on the individual and society, highlight key characteristics of social media behaviors, and then review some existing measures most relevant to the current topic. Second, we discuss the development of a social media behavior scale and the results from such a measure. Finally, we discuss some future directions for research in the area.

Negative Impact on the Individual

Researchers have long been interested in the harmful side effects that social media can have on individuals, specifically focusing on the psychological effects and the toll it can take in personal romantic relationships (Fox & Warber, 2014). Fox and Warber (2014) found that those who felt uncertain in their relationships were more likely to engage in Interpersonal Electronic

Surveillance behaviors where they monitored their partners' social media usage, thus leading to greater uncertainty in their relationships. Fox and Warber noted that with the development of social media, easier access to this information reinforces these feelings of uncertainty. Other researchers investigated infidelity behaviors (i.e. befriending romantic interests while in a relationship or engaging in cybersex) on social media, which revealed those who had lower scores of relationship satisfaction engaged in infidelity behaviors more often than their satisfied counterparts (McDaniel, Drouin, & Cravens, 2017). These individuals who reported lower relationship satisfaction also typically reported higher scores of anxiety. This is important to note, due to the commonality of underlying mental health factors in these individuals that could ultimately be the cause of the harmful effects of social media. Caplan (2007) suggests that social anxiety might serve as a confounding variable for the erroneous behaviors taken on social media. Though social media is often critiqued for its societal impacts, behaviors initiating from the individual level are the most significant factors involved in the societal impact.

Another topic that is frequently raised is the theoretical increase in narcissism since the development of social media. Individuals with narcissistic tendencies often exhibit an inflated and positive sense of self-love, self-importance, uniqueness and entitlement (Brailovskaia & Margraf, 2016). These individuals also like to find themselves as the center of attention and social media is the ideal platform to do just that, given that higher scores of narcissism have been correlated with larger numbers of Facebook friends (Errasti, Amigo, & Villadangos, 2017). However, this could arguably be a positive impact considering research regarding success and narcissistic individuals has found them to be more likely to become leaders of groups and have better success in managing crisis situations (Watts et al., 2013).

Negative Impact on Society

While the effects of cyber bullying can have impacts on the individual, the large availability of potential victims qualifies it as a societal issue where social media provides anonymity for cyber bullying to take place (Whittaker & Kowalski, 2014). Since social media provides the opportunity for individuals to remain anonymous, they are more likely to target people of power whom offline they would never consider addressing. Additionally, those who engage in these cyber bullying behaviors are more likely to have behavioral issues offline as well (Sandhu & Kaur, 2016). Temporally, preexisting offline bullying behaviors likely exacerbate or at least contribute to the likelihood of engaging in future cyberbullying behaviors.

Another more recent issue researchers have studied with social media usage is the widespread misinformation regarding political and social issues (Gruzd, Jacobson, Wellman, & Mai, 2017). Results from research investigating the impacts of misinformation exposure on social media have varied between having no impact on preexisting opinions to diminishing an individual's ability to trust reliable news sources entirely, even after misinformation has been corrected (Lewandowsky, Ecker, & Cook, 2017). However, frequent exposure to political satire has been indicated to strengthen preexisting opinions and enhance political trust of information from that source (Brewer, Young, & Morreale, 2013). Albeit, satirical sources serve the purpose of exaggerating factual information for entertainment and ultimately dilute the truth. Therefore, enhancing trust for political information in satirical sources could potentially lead to adverse effects for society such as continuing to spread misinformation and establishing trust in unreliable sources.

Positive Impacts

While these negative impacts of social media usage are important to understand, the potentially positive side effects of social media usage should also be addressed. Following recent

trends in social media featuring prosocial movements, there has been an emerging interest in the potentially positive effects social media can have. These movements have attracted the attention of thousands of people around the United States, including some with no direct connection to the populations benefitted by their participation. Some of these prosocial movements include the Ice Bucket Challenge benefitting the ALS Association, which has caught the attention of over 440 million people viewing over 17 million videos uploaded to Facebook, according to the ALS Association website (About ALS, n.d.). Participation in this challenge was completely voluntary and involved pouring a large bucket of ice water over an individual's head followed by a monetary donation to the ALS Association. These donations provided financial assistance and research funding for the roughly 30,000 individuals in the United States who are currently suffering from amyotrophic lateral sclerosis. GoFundMe is another social fundraising platform that seems to have caught social media by storm. With over 25 million donors, friends and strangers have been able to provide financial assistance to those in need over the last seven years.

Social media has also served as a beneficial aid for individuals in emerging adulthood. Research on bridging and bonding in social capital has indicated that social media helps first year university students develop new social networks that are helpful in their transition to a new environment (Mazzoni & Iannone, 2014). Social capital being the amount of social connections they have, bridging being the amount of connections between a variety of people who are dissimilar but offer the potential of a positive future interaction such as connection for a job and bonding being interactions between homogeneous similar groups of closer friends.

Aside from the societal positive impacts of social media, some researchers have also investigated positive impacts at the individual level. Alloway, Horton, Alloway, and Dawson (2013) looked into the cognitive benefits of social media and found that adolescents who had

Facebook accounts for more than a year had higher scores on tests for certain cognitive abilities (T. P. Alloway, Horton, & Alloway, 2013).

Age and Gender differences in Social Media behaviors

Significantly less research has been done to investigate how positive behaviors exhibited on social media relate to individual differences. Previous research looking into some of the age and gender differences in social media behaviors found that young women (18-29 year old), compared to women over the age of 29, are more active on social media and typically post more pictures of themselves whether they appear as an individual, in a group or with a partner (Dhir, Pallesen, Torsheim, & Andreassen, 2016). Not only are these young women more likely to make posts on social media they are also more likely to engage connective behaviors, such as adding more hashtags to their posts in an effort to achieve more likes (Nelson, 2013). These findings are also consistent with previous literature for online self-presentation behaviors since women are more likely to present themselves in a socially desirable way (Manago, Graham, Greenfield, & Salimkhan, 2008). With these results in mind, gender and age differences will be investigated in the present study.

Purpose for this study

The purpose of this study was to develop a scale to measure some of the positive and maladaptive behaviors that frequently take place on social media and who is engaging in these behaviors.. Specifically, the present study is interested in how social connectedness and altruism on social media can be measured in a social media behavior scale. The approach for the present study was to create a social media behavior scale to represent these different types of social media behavior. In addition, we also explore some of the maladaptive behaviors, those being behaviors intended to create a hostile environment, that are often exhibited on social media.

Social Connectedness

According to Business Insider, Mark Zuckerberg founded Facebook with the intent to provide a tool for individuals to connect with and learn more about other individuals. Today, Facebook is used around the world by more than one billion people to communicate and interact with friends, family and strangers. Lee, Draper, and Lee (2001) define social connectedness as an individual's cognitive sense of feeling connected with others. They developed a social connectedness scale measuring an individual's general sense of connectedness with others. It is important to understand how behaviors on social media impact social connectedness in order to address the effects social media has on the individual. The present study defines social media connectedness as using social media as a means to feel more connected with others.

Previous research investigating potential differences in biology and social connectedness found physiological differences in the oxytocin alleles between men and women impacted the frequency of socially connected behaviors (Chang et al., 2014). Engaging in social media behaviors targeting gains in likes and positive reinforcement is linked to narcissism, literature shows that women tend to post more selfies, however the relationship between selfie posting and narcissism is actually stronger for men (Sorokowski et al., 2015). In fact, women tend to be more concerned than men in their expression and maintenance of social connection (Lee, Keough, & Sexton, 2002). This study seeks to investigate gender differences in responses to questions targeting social media connectedness behaviors.

There are reported gender differences in the types of behaviors taken on social media, such as posting, commenting and likely more. Additionally, younger women have been shown to have more participation on social media, however, overall differences in social connectedness and age are still unclear. Greive and Kemp (2015) investigated attitudes towards Facebook, age

and connectedness and surprisingly discovered that older adults with positive attitudes towards Facebook reported more social connectedness compared to younger adults. With these results in mind, age differences will also be investigated.

Previous research has compared the Social Connectedness Scale Revised and the General Belongingness Scale due to similarities of operational definitions, however the authors found statistical differences between the two measures, therefore we felt this would be beneficial to use the General Belongingness Scale to investigate the relationship with social media behaviors (Malone, Pillow, & Osman, 2012).

Altruism

To date, little to no research has focused on the potentially altruistic behaviors that frequently take place on social media. Altruism has been given many definitions by researchers but ultimately one idea that is constant across all researchers is that altruism is an ethical construct where an individual does things for the benefit of others rather than the self (Furnham, Treglown, Hyde, & Trickey, 2016).

Empathy is thought to be a precursor to altruism (Persson & Kajonius, 2016) and previous research has shown that Facebook usage has been positively linked to empathy and perspective taking (Alloway, Runac, Qureshi, & Kemp, 2014). However, limited research exists drawing a direct link with altruism and social media. This might be due to the ambiguity of how any social media behaviors could be considered altruistic.

Social media can be viewed as a public platform and any behaviors (i.e., posting, commenting, or liking) on social media are essentially public. Typically, truly altruistic behaviors are thought to be done privately and without recognition. However, evolutionary researchers argue that prosocial behaviors are ultimately a method of advertising genetic fitness

and value as a potential mate (Szuster, 2016). Therefore, social media could just be the most recent means of natural selection's contribution to prosocial behaviors. The empathy-altruism hypothesis states that altruism is a motivated behavior with the goal of benefitting an individual with whom empathy is felt (Persson & Kajonius, 2016). While the idea of Kin Altruism states that helping behaviors are more likely to occur when there is a greater degree of relatedness between the recipient and the helper, and that forms of altruism can be evolutionarily plausible (Osiński, 2009).

Previous research has looked at gender differences in millennials' participation in prosocial charity online and offline (Paulin, Ferguson, Schattke, & Jost, 2014). Overall, these findings indicated that women were generally more likely to engage in prosocial events, which is consistent with previous research that indicates women are generally more altruistic, empathetic, and moral than men. However, in a social media context, charitable events that target emotions related to altruism, empathy for the cause, and socially oriented identity, were more predictive of men's participation.

Research regarding age differences in prosocial behaviors has been ambiguous. Generally, older adults are more likely to donate money than younger adults, however this could be the result of older adults being more established in their careers and therefore having more ability to donate financially (Freund & Blanchard-Fields, 2014). Younger adults have been shown to participate more in community service, however this was also moderated by the fact that high schools have a heightened focus on community service hours for potential benefits offered to the students (Wray-Lake, Schulenberg, Keyes, & Shubert, 2017). Other research suggests that volunteering behaviors can run in families and that the likelihood for children to

volunteer increases if their parents volunteered (“Legacy Volunteering - A test of two theories of intergenerational transmission (Mustillo et al. 2004).pdf,” n.d.).

To date, there is limited research investigating the direct link between altruism/prosocial behavior on a social media platform. This is an important issue because understanding this link could lead to a greater understanding of individual’s participation in prosocial movements on social media and how social media impacts society at a community, political, or national level. In order to address this relationship, this study developed a social media altruism scale. We define altruism as an ethical construct where individual’s perception of prosocial behaviors on social media can benefit society.

Maladaptive Behaviors

Though there is a large quantity of research targeting the potentially harmful consequences from social media usage, the DSM-V does not currently have diagnostic criteria establishing what qualifies a person as having a social media disorder (American Psychiatric Association, 2013). In an effort to address this issue, Van Den Eijnden, Lemmens, & Valkenburg, 2016 developed of a social media disorder scale using the diagnostic criteria for gaming addiction. This study led to early indicators of a social media disorder, however issues with the external validity of constructs: *problems* and *conflict* yielded the need for further research. The authors of this study noted that differences in issues resulting from gaming addiction could be fundamentally different than the types of issues that result from social media disorder. They mention that social media usage is easily stopped and often serves as a multitasking behavior, therefore there would be less problems about the amount of time spent on social media for those with compulsive social media use versus those with gaming addiction. Additionally, their construct of conflict referred to conflict and arguments with family members about interruptions

while using social media. Since social media is often combined with doing other activities, interruptions are less frustrating than interruptions while gaming, therefore conflict might not be the most representative construct. Furthermore, the questions included in the social media disorder scale mostly target issues that occurred in individuals' personal lives as a result of frequent social media usage, while neglecting to address any maladaptive behaviors that occurred on social media.

While it is important to address early indicators for a social media disorder, behaviors that are maladaptive on social media are also necessary to investigate. With the prevalence of cyberbullying, exposure to misinformation, and deceptive identity, it is necessary to establish who is engaging in these behaviors to potentially address any preventative measures of these behaviors. Previous research has investigated susceptibility of such individuals being susceptible to phishing-types of attacks, revealing that habitual Facebook use, meaning frequent use of Facebook and maintaining a larger social network was the single best predictor of being a victim in a social media attack (Vishwanath, 2015). However, this study did not investigate those who are likely to be the perpetrators in these situations. Thus, current study developed several questions captured facets of social media usage that are harmful to both the individual and society. Questions developed for this study were focused on the behaviors that take place on social media with the purpose of targeting aspects of a disorder that were not addressed in the Social Media Disorder Scale.

The Present Research

The aim of the present study was to develop a social media behavior scale. This scale included questions targeting three factors of behavior that are often exhibited on social media. First, questions were developed to address a social connectedness factor targeted at

understanding how often individuals were using social media as a means to feel more connected with others through behaviors such as liking or commenting on others posts or making posts about the self with the intention of keeping friends and family updated. This scale also included an altruism dimension to address frequency of participating of more prosocial behaviors on social media to benefit others, and finally the maladaptive dimension to address negative and potentially harmful behaviors. By combining the social media connectedness, altruism, and maladaptive behavior scales developed in this study with the pre-existing Social Media Disorder Scale we can capture a complete picture of behaviors exhibited on social media. When we better understand, what people do on social media, we better understand what makes people feel more connected there- even to the point that they participate in prosocial movements. At the same time, we are also better able to establish diagnostic criteria for social media disorder.

Practical application of this study is to develop a deeper understanding of the relationship between the behaviors exhibited on social media and social media. The social media connectedness scale is developed to address how behaviors on social media relate to the individual sense of connectedness. The social media altruism scale is developed to address how participation in prosocial movements on social media or other progressive behaviors impacting society through social media relate to social media personality. Finally, maladaptive behavior questions are developed to address early indicators for disorder that are relevant to social media behaviors.

Method

Procedure Studies 1-3

Upon approval from the Institutional Review Board (IRB) at the University of North Florida, participants sign the informed consent before participating in the study and understood they could withdraw at any time. All participants completed the survey online at their own computer in a single sitting lasting between 10-20 minutes. The target population was adults, 18 and older, who currently use an active social media account. The survey included demographic information (age, gender, ethnicity, and highest level of education), the three scales developed in this study, and four scales used for establishing convergent and divergent validity.

Social Media Behavior Scale: Item Development

With the conceptual definitions of Altruism and Social Connectedness in mind, items targeting these constructs were developed in relation to how they are exhibited on social media. Maladaptive behavior questions were derived from behaviors that frequently take place on social media when generally negative effects that were not addressed in the Social Media Disorder Scale. Using this approach, a total of 29 items were developed reflecting the positive and negative aspects of social media behavior. Initially, eleven items were created to reflect social media altruism, 12 targeting social media connectedness, and six items to address maladaptive behaviors. All items were placed on a 4-point Likert scale ranging from Never, Sometimes, Often, or Always. Questions were developed based on face validity reflecting their intended aspect of measurement being either altruism, connectedness or maladaptive behaviors.

Measures

Five additional measures were included to establish validity. The measures included consist of Social Media Disorder Scale (Van Den Eijnden et al., 2016a), Altruism Scale (Clark, Kotchen, & Moore, 2003), Social Connectedness Scale- Revised (Lee, Draper, & Lee, 2001), the

General Belongingness Scale (Malone et al., 2012) and the Community items from the Social Networking Adoption Scale (Usluel, Kokoç, Çıralı Sarıca, & Mazman Akar, 2016).

Social Media Disorder Scale- 9-item

We administered the nine-item version of the Social Media Disorder Scale (Van Den Eijnden, Lemmens, & Valkenburg, 2016), which measures the frequency of self-reported social media disorder symptoms. Participants rated the degree to which they experienced social media disorder symptoms during the past year on a 4-point scale with a selection of (1) *strongly disagree* to (4) *strongly agree*. Questions in this scale target disorder symptoms such as “In the past year have you regularly had arguments with you family members because of your social media use.” The total possible points were 36 and a diagnostic cutoff score of 18 or higher indicating social media disorder. Cronbach’s alpha was 0.8.

Altruism Scale

General Altruism was measured using the nine-item Altruism Scale (Clark, Kotchen, & Moore, 2003), which measures participation in altruistic behaviors. Participants were assessed on a 4-point scale ranging from (1) strongly disagree for less altruistic behaviors to (4) strongly agree for more altruistic behaviors for questions such as “It is my duty to help other people when they are unable to help themselves.” Items 1, 3, 6, and 7 were reverse scored for higher scores indicating greater altruism. Scores ranged from a low score of 9 to the highest score of 36. Cronbach’s alpha of the full nine-item scale is 0.70.

Social Connectedness Scale- Revised

The extent to which respondents felt connected with others was assessed using the 20-item Social Connectedness Scale- Revised (Lee et al., 2001). Items were assessed on a 4-point scale ranging from (1) strongly disagree for less connection to (4) strongly agree for more

connection with others. Questions targeted the participants cognitive sense of feeling more connected with others through questions such as “I feel understood by the people I know.” There were 10 positively worded items and 10 negatively worded items. The negatively worded items were reverse scored and added together with positive items to create a scale score with a possible range from 20 to 120, higher scores reflected a stronger sense of social connectedness.

Cronbach’s alpha for this scale is 0.94.

General Belongingness Scale

The 13 item General Belongingness Scale (Malone et al., 2012) was also included. Items were assessed on a 4-point scale ranging from (1) strongly disagree for less belonging to (4) strongly agree for a greater sense of belonging. Questions in this measure target participants sense of belongingness through questions such as “When I am with other people I feel like a stranger” (reverse scored). Negatively worded items were reverse scored and all items were treated as one measure with scores ranging from a low sense of belonging at 13 to high belonging at 52. Cronbach’s alpha for this scale is 0.92.

Social Networking Adoption Scale- Community Measures

The four items comprising the Community measures in the Social Networking Adoption Scale (Usluel, Y. K., Kokoç, M., Çıralı Sarıca, H., & Mazman Akar, S. G., 2016) were also included in the survey. The Social Networking Adoption Scale was developed to assess what networking sites people use and why. Questions in the community measure of this scale target the use of social media for establishing a sense of community through questions like “I create groups on Facebook with individuals who have common interests and needs with me.” Response categories ranged from (1) strongly agree to (4) strongly disagree. Total score of 16 and minimum of 4. Cronbach’s alpha for this subscale is 0.85.

Participants

< Table 1 >

Data were collected from 3 samples of participants. Of the total respondents across all three groups, 76% were Caucasian, 6.5% were African American, 2% were American Indian or Alaska Native, 11% were Asian, 1% were Native Hawaiian or Pacific Islander, and 2% listed themselves as other. Of these, 1% reported their highest level of education as a doctoral degree, 11% had a master's, 32% had a four-year college degree, 17% had a two-year college degree, 26% were still in college, and 9% had a GED or high school education. Total sample N= 354 (see Table 1 for demographic details).

Procedure

Upon approval from the Institutional Review Board (IRB) at the University of North Florida to conduct a study using participants from the selected samples, participants signed the informed consent before participating in the study and understood they could withdraw at any time. All participants completed the survey online at their own computer in a single sitting lasting between 10-20 minutes. The target population was adults, 18 and older, who currently use an active social media account. The survey included demographic information (age, gender, ethnicity, and highest level of education), 29-items developed for this study, and five scales used for establishing correlational validity.

Study 1

Participants

Study 1 comprised of a college sample from a Florida public university. Participants were 118 volunteers (53% between 18-20 years of age; 88% females), who participated in this study in exchange for college credit.

Factor Analysis

< Table 2 >

The data were screened for univariate outliers. No individual's score deviated greater or less than three standard deviations from the sample mean. Internal consistency for all scores was computed using cronbach's alpha. The alpha reliability for the total 29-item scale was .81 for this sample (mean= 2.29; SD= 0.25).

A principal components analysis was conducted on the combined sample with all 29 items, which yielded nine factors. Two items were eliminated from the pool due to low factor loadings (less than 0.45), items that loaded onto more than one factor were included in the factor with the highest loading. The results of the varimax-rotated analysis are reported in Table 2.

Study 2

Participants

Study 2 comprised of participants collected via Facebook and were not compensated for their participation. Participant demographics consisted of 131 volunteers, aged between 18-61+ years (52% between 18-40 years of age; 84% were females).

Factor Analysis

< Table 3 >

The data were screened for univariate outliers. No individual's score deviated greater or less than three standard deviations from the sample mean. Internal consistency for all scores was

computed using cronbach's alpha. The alpha reliability for the total 29-item scale was .81 (mean= 2.35; SD= 0.23).

A principal components analysis was conducted on the combined sample with all 29 items, which yielded nine factors. One item was eliminated from the pool due to low factor loadings (less than 0.45), items that loaded onto more than one factor were included in the factor with the highest loading. The results of the varimax-rotated analysis are reported in Table 3.

Study 3

Participants

Study 3 comprised of a non-college sample. Participants were 105 volunteers, aged between 18 and 61 years (73% between 18-40 years of age; 61% were females), who were members of Amazon's mTurk survey system and participated in this study in exchange for payment.

Factor Analysis

< Table 4 >

The data were screened for univariate outliers. No individual's score deviated greater or less than three standard deviations from the sample mean. Internal consistency for all scores was computed using cronbach's alpha. The alpha reliability for the total 29-item scale was .76 (mean= 2.40; SD= 0.24).

A principal components analysis was conducted on the combined sample with all 29 items, which yielded nine factors. Four items were eliminated from the pool due to low factor loadings (less than 0.45), items that loaded onto more than one factor were included in the factor with the highest loading. The results of the varimax-rotated analysis are reported in Table 4.

Item Revision: Studies 1 - 3

Content validity

Taking into account the removal of certain items due to low factor loadings and the variation of which items did not load across samples, we sought to develop subscales that were theoretically driven and psychometrically valid. First, we reviewed the factor analyses from studies 1-3 for patterns in factor loadings, all factors had a pattern/structure coefficient of .45 or greater. Second, we developed five subscales based on consistencies in items loading onto the same factor across all three samples, as well as being homologous with the conceptual definitions of each subscale. As a result, eight items were excluded due to low factor loadings or incongruences with conceptual definitions. Finally, to confirm validation in removing eight items from the Social Media Behavior Scale, we conducted an item-to-total analysis to reveal low correlations among the removed items and the total scale (see Table 5).

Five factor and theoretically based subscales were developed. The first subscale, connectedness consisting of 10 items, had a cronbach's alpha of 0.84 and a mean of 1.79 ($SD = .50$), with all questions targeting aspects of social media connectedness such as "I feel less connected with others if I don't frequently post about my day-to-day life." The second subscale, prosocial, consisted of three items, had a cronbach's alpha of 0.77 and a mean of 1.64 ($SD = 0.64$), with each question targeting prosocial concerns such as "I worry about others' self-esteem if I don't like their selfie post." The third subscale, antibullying, consisted of four items, had a cronbach's alpha of 0.72 and a mean of 1.93 ($SD = 0.57$), with each question targeting antibullying behaviors such as "I feel obligated to respond when I see someone is being bullied on social media." The fourth subscale, avoidance, consisted of two items, had a cronbach's alpha of 0.59 and a mean of 2.83 ($SD = 0.74$), with both questions targeting aspects of avoidance such

as “I use social media as a distraction when I feel stressed.” And finally, the fifth subscale, political, included two items, had a cronbach’s alpha of 0.69 and a mean of 3.54 ($SD = 0.64$), with questions targeting confrontation and political arguments such as “When I see someone post about political opinions that differ from mine, I feel inclined to make my opinion heard as well.”

Taken together, the internal consistency of the total 21 item Social media behavior scale was computed using cronbach’s alpha. The alpha reliability for the 21-item scale was 0.73 with a mean of 2.34 ($SD = 0.24$) indicating a strong reliable measure.

Study 4- Validity

Convergent validity Correlations

< Table 7 >

To establish convergent validity a correlational analysis was conducted with the five subscales, the total 21-item Social Media Behavior Scale, and the five additional preexisting measures included in this study for the total set of participants. The Social Connectedness Scale- Revised was initially included as a measure to establish convergent validity, however, correlational analyses indicate offline connectedness is fundamentally different from social media connectedness. The Social Connectedness Scale- Revised was significantly correlated with the total Social Media Behavior Scale ($r = .18$), however, it was only significantly correlated with the subscales of avoidance ($r = .21$) and *political* ($r = .14$). This pattern indicates that greater offline social connectedness is positively associated with the use of social media as a distraction from stress or avoiding responsibilities as well as being positively associated with starting political conversations. This finding is consistent with previous research on social

support alleviating stress where social media might serve as a social support system (Cobb, 1976).

The Social Media Disorder Scale was significantly correlated with all five of the subscales in the Social Media Behavior Scale, however, it was only positively correlated with the subscales of avoidance ($r = .35$) and political ($r = .28$). These results suggest that higher scores of social media disorder are associated with more avoidance behaviors on social media and more participation in confrontational political conversations.

The General Belongingness Scale was significantly correlated with two of the subscales, those being prosocial ($r = .11$) and avoidance ($r = -.19$). These results indicate that an individual's sense of general belongingness is positively associated with prosocial concerns for others and negatively associated with the use of social media to avoid stress or responsibilities.

The Social Networking Adoption Scale- Community measures were significantly correlated with four of the five subscales, those include a positive correlation with connectedness ($r = .44$), prosocial ($r = .39$), and antibully ($r = .35$), and a negative correlation with political ($r = -.34$). These results illustrate that a greater sense of community online is related to more connectedness, prosocial, and antibullying behaviors on social media and less participation in confrontational political conversations.

Finally, the Altruism Scale included was not significantly correlated with any of the subscales but did have a low negative correlation with the total 21-item Social Media Behavior Scale. This suggests that general offline altruism might be fundamentally different from altruistic or prosocial behaviors online and should be further investigated.

Predictive validity Regression

< Table 9 >

A stepwise regression analysis was conducted, with the Social Media Disorder Scale as the outcome variable. The five subscales (connectedness, prosocial, avoidance, antibully, and political) were entered simultaneously in a stepwise fashion as predictors as a function of gender and age. We investigated the effects for millennials versus non-millennials where millennials were those participants under the age of 30. According to Pew Research Center, anyone born within 1981-1996 is considered to be a millennial (Dimock, 2018). At the time the data were collected, this would have included participants younger than 30. We also justified our reasoning for this age cut off due to the amount of exposure to the internet. Those participants younger than 30 would have been exposed to the internet at a much younger age and would likely contribute to impressions and behaviors online.

For millennial males ($N = 53$) connectedness was a significant predictor of social media disorder (37%). Meaning that younger males with higher scores of connectedness were more likely to have a social media disorder. A similar finding continued for older males ($N = 43$) where connectedness was also a significant predictor of social media disorder (48%).

For millennial females ($N = 147$) connectedness was also a significant predictor of social media disorder (17%), however prosocial accounted for an additional 3.5% of the variance in predicting a social media disorder. These results indicate that greater reports of connectedness and prosocial behaviors in millennial females are more likely to have a social media disorder. A similar finding was present in non-millennial females in that prosocial was the only significant predictor of social media disorder (13%).

Discussion

With growing interest in the topic of social media and its effects on the individual and society, the main goal of this study was to expand on the current literature through the

development of a Social Media Behavior Scale. Initially, 29 items were developed to target aspects of social media behaviors such as connectedness, altruism/prosocial, and maladaptive behaviors. Exploratory factor analyses revealed patterns of factor loadings across the three samples of participants which lead to the elimination of 8 items and the development of five statistically sound and theoretically based subscales. The final Social Media Behavior Scale consisted of 21-items comprised of five factor subscales: connectedness, prosocial, avoidance, antibully, and political.

Correlational analyses with the Social Media Disorder Scale and the five factor subscales developed for this study showed results that were expected. The Social Media Disorder Scale had significant correlations with each of the five factor subscales but only had positive correlations with the avoidance and political subscales. This indicates that those who often use social media as a method of avoiding other responsibilities or use it as a means to create a hostile environment through initiating political or controversial conversations are more likely to have a social media disorder. These results are consistent with our initial hypotheses in that these frequently expressed maladaptive behaviors seen on social media would be related to a social media disorder.

One interesting finding was the strong positive correlation between the Social Media Disorder Scale and the Social Connectedness Scale- Revised. This would suggest that offline social connectedness is associated with a social media disorder. This is a significant finding as it is one that has not yet been investigated. Research done with the Social Media Disorder Scale has found relationships with loneliness, being that those with higher reports of loneliness were more likely to have a social media disorder, but the positive correlation with social connectedness offline and social media disorder requires further investigation (Van Den Eijnden,

Lemmens, & Valkenburg, 2016a). While the connectedness factor developed in this study was not significantly correlated with the Social Connectedness Scale- Revised, it did have a significant negative correlation with the Social Media Disorder Scale as expected. It's clear that online connectedness behaviors are not the same as offline behaviors and requires further investigation. The Social Connectedness Scale- Revised was, however, correlated with the avoidance and political factor subscales which suggests that avoiding offline responsibilities and starting controversial conversations of a political nature might be related to a cognitive sense of connection with others. Again, this is a prospective that would require further investigation.

The General Belongingness Scale was, however, significantly correlated with two of the five factor subscales. There was a significant negative correlation between general belongingness and the avoidance subscale. This suggests that those with a greater sense of belonging are less likely to use social media as a method of avoiding other responsibilities. General belongingness had a significant positive correlation with prosocial indicating that behavior on social media which show concern for others self-esteem such as liking their posts in an effort to improve their day are correlated with a greater sense of belongingness. These results are consistent with research done on prosocial behaviors from an evolutionary perspective suggesting that prosocial behaviors among group members strengthens the bond among the group (Osiński, 2009). This perspective might also explain why the Community measures from the Social Networking Adoption Scale were significantly correlated with four of the five factor subscales. It seems as though those who engage in more connectedness, prosocial, and antibully behaviors have a greater sense of community while those with more political behaviors have less sense of community. These results are also consistent with previous research done on bridging and bonding with developing social capital through social media, in that, young adults attending

university for the first time tend to use social media to develop a sense of community by making social connections online (Mazzoni & Iannone, 2014).

The creators of the Social Media Disorder Scale used the diagnostic criteria for Internet Gaming Addiction to develop their measure (Van Den Eijnden et al., 2016). These questions were targeted towards determining how often individuals encountered issues in their personal lives as a result of their frequent need to be on social media. Though this research made the initial steps towards addressing a social media disorder, we do not believe it encompasses everything that should quantify a social media disorder in today's society. The actions taken on social media and their maladaptive qualities should be considered in establishing a disorder. The DSM-IV defines a disorder as "a significant disturbance in an individual's cognition, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological, or developmental processes underlying mental functioning. Mental disorders are usually associated with significant distress in social, occupational, or other important activities" (DSM-IV, 2013). While the Social Media Disorder Scale targets the negative consequences that result from a social media disorder, it does not address the underlying reasons for this frequent need to be on social media such as a dysfunction in their psychological state or emotional regulation, nor does it address the maladaptive behaviors taking place on social media. The avoidance factor developed in this study could be used to explain why individuals with high scores for social media disorder are compulsively on social media, while the political factor could represent some of the dysfunctional regulations of emotion that these individuals have developed. Ultimately these two subscales could be beneficial additions to the Social Media Disorder Scale while the entire Social Media Behavior Scale developed for this study could be used as a predictive measure for social media disorder.

Additionally, predictive validity analyses with the five factor subscales and the Social Media Disorder Scale revealed some age and gender differences. The connectedness subscale was a significant predictor of social media disorder for all males and millennial females, meaning that men and younger women who reported engaging in more connectedness behaviors on social media were more likely to have a social media disorder. This result is interesting since connectedness behaviors are viewed as being a more positive aspect of social media usage, however it is possible that this result is a consequence of time spent on social media. Considering individuals with social media disorder are reporting issues in their lives due to their frequent social media usage it's probable that these individuals are commenting and liking more often simply because they are on social media more often. What is less easily explainable is the role prosocial plays. For millennial females and non-millennial females prosocial was also a significant predictor of social media disorder. This suggests that women who indicate greater concern for others self-esteem on social media are more likely to have a social media disorder. Though this result is unexpected, it could be explained in that women are more likely to present themselves online in a socially desirable way, therefore if these women have a social media disorder its possible that they are reporting greater concern for others on social media in an effort to compensate for their disorder (Dhir, Pallesen, Torsheim, & Andreassen, 2016).

Limitations

While the present study found significant results that can contribute to the current literature on the topic of social media, there were some limitations of this study that should be addressed. One limitation is in regards to the item development. Items for the Social Media Behavior Scale were developed by the researchers of this study based on subjective fit with conceptual definitions of constructs of interest and appropriateness was judged on face validity

alone. An alternative method would have been to conduct a pilot study where participants could have provided examples of questions they too felt were relevant to the topic.

Another limitation is regarding the female to male ratio of participants being roughly 2:1. Additionally, the majority of male participants came from the MTURK sample which was also the sample that had the most ambiguous results in the factor analyses. While the data from this sample were screened for outliers and no individual's responses appeared unusual, the results from this factor analysis has the least in common with the other samples.

Future Directions and Conclusion

The current study aimed to develop a psychometrically sound and theoretically driven scale to assess social media behaviors. We successfully developed a 21-item measure comprised of five factor subscales that address individuals' engagement in connectedness, prosocial, antibully, avoidance, and political behaviors on social media. Future research should investigate the relationship between Social Connectedness offline and Social Media Disorder given the unexpected significant relationship between these two measures. Further research should also be done to better understand the relationship between offline social connectedness and online social connectedness and why these two concepts seem to be fundamentally different. Finally, time spent on social media should be investigated as a potential mediator for the predictive relationship between connectedness, prosocial and a social media disorder.

In summation, the 21-item Social Media Behavior Scale can be used to measure an individual's participation in five aspects of social media behavior. Additionally, this scale can be used as a predictive measure for social media disorder and is recommended to be used simultaneously with the Social Media Disorder Scale.

References

- Alloway, T. P., Horton, J., & Alloway, R. G. (2013). Social networking sites and cognitive abilities: Do they make you smarter? *Computers and Education, 63*, 10–16.
<https://doi.org/10.1016/j.compedu.2012.10.030>
- Alloway, T., Runac, R., Qureshi, M., & Kemp, G. (2014). Is Facebook Linked to Selfishness? Investigating the Relationships among Social Media Use, Empathy, and Narcissism. *Social Networking, 3*, 150–158. <https://doi.org/10.4236/sn.2014.33020>
- Brailovskaia, J., & Margraf, J. (2016). Comparing Facebook users and Facebook non-users: Relationship between personality traits and mental health variables - An exploratory study. *PLoS ONE, 11*(12), 1–18. <https://doi.org/10.1371/journal.pone.0166999>
- Brewer, P. R., Young, D. G., & Morreale, M. (2013). The impact of real news about “fake news”: Intertextual processes and political satire. *International Journal of Public Opinion Research, 25*(3), 323–343. <https://doi.org/10.1093/ijpor/edt015>
- Chang, S. C., Glymour, M. M., Rewak, M., Cornelis, M. C., Walter, S., Koenen, K. C., ... Kubzansky, L. D. (2014). Are genetic variations in OXTR, AVPR1A, and CD38 genes important to social integration? Results from two large U.S. cohorts. *Psychoneuroendocrinology, 39*(1), 257–268.
<https://doi.org/10.1016/j.psyneuen.2013.09.024>
- Clark, C. F., Kotchen, M. J., & Moore, M. R. (2003). Internal and external influences on pro-environmental behavior: Participation in a green electricity program. *Journal of Environmental Psychology, 23*(3), 237–246. [https://doi.org/10.1016/S0272-4944\(02\)00105-](https://doi.org/10.1016/S0272-4944(02)00105-6)

- Dimock, M. (2018, March 1). Defining generations: Where Millennials end and post-Millennials begin. In *Pew Research Center*. Retrieved May 6, 2018, from <http://www.pewresearch.org/fact-tank/2018/03/01/defining-generations-where-millennials-end-and-post-millennials-begin/>
- Dhir, A., Pallesen, S., Torsheim, T., & Andreassen, C. S. (2016). Do age and gender differences exist in selfie-related behaviours? *Computers in Human Behavior*, *63*, 549–555. <https://doi.org/10.1016/j.chb.2016.05.053>
- Errasti, J., Amigo, I., & Villadangos, M. (2017). Emotional Uses of Facebook and Twitter. *Psychological Reports*, 3329411771349. <https://doi.org/10.1177/0033294117713496>
- Fox, J., & Warber, K. M. (2014). Social networking sites in romantic relationships: attachment, uncertainty, and partner surveillance on facebook. *Cyberpsychology, Behavior and Social Networking*, *17*(1), 3–7. <https://doi.org/10.1089/cyber.2012.0667>
- Freund, A. M., & Blanchard-Fields, F. (2014). Age-Related differences in altruism across adulthood: Making personal financial gain versus contributing to the public good. *Developmental Psychology*, *50*(4), 1125–1136. <https://doi.org/10.1037/a0034491>
- Furnham, A., Treglown, L., Hyde, G., & Trickey, G. (2016). The Bright and Dark Side of Altruism: Demographic, Personality Traits, and Disorders Associated with Altruism. *Journal of Business Ethics*, *134*(3), 359–368. <https://doi.org/10.1007/s10551-014-2435-x>
- Greysen, S. R., Kind, T., & Chretien, K. C. (2010). Online professionalism and the mirror of social media. *Journal of General Internal Medicine*, *25*(11), 1227–1229. <https://doi.org/10.1007/s11606-010-1447-1>
- Grieve, R., & Kemp, N. (2015). Individual differences predicting social connectedness derived from Facebook: Some unexpected findings. *Computers in Human Behavior*, *51*(PA), 239–

243. <https://doi.org/10.1016/j.chb.2015.04.034>

Gruzd, A., Jacobson, J., Wellman, B., & Mai, P. H. (2017). Social Media and Society:

Introduction to the Special Issue. *American Behavioral Scientist*, *61*(7), 647–652.

<https://doi.org/10.1177/0002764217717567>

Huesmann, L. R., Eron, L. D., Lefkowitz, M. M., & Walder, L. O. (1984). Stability of aggression over time and generations. *Developmental Psychology*, *20*(6), 1120–1134.

<https://doi.org/10.1037/0012-1649.20.6.1120>

Lee, R. M., Draper, M., & Lee, S. (2001). Social connectedness, dysfunctional interpersonal

behaviors, and psychological distress: Testing a mediator model. *Journal of Counseling*

Psychology, *48*(3), 310–318. <https://doi.org/10.1037/0022-0167.48.3.310>

Lee, R. M., Keough, K. A., & Sexton, J. D. (2002). Social connectedness, social appraisal, and perceived stress in college women and men. *Journal of Counseling and Development*.

<https://doi.org/10.1002/j.1556-6678.2002.tb00200.x>

Legacy Volunteering - A test of two theories of intergenerational transmission (Mustillo et al. 2004).pdf. (n.d.).

Lewandowsky, S., Ecker, U. K. H., & Cook, J. (2017). Beyond Misinformation: Understanding and Coping with the “Post-Truth” Era. *Journal of Applied Research in Memory and*

Cognition, *6*(4), 353–369. <https://doi.org/10.1016/j.jarmac.2017.07.008>

Malone, G. P., Pillow, D. R., & Osman, A. (2012). The general belongingness scale (gbs):

Assessing achieved belongingness. *Personality and Individual Differences*, *52*(3), 311–316.

<https://doi.org/10.1016/j.paid.2011.10.027>

Mazzoni, E., & Iannone, M. (2014). From high school to university: Impact of social networking sites on social capital in the transitions of emerging adults. *British Journal of Educational*

Technology, 45(2), 303–315. <https://doi.org/10.1111/bjet.12026>

McDaniel, B. T., Drouin, M., & Cravens, J. D. (2017). Do you have anything to hide? Infidelity-related behaviors on social media sites and marital satisfaction. *Computers in Human Behavior*, 66, 88–95. <https://doi.org/10.1016/j.chb.2016.09.031>

Osiński, J. (2009). Kin altruism, reciprocal altruism and social discounting. *Personality and Individual Differences*, 47(4), 374–378. <https://doi.org/10.1016/j.paid.2009.04.011>

Paulin, M., Ferguson, R. J., Schattke, K., & Jost, N. (2014). Millennials, Social Media, Prosocial Emotions, and Charitable Causes: The Paradox of Gender Differences. *Journal of Nonprofit and Public Sector Marketing*, 26(4), 335–353.
<https://doi.org/10.1080/10495142.2014.965069>

Persson, B. N., & Kajonius, P. J. (2016). Empathy and Universal Values Explicated by the Empathy-Altruism Hypothesis. *The Journal of Social Psychology*, 4545(May), 00224545.2016.1152212. <https://doi.org/10.1080/00224545.2016.1152212>

Sandhu, D., & Kaur, S. (2016). Reducing Cyber-bullying and Problem Behaviors among Students through Parental Group Therapy. *Pakistan Journal of Psychological Research*, 31(2), 383–401. Retrieved from
http://easyaccess.lib.cuhk.edu.hk/login?url=http://search.proquest.com/docview/1890203955?accountid=10371%0Ahttp://findit.lib.cuhk.edu.hk/852cuhk?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:journal&genre=article&sid=ProQ:ProQ%3Aqrl&atitle=Reduci

Szuster, A. (2016). Crucial dimensions of human altruism. Affective vs. conceptual factors leading to helping or reinforcing others. *Frontiers in Psychology*, 7(APR), 1–5.
<https://doi.org/10.3389/fpsyg.2016.00519>

- Usluel, Y. K., Kokoç, M., Çıralı Sarıca, H., & Mazman Akar, S. G. (2016). English version of Social Networks Adoption Scale: A validation study. *Telematics and Informatics*, *33*(2), 484–492. <https://doi.org/10.1016/j.tele.2015.10.007>
- Van Den Eijnden, R. J. J. M., Lemmens, J. S., & Valkenburg, P. M. (2016a). The Social Media Disorder Scale: Validity and psychometric properties. *Computers in Human Behavior*, *61*, 478–487. <https://doi.org/10.1016/j.chb.2016.03.038>
- Van Den Eijnden, R. J. J. M., Lemmens, J. S., & Valkenburg, P. M. (2016b). The Social Media Disorder Scale: Validity and psychometric properties. *Computers in Human Behavior*. <https://doi.org/10.1016/j.chb.2016.03.038>
- Vishwanath, A. (2015). Habitual facebook use and its impact on getting deceived on social media. *Journal of Computer-Mediated Communication*, *20*(1), 83–98. <https://doi.org/10.1111/jcc4.12100>
- Watts, A. L., Lilienfeld, S. O., Smith, S. F., Miller, J. D., Campbell, W. K., Waldman, I. D., ... Faschingbauer, T. J. (2013). The Double-Edged Sword of Grandiose Narcissism: Implications for Successful and Unsuccessful Leadership Among U.S. Presidents. *Psychological Science*, *24*(12), 2379–2389. <https://doi.org/10.1177/0956797613491970>
- Whittaker, E., & Kowalski, R. M. (2014). Cyberbullying Via Social Media. *Journal of School Violence*, *14*(1), 11–29. <https://doi.org/10.1080/15388220.2014.949377>
- Wray-Lake, L., Schulenberg, J., Keyes, K. M., & Shubert, J. (2017). The developmental course of community service across the transition to adulthood in a national U.S. sample. *Developmental Psychology*, *53*(12), 2397–2408. <https://doi.org/10.1037/dev0000377>

Table 1

Participant Demographics

Demographics	Facebook N=131		Mturk N=105		SONA N=118	
	<i>Frequency</i>	<i>Percent</i>	<i>Frequency</i>	<i>Percent</i>	<i>Frequency</i>	<i>Percent</i>
Sex						
Male	21	16.0	64	61.0	14	11.8
Female	110	84.0	41	39.0	104	88.2
Age						
18-20	3	2.3	3	2.9	64	53.8
21-23	14	10.7	6	5.7	36	30.3
24-26	26	19.8	13	12.4	6	5.0
27-30	7	5.3	24	22.9	8	6.7
31-40	19	14.5	31	29.5	4	3.4
41-50	39	29.8	17	16.2		
51-60	14	10.7	7	6.7		
61+	9	6.9	4	3.8		
Ethnicity						
White	123	93.9	63	60.0	85	71.4
Black or African American	1	0.8		5.7	16	13.4
American Indian or Alaska Native			6	6.7		
Asian	4	3.1	7		11	9.2
Native Hawaiian or Pacific Islander	2	1.5	26	24.8	2	1.7
Other	1	0.8	3	2.9	5	4.2

Education Level

GED/ High School Diploma	13	9.9	21	20.0	1	0.8
In college	13	9.9	6	5.7	76	63.9
2-year college degree	13	9.9	16	15.2	33	27.7
4-year college degree	66	50.4	41	39.0	9	7.6
Master's Degree	23	17.6	19	18.1		
Doctoral Degree	3	2.3	2	1.9		
<hr/>						
Social Media Use						
Facebook	9	6.9	10	9.5	1	0.8
Twitter	2	1.5	3	2.9		
Instagram	4	3.1	2	1.9	3	2.5
Pinterest	10	7.6	2	1.9		
YouTube	16	12.2	34	32.4	6	5.0
WhatsApp	18	13.7	23	21.9	2	1.7
Snapchat	58	44.3	21	20.0	85	71.4
Other	14	10.7	10	9.5	22	18.5

Note. $N = 355$.

I find myself actively involved in others' posts on social media.	0.593	
I feel that social media is a great way to help others in their daily lives.	0.584	
My life feels incomplete when no one likes my social media post.	0.547	
I think liking someone's post will greatly improve their life.	0.831	
I think liking someone's post will greatly improve their day.	0.747	
I worry about others' self-esteem if I don't like their selfie post.	0.690	
I join different groups on social media for the connections more than the activity itself.	0.523	
I create social media accounts using names and pictures of people who are not me to deceive others.	-0.430	
I feel obligated to respond when I see someone is being bullied on social media.	0.845	
I worry about what will happen if I don't intervene when someone is being bullied on social media.	0.796	

I feel I must say something positive when I see a rude comment on someone's status.	0.420		
I use social media as a distraction when I feel stressed.		-0.786	
I use social media as a method of avoiding other responsibilities.		-0.772	
I accept friend requests from people I don't know to make more connections.			0.899
I accept friend requests from people I don't know to feel connected to more people.			0.817
I leave comments like these on strangers' posts.			0.797
I enjoy starting controversial arguments on social media.			0.858
When I see someone post about political opinions that differ from mine, I feel inclined to make my opinion heard as well.			0.766
I post inspirational posts on social media to help others feel better.			0.770
I feel it is my duty to leave encouraging comments on others' social media posts.			0.586

I join different groups on social media for the connections more than the activity itself.	0.665	
I feel that social media is a good method to make new friends.	0.616	-0.439
I post inspirational posts on social media to help others feel better.	0.466	
I think liking someone's post will greatly improve their day.	0.784	
I think liking someone's post will greatly improve their life.	0.776	
I worry about others' self-esteem if I don't like their selfie post.	0.692	
I feel it is my duty to leave encouraging comments on others' social media posts.	0.580	
My life feels incomplete when no one likes my social media post.	0.771	

I feel disconnected from the world if I haven't been on social media in a while.		0.756
I feel less connected with others if I don't frequently post about my day-to-day life.		0.650
I use social media as a method of avoiding other responsibilities.	0.407	-0.566
I feel that I should make a social media post when a new event happens in my life so that others can be updated on what is going on with me.		0.419
I find myself frequently commenting on others' posts on social media		0.707
I feel that frequently updating my personal information on social media keeps me connected with others.		0.651

I find myself actively involved in others' posts on social media.	0.633		
I feel more connected to my social media friends when I like or comment on their posts.	0.464		
I think participating in viral fundraisers for a cause can greatly improve the lives of those affected by them.		0.791	
I use social media as a distraction when I feel stressed.	-0.402	-0.611	
I feel that social media is a great way to help others in their daily lives.		0.538	
I worry about what will happen if I don't intervene when someone is being bullied on social media.			0.858

I feel obligated
to respond
when I see
someone is
being bullied
on social media

0.764

I feel I must
say something
positive when I
see a rude
comment on
someone's
status.

0.599

I enjoy starting
controversial
arguments on
social media.

0.827

When I see
someone post
about political
opinions that
differ from
mine, I feel
inclined to
make my
opinion heard
as well.

-0.505

0.607

I make
comments like
these on social
media.

-0.747

I leave
comments like
these on
strangers'
posts.

0.418

0.524

I create social media accounts using names and pictures of people who are not me to deceive others.

0.85

Table 4

Exploratory factor analysis results for MTURK

Items

Factor Loadings

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
I use social media as a method of avoiding other responsibilities.	-0.780						
My life feels incomplete when no one likes my social media post.	0.681						
I create social media accounts using names and pictures of people who are not me to deceive others.	-0.658	-0.497					

I make comments like these on social media.	-0.636	-0.423
I accept friend requests from people I don't know to make more connections.	0.626	0.530
I accept friend requests from people I don't know to feel connected to more people.	0.593	0.519
I feel less connected with others if I don't frequently post about my day-to-day life.	0.558	
When I see someone post about political opinions that differ from mine, I feel inclined to make my opinion heard as well.		-0.709
I enjoy starting controversial arguments on social media.		-0.698
I find myself actively involved in others' posts on social media.		0.619

I find myself frequently commenting on others' posts on social media	0.605	
I feel I must say something positive when I see a rude comment on someone's status.	0.435	0.417
I think liking someone's post will greatly improve their day.		0.693
I feel that social media is a good method to make new friends.		0.663
I join different groups on social media for the connections more than the activity itself.		0.626
I think liking someone's post will greatly improve their life.		0.576
I feel that social media is a great way to help others in their daily lives.		0.560

<p>I worry about what will happen if I don't intervene when someone is being bullied on social media.</p>	0.746		
<p>I worry about others' self-esteem if I don't like their selfie post.</p>	0.606		
<p>I feel obligated to respond when I see someone is being bullied on social media</p>	0.457	0.554	
<p>I feel it is my duty to leave encouraging comments on others' social media posts.</p>		0.494	0.466
<p>I feel more connected to my social media friends when I like or comment on their posts.</p>			
<p>I feel disconnected from the world if I haven't been on social media in a while.</p>			0.764
<p>I use social media as a distraction when I feel stressed.</p>			-0.753

<p>I feel that I should make a social media post when a new event happens in my life so that others can be updated on what is going on with me.</p>	0.460	0.411	0.552
<p>I feel that frequently updating my personal information on social media keeps me connected with others.</p>			0.441
<p>I leave comments like these on strangers' posts.</p>			0.838
<p>I post inspirational posts on social media to help others feel better.</p>	0.427		0.428
<p>I think participating in viral fundraisers for a cause can greatly improve the lives of those affected by them.</p>			0.818

Table 5

Item-to-total correlations

Items	1	2	3	4	5	6	7	8	FiveFacAvg
I think participating in viral fundraisers for a cause can greatly improve the lives of those affected by them.	1	.183**	.232**	.159**	.096	.125*	-.116*	-.085	.150*
I leave comments like these on strangers' posts.	.183**	1	.151**	.251**	.162**	.160**	-.116*	-.181**	.278*
I feel that social media is a great way to help others in their daily lives.	.232**	.151**	1	.297**	.395**	.357**	-.218**	-.214**	.356*
I post inspirational posts on social media to help others feel better.	.159**	.251**	.297**	1	.193**	.340**	-.321**	-.319**	.344*
I feel that I should make a social media post when a new event happens in my life so that others can be updated on what is going on with me.	.096	.162**	.395**	.193**	1	.261**	-.212**	-.287**	.216*
I join different groups on social media for the connections more than the activity itself.	.125*	.160**	.357**	.340**	.261**	1	-.341**	-.359**	.332*

I create social media accounts using names and pictures of people who are not me to deceive others.	-.116*	-.116*	-.218**	-.321**	-.212**	-.341**	1	.722**	-.131
I make comments like these on social media.	-.085	-.181**	-.214**	-.319**	-.287**	-.359**	.722**	1	-.201*
FiveFacAvg	.150**	.278**	.356**	.344**	.216**	.332**	-.131*	-.201**	1

Table 6

Varimax-rotated principal component analysis scale coefficients

Factor subsclae	Alpha	Mean	SD
Connectedness	0.84	1.79	0.50
Prosocial	0.77	1.64	0.64
Avoidance	0.59	2.83	0.74
Antibully	0.72	1.93	0.57
Political	0.68	3.54	0.64

Table 7

Correlations for Factors and existing measures for entire sample

	1	2	3	4	5	6	7	8	9	10
1.SCSR	1	.30**	-.07	.01	-.40**	-.05	-.08	.21**	.03	.14*
2. SMDS	.30**	1	-.02	-.25**	.01	-.48**	-.44**	.35**	-.27**	.28**
3. Altruism Sale	-.07	-.02	1	-.01	.04	.01	-.09	-.06	-.05	-.1
4. SNAS Community	.01	-.25**	-.01	1	.07	.44**	.39**	-.01	.35**	-.34**
5. GBS	-.40**	.01	.04	.07	1	.10	.11*	-.19**	.07	-.09
6. Connectedness	-.05	-.48**	.01	.44**	.10	1	.58**	-.48**	.49**	-.44**
7. Prosocial	-.08	-.44**	-.09	.39**	.11*	.59**	1	-.22**	.42**	-.34**
8. Avoidance	.21**	.35**	-.06	-.01	-.19**	-.48**	-.22**	1	-.21**	.11*
9. Antibully	.03	-.27**	-.05	.35**	.07	.49**	.42**	-.21**	1	-.32**
10. Political	.14*	.28**	-.01	-.34**	-.09	-.44**	-.34**	.11*	-.32**	1

Table 9

Stepwise regression of predictors for SM Disorder

Predictor	Young Males		Young Female		Older male		Older Female	
	B	Sig	B	Sig	B	Sig	B	Sig
Connectedness	.37	<.01	.17	<.01	.48	<.01		
Prosocial			.04	<.01			.13	<.01

Appendix A

Connectedness

1. I find myself actively involved in others' posts on social media.
2. I feel more connected to my social media friends when I like or comment on their posts.
3. I find myself frequently commenting on others' posts on social media.

4. I feel that frequently updating my personal information on social media keeps me connected with others.
5. I accept friend requests from people I don't know to make more connections.
6. I accept friend requests from people I don't know to feel connected to more people.
7. I feel that social media is a good method to make new friends.
8. I feel disconnected from the world if I haven't been on social media in a while.
9. My life feels incomplete when no one likes my social media post.
10. I feel less connected with others if I don't frequently post about my day-to-day life.

Prosocial

1. I worry about others' self-esteem if I don't like their selfie post.
2. I think liking someone's post will greatly improve their life.
3. I think liking someone's post will greatly improve their day.

Avoidance

1. I use social media as a distraction when I feel stressed.
2. I use social media as a method of avoiding other responsibilities.

Anti-bully

1. I worry about what will happen if I don't intervene when someone is being bullied on social media.
2. I feel I must say something positive when I see a rude comment on someone's status.
3. I feel it is my duty to leave encouraging comments on others' social media posts.

4. I feel obligated to respond when I see someone is being bullied on social media.

Political

1. I enjoy starting controversial arguments on social media.
2. When I see someone post about political opinions that differ from mine, I feel inclined to make my opinion heard as well.

Appendix B (eliminated items)

1. I think participating in viral fundraisers for a cause can greatly improve the lives of those affected by them.
2. I leave comments like these on strangers' posts; "Way to go!" "You rock!"
3. I feel that social media is a great way to help others in their daily lives.
4. I post inspirational posts on social media to help others feel better.
5. I feel that I should make a social media post when a new event happens in my life so that others can be updated on what is going on with me.
6. I join different groups on social media for the connections more than the activity itself.

7. I create social media accounts using names and pictures of people who are not me to deceive others.
8. I make comments like these on social media: “I was too distracted by your gut.” “You look fat.”

Curriculum Vitae

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Education:

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Experience:

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