

**SOCIAL MEDIA AND SMARTPHONE USAGE IN COLLEGE STUDENTS:
ASSOCIATIONS WITH PERCEIVED RELATIONSHIP QUALITY,
DEPRESSIVE COGNITION, MOOD, AND WELL-BEING**

by

Garret R. Sacco

A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Psychology

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ABSTRACT

In the past decade, there has been an explosion of smartphone utilization and social media usage, particularly among young adults. Both in popular culture and among researchers, there have been concerns about the effects of social media use on psychological well-being and mental health outcomes. This study included both passive and active longitudinal data collection to assess the links between social interaction variables and mental health variables. Participants were 113 college students who installed a monitoring application on their smartphones, completed daily surveys, and allowed the app to collect relevant passive data over a two-week period. Concurrent hierarchical correlations and regressions suggested that neither the frequency of electronic communication nor social media use were associated with daily mental health variables. However, when individuals reported experiencing positive social interactions, they also reported greater well-being and positive affect and less depressive cognition and negative affect on the same day. Hierarchical cross-lagged regressions revealed that none of the social interaction variables predicted next day mental health variables. However, increased negative affect on a given day predicted lower quality social interactions the next day, and increased well-being predicted higher quality social interactions and use of social media the next day. Finally, rumination (a known correlate of depression), moderated the relationship between perceived quality of social interactions and depressive cognition, such that high ruminators experienced more depressive cognition, even when experiencing positive interactions with others. Taken together, the results suggest that the context of

interactions may matter much more than the frequency of electronic communication or social media use. Recommendations for future research in contextualizing social media use on smartphones and additional mental health and well-being factors are discussed.

PREVIEW

Chapter 1

INTRODUCTION

Electronic devices have become an integral part of global culture. With improving technology and the advent of social media since the early 2000s, the world has, arguably, become much more connected and electronic-centric. Nearly 80% of Americans own a smartphone (compared to 35% in 2011), and approximately 70% report using at least one type of social media platform compared to 5% in 2005 (Smith, 2017). In 2018, as many as 88% of 18- to 29-year-old Americans use at least one form of social media, more than any other age bracket (Pew Research Center, 2018). With this cultural shift, many scientific disciplines have sought to examine the impact of this pervasive social media and smartphone usage. An emerging concern among these researchers is how social media and smartphone usage are associated with and may impact social functioning, mood, mental health, and well-being, the focus of the current study.

Public Health Concerns Related to Social Media Use

The ubiquity of social media and smartphone use is apparent among the U.S. population. A recent study of over 500,000 adolescents conducted between 2010 and 2015 concluded that social media and smartphone usage is associated with increased rates of suicide-related outcomes, including hopelessness, suicidal ideation, planning, and actual attempts (Twenge, Joiner, Rogers, & Martin, 2017). Further, these

researchers reported a “dose-related effect,” whereby individuals who spent two or more hours using smartphones were more likely to endorse suicide-related outcomes compared to their counterparts who engaged in non-screen activities, such as in-person interactions, sports/exercise, religious activities, or job-related activities. It should be noted that effect sizes were small in this study, and it is premature to infer direct causality between social media or smartphone use and suicidality. However, this pattern of findings should not be ignored, as both rates of social media use and suicidality have been increasing in teenagers and young adults over the last 10 years (Centers for Disease Control and Prevention, 2017; Twenge et al., 2017). Other factors have been highlighted that may be associated with this trend, such as increased loneliness, which is a known predictor of suicidality (Van Orden et al., 2010) and has been shown to have physical and mental repercussions (Holt-Lunstad, 2018). Some researchers have posited that there is a strong connection between social media use and the drive to have meaningful connections, as well as the perception of current relationships (Ahn & Shin, 2013; Ryan, Allen, Gray & McInerney, 2017). Given that college-aged students are at increased risk for suicide and major depressive disorder (Cuijpers, et al., 2016; Kessler & Bromet, 2013; Klein, Glenn, Kosty, Seeley, Rohde, & Lewinsohn, 2013) and are the highest utilizers of social media (potentially to build close relationships), an examination of the impact of these types of social connections is warranted.

Mental Health Markers Negatively Affected by Social Media Use

To better understand the potential impact of social media usage (use of social networking platforms such as Facebook, Instagram, Twitter) and electronic communication (e.g. texting, emailing, phone calls, Skyping), researchers have evaluated several constructs, such as mood, mental health/well-being, and social connectedness using a variety of methods.

Mood

Mood is one of the most widely examined constructs, given its relationship to a variety of mental health disorders. Several studies have examined the effects of spending time on smartphones and social media sites on general mood. In a broad sample of participants in the United States, Sagioglou and Geitemeyer (2014) experimentally manipulated time spent on Facebook (20 minutes) compared to browsing the internet generally or no activity. Participants exposed to Facebook rated their mood as more negative, although they expected this online activity to make them feel better (i.e., faulty affective forecasting). The relationship between Facebook activity and mood was mediated by the perception of how meaningful the activity was, and lower levels of meaningful activity predicted more negative mood (Sagioglou & Geitemeyer, 2014). Other correlational and experimental studies suggest that exposure to positive or negative content on Facebook can even influence the valence of wall-posting behaviors of an individual and his or her friends (Coviello et al., 2014; Kramer, Guillory, & Hancock, 2014).

Mental Health/Well-being

Given that college-aged students are estimated to spend approximately two hours or more on social media a day (GlobalWebIndex, 2017), the cumulative effect of these experiences might contribute to reduced well-being or even mental health problems. Several cross-sectional studies have investigated the links between how social media is used and depression (Lin et al., 2016; Pantic, 2014; Primack, Shensa, Escobar-Viera, et al., 2017; Tromholt, 2016), anxiety (Dobrea & Păsărelu, 2016; McCord, Rodebaugh, & Levinson, 2014), and general well-being (Brooks, 2015; Satici & Uysal, 2015; Shakya & Christakis, 2017).

Depression and anxiety

In a cross-sectional study of U.S. adults (aged 19-32), participants were asked to rate their depression and their typical social media usage (total time per day, which social media platforms they used, and number of times a participant visited a social media site). Individuals in the highest quartiles for time spent on social media and frequency of accessing the sites were approximately three times more likely than those in the lowest quartile to report high levels of depression (Lin et al., 2016). This suggests that patterns of social media use might be associated with depression symptoms. Although duration of time on social media appears to be an important correlate of depression, other researchers have examined whether engagement with a larger number of social media platforms predicts mental health outcomes. Primack and colleagues (Primack, Shensa, Escobar-Viera, et al., 2017) investigated this among young adults using an up-to-date collection of social media platforms (i.e., Facebook, Twitter, Google+, YouTube, LinkedIn, Instagram, Pinterest, Tumblr, Vine, Snapchat, and Reddit). Results indicated that participants who were engaged on more social

media platforms tended to have elevated scores on measures of depression and anxiety than individuals who used between zero and two social media platforms.

Self-esteem

Another area related to both mental health and well-being is self-esteem, a component of Ryff and Keyes's six-factor model of psychological well-being (Ryff & Keyes, 1995). With influential factors like cyberbullying (Brewer & Kerslake, 2015; Patchin & Hinduja, 2010), pressures to portray a perfect lifestyle (Gangadharbatla, 2008), and comparisons with others (Jan Anwwer Soomro, & Ahmad, 2017; Nesi & Prinstein, 2015), social media is a potentially powerful medium to inflate or deflate individuals' self-worth. For example, in a study of college students, researchers found that for every hour an individual spends on Facebook, they report a significant decrease in self-esteem due to comparisons with others (Jan et al., 2017). Other studies have found that online feedback (positive or negative) from others is associated not only with corresponding increases or decreases in self-esteem, but also with overall well-being (Valkenburg, Peter, & Schouten, 2006).

Well-being

In addition to studies that highlight increased depression and anxiety among social media users, researchers have investigated the effect of social media on psychological well-being more broadly. In one of the few experience-sampling studies among young adults, Kross and colleagues (2013) captured moment-to-moment affect ("How do you feel right now?") and Facebook use ("How much have you used Facebook since the last time we asked?"). Participants were texted five times per day to complete brief online surveys. Time-lagged analyses revealed that Facebook use