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Disentangling the Role of Social Networking Attitudes and Use on Emotional Well-being

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Abstract

Scholarly research examining social networking and well-being have provided contradictory results, suggesting that further research explore the complex relationships between antecedents, behavior, and well-being outcomes. In this study, we assess how attitudes toward social networking and SNS use influence emotional well-being by surveying a sample of U.S. adults (N = 500). We apply theories of technology adoption and media choice to explicate the role of communication attitudes in predicting behavioral outcomes. The results of our structural equation model demonstrate that SNS use negatively impacts users' emotional well-being. Social connection, ease of use, and confidence attitudes increase SNS use and have an indirect influence on well-being. The theoretical and practical implications of these findings as well as future directions for research involving frequent SNS use and emotional well-being are discussed.

Keywords: social networking sites, SNSs, technology adoption, emotional quality of life, emotional well-being, communication attitudes

Introduction

Social networking site (SNS) adoption continues to flourish with almost three-fourths of U.S. adults reporting using at least one social networking platform (Pew Research Center, 2019). Facebook remains the most widely adopted social networking platform, while adoption of Twitter, Pinterest, Instagram, and LinkedIn continues to grow (Perrin & Anderson, 2019). The majority of SNS users log onto at least one platform daily (Pew Research Center, 2019). The intertwining of technology with people's lives has led scholars to scrutinize the effect of social networking on behavior and health outcomes. The Anxiety and Depression Association of America (2021) reports that 40 million adults are affected by anxiety and more than 16 million adults in the U.S. have experienced depression. With social media adoption hitting a critical mass and users regularly engaging with social platforms, the scholarly community needs to better understand if and how SNS use affects emotional health. A growing body of research has sought to examine detrimental effects associated with prolonged social networking use. Digital media consumption has the potential to increase depressive states, psychological distress, and suicidal thoughts (e.g., Twenge, Cooper, Joiner, Duffy, & Binau, 2019). This narrative has been readily picked up in news outlets where SNSs have been derided for fostering narcissistic tendencies, anxiety, addictive behaviors, etc. (Brown, 2018; Walton, 2017). However, the relationship between SNS use and indicators of well-being is not only weak (see Huang, 2017), but in fact, its impact on both positive and negative outcomes are complex (Baker & Perez Algorta, 2016).

The relationship of technology use and its antecedents on the other hand, is relatively consistent in the literature. Social circumstances shape not only how people use technology but how technology impacts users (e.g., Baym, 2015). Recent theoretical frameworks such as the Integrated Technology Adoption Paradigm (ITAP; Atkin, Hunt, & Lin, 2015) have highlighted factors that influence technology adoption. One of the primary tenets of the innovation-decision process is that an individual forms attitudes toward an innovation after developing knowledge of the innovation and before making an adoption decision (e.g., Rogers, 2003). One area where a lack of inquiry exists is the relationship between attitudes towards social networking and emotional well-being.

Emotional well-being refers to the "emotional quality of an individuals' everyday experience" (Kahneman & Deaton, 2010, p. 16489). One way to assess emotional well-being is the Emotional Quality of Life (EQL) scale – a multi-dimensional measure that assesses sub-constructs of happiness, depression, anger, and

anxiety (VanLear, 2006). While there is some evidence on how emotional connection is affected by social media use (Bekalu, McCloud, & Viswanath, 2019), in general, studies of technology use often exclude wellness outcomes such as depression, anxiety, and happiness. Another limitation in this body of work is the over-reliance on college student samples which can limit generalizability. Thus, the present study aims to explore the relationship between SNS attitudes, SNS use and EQL among a sample of U.S. adults.

Literature Review

Technology Adoption and Media Choice

The social shaping perspective implies that a reciprocal relationship exists between how technology affects people and how people shape technology. Departing from the more traditional technological determinism approach, the social shaping perspective considers situational, cultural, and social factors that impact how technology is used (Baym, 2015). Recognizing the complexity of studying socially-oriented communication technologies, scholars aimed to unify the system, technology, social, audience, adoption, and use factors into the ITAP (Atkin et al., 2015; Lin, 2003). Ranging from micro-level to macro-level, technology adoption can be thought of as a spectrum (Lin, 2003). The ITAP offers a theoretical framework that considers technological affordances as well as the social dynamics affecting adoption and use (Atkin et al., 2015). Furthermore, the integrative technology adoption framework affords scholars with the ability to examine adoption “inclusive of human and experiential factors” (Kang, 2020, p. 500) as opposed to studying users or technology in isolation.

The ITAP model (Atkin et al., 2015; Lin, 2003) explains how each of its factors contribute to technology adoption. System factors explain how regulation and policy affect adoption. Innovation attributes and media richness represent the model’s technology factors. Social factors might include opinion leadership, critical mass, and interpersonal networks. Use factors incorporate motivations and gratifications while adoption factors draw from diffusion principles such as discontinuance and reinvention. Within this framework, audience factors include variables accounting for personality traits, beliefs and attitudes. Most relevant to the current study is research focused on audience members’ *attitudes* towards communication technology. As the paradigm explains, when users have a positive attitude toward an emerging technology, they are more likely to adopt and continue using the technology (e.g., Dam, Roy, Atkin, & Rogers, 2018). Most relevant to the current study is research focused on audience members’ *attitudes* towards communication technology.

Likert (1932) described early characterizations of attitude as “a

tendency toward a particular response in a particular situation” (p.7). Likert (1932) offered a conceptualization of attitudes as “groupings” or “clusters” of social responses that can indirectly measure particular dispositions. Describing two persistent characterizations of the attitude construct, Giner-Sorolla (1999) explains that attitudes are organized around responses to an object and are evaluative in nature. As the concept of attitudes has developed in more recent research, it can be more appropriately described as “a potentially vast memory network with several distinct components, each of which consists of evaluatively relevant associations to a specific object” (Giner-Sorolla, 1999, p. 442). During the persuasion stage of innovation adoption, individuals form either a positive or negative attitude towards an innovation (Rogers, 2003). Attitudinal valence can therefore influence one’s media choice.

Theories of media choice focus on either technological attributes or social influence (Ledbetter, 2009). While examining channel differences or peer influence is important, recently the study of attitudes and their influence have begun to make important contributions to our understanding of media choice (Ledbetter, 2014). Attitudes have a significant impact on media choice by influencing how people feel about using a particular medium (Denker et al., 2018). It is critical to not only understand the reasons why people choose to use a particular medium, e.g., “motivations,” but to assess users’ attitudes towards that medium (Denker et al., 2018). Online communication attitudes are conceptualized as a multidimensional grouping of affective and cognitive inclinations “that may foster or inhibit an individual’s tendency to communicate online” (Ledbetter, 2009, p. 465). The Measure of Online Communication Attitudes or MOCA (Ledbetter, 2009) includes the dimensions of social connection, ease, self-disclosure, miscommunication, and apprehension. The MOCA provides an instrument to understand media choice by examining how attitudes influence online communication behavior. In the current study, we seek to better understand the relationships between attitudes towards social networking, SNS behavior, and emotional well-being.

[Attitudes Towards Social Networking](#)

Scholars argue that social networking platforms “have essentially redefined the ways in which people choose to communicate and collaborate” (Kapoor et al., 2018, p. 549). Therefore, attitudes towards social networking should differ from a general measure of online communication attitudes. One study successfully adapted the MOCA to measure attitudes towards social networking (Krishnan & Hunt, 2015). In their factor analysis of attitudes towards social networking sites, four factors were explicated – confidence, social connection, ease of use, and self-disclosure. The researchers found

SNS attitudes predict motives that then influence SNS activity. In this study, we aim to further media choice research by demonstrating the influence of SNS attitudes while predicting a direct relationship between frequent social networking use and emotional quality of life. The paragraphs that follow discuss the conceptual definitions of each attitudinal construct.

Confidence is a concept closely related to self-efficacy and is the conceptual antonym of online communication apprehension, a concept that describes anxiety and fear resulting from online communication (Ledbetter, 2009). One's level of confidence or perceived self-efficacy in using SNS predicts subsequent adoption of SNSs. Conversely, online communication apprehension has been found to negatively affect motives to use SNSs. In Ledbetter and Finn's (2013) exploration of instructor technology use and learner empowerment, they found that communication apprehension impacts students' perceptions of a course's importance and their self-efficacy towards completing assignments. Dorrance Hall et al. (2018) examined the mediating role of attitudes on the relationship between self-monitoring and text intensity, and found that apprehension inhibits text messaging. Apprehension has also been linked to student motives to communicate with instructors using Twitter, where apprehension acts as an antecedent towards both relational and sycophancy motives (Denker et al., 2018). Krishnan and Hunt (2015) reversed the online communication apprehension measure and labeled it as confidence in their adaption of Ledbetter's (2009) MOCA to create a wholly positive attitudinal scale. In their test of the attitudinal model, they found a positive relationship between confidence and motives towards using SNSs as well as SNS use.

Ease of Use is one of the most important indicators of technology adoption and closely related to the complexity characteristic of diffusion (e.g., Rogers, 2003). Ease of use is defined as "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989, p. 320). Communication technology research shows how perceived ease of use directly influences perceived usefulness and actual use for Voice-over Internet Protocol (Park, 2010); and perceived ease of use influences perceived usefulness and behavioral intention for online photo sharing (Hunt, Lin, & Atkin, 2014) and for wikis (Liu, 2010). When considering online communication attitudes, ease of use – which shares characteristics with both convenience and enjoyment, is an important indicator of communication outcomes.

Social Connection describes one's desire to interact and communicate with one's social network (Ledbetter, 2009). In building or maintaining online social networks, feeling connected plays an

important role in how individuals feel about using social platforms. Connection strategies within a social networking site might include initiating new relationships, maintaining relationships with one's existing network, or social information-seeking (Ellison, Steinfield, & Lampe, 2010). Social connection online is related to mediated social presence where individuals use technology as a means to be with others as they would in offline situations (e.g., Biocca, Harms, & Burgoon, 2003). Online social connection is related to prosocial motivations to use SNSs and is a predictor of SNS communication (Ledbetter et al., 2011). Social connection can be considered a sub-construct of enjoyment when using social platforms (Ledbetter, Taylor, & Mazer, 2016). Higher degrees of social connection directly impact text intensity (Dorrance Hall et al., 2018) as well as SNS motives (Krishnan & Hunt, 2015). Strong intentions to connect socially are linked to specific technology-related behaviors, such as viewing videos on YouTube (Haridakis & Hanson, 2009), sharing photos online (Oeldorf-Hirsh & Sundar, 2016), and using social media platforms (e.g., Ledbetter et al., 2011). Moreover, the less motivated one is to connect online socially, the more likely the individual is to discontinue or abstain from social media use (Brody, 2018). The positive aspects of building online communities and feeling connected online should increase SNS use.

Self-disclosure involves information sharing and is considered an important aspect of relational development. Attitudes in favor of self-disclosure and social connection typically demonstrate a preference for online interaction over face-to-face communication (Ledbetter, 2009). There are contradictory findings in regard to whether introverted or extraverted individuals disclose more information in their online interactions (see Sheldon, 2009). Self-disclosure in the SNS environment might involve public sharing for a wider audience or intimate disclosure for a select group within one's network (Osatuyi et al., 2018; Utz, 2015). While self-disclosure in face-to-face environments might improve relational closeness, this might not work as well online especially when posting on a social networking site with a large audience. In Ledbetter and colleagues' (2011) study examining the unique contributions of social connection and self-disclosure on Facebook communication and relational closeness, the researchers found an inverse relationship between self-disclosure and communication via Facebook.

The media choice literature examining social connection, confidence, ease of use, and self-disclosure informed our first hypothesis. The cognitive and affective orientations of users are predicted to impact the frequency in which users participate on SNSs. While online communication attitudes have been studied in various contexts, we focus specifically on attitudes towards social

networking. Our first hypothesis postulates that each attitude towards social networking will increase SNS use.

H1: Confidence (a), ease of use (b), social connection (c), and self-disclosure (d) will be associated with increased SNS use.

The specific relationships between each of the attitudes towards social networking requires further elucidation. Ledbetter (2009) advocated for further theoretical development of the association between online communication attitudes, emphasizing the central role of ease of use and the interrelationship between social connection and self-disclosure attitudes. Research has shown some preliminary evidence of the hierarchical nature of communication attitudes (e.g., Denker et al., 2018; Krishnan & Hunt, 2015). However, other research studies adapting the MOCA have not reported any directional relationships between online communication attitudes (e.g., Mazer & Ledbetter, 2012; Dorrance Hall et al., 2018). Our first research question seeks to address the existences of relationships between the individual attitudinal variables.

RQ1: Are individual social networking attitudes associated with other attitudinal variables?

SNS Use and Emotional Well-being

Within the scholarly literature, there is an increasing amount of evidence demonstrating anti-social effects related to the active use of social networking platforms. There has been a recent trend of people choosing to temporarily discontinue their use of social platforms because of the time commitment and their consumption of cognitive and social resources (York & Turcotte, 2015); in fact, quitting Facebook has been shown to increase one's well-being (Tromholt, 2016). One systematic study of the relationship between social media usage and depressive symptoms found that research findings are mixed and often complex (Baker & Perez Algorta, 2016). Online social support networks and face-to-face networks can help negate depressive symptoms; however, face-to-face support is more likely to decrease depression than computer-mediated social support (Wright et. al., 2013).

There are also mixed findings on the effect on long-term holistic outcomes, with scholars showing that while on one hand, social support and a sense of community in online social networks can lead to increased life satisfaction (Oh, Ozkaya, & LaRose, 2014), on the other hand, discontinuance of social networking use can improve one's life satisfaction and well-being (Tromholt, 2016). The social displacement hypothesis for SNSs suggests that SNS use decreases social interaction which then decreases well-being (Hall, Kearney, & Xing, 2018). Four of the major tenets of social

displacement are that SNS use is associated with loneliness, face-to-face relationships improve well-being more than online relationships, SNS relationships often involve weak ties, and increased SNS use is related to fewer interactions with family and friends (Hall et al., 2018). While there is evidence that social displacement may exist, studies testing this hypothesis have demonstrated mixed findings (e.g., Hall et al., 2018).

Social media usage can negatively and positively impact body image, self-esteem, and psychological well-being (Lee et al., 2014). Frequent selfie viewing on SNSs decreases self-esteem and life satisfaction; while “groupie” viewing increases life satisfaction (Wang, Yang, & Haigh, 2017). With respect to technology’s effects on holistic health, Mazer and Ledbetter (2012) found that online communication attitudes predict problematic internet use which in turn leads to poor well-being. Users of multiple SNSs have been shown to exhibit symptoms of anxiety and depression when compared to those who use fewer SNSs (Primack et al., 2017). Positive life satisfaction and happiness can help decrease addictive behaviors on social media sites, while negative life satisfaction will increase addictive SNS behavior (Longstreet & Brooks, 2015). Researchers have uncovered various underlying factors for social anxiety among social media users including concerns for privacy, shared content, interaction, and self-evaluation (Alkis, Kadirhan, & Sat, 2017). These findings demonstrate the complexity of studying the relationship between social media use and emotions. Huang’s (2017) meta-analysis assessing time spent on SNSs and well-being, suggests that there are weak predictive relationships in studies employing college student samples.

A concept that considers aspects of life satisfaction and assesses “emotional” well-being is EQL. EQL is defined as “the generalized prevailing quality of emotional experiences of an individual at a given period in his/her life” (VanLear, 2006, p. 121). EQL is important to understand because it can help explain a time frame that lasts longer than a mood or a state but is not an enduring personality trait (VanLear, 2006). EQL is a construct that refers to various emotional factors including happiness/sadness, anxiety, depression, and anger (VanLear, Kowal, & Hammond, 2008). As a measurement tool, the EQL construct can consist of either four first-order factors or one second-order EQL factor (VanLear, 2006). Each of the four constructs contribute to one’s overall EQL. Depression can be characterized by an inability to perform routine activities, losing interest in things that were once enjoyable, and increased and persistent feelings of sadness (World Health Organization, 2018). People suffering from Generalized Anxiety Disorder demonstrate excessive worry associated with fear (National Institute of Mental

Health, 2016). Anger which is related to rage and hostility, can lead to medical concerns but is often neglected in studies on well-being (Spielberger & Reheiser, 2009). Psychologists have long considered depression, anger, and anxiety each to be "fundamental emotional states that has powerful effects on thoughts and behaviors" (Spielberger & Reheiser, 2009. p. 274). When users experience positive interactions on social networking platforms it improves their well-being, while negative experiences on SNSs leads to poor well-being (Clarke, Algoe, & Green, 2018).

In the present study, we aim to explain the role that attitudes towards SNSs and frequent social media use have on emotional quality of life. Prior research related to SNS attitudes allows us to make predictions about these relationships. Hence, we propose that frequent SNS use will be associated with negative emotional quality of life.

H2: SNS use will be associated with negative EQL.

Recently, research has demonstrated that routine social media use leads to positive health outcomes while emotional connection to social media use leads to negative health outcomes (Bekalu et al., 2019). In order to fully understand how SNS use influences EQL, we need to assess if SNS use acts a mediator between attitudes and EQL. Assessing mediation allows researchers to move beyond simple causal relationships and instead focus on the "mechanisms that produce and explain the associations" (Preacher & Hayes, 2008, p.14). The attitudes-behavior link provides technology researchers with a simple understanding of how favorable attitudes toward technology leads to adoption and use but does not capture the complexity of this process (e.g., Lin, 2003). In line with the social shaping perspective (Baym, 2015), the outcomes associated with technology use are a result of both technological affordances and how people use technology. Past evidence suggests compulsive internet use mediates the relationship between attitudes and well-being outcomes (Mazer & Ledbetter, 2012). The role of SNS attitudes needs to be examined in terms of SNS use and emotional well-being. Our third hypothesis suggests indirect relationships exist between SNS attitudes and EQL.

H3: SNS use will mediate the relationship between SNS attitudes and EQL.

Methods

Sample and Procedure

A cross-sectional study design was used with participants recruited from Qualtrics' research panel population – a high-quality representative sample. A Qualtrics' online sample or research panel

is a group of people recruited to respond to surveys. Participants are typically chosen from a pre-arranged pool of respondents who have agreed to be contacted by a research service to respond to surveys. Qualtrics research surveys provide higher-quality samples for health-related research due to their pre-screening process (Ibarra et al., 2018). Furthermore, online research panels benefit from a much more heterogeneous respondent pool than college-student samples (Chandler et al., 2019). Huang (2017) advocated for research on SNS use and well-being to include representative samples. Participants were incentivized for their participation by earning their preferred Qualtrics program rewards (e.g., gift cards, vouchers, or cash). Respondents were directed to an IRB-approved consent form explaining that their participation in the study was voluntary and that they could drop out at any time. After providing their consent, participants were asked to complete the survey, which took approximately 30 minutes. The sample comprised of 500 adults aged 18 or older from across the United States. Females accounted for 51% of the participants and males accounted for 49%. The ages of participants ranged from 18-92 years ($M = 46$, $SD = 16.77$) in order to represent a sample of U.S. adults. The ethnic breakdown of the sample was 11.2% African American, 3.8 % Asian/Pacific Islanders, 75.2 % Caucasian, 7.6% Latino/a or Hispanic, 1.2% Native American or Aleut, and 1% reporting “other.”

Measures

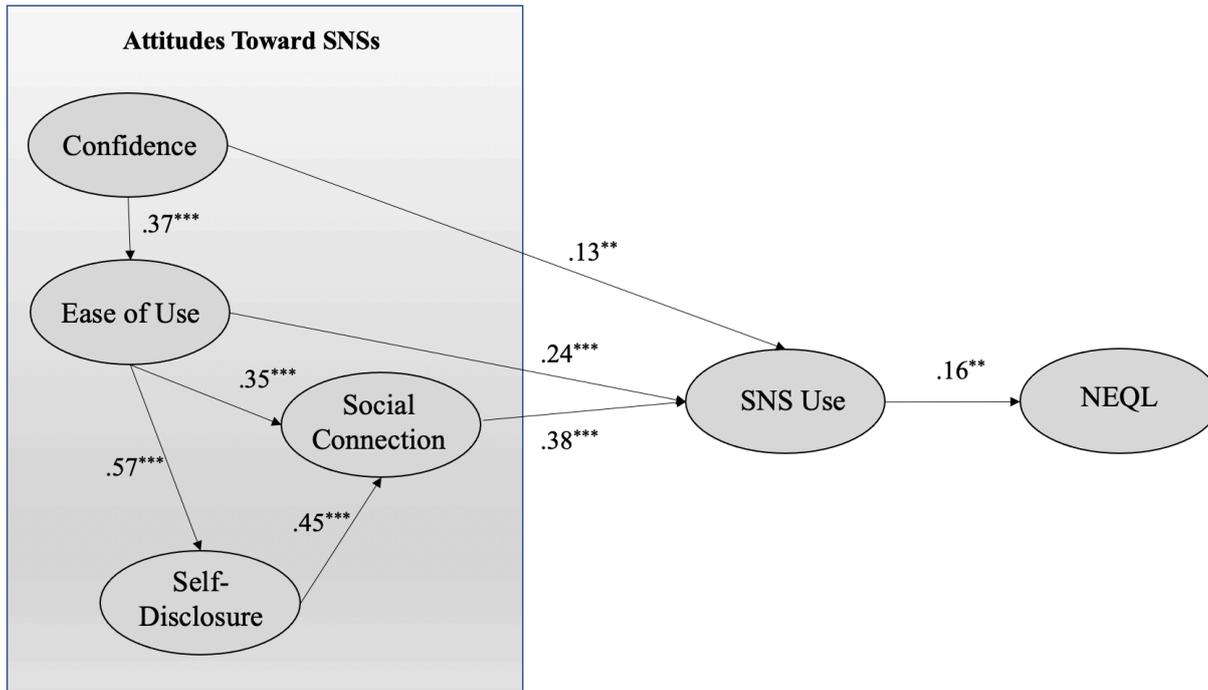
Attitudes towards SNSs was assessed using the measure of *Attitudes Towards Social Networking Sites* (MATS; Krishnan & Hunt, 2015) which was itself adapted from Ledbetter’s (2009) MOCA to focus specifically on social networking. The MATS is assessed on a 7-point Likert scale measuring from strongly disagree (1) to strongly agree (7) and consists of four dimensions, all of which showed good reliability – *social connection* ($\alpha = .87$), *confidence* ($\alpha = .87$), *ease of use* ($\alpha = .85$), and *self-disclosure* ($\alpha = .69$). The 9-item sub-scale of the *Media and Technology Usage and Attitudes Scale* (MTUAS; Rosen, et al., 2013) was used to assess the frequency of SNS use. Participants were asked to rate the frequency with which they engage with social networking platforms from never (1) to all the time (10), such as how often they “check their social networking pages,” “post status updates,” and “comment on postings, status updates, and photos.” The scale had high reliability ($\alpha = .91$). The *Emotional Quality of Life* (EQL; VanLear, 2006) scale was developed to measure one’s overall quality of life for a period of time. The 16-item general EQL scale demonstrated strong internal consistency ($\alpha = .95$). The scale consists of four sub-constructs: happiness (e.g., “I would generally describe myself as happy”), anger (e.g., “I am frequently angry”), anxiety (e.g., “I am frequently anxious”), and

depression (e.g., “I am frequently depressed”). Each of the scale’s underlying dimensions also had strong reliability estimates: *happiness* ($\alpha = .93$), *anxiety* ($\alpha = .87$), *depression* ($\alpha = .95$), and *anger* ($\alpha = .87$).

Analyses

Structural equation modeling, SEM, was employed in AMOS 24.0 using the approach suggested by Kline (2016). The benefit of conducting SEM analysis is that it allows communication researchers to test a set of relationships at the same time (Stephenson, Holbert, & Zimmerman, 2006). First, a confirmatory factor analysis (CFA) was conducted to assess the reliability and validity of all scales in the study. A second-order negative EQL, or NEQL, confirmatory model was used to assess negative emotional well-being. In this model, NEQL is measured as a second order factor with four first-order factors: depression, anger, anxiety, and happiness – which is negatively correlated with NEQL. The results of the full CFA model yielded a good model fitting model, CMIN/DF = 2.40, CFI = .93, RMSEA = .05, SRMR = .05 ($\chi^2 = 1595.42$, $df = 666$, $p < .001$). Second, the correlations between latent variables were removed and paths were created between study variables to create and test a hybrid structural model. The structural model was calculated to test each of our hypothesized relationships and assess our research questions. The initial model fit indicated a need for minor re-specification. The model initially included direct paths pointing from each attitude towards SNS use. The path from self-disclosure toward SNS use was non-significant therefore it was deleted. Guided by prior research (e.g., Denker et al., 2018; Krishnan & Hunt, 2015) indicating potential for a hierarchical structure between SNS attitudes and after evaluating modification indices, additional paths were added. Paths leading from ease of use to social connection and self-disclosure were added; as well as a path between self-disclosure and social connection. After making sure all model trimming procedures were based on prior research and grounded in technology adoption and media choice theories (e.g., Kline, 2016), the new model was tested. The results of the re-specified model (see Figure 1) indicate good measures of fit, CMIN/DF = 2.29, CFI = .94, RMSEA = .05, SRMR = .08 ($\chi^2 = 1533.21$, $df = 670$, $p < .001$).

Figure 1. Structural equation model for SNS attitudes, SNS use, and negative EQL



Note: Results of re-specified model. CFI=.94, CMIN/DF=2.29, RMSEA=.05, SRMR = .08.
 *** $p < .001$, ** $p < .01$, * $p < .05$.

Table 1. Correlations, means, and standard deviations

Variable	Mean	Standard Deviation	1	2	3	4	5	6	7	8	9
1. Social Connection	4.05	1.54	1								
2. Ease of Use	4.84	1.41	.63**	1							
3. Self-disclosure	3.70	1.54	.53**	.48**	1						
4. Confidence	4.73	1.54	.12**	.31**	.14**	1					
5. SNS Use	4.61	1.96	.47**	.48**	.35**	.21**	1				
6. Happiness	4.93	1.47	-.03	.07	.03	.09	.03	1			
7. Depression	2.93	1.81	.18**	.10*	.13**	-.15**	.14**	-.70**	1		
8. Anxiety	3.38	1.63	.22**	.15**	.15**	-.14**	.22**	-.50**	.78**	1	
9. Anger	2.74	1.51	.17**	.11*	.16**	-.12**	.21**	-.43**	.65**	.58**	1

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

Results

Our first hypothesis predicted that SNS attitudes would impact SNS use. The results of the structural equation model confirm that the relationships between confidence ($\beta = .13, p < .01$), ease of use ($\beta = .24, p < .001$) social connection ($\beta = .38, p < .001$) and SNS use were significant. Thus, H1a, H1b, and H1c were supported. However, self-disclosure did not significantly increase SNS use; thus, H1d was not supported. The second hypothesis posited that SNS use would be associated with negative EQL, and indeed our model demonstrated that SNS use significantly predicted negative EQL ($\beta = .16, p < .01$). A series of post-hoc regression analyses were conducted in SPSS in order to obtain a clearer understanding of which dimensions of EQL are impacted by SNS use. Because each of the four EQL sub-dimensions are distinct constructs (e.g., anger does not equal anxiety), the relationships between SNS use and each of the four sub-dimensions of EQL were analyzed separately. SNS use did not impact happiness but its relationships with anxiety ($F(1,498) = 25.80, p < .001, \beta = .22$), depression ($F(1,498) = 10.32, p < .001, \beta = .14$), and anger ($F(1,498) = 23.12, p < .001, \beta = .21$) were significant.

Our research question assessed which attitudes would serve as antecedents for the other attitudinal variables. After minor re-specification to the model, our analysis revealed the inter-relationships between attitudes toward social networking. The results of the structural model indicate a significant relationship between confidence and ease of use ($\beta = .37, p < .001$). Significant relationships were also revealed for ease of use and both social connection ($\beta = .35, p < .001$) and self-disclosure ($\beta = .57, p < .001$) attitudes. The structural equation model results also indicate that self-disclosure attitudes increased social connection attitudes ($\beta = .45, p < .001$).

Our third hypothesis assessed the indirect effects of SNS attitudes on negative EQL. A mediation analysis was calculated using the AMOS bootstrapping procedure with 95% bias-corrected confidence intervals and 1000 bootstrap samples. Three attitudes towards social networking resulted in significant indirect effects on NEQL. The indirect effect of confidence on NEQL was significant, $b = .03$ [.01, .06], $p < .05$). The indirect effect of ease of use on NEQL was significant, $b = .05$ [.02, .10], $p < .05$). The indirect effect of social connection on NEQL was also significant, $b = .04$ [.01, .08], $p < .05$). Based on the indirect effects of three attitudes on EQL, H3 was supported.

Table 2. Indirect effects of attitudes and SNS use on NEQL

Paths	<i>b</i>	<i>SE</i>	CI (lower, upper)
CONF → SNSU → NEQL	.03*	.01	.01, .06
EASE → SNSU → NEQL	.05*	.02	.02, .10
SCON → SNSU → NEQL	.04*	.02	.01, .08

Note: Unstandardized beta weights reported. CI – Confidence Interval, CONF = Confidence, EASE = Ease of Use, SCON = Social Connection, SNSU = SNS Use, and NEQL = Negative EQL. * $p < .05$.

Finally, an alternative model was testing to validate our study results. The alternative model explored the relationships between variables with negative EQL predicting SNS attitudes and SNS use. The analysis of the alternative model also resulted in good indicators of fit, $X^2 = 1509.02$, $df = 665$, $p < .001$, CFI=.94, CMIN/DF = 2.27, RMSEA=.05. The alternative model tested demonstrated a significant relationship between NEQL and confidence ($\beta = -.16$, $p < .01$) and social connection attitudes ($\beta = .13$, $p < .01$) and ease ($\beta = .13$, $p < .01$). In addition, the direct path from NEQL to SNS use was significant ($\beta = .09$, $p < .05$).

Discussion

The purpose of this research study is to explore the relationships between attitudes, social networking use, and emotional well-being with a representative sample of the U.S. population. The mixed findings regarding social networking use’s impact on well-being (Baker & Perez Algorta, 2016; Huang, 2017) prompted our exploration into examining the impact of social networking attitudes. The results of our model indicate that social networking use significantly influences negative emotional quality of life. Our findings demonstrate that SNS use mediates the relationship between attitudes and EQL. Social connection attitudes are the strongest predictor of SNS use, followed by ease and confidence attitudes respectively. As SNS adoption becomes more commonplace in our professional and personal lives, these findings underscore the importance of examining attitudes when studying how SNS behavior shapes emotional health.

While findings have been mixed in terms of the positive and negative effect of social networking use on well-being (e.g., Bekalu et al., 2019; Baker & Perez Algorta, 2016), our findings support prior research showing the negative impact of SNS use. Furthermore, this study extends research demonstrating how online communication

attitudes contribute to poor well-being outcomes for internet behavior (e.g., Mazer & Ledbetter, 2012) to the study of SNS use. In particular, we tie both attitudes toward SNSs and SNS behavior to negative emotional health. In this study, we looked at SNS use holistically, supporting research by Primack et al. (2017) which indicates users of multiple sites exhibited higher degrees of depression and anxiety. Social networking use can cause both cognitive and social burdens on users (York & Turcotte, 2015). The complexities of the relationship between SNS use and emotional well-being (e.g., Baker & Perez Algorta, 2016) become more apparent when accounting for specific attitudinal factors. Our model indicates that social connection and ease attitudes drive SNS use which then acts to lower one's emotional quality of life. When EQL is broken down by sub-constructs, SNS use is significantly associated with depression, anger, and anxiety.

Social connection attitudes were the strongest predictor of SNS use in our model. This finding successfully expands previous research with respect to online communication attitudes (Ledbetter et al., 2011; Ledbetter & Finn, 2016). The indirect effect between social connection and negative EQL adds to our understanding of communication attitudes and media choice. When a person has a strong emotional need to connect via online social platforms, this can indirectly influence their negative well-being. As Clarke et al. (2018) suggest, SNS users with strong social connections report higher levels of well-being while those with weak social connections report poorer well-being outcomes. Similarly, both confidence and ease attitudes indirectly affected emotional well-being. Although the negative relationships were not strong, these results indicate that the more confident and comfortable users are while navigating SNSs, e.g., "self-efficacy," they may be less guarded which could affect their well-being negatively. As these attitudes drive SNS use, it is possible that they are communicating online more than in face-to-face contexts, which impacts well-being.

Self-disclosure attitudes also significantly influenced social connection attitudes in our statistical model, supporting the direction revealed in previous research studies (Denker et al., 2018; Krishnan & Hunt, 2015). This research suggests that as people favor disclosing information via SNSs they feel a stronger attachment to others online. Our results did not demonstrate a direct relational path between self-disclosure and SNS use as we predicted. This is somewhat surprising given that self-disclosure attitudes have been shown to increase text intensity (Dorrance Hall et al., 2018). However, our finding is more closely aligned with research (e.g., Denker et al., 2018) which demonstrates a negative relationship between self-disclosure attitudes and motives for social media

participation. Our participants, a representative sample of the adult population, might opt not to disclose as much information on social platforms. A criticism of prior social media research focused on well-being is the use of college student samples (e.g., Huang, 2017). Older adults might have more rules in terms of privacy or other preferred modes of interpersonal disclosure. Recent research has highlighted the importance of examining SNS privacy behavior as “contextual, nuanced, and adaptive” (Quinn & Papacharissi, 2018, p. 59). Furthermore, Sujon’s (2018) qualitative study of privacy on social platforms suggests variation in disclosure behavior based on one’s life stage.

Confidence significantly predicts ease of use in our model, as well as frequency of use for SNSs. This finding supports prior research in the area of online communication attitudes. For example, communication apprehension – the inverse of confidence, has been shown to reduce self-efficacy (Ledbetter & Finn, 2013) and inhibit texting (Dorrance Hall et al., 2018). Additionally, prior research revealed that confidence increases motivations to use SNSs (Krishnan & Hunt, 2015). The role of confidence and/or apprehension in using social networking sites is important to understand given the growing number of employees tasked with work activities on social media platforms within organizations (e.g., Leonardi, Huysman, & Steinfield, 2013). This finding has practical value in that increasing users’ confidence will lead to more effective communication on SNSs. Ease of use increased SNS use, lending support for theories of technology adoption.

Attitudes towards technology are a key component of “audience” factors within the ITAP. Our model explicates the complex relationship between social networking attitudes. As Ledbetter (2009) suggests online communication attitudes measure both affective and cognitive orientations, our understanding of the relationships between SNS attitudes supports the notion that ease of use is at the core of communication. Furthermore, attitudes play a critical role in how users feel when making choices about their media use which is evidence of how social shaping (e.g., Baym, 2015) occurs with technology. What the present study shows in conjunction with previous research on online attitudes (Denker et al., 2018), is that attitudinal constructs have a hierarchical structure. Ease of use consequently predicts the two attitudes - social connection and self-disclosure. This implies that a user-friendly medium increases one’s disposition towards communicating online to connect socially and to self-disclose information. This study also contributes to scholarship focused on communication attitudes and “problematic” internet use (e.g., Mazer & Ledbetter, 2012). We were able to demonstrate that frequent SNS use mediates the relationship between attitudes and

emotional well-being. However, our study applies this line of research to specifically SNS use rather than internet use in general.

Our analysis revealed the significant influence of SNS use on the EQL sub-constructs of depression, anxiety, and anger. This finding support past research (e.g., Huang, 2017) suggesting that the effects of overall SNS use on well-being tend to be negative. Among young adults there is some evidence that digital technology leads to increases in depressive states and psychological distress (e.g., Twenge et al., 2019). Our study reinforces this finding in a sample of adults as well; the influence is likely not as strong. We did not find any significant relationship between SNS use and happiness which is somewhat surprising since SNS use has been shown to lower happiness (e.g., Brooks, 2015). Furthermore, our integration of the four attitude constructs advances online attitudes research by demonstrating the role of attitudes when assessing how SNS use impacts emotional health.

While our model focused on the influence of technology attitudes and use on emotional well-being, there is some prior evidence that one's well-being may impact how people use SNSs (e.g., Longstreet & Brooks, 2017). We tested the possibility of an alternative model to explore if evidence of a reciprocal relationship exists between study variables. Emotional well-being, and EQL in particular, can be treated as either a causal or a dependent variable (e.g., Van Lear et al., 2008). Our alternative model tested the role of NEQL as predictor of SNS attitudes and SNS use. Our alternative model also provided good indicators of model fit. By assessing if EQL influences attitudes and SNS use, in addition to testing how SNS use influences emotional well-being, there is evidence that supports the social shaping perspective (Baym, 2015). Interestingly, higher levels of negative EQL increased both the social connection and ease attitudes and lowered confidence attitudes. Furthermore, NEQL increased SNS use in the alternative model. This finding indicates that as a person is experiencing low emotional health, such as depression and anxiety, they may turn to social media to connect with others or to pass time. Our alternative model testing suggests evidence of a reciprocal relationship between emotional well-being and SNS use that offers promise for exploration in future research.

Limitations and Future Directions

While this study attempted to remedy problems identified in previous research examining social networking and emotional well-being, such as employing college student samples, there are limitations that should be addressed. When a sample of U.S. adults is studied, the results offer more meaningful findings than a convenience sample. However, employing a cross-sectional survey brings limitations to

the study's generalizability. For example, we were not able to assess all of the possible factors influencing negative emotional well-being in this study. The inclusion of additional measures to assess participants' motivations to use social networking sites and determining which platforms users spent the most time on would have provided useful information to help guide subsequent studies.

Future research should consider parceling out how specific SNS activities impact emotional well-being. Each social networking platform has a different identity, and hence some platforms might be more beneficial to emotional well-being than others. Subsequent research should examine the relationships offered in our alternative model. Studies should further examine how emotional well-being "shapes" attitudes and media use. Our post-hoc analysis found SNS use increases depression, anxiety, and anger. Additional research should continue to explore the conditions in which using SNSs influence each of the EQL sub-dimensions. There are often multiple contributing factors to negative communication outcomes, future studies should consider how these factors coalesce to impact emotional well-being.

Conclusion

Social networking platforms continue to be widely used and adopted in both personal and professional environments. Reports of increased levels of depression and anxiety are concerning to both the general public and the medical field. Due to inconsistent findings of the SNS effects on mental and emotional health, we chose to examine this relationship by looking at SNS attitudes as antecedents to SNS use. Our findings show that specific attitudes intersect with frequent SNS use to lower EQL. Expanding upon prior research (Krishnan & Hunt, 2015; Denker et al., 2018), attitudes were shown to have a hierarchical structure. This supports technology adoption theories that point to a technology's intuitiveness and user-friendliness as well as the important role attitudes play in media choice. Our analysis supports the body of research that suggests increased levels of SNS use lower one's emotional health; while highlighting the complex relationship of SNS attitudes, SNS use, and emotional well-being.

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