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Is Social Media Use Harmful? Examining the Impact of Social Media Use on Psychological Well-Being

Honors Thesis

Presented to The Honors College of Salisbury University

in Partial Fulfillment of the Requirements for Graduation with University Honors

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Dr. Heidi Fritz

Abstract

As social media was first being studied in academia, researchers were divided as to whether social media use had a positive or negative impact on psychological well-being (Frost & Rickwood, 2017; Lup, Trub & Rosenthal, 2015). Upon further analysis, it seems as if social media use has a different impact on well-being depending on whether the use is active or passive. The current study hypothesizes that active social media use is associated with increased psychological well-being, while passive social media use is associated with decreased well-being. I hypothesize that these relations are mediated by different factors: active social media use increases psychological well-being by increasing social capital, while passive social media use decreases psychological well-being through increasing social comparison. Correlation and mediation analyses were performed, but largely none of these hypotheses were supported. Significant findings associating social comparison and psychological well-being were found, however they did not align with social comparison theory but rather are better explained by emotional contagion theory. Social media use should continue to be studied to determine what impact it has on psychological well-being, as the current study was unable to make a clear association between the two. Social media users, on an individual level, should examine how they utilize social media and how it impacts their mental health, and correct their behaviors to mitigate any possible negative impacts.

Introduction

Social media has become a pervasive part of our world. Almost everyone has an account on one platform or another, and most use several sites on a daily basis. Social media has changed how news is shared, and perhaps more importantly it has changed how people interact with one another on a daily basis. Social media use is especially prevalent in the emerging adult population, as one study found that 78% of 18 to 24-year-olds use Snapchat, 71% use Instagram, 45% use Twitter, and 80% use Facebook (Smith & Anderson, 2018). Most people assume that social media use has a negative impact on individuals' psychological well-being, especially if it is overused, but is this really the case? Researchers were initially divided on this issue, with some finding that social media use has a negative impact, and others finding that it did not (Frost & Rickwood, 2017, Lup et al., 2015). Are there possibly mediating variables that account for these differences in findings?

Upon further analysis, social media use has been found to have differing impacts depending on the way that it is used. This research examines the two main forms of social media use, active and passive, and proposes that they have different impacts on psychological well-being due to separate mediating factors.

Active and Passive Social Media Use

Social media researchers generally separate social media use behaviors into one of two categories: active use or passive use. Active social media use is defined as any action on a social media platform that facilitates direct communication with other users or that adds a form of content to the platform (Ding, Zhang, Wei, Huang, & Zhou, 2017). Examples of active social media use behaviors include activities such as liking or

favoriting a post, commenting, or posting content such as a status update, tweet, photo, or video to a platform (Ding et al., 2017). Passive use includes any activity on a social media platform that does not lead to communication with other users or to adding to the content, such as browsing through feeds or watching stories (Ding et al., 2017). Active and passive social media use likely have different impacts on psychological well-being because these activities fulfill different psychological needs. Active social media use tends to lead to back-and-forth interactions between users, which can fill a need for social support or remind users of their connections with friends and family. This interaction can deepen or reaffirm a bond with a close friend if it leads to deep conversation or can help develop new friendships through lighter conversation. Also, active social media use can fill a desire for information because people can learn more about certain topics by speaking with another user who is more knowledgeable in that field (Hofer & Aubert, 2013). Alternatively, passive social media use tends to serve more of an entertainment purpose, because it only involves consuming information and does not lead to users interacting (Hofer & Aubert, 2013). Such passive use may even lead to people feeling like they have wasted their time, which may negatively influence their mood (Lin et al., 2016).

Categorizing social media use behaviors as either active or passive use is worthwhile because the two forms of use have different associations with various measures of psychological well-being. Frost and Rickwood (2017), in a literature review, found that those who used Facebook to connect with other users tended to report fewer symptoms of depression and anxiety than those who used the platform passively. Similarly, Yang (2016) found that increased Instagram use in the form of direct

interaction with other users was associated with decreased loneliness. In an experiment designed to manipulate whether participants used social media actively or passively, Verduyn et al. (2015) found that passive use may decrease psychological well-being by increasing feelings of envy. Additionally, Escobar-Viera, Shensa, Bowman, Sidani, Knight, James, and Primack (2018) found that an increase of one point on the score of a passive social media use scale corresponded with a 44% increased risk of depression, while an increase of one point on the score of an active social media use scale was associated with at 15% decreased risk of depression. Finally, Aalbers, McNally, Heeren, Wit, and Fried (2018) found that participants who passively used social media more often were increasingly likely to have higher average levels of depression, loneliness, hopelessness, and feelings of inferiority than those who passively used social media less often.

What are the underlying mechanisms creating these differing effects on psychological well-being? The present study examines two possible mediating factors: social capital and social comparison. One potential explanation for these findings is that active social media use is associated with increased psychological well-being because it facilitates relationships with other users, or social capital, while passive use does not. Passive social media use may instead be associated with decreased psychological well-being because it disposes users to social comparison, which for most is a negative process. The following sections will examine social capital and social comparison in more detail.

Social Capital

The concepts bonding and bridging social capital are frequently used throughout social media research as a way to distinguish between relationships of different strengths. Bonding social capital refers to the benefits that are gained from interactions with people whom the user has a strong tie to; individuals such as family members and close friends (Chen & Li, 2017). Alternatively, bridging social capital refers to the benefits gained from interacting with people with whom one has a weaker tie, such as casual friends, coworkers, and acquaintances (Chen & Li, 2017). Bonding social capital relationships are sometimes called established relationships, while bridging social capital relationships may also be called emerging relationships. Essentially, anyone in your bonding social capital is someone who you are close to and who frequently supports you, while people in your bridging social capital are people that you are less close to and who you do not know as well. A person's bonding social capital tends to be a less diverse group of individuals because people are often closer to others who are similar to them than to those who are different (Bouchillon & Gotileb, 2016). Bridging social capital tends to be a more diverse group because we tend to know of at least some people who are different from us, even if we do not interact with them on a regular basis. Strong ties normally give the benefits of bonding social capital, through some form of practical, emotional, or social support, while weak ties normally give the benefits of bridging social capital, which is more informational in nature (Quinn, 2016).

Several studies have found links between social media use, social capital, and psychological well-being. Chen and Li (2017) found that communicative behaviors on social media (active use) positively predicted both forms of social capital. Also, they found that friending (an active use behavior on Facebook that involves adding a new

person to a friend's list to be able to communicate with them, to be able to see the content they post, and to allow them to see your content) was more strongly associated with bridging social capital than bonding (Chen & Li, 2017). Finally, Chen and Li (2017) found a positive association between active social media use and psychological well-being. In a meta-analysis, Liu, Ainsworth, and Baumeister (2016) found that both bonding and bridging social capital were positively associated with social media use, but bridging had a more significant association than bonding. One possible explanation for the findings of Chen and Li (2017) and Liu et al. (2016) could be that bridging social capital is enhanced by less active social media behaviors, such as liking and friending, while a bonding social capital relationship requires direct communication to be enhanced. Liking, favoriting, friending, and following are behaviors that do not necessarily lead to direct communication with others, but they are still considered active use because they add content to the platform. Less communicative active social media use behaviors likely contribute more strongly to bridging social capital than bonding because bridging relationships are more informal and informational in nature, so even a simple reminder of these people's existence can enhance these relationships. The enhancement of bonding social capital relationships, however, requires more direct communication. These relationships come with a high level of trust and intimacy, so these people are not easily forgotten (Chen & Li, 2017). In support of this, Bouchillon and Gotlieb (2016) found that active use tends to be a reminder of the strength of bridging social capital relationships. It is important to keep in mind that these findings are all correlational in nature, so a causal relationship cannot be established. These explanations are hypothetical and not necessarily accurate or correct.

Upon further examination of relations between social media use, social capital, and well-being, Yang and Brown (2015) found that when Facebook is used to maintain relationships among college students, use is associated with psychological well-being. Phua, Jin, & Kim (2017) expand this finding by concluding that active social media use has a different relationship with bonding and bridging social capital depending on the social networking platform being used. Specifically, they found that Twitter use was significantly associated with bridging social capital, while Snapchat use was more significantly associated with bonding social capital (Phua et al., 2017). Differences between social media platforms likely occur because platforms are designed to reach different audiences. Twitter users tend to have a large group of followers, who mostly fall under the bridging social capital category, because of the blogging and informational exchange nature of the site, while Snapchat users tend to have fewer followers, who would mostly be considered bonding social capital, because the primary mode of communication is direct and involves sending photos back and forth to either one person or to a small group of people. Thus, the impact of active social media use on increasing and maintaining bonding and bridging social capital depends on the platform being used and studied, as these differences between platforms may contribute to discrepancies within the research literature.

Finally, in a longitudinal study, Yoo and Jeong (2017) found that active social media use increased depression in people who were low in social capital. Those high in social capital, on the other hand, had decreased levels of loneliness when they used social media more often (Yoo & Jeong, 2017). This is likely the case because people with lower levels of social capital may have unsatisfactory interactions on social media more often,

which could lead to issues such as social comparison, envy, and loneliness, while those with higher levels of social capital likely have a good amount of satisfactory interactions on social media. This study shows how social capital may be a moderator in the relationship between active use and psychological well-being. Active social media use cannot increase users' well-being if it does not leave them feeling more supported by their community, a feeling which may be more common in those with lower levels of social capital.

In most studies, bonding and bridging social capital are assessed through the use of the Internet Social Capital Scale, created by Williams (2006) (Ellison, Steinfeld & Lampe, 2007; Hofer & Aubert, 2013; Liu, et al., 2016; Quinn, 2016; Yoo & Jeong, 2017). This scale was originally developed to study both online and offline social capital but has been revised to assess social capital on certain social media sites, or to focus on social media use as it relates to certain communities, like a college campus (Ellison et al., 2007; Hofer & Aubert, 2013).

Despite how widely the Internet Social Capital Scale (ISCS) is used, it has been criticized for ineffectively distinguishing between bonding and bridging social capital. To this point, Appel et al. (2014) examined the convergent and discriminant validity of the Internet Social Capital Scale by comparing it to other measures of bonding and bridging social capital and to measures of social support. They concluded that the scale did not effectively measure social capital: it did not adequately discriminate between bonding and bridging social capital, and its questions measured the causes or consequences of having social capital, like social support, not social capital itself (Appel et al., 2014). Appel et al. (2014) found that the ISCS, especially the bonding subscale, was associated

with measures of social support. While they are similar concepts, social capital and social support are not the same, so scales measuring either construct should not be significantly associated with one another (Appel et al., 2014). Social capital refers specifically to the structure and strength of the relationship, while social support is a benefit that may or may not come from a bonding or bridging social capital relationship. Appel et al.'s (2014) findings are significant because the ISCS is used frequently within social media research. It is important to take these findings seriously, and to corroborate them with more studies of a similar nature, to be sure that social capital is being assessed accurately within the context of social media.

If the Internet Social Capital Scale is an ineffective way of measuring social capital on social media, then what measure should be used instead? Appel et al. (2014) recommend adapting name, position, and resource generators to be used within the context of social media, because previously they were used to study in-person interactions. Name generators are questions that prompt a participant to provide a list of names of people who they can talk about important things with and to provide a list of people who are significant in their lives (Appel et al., 2014). Position generators are questions that list various occupations, and participants say if they know someone in that profession or not (Appel et al., 2014). Finally, resource generators ask participants if they know people with specific knowledge, skills, or with certain resources, such as if they know someone who is fluent in a foreign language or someone who is in an elected office (Appel et al., 2014). Name generators are used to measure bonding social capital, because Appel et al. (2014) theorize that people only talk about important issues with people they are quite close to. Position and relation generators assess bridging social capital because

bridging is more diverse in nature and it is likely that most of the people on those lists would fall into the bridging social capital category (Appel et al., 2014).

Even though Appel et al. (2014) claim that these generator questions are better than the ISCS, they seem to be problematic. People do occasionally discuss important issues with people they are not all that close to, especially if things are pressing or weighing on their mind. Also, while the position and relation generators are more inclusive of bridging social capital, people of various positions or with various resources could also be of bonding social capital, so these questions could really be measuring both forms of social capital. Finally, position generators are problematic because the ability to effectively respond to them depends on a person's age. A participant in their thirties or forties may have no problem coming up with people they know of various occupations, but a young adult likely knows less people who are working in diverse fields, so this may not be representative of their bridging social capital. To try to provide a solution to the problems surrounding both the ISCS and name, position, and relation generators, I created a new scale to measure bonding and bridging social capital by combining social capital with the construct of communal versus exchange relationships, developed by Clark and Mills (1979).

Communal and exchange relationships describe the structure of interpersonal relations that happen between people with different levels of intimacy. According to Clark and Mills (1979), communal relationships are relationships between close family, friends, and significant others, where favors are done for each other whenever necessary. Exchange relationships, on the other hand, are relationships with people like coworkers and acquaintances that involve keeping track of the favors done for each other (Clark &

Mills, 1979). Exchange relationships come with the assumption that if one person does a favor, the other will return the favor as soon as possible (Clark & Mills, 1979). People in communal relationships also keep track of who has done what, so turn taking can occur when both people have a need to be met, but there is not the same striving to make things equal as soon as possible (Clark, 1984). In other words, it is acceptable in communal relationships to have a long gap between the initial favor and the other person 'returning' the favor, but it can be problematic if they do not return the favor when the other person has a need.

In a close relationship, people often feel somewhat obligated for the welfare of the other person because of their level of intimacy, so they are willing to do what is necessary for them (Clark & Mills, 1979). In exchange relationships, however, there is little to no intimacy, so favors are more tentative in nature and little to no obligation is felt towards the other person (Clark & Mills, 1979). This does not mean that exchange relationships are selfish, however, because it would be unhealthy for individuals to always do favors for everyone around them. An important factor to remember with both forms of relationships is that they must be mutual in order to function properly. If only one person is giving benefits on a communal or exchange level, then it is not a communal or exchange relationship, but rather one person being kind to a nonreciprocating other (Clark & Mills, 1979).

Margaret Clark tested the concept of communal and exchange relationships through several experiments which involved manipulating whether a participant would desire a communal or exchange relationship with a confederate. Clark found that participants who desired a communal relationship wanted the confederate to take an

interest in their needs, and they were put off if someone they wanted a communal relationship with immediately returned a favor without there being a need (Clark, Dubash & Mills, 1998; Clark & Mills, 1979). Participants who were manipulated to want an exchange relationship, on the other hand, appreciated when a favor was immediately returned and were less concerned with whether the confederate took their needs into consideration or not (Clark, Dubash, & Mills, 1998; Clark & Mills, 1979). In a communal relationship, a favor should not be immediately returned unless the other person has a need, so someone who immediately returns a favor presumably either wants the relationship to be more exchange in nature or they assume that it is (Clark & Mills, 1979). When one member of a communal relationship returns a favor quickly without a need being present, the other member could interpret this as the person trying to even things out as quickly as possible, so they do not have to support the person later.

The concept of communal and exchange relationships seems to fit well with that of bonding and bridging social capital. Bonding social capital normally comes from relationships with close friends and family, so it is likely that these relationships are also communal in nature. Similarly, bridging social capital seems to fit with the idea of exchange relationships: people are likely more hesitant to frequently help less close friends or coworkers because there is not that level of intimacy. Since these concepts are similar, it is possible that the creation of a scale which assesses whether or not a person has communal relationships with their bonding social capital, and whether or not they have exchange relationships with their bridging social capital, may make for a better way to measure social capital on social media. Measuring social capital in this way may prevent it from being associated with social support because this measure would only

assess the structure of the relationship, not whether or not the person feels supported in it. To test this theory, I created a questionnaire, called the Communal and Exchange Relationships Survey, which combines these concepts by asking people to rate both what percentages of their social network online fits in the categories of bonding and bridging social capital, and communal and exchange relationships, respectively. Presumably, the percentage of their social network that falls under bonding social capital should be similar to the percentage that falls under communal relationships, and the percentage that falls under bridging social capital should be similar to the percentage that falls under exchange relationships. Using this scale may provide another way to test whether bonding and/or bridging social capital mediates the relation of social media use with psychological well-being, and it will hopefully measure social capital in a more effective way.

Social Comparison

A second factor that may mediate the relationship between social media use and psychological well-being is social comparison. People tend to compare themselves to others to evaluate their own choices and performance, and social media use likely increases this practice because it gives individuals easier access to other's personal information (Park & Baek, 2018). People tend to have one of two orientations towards social comparison, or ways in which they socially compare: either the orientation of ability or the orientation of opinion (Yang & Robinson, 2018). The social comparison orientation of ability involves comparing one's own achievements and performance to that of other people (Yang & Robinson, 2018). In contrast, the social comparison orientation of opinion is non-competitive in nature and involves comparing similarities

and differences in things like thoughts, values, and actions (Yang & Robinson, 2018). The majority of social comparison on social media is upward in nature, because users tend to only display positive aspects of their lives, making their life seem better in comparison to a life that is both positive and negative, so I am only studying upward social comparison. Social comparison may also be upward if comparison is performed with a stranger, because the user may commit an ultimate attribution error and assume that the stranger's lives are always as good as they seem on social media (Fardouly, Pinkus, & Vartanian, 2017; Hanna et al., 2017).

The social comparison orientations of ability and opinion have different impacts on psychological well-being because they elicit different emotions. Park & Baek (2018) found that the social comparison orientation of ability was associated with upward contrastive emotions, while the social comparison orientation of opinion was associated with upward assimilative emotions. Upward contrastive emotions stem from feelings of inferiority after performing a social comparison and includes emotions like envy and depression (Park & Baek, 2018). Upward assimilative emotions, however, occur when people feel good after a social comparison and include emotions like optimism and inspiration (Park & Baek, 2018).

It is logical that emotions like envy and depression are associated with the social comparison orientation of ability because these emotions are easily elicited by a negative achievement evaluation, for example if it ends either with the individual feeling envious of the other person or depressed at their own inferiority. The orientation of opinion is likely associated with optimism and inspiration because after exploring a difference in

opinion, the individual performing the comparison may be inspired by the other person's accomplishments and/or optimistic that they could be as good as them someday.

The two social comparison orientations have different impacts on psychological well-being due to the separate emotions they elicit. Park and Baek (2018) found that if optimism or inspiration are elicited by social comparison, then a person's psychological well-being may be increased, however if envy or depression are elicited, well-being may be damaged. The orientation of ability is associated with evaluating self-esteem, in ways such as encouraging self-enhancement, while the orientation of opinion is associated with self-evaluation motives unrelated to self-esteem (Park & Baek, 2018). The orientation of ability is associated with issues of self-esteem because the comparer is intentionally trying to evaluate their self-worth by comparing themselves to other people.

Other studies have found similar findings that support the relation of the social comparison orientation of ability with decreased psychological well-being and of passive social media use with social comparison. Yang and Robinson (2018) found that people who scored high on measures of either orientation of social comparison were more likely to perform browsing behaviors on Instagram, and that the orientation of ability was less likely to be associated with social adjustment to college than the orientation of opinion. In addition to this, Lup, Trub, and Rosenthal (2015) found that positive social comparison was associated with lower depressive symptoms than social comparison that was negative. Hanna et al. (2017) found that social comparison mediated the relationship between Facebook use and various measures of psychological well-being, that passive social media use was associated with social comparison, and that social comparison was associated with depression. In a similar study done in China, Wang, Wang, Gaskin, and

Hawk (2017) found that passive social media use was associated with upward social comparison, and that upward social comparison was associated with decreased psychological well-being. Wang et al. (2017) also found that the relation between passive use and social comparison was moderated by an increased general social comparison orientation. A general social comparison score was obtained by combining the orientation of ability and orientation of opinion subscales. Finally, in an experiment, Vogel et al. (2015) found that participants who were high in a general social comparison orientation and who browsed through an acquaintance's Facebook profile reported lower self-esteem and self-perceptions compared to those who were low in a general social comparison orientation who completed the same task.

In conclusion, the present study theorizes that active and passive social media use have different impacts on psychological well-being because of separate mediating pathways. Active social media use likely leads to increased psychological well-being because it builds both bonding and bridging social capital. Passive social media use, on the other hand, likely leads to decreased psychological well-being because it disposes users to social comparison, which can lead to negative emotions.

Hypotheses

I hypothesize that active social media use will be associated with increased psychological well-being, while passive social media use will be associated with decreased psychological well-being. Both bonding and bridging social capital will be associated with greater psychological well-being. The social comparison orientation of ability should be associated with decreased psychological well-being, while the social comparison orientation of opinion will be associated with greater psychological well-

being. I also hypothesize that the relations between active and passive social media use and psychological well-being will be mediated by different factors. The positive relation of active social media use with increased psychological well-being will be mediated by bonding social capital, because those who actively use social media more often are likely to have more bonding social capital. Bridging social capital, on the other hand, should not be as significant of a mediator as bonding social capital because these relationships are not as strong. Additionally, I hypothesize that the relation between passive social media use and decreased psychological well-being is mediated by the social comparison orientation of ability. The social comparison orientation of opinion should not be a mediator. Finally, looking specifically at social comparison, I hypothesize that the orientation of ability will be associated with the emotions empathy and depression while the orientation of opinion will be associated with optimism and inspiration.

Method

Participants

One hundred and two undergraduate students from Salisbury University participated in this study. These students came from psychology classes, specifically Psychology 101 and three higher-level psychology courses where research on social media was relevant to the material of the course. One participant's responses were removed due to incompleteness, which lowered the number of participants from one hundred and two to one hundred and one. Within the sample, there were 87 females and 14 males, making it 86%, or overwhelmingly female. The mean average age of participants was 20.29. The majority of participants were between the ages of 18 and 25, but one participant, and outlier, was fifty years old. Finally, looking at race, the sample

was 77.2% White, 11.9% African American, 5.9% Hispanic, 3% mixed race, and 2% Asian.

From these demographic statistics, it is clear that this sample is disproportionately White and female, so the findings of this study are likely only generalizable to these populations, along with only being generalizable to young adult college students. Future research should replicate this study using samples that are more representative of the general population, to see if there are any differences in the results.

Procedure

IRB approval was obtained for this study on August 31, 2018 as Study #7: Social Media and Student Health, prior to the start of data collection. Participants were recruited from undergraduate psychology classes at Salisbury University, including Psychology 101: Introduction to Psychology, Psychology 300: Lifespan Development, Psychology 306: Social Psychology, and Psychology 320: Infancy and Childhood. Students in these classes received an advertisement which listed several open sessions located in one of the on-campus computer labs that they could attend to take the survey. Participants could choose which session they wanted to attend. Once at the session, participants were given oral instructions from my mentor professor, Dr. Heidi Fritz, about the study and issues of informed consent and anonymity. Participants were given consent forms to sign, and separate extra credit forms so they could receive extra credit for participating in the study. The survey was completed on the computer through the use of Qualtrics software.

All documents with identifying information were kept by Dr. Fritz. Identifying information was not in any way a part of the data analysis, so I could not tell what data

belonged to whom. On average, participants took 37 minutes to complete the online survey, and no participant took longer than 62 minutes to do so.

Instruments

Active and passive social media use. To measure active and passive social media use, we created a social media use scale which combined questions from Rosen et al. (2013) and Yang (2016). The first five questions of the scale ask how often participants use Facebook, Instagram, Snapchat, Twitter and Tumblr on a scale from 1 (never) to 10 (all the time). For each platform, there are also subsequent site-specific questions which ask how many friends or followers participants have on the site, along with how many people they themselves follow. Questions 6 to 13 of the scale analyze the active social media use (6 items, $\alpha = .66$) and passive social media use (2 items, $r = .44$) of the participant over the past month using the same response scale as the first five questions. The active use subscale includes questions like "How often did you post public updates on social media?" and "How often did you comment on or reply to other's posts on social media?". The two questions that make up the passive social media use subscale are "Overall, how often did you check your social media?" and "How often did you browse through newsfeeds or stories on social media?". The remaining questions of the scale were Likert-scale questions concerning how participants react to feedback they or other users receive on social media, but these are beyond the scope of the current study.

Psychological well-being. Psychological well-being was assessed through the use of three scales that measure different aspects of psychological well-being: the Profile of Mood States (POMS; Usala & Hertzog, 1989), the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) and the Perceived Stress Scale (PSS; Cohen,

Kamarck, & Mermelstein, 1983). The POMS is a scale which has participants rate thirty adjectives on a scale from 1 (not at all) to 5 (a lot) based on how much they feel the adjective describes them. This scale has been used widely throughout the research literature and has been examined and refined down to thirty adjective questions from an initial one hundred (Shacham, 1983). These questions can be grouped into five subscales: depression (8 items, $\alpha = .88$), anxiety (6 items, $\alpha = .75$), anger, (5 items, $\alpha = .78$), well-being (7 items, $\alpha = .90$), and calm (4 items, $\alpha = .79$). This scale can also be separated into adjectives that assess positive emotions (11 items, $\alpha = .92$) adjectives that assess negative emotions (19 items, $\alpha = .90$), or combined all together in a total score, with higher scores indicating more negative emotions ($\alpha = .94$).

The CES-D is a 20-item scale ($\alpha = .90$) which assesses the severity of depressive symptoms of participants over the past week with a response scale that ranges from 1 (rarely or none of the time) to 4 (most or all of the time). This scale was specifically used to assess depression because it has been shown to have high internal consistency and good convergent validity (Radloff, 1977). Finally, the PSS was used to examine stress levels of the participants (5 items, $\alpha = .60$), and this scale was used in this study to assess psychological well-being, because it gets at stress, something that can significantly impact psychological well-being. This scale asks participants if within the past month they have felt unable to control the important things in life, how often they have felt stressed, how confident they have felt in their ability to handle problems, how often they felt things were going their way, and how often they felt they could not overcome difficulties, using a response scale ranging from 1 (never) to 5 (very often). This scale is highly validated, and has been used by thousands of research studies.

Bonding and bridging social capital. Bonding and bridging social capital were measured via use of the Internet Social Capital Scale (Williams, 2006) and the Communal and Exchange Relationships Survey which was created for this study. I altered a form of the Internet Social Capital Scale used by Hofer and Aubert (2013) so that it assessed general social media use instead of only Twitter use. This scale has 17 questions, can be broken down into bonding (8 items, $\alpha = .91$) and bridging social capital (9 items, $\alpha = .82$) subscales, and uses a 5-point Likert scale for the answer choices.

The Communal and Exchange Relationships Survey that was created for this study asks participants to group their contacts across all social media platforms by percentages. The first three questions ask participants how much of their social media contacts they would categorize as close friends and family (bonding social capital), as less close friends, coworkers, and acquaintances (bridging social capital), and what percentage they would categorize as strangers. The last three questions assess the percentage of social media contacts they would do a significant favor for that would not need to be immediately returned (communal relationships), the percentage they would do a favor for but only because the other person either did a favor recently for them or because they expect the favor will be returned as soon as possible (exchange relationships), and finally the percentage that they would not do a favor for. This scale was scored by grouping the percentages, or questions, that I hypothesized would match up; the bonding social capital question to the communal relationship one ($r = .41$, $p < .05$), the bridging and exchange relationship questions ($r = -.26$, $p = .156$), and finally the question asking about strangers and the category participants would not do a significant favor for ($r = .62$, $p < .01$).

Unfortunately, responses from the Communal and Exchange Relationships Survey were not used in the data analysis because too few respondents answered these questions. The six questions of this survey were answered by only approximately thirty-two of the one hundred and one participants, so it would not be favorable to add these results into the analysis. It is possible that these thirty-two participants who took the time to answer these questions differ in some way from the rest of the sample, so analyses of their responses may not be representative of the entire sample. Also, 32 responses are not enough to reach statistical significance, so it is likely that any analyses performed using this data would be nonsignificant. Furthermore, the grouping of questions, especially the exchange and bridging social capital questions, were not associated in the ways that I expected. Perhaps future research can examine why these questions did not work or simplify them in some way so that they are easier to understand, and so that more participants respond to them.

Social comparison. Social comparison was measured through use of the Iowa-Netherlands Comparison Orientation Measure (Gibbons & Buunk, 1999), and the corresponding Social-Based Emotions Scale (Smith, 2000). The Iowa-Netherlands Comparison Orientation Measure is an 11-item scale which can be broken down into two subscales, the orientation of ability (6 items, $\alpha = .82$) and the orientation of opinion (5 items, $\alpha = .52$). Questions were answered through the use of a 5-point Likert scale. The Social-Based Emotions Scale assesses how often the participant felt certain emotions (optimism, inspiration, envy, depression) while engaging in social comparison, using answer choices ranging from 1 (the least likely) to 5 (the most likely). These emotions

were grouped into their respective categories: upward assimilative emotions (optimism and inspiration; r = .30) and upward contrastive emotions (envy and depression; r = .33).

Social support. The Interpersonal Support Evaluation List (ISEL; Cohen & Hoberman, 1983) was included within the study to examine the discriminant validity of bonding and bridging social capital with social support, because one of the criticisms of the Internet Social Capital Scale is that it is significantly associated with measures of social support when it should not be. The ISEL is a 12-item scale which assess social support by asking if participants feel they have friends who would be willing to do various activities with them, using a response scale ranging from 1 (definitely false) to 4 (definitely true) For the purposes of this study, only a total score ($\alpha = .89$) on the scale was used and higher scores indicate higher levels of social support.

The Fritz Online Social Support Interaction List (Fritz, submitted), abbreviated as FOSSIL, was also included within the study to examine the discriminant validity of bonding and bridging social capital. This scale specifically measures outcomes of online social interactions over the past month and can be broken down into positive (6 items, $\alpha = .83$) and negative (6 items, $\alpha = .80$) social interaction subscales or combined together (12 items, $\alpha = .67$) with higher scores indicating more positive social support. The positive social interaction subscale includes positive interactions such as getting emotional support, getting help in dealing with daily stressors, and feeling accepted and understood, while the negative social interaction subscale includes negative interactions like the other person getting angry with them, the person embarrassing or humiliating them, and the other person adding to their stress levels.

Results

Analytic Approach

I employed correlational analyses to examine the relations between social media use and psychological well-being, social capital and psychological well-being, and social comparison and psychological well-being. Correlational analyses were also performed between the two social comparison orientations and psychological well-being, and between the orientations and their corresponding emotions. Then, I examined the extent to which social capital mediated the relation between active social media use and increased psychological well-being, and the extent to which social comparison mediated the relation between passive social media use and decreased psychological well-being. Mediation analyses were performed using the PROCESS v 2.16.3 macro for SPSS (Hayes, 2013). Finally, we analyzed social comparison by combining the ability and opinion subscales, and then examining how high and low total social comparison groups differed on outcomes of psychological well-being.

Before going into the correlational results, let us first look at how many and how often participants used the social media platforms examined in the study. 80% of participants used Facebook, 92.1% used Instagram, 94.1% used Snapchat, 56.4% used Twitter, and a meager 9.9% used Tumblr. Looking at the breakdown of the frequency of use, the highest use was of Instagram and Snapchat (average use: several times a day), followed by Facebook and Twitter (average use: once a week), then finally Tumblr (average use: never, because so few participants used Tumblr).

Correlations

Social media use and psychological well-being. Active social media use was significantly positively correlated with the anger subscale of the POMS, $r = .20$ $p < .05$. Passive use was not significantly correlated with any measure of psychological well-being. These results can be found on Table 1.

Bonding and bridging social capital and psychological well-being. Bonding social capital was significantly negatively correlated with scores on the CES-D, $r = -.26$ $p < .01$. Bridging social capital was significantly positively correlated with the calm subscale of the POMS, $r = .24$ $p < .05$, the well-being subscale of the POMS, $r = .22$ $p < .05$, and significantly positively correlated with the positive emotions subscale of the POMS, $r = .24$ $p < .05$. (See Table 1)

Social comparison and psychological well-being. The social comparison orientation of ability was significantly positively correlated with scores on the Perceived Stress Scale, $r = .20$ $p < .05$. The social comparison orientation of opinion was not significantly correlated with any measure of psychological well-being. (See Table 1)

Social comparison to the corresponding emotions. The two social comparison orientations were correlated with their hypothesized corresponding emotions. As hypothesized, the social comparison orientation of ability was significantly correlated with envy and depression, $r = .32$, $p < .01$, and the social comparison orientation of opinion was significantly correlated with optimism and inspiration, $r = .30$ $p < .01$. The orientations were not correlated with the opposing set of emotions. See Table 2 for these results.

Intercorrelations among social media use, social capital, and social comparison. Bridging social capital was significantly positively correlated with both active social media use, $r = .52$, $p < .01$, and passive social media use, $r = .32$ $p < .01$, while bonding was not significantly correlated with either form of social media use. The social comparison orientation of ability was significantly correlated with active social media use, $r = .34$, $p < .01$, while the orientation of opinion was not significantly correlated to social media use. See Table 3 for these results.

Correlations of social media use, social capital, and social support. Bonding social capital was significantly correlated with total scores on the ISEL, $r = .33$ $p < .01$, with total scores on the FOSSIL, $r = .38$ $p < .01$, and with the positive social support interaction subscale of the FOSSIL, $r = .47$, $p < .01$. Bridging social capital was also significantly correlated with total scores on the ISEL, $r = .21$ $p < .05$, with total scores on the FOSSIL, $r = .26$ $p < .01$, and with positive social support interactions on this scale, $r = .36$ $p < .01$. Interestingly, active social media use was significantly correlated with both the positive and negative social support interaction subscales of the FOSSIL, $r = .26$ $p < .01$ and $r = .29$ $p < .01$, respectively. Passive social media use was also significantly correlated with the positive social support interaction subscale, $r = .23$ $p < .05$. See Table 4 for these results.

Mediation Analyses

To examine whether bonding social capital mediates the relation between active social media use and increased psychological well-being, and whether the social comparison orientation of ability mediates the relation between passive social media use and decreased psychological well-being, I estimated several Model 4 equations through

the use of the PROCESS v2.16.3 macro for SPSS (Hayes, 2013). Indirect effects were tested using a bootstrapping approach which corrected for bias and was performed by the use of 5000 resamples.

In order to examine whether bonding and/or bridging social capital were mediators in the relation between active social media use and increased psychological well-being, mediation analyses were performed using total scores on the POMS, PSS, and CES-D scales as separate possible outcome variables. One significant mediation effect emerged: bridging social capital mediated the relation between active social media use and total mood disturbance on the POMS scale (95% CI = -.14, -.007). That is, active social media use may increase psychological well-being through increasing bridging social capital. No other significant mediation results were found with bonding or bridging social capital as the mediator.

Mediation analyses were additionally performed to examine the relationship between passive social media use, social comparison, and decreased psychological well-being. Analyses were performed using the same outcome variables as the previous analyses, and with the social comparison orientation of ability and orientation of opinion as mediators, but no significant results were found. The results of all the mediation analyses can be found on Table 5.

Analysis of High and Low Scores on the Iowa-Netherlands Comparison Orientation Measure

As can be seen in the previous results sections, none of our initial hypotheses were supported. So, I decided to examine total scores on the social comparison orientation measure without separating out the ability and opinion subscales, to see if any

significant results could be obtained. This has been done before in several studies (Vogel et al., 2015; Wang et al., 2017) and a general social comparison orientation, or a general increased affinity towards social comparison, has been found to moderate the relation between passive social media use and specific well-being measures like self-esteem. To examine responses on the social comparison measure in this way, both subscales were combined, and participants were separated into a high and low scoring group, using a cutoff score of 3.6.

Social comparison was found to be correlated with well-being measures in different ways depending on whether participants had higher or lower scores on the measure. Among people who scored in the lower half of scores on the social comparison scale, social comparison was correlated with decreased depression as assessed by the CES-D, $r = -.33$ $p < .05$, and by the depression subscale of the POMS, $r = -.34$ $p < .05$. For those who fell within the upper half of scores on the scale, social comparison was unrelated to depression. However, for these participants, social comparison was correlated with lower scores on the anger subscale of the POMS, $r = -.28$, $p < .05$. Finally, for both low scorers, $r = -.28$ $p < .05$, and high scorers, $r = -.31$ $p < .05$, social comparison was correlated with lower scores on the negative emotion subscale of the POMS. These results can be found on Table 6.

Discussion

Largely, the initial correlation and mediation results of this study were statistically nonsignificant and did not support my hypotheses. While active social media use was significantly correlated with increased scores on the anger subscale of the POMS, anger is not a positive emotion so an increase in it does not reflect increased psychological

well-being. Passive social media use was not found to be associated with any measure of psychological well-being, so a connection between passive social media use and decreased psychological well-being was not found. Based on these findings, it seems that there is not much of a direct link between social media use and psychological well-being.

These results help explain why the mediation analyses were inconclusive. Social media use on its own may have no impact on psychological well-being, but rather the emotions and/or behaviors associated with social media use may be what are impacting well-being. Alternatively, it is possible that these correlation and mediation analyses were inconclusive because active and passive social media use were ineffectively measured in the study. The passive social media use subscale, for example, only contains two questions, so passive social media use should be examined more in depth so that more than two questions can be asked about it. Also, it is possible that the POMS, PSS, and CES-D as a collective do not effectively measure psychological well-being, so future studies should use different measures of well-being to see if that impacts the results in any way.

High scores on the bonding and bridging social capital subscales were correlated with various measures of psychological well-being as expected. Specifically, bonding social capital was significantly correlated with lower depression levels, while bridging social capital was significantly correlated with increased positive emotions and feelings of calm and well-being. Bonding social capital may have been more significantly associated with lower depression than bridging because bonding social capital are the people who socially support us more often. As a result of this, having more bonding social capital likely has more of an impact on significant aspects of well-being like

depressive symptoms than bridging social capital does. Bridging social capital, however, is likely more associated with positive emotions because these relationships are more superficial in nature. The impact of something like having a good conversation with an acquaintance, for example, likely only makes a person happy in the short term instead of being able to increase positive emotions over the long term.

Turning to social comparison, the orientation of ability was associated with decreased psychological well-being, but the orientation of opinion was not associated with increased well-being. The orientation of ability was significantly correlated with higher scores on the Perceived Stress Scale, supporting the hypothesis that this orientation is associated with decreased psychological well-being. The orientation of opinion, however, was not associated with any measure of well-being, meaning that the hypothesis that the orientation of opinion would be associated with increased psychological well-being was not supported. It is possible that separating out the social comparison measure into the two orientation subscales is an ineffective way of measuring social comparison, even though it is supported by the subscales' correlations with their corresponding social comparison-based emotions. Alternatively, this could mean that the orientation of opinion subscale does not have a major impact on psychological well-being, as expected, even though it elicits emotions like optimism and inspiration. Opinion-based comparisons do not evaluate the individual's achievements, so perhaps they do not have a significant impact on well-being as a result of this.

Looking at correlations between social media use, social capital, and social comparison; bridging social capital was significantly correlated with both active and passive social media use while bonding social capital was not. While it is surprising that

bridging social capital was associated with passive use, perhaps this is the case because even some passive use behaviors, like seeing a post from a less close friend, facilitate bridging social capital relationships because they remind the user of this person and of their relationship to them, in the same way that active use behaviors like friending do. It is surprising that bonding social capital was not also significantly associated with active use, but this may be because the behaviors measured by the active social media use scale are not as facilitative of bonding social capital relationships as they are of bridging ones. The majority of the active use behaviors assessed by this subscale, such as liking and friending, do not enhance bonding social capital because they do not facilitate direct communication.

Turning to social comparison, the orientation of ability was significantly correlated with active rather than passive social media use. This finding may also explain why the mediation analyses did not work. Social comparison may happen while social media is being used actively as often as it does when social media use is being used passively. This may be the reason why social comparison is not a significant mediator in the relation between passive social media use and decreased psychological well-being.

One finding that may support the idea that bonding and bridging social capital are not being accurately measured by the Internet Social Capital Scale is that both the bonding and bridging social capital subscales were significantly correlated with the ISEL, and to total and positive social interactions as measured by the FOSSIL. It is challenging to measure social capital, because while it is not the same as social support, people who fall under either category of social capital can be socially supportive and usually are. While these concept are similar, they are distinct because social capital describes benefits

gained depending on the strength of a relationship, while social support may or may not be a benefit of either form of social capital relationship. By their definitions, social capital and social comparison are distinct constructs, but they are so related that it is likely hard to measure social capital without capturing some aspects of social support.

The majority of the mediation analyses performed to examine the relationship between social media use and psychological well-being were statistically nonsignificant, with the exception of one. Bridging social capital was found to mediate the relation between active social media use and total score on the POMS scale. Essentially, this means that active social media use increased positive scores on the POMS scale through increasing bridging social capital. Bonding social capital was not found to mediate the relation between active social media use and increased psychological well-being, nor was the social comparison orientation of ability found to mediate the relation between passive social media use and decreased psychological well-being.

The relation between social media use and psychological well-being is likely complex and may not be captured by examining only one mediating variable at a time. This lack of significant findings could be due to issues accurately assessing social capital and social comparison, so measures of these constructs should be studied further in order to find the best way to measure social capital and social comparison. Alternatively, perhaps social capital and social comparison are moderating factors, instead of mediating ones. In other words, those high and low in social capital, or social comparison, may differ in both how they use social media and how it impacts their psychological well-being, rather than social media use altering levels of social capital or social comparison leading to different psychological well-being outcomes.

A more optimal mediator in the relation between active social media use and increased psychological well-being may be social integration, because having a sense of social integration may be more important than the sheer number of connections a person has. Individuals differ in the number of social connections they need to feel fully socially supported. Some require only a few connections to feel satisfied, while other, more extroverted people require many. People may be able to have variety in the number of bonding and bridging social capital relationships they have, while still having high psychological well-being, because they feel a sense of social integration.

For participants within the bottom half of scores on the social comparison orientation measure, social comparison was correlated with lower scores on the CES-D, with lower scores on the depression subscale on the POMS, and with lower scores on the negative emotion subscale of the POMS. Similarly, for those with high scores on the social comparison measure, social comparison was correlated with lower scores on the anger subscale of the POMS and with lower scores on the negative emotion subscale of the POMS. Collectively, these findings are surprising, because these correlations point to a relation where either as social comparison increases, depression and/or negative emotion decreases, or when social comparison decreases depression and/or negative emotion increases. I hypothesized that the opposite relation would occur: that decreased social comparison would be associated with lower depressive symptoms or negative emotions.

The consistency of this theoretical directionality across several well-being measures seems to rule out that this is in some way a fluke. Perhaps social comparison does not have as negative an impact on well-being as I had hypothesized, or perhaps

social comparison is not a negative process the majority of the time but rather frequently has positive impacts. These findings fall in line with those of Lup, Trub, and Rosenthal (2015), who found that positive social comparison was associated with decreased depressive symptoms. It also may be the case that both those who scored low and high on the social comparison measure aligned more strongly with the social comparison orientation of opinion, so social comparison is decreasing depression and negative emotions by making them feel more optimistic and inspired. Future studies should continue to examine the two social comparison orientations in order to find out if people tend to align with one orientation over the other.

Alternatively, a better way to explain these social comparison findings may be by emotional contagion theory. Emotional contagion is when people take on emotions that other people have expressed (de Vries, Moller, Wieringa, Eigenraam, & Hamelink, 2018). Emotions can be correctly detected even in written messages, so it is possible that users see positive social media posts from other users, adopt this positive emotion, and then subsequently post more positively (de Vries et al., 2018). To this point, it is possible that when a user socially compares with a positive post on a social media platform, they feel more positive emotions as opposed to negative ones because they are taking in and expressing the emotion of the post, rather than because they are being inspired or led to feeling optimistic. Alternatively, there may be no social comparison at all, but rather they simply objectively take in the information. It is possible that the Iowa-Netherlands Comparison Orientation Measure in some way captures aspects of emotional contagion theory, which could explain why it is reflected in these results.

Limitations and Future Directions

This study is of limited generalizability because the sample was only made up of Salisbury University undergraduate psychology students. This sample is biased when compared to the general population, because it is largely female, White, and students between the ages of 18 and 20. Future studies should do similar research using more diverse populations, to see if there are any significantly different results, and to make sure these concepts are generalizable to all people.

Future research should continue to work to find the best way to measure active and passive social media use, and should employ alternative measures of psychological well-being, as these measures may have had an impact on the results. Also, future research should continue to examine how bonding and bridging social capital are assessed by the Internet Social Capital Scale and find ways either to alter this scale or to create a new measure of social capital that accurately measures social capital without measuring aspects of social support. In addition to this, social comparison on social media should continue to be examined, to understand the impact social comparison has, and to understand whether people tend to have the orientation of ability or the orientation of opinion. It may be beneficial to examine what I considered to be mediating variables, social capital and social comparison, as moderating variables, to see if that is a better explanation of the relation of social media use to psychological well-being. Finally, future studies should examine possible alternative mediating factors, like social integration and emotional contagion, in the relation between social media use and psychological well-being to see if they are more effective than social capital and social comparison.

Conclusion

Social media is a pervasive part of our world today, so it should continue to be studied so that researchers can better understand the impact it has on people and on their well-being. While the majority of the hypotheses of this study were unsupported, what remains clear is that people should be careful how they use social media and understand how it affects their thought processes and emotions. For some, social media use may lead to negative social comparison, so they should work to change how they use social media platforms or discontinue their use altogether if it significantly negatively impacts their mental health. For others, however, social media use brings them in contact with people around the world and can inspire them to keep working towards their goals, so social media use is good for them and should be continued. In general, the best way to use social media is to use it actively, through posting creative content and engaging with other users, so we should all strive to use social media in this way.

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Table 1: Correlations of Social Media Use, Social Capital, and Social Comparison to Well-Being

	Subscale/Total Score	M (SD)	**Active Social Media use** 3.97 (6.95)	**Passive Social Media use** 7.52 (1.71)	**Bonding Social Capital** 2.76 (1.00)	**Bridging Social Capital** 3.40 (.65)	**Orientation of Ability** 3.36 (.82)	**Orientation of Opinion** 4.00 (.57)
Profile of Mood States (POMS)	Depression	1.85 (.69)	.07	- .04	- .12	- .09	- .05	- .19
	Anxiety	2.69 (.73)	- .02	.01	- .06	- .10	- .02	- .03
	Calm	3.00 (.75)	- .01	.02	.17	**.24***	- .06	.03
	Well-Being	3.17 (.79)	- .00	**.11**	.12	**.22***	- .15	.01
	Anger	1.87 (.66)	**.20***	.08	- .15	- .02	.04	- .06
	Negative Emotions	2.12 (.59)	.09	.01	- .13	- .09	- .02	- .12
	Positive Emotions	3.11 (.72)	- .01	.09	.15	**.24***	- .12	.02
	Total score	2.40 (.58)	.06	- .03	- .15	- .17	.04	- .09
Perceived Stress Scale (PSS)	Total score	2.93 (.57)	.10	.14	- .09	- .06	**.20***	.14
CES-D	Total score	16.63 (10.35)	.00	- .05	**- .26****	- .14	- .03	- .09

*p<.05 **p<.01

Key:
The orientation of ability and opinion refer to the two subscales of Social Comparison

Table 2: Correlations between the Social Comparison Orientations and their Corresponding Emotions

	M (SD)	**Social Comparison Orientation of Ability** 3.36 (.82)	**Social Comparison Orientation of Opinion** 4.00 (.57)
Envy and Depression	2.51 (1.02)	**.32****	-.13
Optimism and Inspiration	3.26 (.73)	.00	**.30****

*p<.05 **p<.01

Table 3: Intercorrelations Between Social Media Use, Social Capital, and Social Comparison

	M (SD)	Active Social Media Use 3.97 (1.22)	Passive Social Media Use 7.52 (1.71)
Bonding Social Capital	2.76 (1.00)	.14	.06
Bridging Social Capital	3.40 (.65)	**.52****	**.32****
Social Comparison Orientation of Ability	3.36 (.82)	**.34****	.19
Social Comparison Orientation of Opinion	4.00 (.57)	.16	.15

*p<.05 **p<.01

Table 4: Correlations of Social Media Use and Social Capital to Social Support

	Subscale/Total Score	**M (SD)**	**Bonding Social Capital** 2.76 (1.00)	**Bridging Social Capital** 3.40 (.65)	**Active Social Media Use 3.97 (1.22)**	**Passive Social Media Use** 7.52 (1.71)
Interpersonal Support Evaluation List (ISEL)	Total Score	3.22 (.57)	**.33****	**.21***	.07	.09
Fritz Online Social Support Social Interaction List (FOSSIL)	Total Score	3.70 (.45)	**.38****	**.26****	.06	.11
	Positive Social Interaction Subscale	1.56 (.56)	**.47****	**.36****	**.26****	**.23***
	Negative Social Interaction Subscale	2.97 (.83)	.10	.13	**.29****	.16

*p<.05 **p<.01

Table 5: Summary of Mediation Analyses (5000 Bootstraps)

Predictor: Active Social Media Use Mediator: Bridging Social Capital			
Dependent Variable	**Total Effect (c path)**	**Direct Effect (c' path)**	**Indirect Effect (ab path)**
Total Score on the POMS	**.03**	**.09**	**- .14, - .0072***
Total Score on the PSS	.05	.09	- .10, .01
Total Score on the CES-D	.02	.85	- 1.89, .07
Predictor: Active Social Media Use Mediator: Bonding Social Capital			
Dependent Variable	**Total Effect (c path)**	**Direct Effect (c' path)**	**Indirect Effect (ab path)**
Total Score on the POMS	.03	.04	- .48, .00
Total Score on the PSS	.05	.05	- .40, .00
Total Score on the CES-D	.02	.33	- 1.14, .08
Predictor: Passive Social Media Use Mediator: Social Comparison Orientation of Ability			
Dependent Variable	**Total Effect (c path)**	**Direct Effect (c' path)**	**Indirect Effect (ab path)**
Total Score on the POMS	- .01	- .01	- .01, .03
Total Score on the PSS	.05	.04	- .002, .04
Total Score on the CES-D	- .31	- .29	- .48, .23
Predictor: Passive Social Media Use Mediator: Social Comparison Orientation of Opinion			
Dependent Variable	**Total Effect (c path)**	**Direct Effect (c' path)**	**Indirect Effect (ab path)**
Total Score on the POMS	- .01	- .007	- .02, .003
Total Score on the PSS	.05	.04	- .003, .03
Total Score on the CES-D	- .31	- .24	- .48, .06

*Statistically significant mediation analysis, in bold

Key:
POMS: Profile of Mood States
PSS: Perceived Stress Scale
CES-D: Center for Epidemiological Studies Depression Scale