

Social Support and Its Effects on Social Networking Site Use: Are Individuals Showing
Signs of Depression Using Social Networking Sites More Often Seeking Social Support?

by

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ABSTRACT

Social networking sites have become an integral part of modern society with people spending nearly double their time communicating through networking sites instead of face to face (Shensa et al., 2020). Although research has been conducted on how people use these sites and the effects it may bring, there has not been much research as to why people use the sites and what they are hoping to get from them. This study examined if people who show moderate to severe symptoms of depression use social networking sites more often than those who do not and if these users felt a stronger social support system online. The survey was distributed via the researcher's personal social networking sites and by other users. The data collected was then examined using IBM SPSS version 26. Cross tabulations and ANOVA were run on the data to test the hypotheses. It was found that users who suffer from moderate to severe symptoms of depression spend more time online but they did not feel a stronger connection to the online community than someone who did not show symptoms of depression.

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CHAPTER I

INTRODUCTION

Social networking sites have become an integral part of modern society with people spending nearly double their time communicating via networking sites rather than face to face interaction (Shensa et al., 2020). According to the Social Media Benchmark of 2020 (2020), the average American who is a social networking site user had eight different social networking site accounts.

Technology overload theory is a theory that consists of information overload, communication overload, and system feature overload (Lee, Son, Kim, 2016). In the physical world, people can process what they have interest in and communicate with whom they would like and filter out the rest, but on social networking sites this is more difficult. Lee, Son, and Kim (2016) found the constant information, lack of control, and changing features of the site can create overloads in all three areas leading to technology overload. In 2018 (Vannucci, Ohannessian, and Gagnon), researchers observed that technology overload can cause stress and depression when using multiple social networking sites.

Four percent of the American insured population has been diagnosed with major depression and these numbers are continuing to rise (Zolat, 2018). Diagnoses have skyrocketed among children 12-17 (63%) and adults 18-34 (47%) over a three-year span. While there are no known causes for depression there are protective traits that lower the chance of developing depression. These characteristics include high self-esteem, a

capacity for coping and problem-solving skills, and engagement in two or more contexts related to school, peers, athletics, employment, religion, and culture (Newhart, Mullen, & Gutierrez, 2019). Chou and Edge have already found that the use of social networking sites changes people's perceptions of not only others but of themselves (2012). This finding suggests people who participate in multiple social networking sites are at higher risk of developing depression caused by decreased self-esteem.

One of the protecting factors for developing depression is being part of two or more community-based groups, which highlights the importance of social support. Social support refers to whether a person feels they have others they can depend on more than just emotionally (Kent de Grey, Uchino, Trettevik, Cronan, & Hogan, 2018). Research has indicated that people who are more involved in their community and who have supportive relationships with others have better mental health, are happier, and have lower rates of morbidity and mortality (Feeney & Collins, 2015).

Due to findings like the technology overload theory, an examination of American's mental health must be looked at to determine if poor mental health and perceived low social support is related to the excessive use of social networking sites or if the sites lead to anxiety/depression and reclusiveness.

Purpose of Study

The goal of this study was to examine if people who were showing signs of moderate to severe symptoms of depression spent more time on social networking sites and were more likely to feel a stronger bond to their online community than others without moderate to severe symptoms of depression.

Research Question

This study presented two questions. First, were individuals who showed moderate to severe signs of depression using networking sites more often than those who did not? Second, did those who showed moderate to severe symptoms of depression feel a stronger support system with their online community than those who did not show signs of depression?

Hypotheses

We hypothesized that individuals who showed moderate to severe signs of depression would spend two or more hours online. We also predicted people who displayed moderate to severe signs of depression would feel a stronger connection to their online community.

Significance of the Study

Although research has been conducted on how people use social networking sites and the mental health effects it can cause, there has not been much research on people's intent of using social networking sites. Due to the increase in depression diagnoses, increased time spent on social networking sites, and decreased time in face to face communication, it is imperative to investigate if these are associated. This study investigated if an individual who suffers from symptoms of depression was more likely to spend more time on social networking sites and feel a stronger connection to those online.

CHAPTER II

LITERATURE REVIEW

Social Networking Sites

Every social networking site is social media but not every social media is a social networking site (Carr & Hayes, 2015). Most of the time when asked what social media is people will respond with Facebook, Instagram, Twitter, ... (Carr & Hayes, 2015). In actuality, these are a form of social media called social networking sites. The most agreed upon definition of social media is,

Internet-based way to publish or broadcast digital content that readers can fully interact with (Froehlich, 2020)

Whereas, social networking sites are,

Web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system (Carr & Hayes, 2015, 49).

While the distinction between the two may not seem important to the public, it is particularly important for researchers. By some social networking site definitions, social sites would include text messaging, email, LinkedIn, Whisper, etc. These platforms operate in different ways from social media.

In the past decade, the use and growth of social networking sites has exploded. “There are 1.71 billion monthly active users on Facebook, the most popular social networking site” (Chow & Wan, 2017, pg 1). Facebook was launched February 4, 2004, by Mark Zuckerberg (*Facebook Launches*, 2019). Facebook is different from other networking sites because of the various tools on the site (events, fundraising, etc.). Though Facebook is the most popular social networking site, proof of how quickly these sites are growing can be demonstrated by Instagram. “Instagram was established in 2010 and has rapidly grown to 500 million users in 2016” (Sherlock & Wagstaff, 2019).

It is important to note that social networking sites are a breeding ground for spreading misinformation and disinformation (Xia, Wu, Zhou, 2021). This breeding ground for misinformation has been highlighted in the past year with news surrounding COVID-19. While some people have good intentions of spreading helpful news and information, some reports are showing that over 1 million social networking site users are spreading unconfirmed information about COVID-19 (Xia, Wu, Zhou, 2021).

Due to technology advances, a desktop computer is no longer necessary to access social networking sites instead users can access the social networking sites through apps on their phone. With the increase in availability there has been a positive correlation with time spent on the device. “U.S. young adults spend an average of two to three hours per day on social networking sites, contrasted with an average of 39 min per day socializing and communicating in-person” (Shensa et al., 2020, pg 1). With the increasing role of social networking sites in people’s lives, it was necessary to study how networking sites affected an individual’s mental health.

Mental Health

Mental illness affects one in every five Americans and serious mental illness affects one in every twenty-five Americans (*Mental Health Myths and Facts*, 2017). Though most believe that mental health is the absence of mental illness that is not the case. Mental health is our emotional, psychological, and social well-being that effects how we handle stress, relate to others, and make choices (*What is Mental Health?*, 2019). As opposed to mental health, mental illness is “disorders that affect your mood, thinking and behavior,” (*Mental Health*, 2019).

“Only 44% of adults with diagnosable mental health problems and less than 20% of children and adolescents receive needed treatment” (*Mental Health Myths and Facts*, 2017). Many factors may contribute to why people do not seek treatment such as inability to recognize symptoms of mental illness, lack of access to treatment, mental illness stigma, complex follow-up procedures (Bowman& Weatherby, 2018). Under the broad title of mental illness there are two kinds of mental illness: Any Mental Illness (AMI) and Serious Mental Illness (SMI). AMI is any mental illness that ranges from no impairment to moderate impairment (*Mental Illness*, 2019). SMI is a mental illness that causes serious impairment that interferes with day to day living (*Mental Illness*, 2019). Due to the increase of mental health illnesses and time spent on social networking sites, it was important to see if these sites were contributing to mental health or mental illness.

Mental Health and COVID-19

“Mental Illness Is Our Epidemic Within the Coronavirus Pandemic” (PeConga et al., 2020, pg 1). Since the beginning of Coronavirus there has been a decrease in mental health (Van der Veldent et al., 2020). Lockdowns have been linked to increased feeling of isolation (Khan et al., 2020), increased rates of anxiety and depression disorder (Van der Veldent et al., 2020), and even a rise in suicide rates (Xiong et al., 2020).

Depression and Anxiety

“Each year, an estimated 16 million American adults have at least one episode of major depressive disorder (MDD) and 40 million experience an anxiety disorder,” (Williams, 2016, pg 1). Since COVID began rates of anxiety and depression have grown with positive screenings among adults three to four times (Van der Velden et al., 2020). Depression and anxiety disorder are the two leading mental health disorders in the United States (*Common mental health disorders*). Depression is a mood disorder that causes a persistent feeling of sadness and loss of interest (*Depression (major depressive disorder)*, 2019). These feelings can become so extreme that the person will not be able to carry out day to day activities. When a person is diagnosed with depression, it is common for them to also be diagnosed with general anxiety disorder. General anxiety disorder requires that worry be excessive and uncontrollable (Ruscio et al., 2007). The persistence and extreme nature helps distinguish the difference between stress and anxiety disorder. “At least half of depressed patients are diagnosed with a co-occurring anxiety disorder and an even larger proportion have elevated scores on dimensional measures of anxiety” (Zimmerman et al., 2019, pg 1). There are treatments for depression that can make the symptoms

manageable or even make them subside altogether depending on the kind and severity of the depression (National Alliance of Mental Illness, 2017). Though some studies have shown it may take years and finding the right combination of treatments to accomplish this (Salem, Winer, Jordan, & Dorr, 2019; Schatzberg, 2019). Some treatments that have shown success in depressed patients include psychotherapy, medications, brain stimulation therapies, alternative medicines, and experimental treatments (Mayo Clinic, 2018; National Alliance of Mental Illness, 2017).

Four percent of the American population, nine million Americans, have major depression (Zolat, 2018, pg 1). This statistic does not solely consist of adults though, this statistic also includes adolescents. In the past three years, diagnosis rates among adolescents have increased by 63% and is continuing to rise (Zolat, 2018). While there is no test to determine if someone will have depression in their lifetime there are predictors that make individuals more susceptible. These predictors include being a woman, African American, Hispanic, Asian, and being of a low socioeconomic status (Newhart & Guitierrez, 2019). People who have high self-esteem, easily cope to changes, and are social (Newhart & Guitierrez, 2019) are less likely to show signs of depression.

With constant availability of social networking sites, people are likely to compare themselves with others subsequently leading to lower self-esteem and social reclusiveness, which in turn raises the chances of depression. It is imperative that the research be completed to find the relation between these two.

Social Support

When describing optimal well-being, deep and meaningful relationships play a vital role in human flourishing (Feeney & Collins, 2015). Social support has been defined as “the social resources that persons perceive to be available to them by nonprofessionals in the context of both formal support groups and informal helping relationships” (Newhart, Mullen, & Gutierrez, 2019, pg 2).

In the overarching social support theory there are three theoretical perspectives in researching social support. Each of the different perspectives looks at the topic in a different way and how it pertains to health (Lakey & Cohen, 2000). The stress and coping perspective suggests that if a person has an adequate amount of social support, they will be able to cope with stress more easily and will not find situations to be as stressful. Social constructionist perspective states the perception of social support is dictated by the person’s unique social constructs. Lastly, the relationship perspective explains relationships may not need to be defined as intimate, but instead a constant that you can depend on to be there. The tool used in this study to measure social support followed the social constructionist perspective, the participant is asked their perceived level of support (Nick et al., 2018).

Social constructionist perspective can be used across different fields because it is how people see the world based on the experiences they have had in the world (Zhao, 2020). Since social constructs are subjective creating policies like crisis control response (Zhao, 2020) may become problematic but when getting suggestions on how to best help support employees (Bartle & Trevis, 2015) it becomes highly valued. Pertaining to social

support, social constructionist perspective states there is no clear definition of supportive action, but instead each person creates their own guidelines as to what they believe is supportive (Lakey & Cohen, 2000). These subjective perceptions are derived from each person's social constructs resulting from past experiences and situations. When researching social constructionism in relation to mental health ideas were drawn from cognitive models of emotional disorders (Lakey & Cohen, 2000). Hence, these models say if a person has a negative outlook on relationships, this attitude will in turn lead to low self-esteem, which will result in emotional stress/ depression. In conclusion, if someone perceives low social support they are more likely to develop emotional stress/ depression.

According to social support theory there are four different kinds of social support including emotional, instrumental, informational, and appraisal support. Emotional support is displayed through expressions of caring, instrumental is demonstrated through tangible acts, informational is presented through giving advice, and appraisal is shown through reminders of personal attributes that make you capable (*Health Behavior and Health Education*). Emotional support—typically obtained through close relationships—is the type of social support most strongly associated with mental health outcomes (Shensa et al., 2020). During the period of COVID-19, social support's importance has become even more apparent. Studies have found that older adults are coping with COVID-19 better because they prioritize emotionally meaningful relationships over a higher number of relationships (Li et al., 2021). In the same study, it was shown that even if someone has low mental health high levels of social support could curb the symptoms of poor mental health (Li et al., 2021).

Current research from Shensa and colleagues have found social networking site based emotional support does not function in the same way as the face to face emotional support when looking at the benefits of mental health (2020). Currently, in America, young adults are spending an average of two to three hours a day on networking sites and an average of 39 min a day socializing face to face (Shensa et al., 2020). Since adolescents are spending nearly double the amount of time online and it has been shown this form of communication differs from in person communication it is vital that researchers investigate further.

Social Networking Sites Effect on Mental Health

With the easy accessibility and increased time spent online it is imperative that researchers look at the effects that it is having on mental health. Social networking sites have become essential to the evolving world. “88% of 18- to 29-year-old online users use Facebook, 59% use Instagram, 56% use Snapchat, and 26% use Twitter” (Vannucci, Ohannessian, & Gagnon, 2018, pg 4). While the leading use of these sites is to connect with other people about 7 of 10 people in the United States use social media to also receive news content, share information, and entertain themselves (Bekalu, Mccloud, & Viswanath, 2019). During the time of COVID-19 research has shown that increased time on social networking sites is causing increased stress and anxiety with all the news about the virus (Khan et al., 2020). Research to this point has been mixed, with some saying that social networking sites are a great place for social support and connecting with others while others report social networking sites can cause depression and anxiety. Many research articles are now distinguishing positive use of social networking from negative

use. Positive social networking use articles describe that if a person is using networking sites as a tool to increase face to face social capital (active users) then social networking will benefit their mental health (Glaser, Liu, Hakim, Valar, & Zhang, 2018). While people who scroll through the sites and do not engage with others (passive users) could be attributed to mental illness (Bekalu, Mccloud, & Viswanath, 2019). Though there is no exact definition and no specific term, problematic social media use (also known as social media addiction, social media overuse, etc.) has consistently shown a significant relationship with stress, anxiety, depression, poor trust, and low levels of perceived social support (Lin, Namdar, Griffiths, & Pakpour, 2020).

With the current knowledge obtained, researchers are aware that social networking sites can affect mental illness. The interest of this article is to research if individuals who may show moderate to severe signs of depression are using networking sites more often and feel a stronger connection to their online community than those without symptoms of depression.

CHAPTER III METHODOLOGY

Participants

There were a total of 317 participants, 294 (92.70%) identified as female, while 23 (7.26%) identified as male. Participants ranged in age from 18 to 84 years of age with many of the participants being in the age group 45-54 ($n = 94$). Most of the participants were white (91.70%), followed by black (5.10%), and the remaining participants were classified as “other” ($n = 288$, $n = 16$, $n = 10$ respectively). A great percentage of the participants identified themselves as heterosexual (92.20%), while the remaining identified themselves as gay, lesbian, bisexual, and other non- conforming (7.80%). The majority of the participants were married, followed by divorced/ widowed/ separated, and never married (59.90%, 22.40%, and 17.70% respectively). All participants voluntarily participated in the survey and agreed to the informed consent prior to being directed to the survey.

Materials

In order to research the effects depression had on the use of social networking sites in seeking social support, the survey consisted of three different sections: *Depression Anxiety Stress Scale-21 (DASS-21)*, *Oslo Social Support Scale (OSSS-3)*, and *Online Social Support Scale*. All the scales have previously been found to be reliable and valid (Henry & Crawford, 2005; Kocalevent, et.al, 2018; Nick, et.al., 2018)

Depression Anxiety Stress Scale – 21

The *Depression Anxiety Stress Scale- 21 (DASS-21)* is a twenty-one-question scale to measure the depression, anxiety, and stress a person has experienced in the last week. To score never was coded 0, sometimes was 1, often was 2, and almost always was 3. To get the scores for each area, the questions for that particular area was added together and multiplied by two. For instance, questions 1, 2, 4, 6-9, 11, 12, 14, 15, 18-20 answers were added together, then multiplied by two to get the score for the level of depression. Questions 1, 3, 5, 6, 8, 10- 14, 16-18, and 21 score the level of anxiety. Lastly, questions 2-5, 7, 9, 10, 13, 15- 17, 19- 21 score levels of stress. These scores indicated the severity of the participant's depression, anxiety, and stress. See Table 1 in the Appendix for the full list of questions.

Oslo Social Support Scale

Once the participant's level of depression was measured, it was necessary to then use *Oslo social support scale (OSSS-3)*. *OSSS-3* is a three-question survey measuring the perceived face to face social support one feels they have. The coding and scoring did follow the methods outlined in Kocalevent et al. (2018) *Social support in the general population: standardization of the Oslo social support scale (OSSS-3)* article. The scores of each question were added together to determine the perceived level of social support. If the scores fell between 3- 8 there was low social support, 9-11 moderate social support, and 12- 14 strong social support (Kocalevent et al., 2018). See Table 2 in the Appendix for a full list of questions.

Online Social Support Scale

After the perceived face to face social support was measured, it was important to then use *Online Social Support Scale* to measure the online support. “This forty- question scale assessed the online occurrence of these four dimensions of social support: esteem/emotional support, social companionship, informational support, and instrumental support,” (Nick et al., 2018). When compared to the MCSF-C (lie scale), EPQU-S (social desirability), and the PSSS (perceived social support) scaled convergent and discriminant validity were found (Nick et al., 2018). The coding and scoring followed the methods outlined in Nick, et.al (2018) *Online Social Support Scale: Measure development and validation* article. The scores of each question were added together to determine the perceived level of online social support. The higher the individual scored the greater perception of online social support they felt. See Table 3 in the Appendix for the full list of questions.

Demographics

The demographics of interest were age, sex, race, sexual orientation, marital status, and education. See Appendix B for the full list of questions.

Procedure

For recruitment, a mass distribution link was posted on the researcher’s personal Facebook and Instagram pages asking others to take and share the survey. The link was also shared on a variety of Middle Tennessee and Rutherford County Facebook groups to get maximum exposure. With the link, anyone over the age of 18 were eligible to take the

survey. When the participant pressed the link, it directed them to the online Qualtrics survey. After the participant agreed to the informed consent, they were then directed to the survey.

Analysis Plan

Data Cleaning

IBM SPSS version 26 was used to analyze the data. In order for respondent's data to be included in analysis, they must have answered all *DASS-21*, *OSSS- 3*, and the *Online Social Support Scale* individually and participated in at least 90% of the entire survey. Each scale was scored as their originals were scored to determine their level of depression level and perceived social support.

Data Analysis

To answer the first hypothesis, a cross tabulation was used to determine if individuals who showed moderate to severe symptoms of depression were more likely to spend two or more hours on social networking sites. In order to answer the second hypothesis, an analysis of variance was conducted to determine if people with moderate to severe signs of depression felt a strong connection to their online community.

CHAPTER IV

RESULTS

Demographics

Descriptive statistics were calculated to determine the demographics of the study's population. The demographics calculated included age, sex, race, sexual orientation, marital status, education level (see Table 4).

Cross tabulation

As shown by the frequencies cross tabulated in Table 5, there was a significant relationship between moderate to severe signs of depression and time spent on social networking sites, $\chi^2 (2, N = 356) = 12.21, p = .002$. In Figure 1, it shows there are distinct differences in pattern of time spent on social networking sites depending on if the person had symptoms of moderate to severe depression.

Table 4
Participant Characteristics, (N = 317)

	<i>n</i>	<i>%</i>
Age		
18- 24	22	6.90
25- 34	55	17.40
34- 44	82	25.90
45-54	94	29.70
55+	64	20.20
Sex		
Female	294	92.70
Male	23	7.30
Race		
White	288	91.70
Black	16	5.10
Other	10	3.20
Sexual Orientation		
Heterosexual	283	92.20
Gay, Lesbian, Bisexual, Other Non- Conforming	24	7.80
Marital Status		
Married	190	59.90
Widowed, Separated, or Divorced	71	22.40
Never Married	56	17.70
Level of Education		
High School	39	12.30
Some College	76	24.10
2 Year Degree	32	10.10
4 Year Degree	108	34.20
Professional Degree	48	15.20
Doctorate	13	4.10

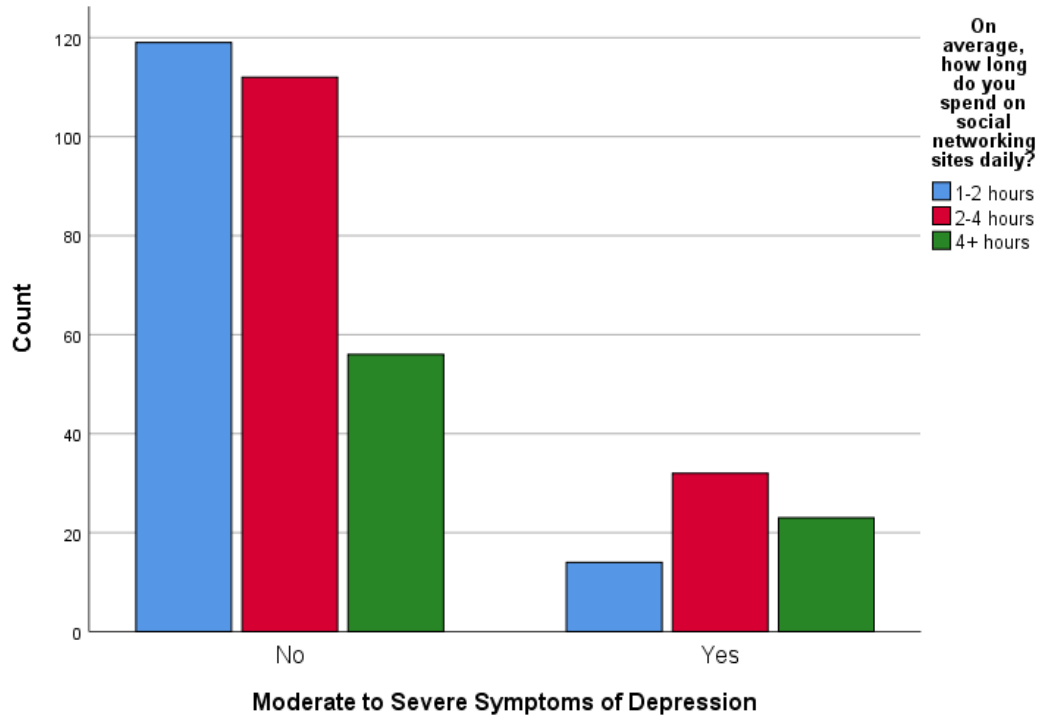
Table 5*Hours spent on Social Networking Sites by Moderate to Severe Depression (n = 356)*

Characteristic	1- 2 hours n (%)	2- 4 hours n (%)	4+ hours n (%)	X²	df	p
Moderate to Severe Depression	133 (37.4%)	144 (40.4%)	79 (22.2%)	12.21	2	0.002
No	119 (41.5%)	112 (39.0%)	56 (19.5%)			
Yes	14 (20.3%)	32 (46.4%)	23 (22.2%)			

Note: () = %

Figure 1

Differences in Social Networking Site Use Among Participants with and without Moderate to Severe Signs of Depression



Note: In participants without moderate to severe symptoms of depression as time on social networking sites increases the number of users decreases. While those who suffer from moderate to severe symptoms of depression, the number of users increases as time on social networking sites increase but begins to decrease after 4 hours of use.

ANOVA

An analysis of variance was conducted on Online Social Support Scale scores and it was found that there was not a significant effect of moderate to severe symptoms of depression on Online Social Support scores, $F(8, 304) = .949$, $p = .48$, $R^2 = 0.24$. See Table 6 for ANOVA and group means and Table 7 for pairwise comparisons.

Table 6
Analysis of Variance for OSSS Score by Depression Category

Characteristic	<i>M</i>	<i>SD</i>	<i>n</i>	<i>df</i>	<i>F</i>	<i>p</i>
				Between subjects		
Source: Reduced Model				8	0.95	0.48
Main Effect				1	2.87	0.09
Moderate to Severe Depression	52.88	19.99	319			
Main Effect				8	0.95	0.48
Age	52.65	20.25	317			
Sex	52.80	20.06	316			
Race	52.69	20.25	314			

Note: $\eta^2 = .024$ for Main Effects ($p < .05$)

Table 7
Group Means Comparison

Variable	Comparison	Mean Difference	95% Confidence Interval	
			Lower	Upper
Moderate to Severe Depression				
Yes	No	4.31	-1.34	9.97
No	Yes	-4.31	-9.97	1.34
Age				
18- 24	25- 34	-2.60	-12.66	7.55
	34- 44	-5.93	-15.53	3.67
	45- 54	-3.68	-13.18	5.83
	55+	-5.37	-15.35	4.62
25- 34	18- 24	2.60	-7.46	12.66
	34- 44	-3.33	-10.27	3.60
	45- 54	-1.08	-7.82	5.67
	55+	-2.77	-10.11	4.58
34- 44	18- 24	5.93	-3.67	15.53
	25- 34	3.33	-3.60	10.27
	45- 54	2.26	-3.79	8.31
	55+	0.57	-6.12	7.25
45-54	18- 24	3.68	-5.83	13.18
	25- 34	1.08	-5.67	7.82
	34- 44	-2.26	-8.31	3.79
	55+	-1.69	-8.16	4.78
55+	18- 24	5.37	-4.62	15.35
	25- 34	2.77	-4.58	10.11
	34- 44	-0.57	-7.25	6.12
	45- 54	1.69	-4.78	8.16
Race				
White	Black	-7.80	-18.31	2.72
	Other	0.10	-12.69	12.90
Black	White	7.80	-2.72	18.31
	Other	7.90	-8.26	24.06
Other	White	-0.10	-12.90	12.69
	Black	-7.90	-24.06	8.26

Note: LSD Pairwise Comparisons for Value Factors.

CHAPTER V

DISCUSSION

Social networking sites have become available at the touch of a finger. Instead of having to wait until you have access to a desktop computer, users now have access on their portable devices like smartphones, tablets, and laptops. The ease of access makes it vital to examine what implications the sites could be having on other parts of the users' life. This study set out to explore if those who are showing moderate to severe symptoms of depression are spending longer on social networking sites and if they felt stronger support online than those who do not show these signs of depression.

After analyzing the data, our findings fell in line with other works in this area, in that they were mixed (Glaser, Liu, Hakim, Valar, & Zhang, 2018; O'Reilly et al., 2018; Sherlock & Wagstaff, 2019). The first hypothesis showed a significant relationship between moderate to severe symptoms of depression and time online. While the second hypothesis, exploring a possible relationship between people with symptoms of depression and connection to social networking site, resulted in no significant findings.

Following the analysis, we found there was a significant relationship between moderate to severe signs of depression and time spent on social networking sites. There were noticeable differences between those who did not show moderate signs of depression and those who did. Those who did not show symptoms of depression displayed as time increased the number of participants who used networking sites for that length of time decreased, while the opposite was true for those showing symptoms of moderate to severe depression. Glaser and colleagues (2018) found there is a positive

relationship between internet addiction and depression. Our finding falls in line with Glaser's (2018) finding in that those who are showing symptoms of depression are more likely to spend longer amounts of time on social networking sites.

Prior findings regarding differences in inner workings of emotional support (Shensa et al., 2020) and how mental disorders affect time online (Glaser, Liu, Hakim, Valar, & Zhang, 2018; Shensa et al., 2020) led us to hypothesize that individuals who have moderate to severe symptoms of depression feel a stronger connection to their online community than their counterparts. After analyzing the data, this was not the case. To our surprise, we found no significant relationships between online social support scores and those suffering with moderate to severe signs of depression. It is difficult to prove causality, our goal was to see if people with moderate to severe symptoms of depression were spending more time online to find support they were not finding outside the screen. Since no significant finding was found between online social support scores and people who showed symptoms of depression, future research must look at if increased time spent online is linked to the development to moderate to severe symptoms of depression.

Glaser and colleagues (2018) findings may explain why no significant relationship was found between online social support scores and those with signs of depression. The study (Glaser, Liu, Hakim, Valar, & Zhang, 2018) found if social networking users utilize the sites to build and increase face to face capital the sites could increase mental health. If these results are accurate, usage could increase in person social support as well as online support leading to insignificant differences between a person's perception of their online and face to face social support.

Limitations and Future Studies

Though this study found significant relationships there are some limitations. The first limitation was the study design being cross sectional. Cross sectional studies may have confounding factors affecting the way the participant answers questions that the researcher is unaware of. Future researchers could benefit from using a longitudinal study design where the participants are asked to take the survey multiple times over several weeks and the researcher can find the participant's average answer.

Another limitation of the study was the lack of diversity among participants. Majority of the participants were women (92.74%) and white (91.72%) which is not an accurate representation of modern society. Future researchers will need to consider distributing the information in a way that will reach a more diverse audience.

Additionally, a limitation to the study was the effect COVID and stay at home orders may have affected participants' responses. The survey was distributed April 1, 2020, and the first stay at home order was issued in California on March 19, 2020 (AJMC Staff, 2021). Lockdowns have been associated with increased feeling of isolation (Khan et al., 2020) and increased rates of anxiety and depression disorder (Van der Veldent et al., 2020). One study found the pandemic intensified social networking site use across individuals of all ages, sexes, and work statuses (Chakraborty, Kumar, Upadhyay, & Dwivedi, 2021). In addition, social networking site users felt online chatting assisted in coping with social fears (Campbell, Cumming, and Hughes, 2006). These finding lead us to believe COVID- 19 stay at home orders could have had a significant effect on

participant's responses. Future researchers could distribute the survey again and compare how the pandemic may have affected the original participant's answers.

This study looked only at the effect moderate to severe symptoms of depression had on time spent on networking sites and perception of online social support. Since no significant relationship was found between online social support scores and those showing symptoms of depression, it is necessary to see if increased time online is magnifying symptoms of depression to the moderate to severe category.

Future researchers could expand this research to look at how stress and anxiety also affect time on social networking sites and the support users might feel. An additional interesting area to explore is how the number of profiles a user has may affect their depression, anxiety, and stress and their perceived social support scores. Very few studies have been conducted regarding why people use social networking sites and how it might affect their use along with how mental health or mental illness plays a role. The current study serves as a good starting point for future research in these areas.

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Appendix

Table 1

DASS-21 Questionnaire

Item #	Item
1	I found it hard to wind down
2	I was aware of dryness of my mouth
3	I couldn't seem to experience any positive feeling at all
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)
5	I found it difficult to work up the initiative to do things
6	I tended to over-react to situations
7	I experienced trembling (eg, in the hands)
8	I felt that I was using a lot of nervous energy
9	I was worried about situations in which I might panic and make a fool of myself
10	I felt that I had nothing to look forward to
11	I found myself getting agitated
12	I found it difficult to relax
13	I felt down-hearted and blue
14	I was intolerant of anything that kept me from getting on with what I was doing
15	I felt I was close to panic
16	I was unable to become enthusiastic about anything
17	I felt I wasn't worth much as a person
18	I felt that I was rather touchy
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)
20	I felt scared without any good reason
21	I felt that life was meaningless

Scoring: 1- Did not Apply to me at all, 2- Applied to me some of the time, 3- Applied to me a good part of the time, 4- Applied to me most of the time

Table 2*Oslo Social Support Scale*

Item #	Item
1	How many people are so close to you that you can count on them if you have great personal problems?
2	How much interest and concern do people show in what you do?
3	How easy is it to get practical help from neighbors if you should need it?

Table 3*Online Social Support Questionnaire*

Item #	Item
1	People show that they care about me online.
2	Online, people say or do things that make me feel good about myself.
3	People encourage me when I'm online.
4	People pay attention to me online.
5	I get likes, favorites, upvotes, views, etc. online.
6	I get positive comments online.
7	When I'm online, people tell me they like the things I say or do.
8	Online, people are interested in me as a person.
9	People support me online
10	When I'm online, people make me feel good about myself.
11	When I'm online, I talk or do things with other people.
12	People spend time with me online.
13	People hang out and do fun things with me online.
14	Online, I belong to groups of people with similar interests.
15	People talk with me online about things we have in common.
16	Online, I connect with people who like the same things I do.
17	I am part of groups online.
18	When I'm online, people joke and kid around with me.
19	People relate to me through things I say or do online.
20	Online, people make me feel like I belong.
21	When I'm online, people give me useful advice.
22	Online, people provide me with helpful information.
23	If I had a problem, people would help me online by saying what they would do
24	Online, people would tell me where to find help if I needed it.
25	People help me learn new things when I'm online.
26	People offer suggestions to me online
27	People tell me things I want to know online.
28	When I'm online, people help me understand my situation better.
29	If I had a problem, people would share their point of view online.
30	People help me see things in new ways when I'm online.
31	People online would help me with money or other things if I needed it.
32	When I'm online, people help me with school or work.
33	Online, people help me get things done.
34	If I needed a hand doing something, I go online to find people who will help out.
35	Online, people offer to do things for me.
36	Online, people help me with causes or events that I think are important.
37	When I'm online, people have offered me things I need.
38	When I need something, I go online to find someone who might lend it to me.
39	When I need a hand with school or work things, I get help from others online.
40	I contact people online to get help or raise money for things I think are important

Score: 1- Never, 2- Rarely, 3- Often, 4- A lot

Appendix B: Demographics

Demographics

1. Age: 18- 24, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85 or older
2. Sex: Male, Female, Intersect
3. Race: White, Black/ African American, American Indian/ Alaska Native, Asian, Native Hawaiian/ Pacific Islander, Other
4. Sexual Orientation: Heterosexual, Gay/ Lesbian, Bisexual, Other, Prefer not to say
5. Marital Status: Married, Widowed, Divorced, Separated, Never married
6. Education: Less than high school, High school graduate, Some college, 2 year degree, 4 year degree, Professional degree, Doctorate