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The Impacts of Social Media Usage on Students'
Mental Health

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Abstract

Although social media usage has become increasingly pervasive among students in college in the last decade, it was not known if these platforms are positively or negatively related to students' perception of their mental well-being. The purpose of this correlational study was to measure the relationship between social media usage and the mental health of college students in order to improve student affairs practice. In spring 2019, simple random sampling was used to invite 5,000 undergraduate students from a large, public, professional doctoral institution in the Midwestern region of the United States--to complete a survey measuring their frequency and type of engagement on social media and the participants perceived experiences with depression, anxiety, and suicidality (experience of suicidal thoughts or attempts). Results indicated correlations exist between the frequency and types of social media usage and the perceived mental health of students. It is believed the findings of this study will enhance student affairs professionals' understanding of how social media usage impacts students' mental health using Leon Festinger's Social Comparison Theory (Festinger, 1954) and The Interpretation Comparison Model (Stapel, 2007; Stapel & Koomen, 2000).

Keywords: social media, mental health, college student

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In 2014, a study found 11.3% of 170,000 individuals aged 12 to 17, had a major depressive episode within the past year (Mojtabai, Olfson, & Han, 2016). Approximately 75% of mental health disorders develop by 24 years old, (Kessler et al., 2005) while the traditional aged college student is between 18 and 23 years old (Spitzer, 2000). Members of Generation Z do not remember a time without screens (Turner, 2015) and individuals aged eight to 18 use social media up to seven hours a day (Rideout, 2015). Although previous research indicated that

social media can have both a positive and negative effect on mental health (Johnston, Tanner, Lalla & Kawalski, 2013; Radovic, Gmelin, Stein, & Miller, 2017; Virden, Trujillo & Predeger, 2014; Zhang, 2017), it was not known if and to what degree there is a relationship between social media usage and mental health among college students.

Results from this study could be used to understand the causes of adverse mental health symptoms, which could help higher education institutions intervene and better support students (Eisenberg, Gollust, Golberstein, & Hefner, 2007). There are few studies that provide practical insight into how social media usage impacts students' mental health through the application of a sociological theory. This study addresses these deficiencies in literature by exploring the impact of social media usage on mental health through the original Social Comparison Theory (Festinger, 1954) and an updated version of the theory, The Interpretation Comparison Model (Stapel, 2007; Stapel & Koomen, 2000).

The purpose of this quantitative correlational study is to measure the relationship between social media usage and the mental health of college students at a large, public, professional doctoral institution in the mid-western region of the United States. The following research questions were used to guide the collection and analysis of data in this study: (1) What are the patterns of social media usage among students? and (2) What is the relationship between frequency of social media usage and perceived mental health issues among students in terms of (a) depression, (b) anxiety, and (c), suicidality? The alternative hypotheses tested in the study to answer the second research question are: H_{2a} : There will be a positive relationship between the frequency of social media usage and depression. H_{2b} : There will be a positive relationship between the frequency of social media usage and anxiety. H_{2c} : There will be a positive relationship between the frequency of social media usage and suicidality.

Review of Literature

Research regarding the impact of social media on mental health has produced mixed results. Included in this review of literature are findings from quantitative, qualitative, and mixed-method studies published in peer-reviewed journals between 2001 and 2018. The primary keywords used to conduct the search included, *college student and social media use*, *college student and mental health*, *social media and mental health*, and *college student identity development*. Findings from the literature review suggested three main topics of discussion: (a) positive impacts of social media on mental health, (b) negative impacts of social media on mental health, and (c) social media and identity expression. This study is grounded in Festinger's (1954) Social Comparison Theory and The Interpretation Comparison Model (Stapel, 2007; Stapel & Koomen, 2000), to understand how a college student's mental health is impacted by comparison to others on social media.

Social Media's Positive Impact on Mental Health

Two quantitative correlational articles discussed similar findings that social media, specifically Facebook, can be beneficial to improve one's mental health (Johnston et al., 2013; Zhang 2017). For instance, posting a status update on Facebook about the difficulties in one's life can lead to perceived social support, in turn improving mental health (Johnston, et al., 2013; Zhang, 2017). Facebook usage is attributed with improved self-esteem and improved mental health because of the perceived support system that is developed through social capital relationships (Johnston, et al., 2013). Both studies used surveys to collect their data. The largest difference between the two studies is the focus of their research. Zhang (2017) sought to find the correlation between self-disclosure of stressful life events on Facebook, life satisfaction, and depression. Johnston et al. (2013), placed emphasis on the correlation of Facebook use and maintenance of social relationships. Overall, the quantitative articles provided evidence that social media can potentially improve or be beneficial to mental health.

Even though both studies produced useful background information for future research, there are limitations. One critique of Johnston et al. (2013) is it mentioned a use and gratification theory in the literature review, stating how an individual's purpose for interaction determines the outcome of the conversation. However, the theory was not tied to the study's findings of social media having a positive impact on mental health. A limitation not discussed by the author, but applicable to the current study, is that Zhang (2017) was conducted in China, making results difficult to generalize to students in the United States.

Social Media's Negative Impact on Mental Health

In contrast to the first two articles, two qualitative studies found results that social media negatively impacts mental health (Radovic et al., 2017; Viriden et al., 2014). Radovic et al. (2017) conducted a phenomenological study to document social media experiences by interviewing 23 individuals diagnosed with depression. Findings indicate that individuals frequently compare themselves to what they see on social media and seek approval leading to depression and lower life-satisfaction (Radovic et al., 2017). Viriden et al. (2014) also conducted a phenomenological study using focus groups to understand the perception of high-risk social media behaviors. Consequently, results found a relationship between social media use and psychological distress when an individual did not calculate the repercussions of what was posted online (Viriden et al., 2014). Limitations of Radovic et al. (2017) include: not disclosing where the research was conducted, leaving it open to question as to whether the participants' environment impacted the study. Neither Radovic et al. (2017), nor Viriden et al. (2014) reference a theory to ground their research.

Social Media and Identity Expression

Two studies, one quantitative and one mixed-method, identified the use of social media to create an online identity that the individuals felt was more favorable than the person they are offline (Hanna et al., 2017; Reich, 2010). Through the survey, attitudes toward self-esteem, comparison, self-objectification, depression, and anxiety were assessed. Results indicated that Facebook users seek to promote a desirable version of themselves (Hanna, et al., 2017). Similarly, through two focus groups and a survey, results indicated social media users, particularly on MySpace and Facebook, created an attractive, unauthentic representation of who they are offline (Reich, 2010). Overall, both studies suggest that social media provides an opportunity for individuals to portray themselves in any manner that they wish, subjecting the individual to objectification and comparison (Festinger, 1954; Stapel, 2007; Stapel & Koomen, 2000). Because college students can be impressionable and rely on external validation (Baxter Magolda, 2008), social media can impact their mental health.

Limitations exist in both Hanna et al. (2017) and Reich (2010). For instance, Hanna et al. focused on psychological well-being through asking questions pertaining to self-esteem, mental health, and body shame. Further research needs to be done to assess other facets of psychological well-being, such as: suicidal ideation because of the studies noted limitations (Hanna et al., 2017). Also, Reich's assessment was conducted in 2010, when MySpace was an active social media site. Applying results discovered from MySpace users may be inapplicable to apply to modern students because MySpace is no longer the most popular social media site. Further research is needed to assess the how current social media platforms impact perceived mental health.

Festinger's Social Comparison Theory and The Interpretation Comparison Model

The framework used to guide the development of this study was Leon Festinger's Social Comparison Theory (1954) and The Interpretation Comparison Model (Stapel, 2007; Stapel & Koomen, 2000) which concluded that individuals evaluate oneself against others they interact with. Both Social Comparison Theory (Festinger, 1954) and The Interpretation Comparison Model (Stapel, 2007; Stapel & Koomen, 2000) state self-evaluation occurs based upon the perception of others success. This theory and model are related to the current study through the connection between social media and comparison because social media allows for students to put themselves on a platform, open to criticism and approval, potentially influencing perceived mental health.

A limitation related to Festinger's Social Comparison Theory (1954) is that it was developed based upon the comparison of individuals in the workplace, prior to the invention of the internet. To reduce this limitation, a more recent version of the theory, The Interpretation Comparison Model (Stapel, 2007; Stapel & Koomen,

2000), was used to strengthen the validity of this paper. It has been studied that social media creates an environment that is conducive to social comparison (Strickland, 2014). Festinger's (1954) theory and The Interpretation Comparison Model (Stapel, 2007; Stapel & Koomen, 2000) stated that individuals either compare themselves to other individuals in a positive or negative way, through either upward or downward comparison (Garcia & Halldorsson, 2018). Depending upon the direction of comparison, individuals could feel gratitude or motivation from a positive comparison, or feel disapproval or envy from a negative comparison (Garcia & Halldorsson, 2018).

The evolution of Social Comparison Theory (Festinger, 1954) to the Interpretation Comparison Model (Stapel, 2007; Stapel & Koomen, 2000) increases the validity of this study. While Festinger's (1954) theory focused upon comparison through interactions in the work place, The Interpretation Comparison Model (Stapel, 2007; Stapel & Koomen, 2000) analyzes the development of self-evaluation through knowledge. Knowledge and information are gathered during social comparison (Stapel, 2007). Essentially, individuals make comparison and are influenced by their surroundings (Stapel, 2007; Stapel & Koomen, 2000) including social media.

To elaborate, a study conducted by Chou and Edge (2012) found that the more time a student spends on Facebook, the more likely the student feels as though others are doing better than themselves. Instagram, Twitter, Facebook, and Snapchat have all been noted as social media platforms that increase anxiety and depression (MacMillan, 2017). The perception that others are doing consistently better can be challenging to one's mental state (Chou & Edge, 2012). Hence, while the students are seeking gratification from social media, the students are also subjecting their mental health, either positively or negatively, because of a larger circle of peer approval than students who attended college prior to social media.

Methods

The purpose of this quantitative correlational study was to measure the relationship between social media usage and perceived mental health issues among college students and was accomplished by conducting an electronic survey distributed to students during the spring of 2019. The following research questions were used to guide the collection and analysis of data in this study: (1) What are the patterns of social media usage among students? and (2) What is the relationship between frequency of social media usage and perceived mental health issues among students in terms of (a) depression, (b) anxiety, and (c), suicidality? The alternative hypotheses tested in the study to answer the second research question are: H_{2a}: There will be a positive relationship between the frequency of social media usage and depression. H_{2b}: There will be a positive relationship between the frequency of social media usage and anxiety. H_{2c}: There will be a positive relationship between the frequency of social media usage and suicidality.

Participants & Setting

The sample in this study included students who attended a professional doctoral institution with 15,363 full-time undergraduate students in the mid-western region of the United States (Bear Stats, 2017). The university is 59% female and 41% male, with an average age of 22 years old (Bear Stats, 2017). The Dean of Students provided the researcher with access to participants through the office of the registrar. Probability, simple random sampling was used to identify individuals to participate in the study. In the 2019 spring semester, 5,000 randomly-selected students, who met the sampling frame criteria, were emailed and invited to participate in an electronic survey regarding their social media usage and mental health perceptions. The following sampling frame criteria was used to identify participants: undergraduate, full-time students (taking a minimum of 12 credit hours). Of the participants who completed the survey, 77% were female, 20% male, and 3% self-identified. A majority of students who participated were in their third or fourth year of college (72%) and between the ages of 21-24 (58%).

Data Collection

Prior to data collection, participants were provided with an electronic copy of the study's IRB approval. To protect the anonymity of the participants and encourage responses, a waiver of consent was solicited by the researcher and completion of the survey represented the participants' informed consent. There were no incentives offered.

Surveys were distributed during a two-week period during spring of 2019; to encourage participation, one follow-up email was sent one week after the initial invitation. A modified survey instrument—referred to as the Social Media and Mental Health Perception Survey (SMMHPS)—was used to collect responses. The survey was developed from the Healthy Minds Study (HMS) questionnaire (Healthy Minds Network, 2018) and collected information related to participants' demographics, social media usage behaviors, and self-reported perception mental health related to depression, anxiety, and suicidality. For the purpose of this study, social media was defined as a website that individuals use to make or maintain connections with others by interacting with user-generated content (Boyd & Ellison, 2010; Obar & Wildman, 2015). This study examines the social media platforms: Snapchat, Facebook, Instagram, Twitter, and YouTube because of the sites popularity with college aged students (Knight-McCord, et al., 2016). Mental health was defined by a participant's level of depression, anxiety, and suicidality because these conditions are “some of the most prevalent in college populations,” (Hefner & Eisenberg, 2009, p. 493). The SMMHPS consisted of 25-33 questions, divided into five sections (demographics, frequency and reasons for social media use, depression, anxiety, and suicidality) and participants generally completed the survey in 15-20 minutes.

The development of the SMMHPS was modified from HMS because the instrument was previously used to assess only a student's mental health. For the purpose of this study, the researcher sought to discover if there is a correlation between the amount of time a student spends on social media and perceived mental health. By including questions from the HMS regarding mental health assessment and adding questions regarding a student's social media usage, the researcher was able to answer the research questions. To enhance the credibility of the SMMHPS instrument, it was pilot tested by professional staff members from the university Counseling Center, Housing and Residence Life department, and a sample of undergraduate students who meet the sampling frame criteria, but who do not attend the university and were not invited to participate in the study. During the pilot test, feedback was requested about the clarity and appropriateness of the survey questions with regard to the purpose of this study.

Data Analysis

At the conclusion of the survey distribution window, the researcher utilized Campus Labs Baseline, JASP (statistical analysis software), and RSTATS (university research, statistical training and technical support team) to score and analyze the responses and generate descriptive statistics using Pearson's r , Spearman's correlation, and Kendal Tau correlation. A correlation coefficient (r) (Hennings & Roberts, 2016) was computed to measure the relationship between the variables related to the study's research questions. Axial coding was utilized to find dominant themes among the open-ended responses. Descriptive statistics were presented and explained with a narrative description of results, accompanied by tables and figures, illustrating frequencies and mean scores.

Limitations

A limitation of this study related to the external validity of the findings, is the participants were only selected from undergraduate students. Similarly, it is unknown how social media usage of undergraduate students at other institutions would impact those student's mental health. Participants self-reported the time they spent on social media, thus, a limitation was the potential for participants to not accurately self-disclose. Another limitation was related to the timing of the questionnaire's release, prior to midterm exams. Students' mental health could be compromised for reasons not relating to social media usage; therefore, the findings should be interpreted with caution.

Results

The purpose of this quantitative, correlational study was to measure the relationship between social media usage and the perceived mental health of college students at a large, public, professional doctoral institution in the mid-western region of the United States, as well as analyze the students' social media usage patterns. There were 378 completed responses (7.56%) collected from

participants. Of the completed responses, 97% stated using some form of social media. Participants disclosed both positive and negative mental health implications because of social media usage. Statistical results from the study indicate that there was a weak positive correlation between social media usage and both anxiety and depression, as well as a non-significant positive relationship between suicidality and social media usage.

What are the Patterns of Social Media Usage Among Students?

The amount of time participants disclosed utilizing each social media platform varied from zero to 15 minutes per day up to four hours or more per day, with an average minimum of 41 minutes per day to a maximum of 70 minutes per day. The most utilized social media platform was Facebook. The preferred social media platforms utilized by participants, from most number of users to least number of users, was as follows: Facebook (89%), Snapchat (83%), Instagram (77%), YouTube (72%), and Twitter (51%). The most popular reasons that social media platforms were used include: *entertainment* (90%), *pass time* (87%), *social interaction* (80%), *seek information* (70%), *relaxation* (56%), and *other* (6%).

An open-ended question was asked to assess how social media usage impacted perceived mental health. Results indicated that participants experienced both positive and negative mental health implications after social media usage. Axial coding revealed the pattern *Maintaining Connections with Family and Friends* as a reason for social media usage creating a perceived positive mental health. Out of 366 responses, 30% mention how social media is used for reasons such as: “interacting with my friends and family,” “keeping in contact with long distance friends and family,” and “social media sometimes has a positive impact because friends can contact me that I do not get to see very often.” Similarly, axial coding of responses to perceived negative mental health implications from social media usage revealed a pattern of *Comparison to Others* (34%). Quotes to support participants perception of comparison included: “It can be easy to compare the life of myself to the life of others, which can sometimes cause feelings of inadequacy,” “social media sometimes encourages me to compare myself to others which in turn may stress me out, or make me feel like I’m not good enough,” and “I see people and I constantly compare myself to them and I get anxious and depressed because I don’t feel up to par.”

What is the Relationship Between Frequency of Social Media Usage and Perceived Mental Health Issues Among Students in Terms of Depression?

A weak positive correlation was found between social media usage and depression. Because of the violation of normality assumption (Ghasemi & Zahediasl, 2012), a Spearman’s correlation was used to evaluate the relationship between these two variables. Results revealed that there was a 2% variation between the relationship of depression and social media usage. As shown in Table

1, a weak positive correlation indicated a somewhat linear relationship ($r = .145$, $p = .005$). Results indicated that 39% of participants felt *no depression*, 28% felt *mild depression*, 15% felt *moderate depression*, 11% felt *moderately severe depression*, and 7% felt *severe depression*.

Table 1

Correlation Between Frequency of Social Media Usage and Prevalence of Depression and Anxiety

		Frequency_Total	Depression_Total	Anxiety_Total
Frequency_Total	Pearson's r	—		
	p-value	—		
	Spearman's rho	—		
	p-value	—		
Depression_Total	Pearson's r	0.115	—	
	p-value	0.026	—	
	Spearman's rho	0.145	—	
	p-value	0.005	—	
Anxiety_Total	Pearson's r	0.099	0.753	—
	p-value	0.055	< .001	—
	Spearman's rho	0.107	0.779	—
	p-value	0.038	< .001	—

What is the Relationship Between Frequency of Social Media Usage and Perceived Mental Health Issues Among Students in Terms of Anxiety?

A weak positive correlation was found between social media usage and anxiety. A Spearman's correlation was used to find the relationship between social media usage and anxiety. It was found that anxiety explained 1% of the variation of social media usage ($r = .107$, $p = .038$), as demonstrated in Table 1. Results revealed that 52% of participants felt *minimal anxiety*, 22% felt *mild anxiety*, 17% felt *moderate anxiety*, and 8% felt *severe anxiety*.

What is the Relationship Between Frequency of Social Media Usage and Perceived Mental Health Issues Among Students in Terms of Suicidality?

To determine the correlation between suicidality and social media usage, data was analyzed using the Kendall's Tau correlation because of the violation of the normality assumption and little variability between responses (Ghasemi & Zahediasl, 2012). Results from this study indicated that the relationship between suicidality and social media usage was a non-significant positive relationship.

Suicidality explained .09% of the variation of social media usage ($r = .032$, $p = .448$) with Kendall's Tau and Pearson's r demonstrated in Table 2. Though not statistically significant, results from the questions pertaining to suicidality

indicated that 26% had thought about attempting suicide in the past year. Also 7% have made a plan for attempting suicide and seven participants (1.85%) disclosed having attempted suicide in the past year.

Table 2

Correlation Between Frequency of Social Media Usage and Prevalence of Suicidality

		Frequency_Total	Suicide_Total
Frequency_Total	Pearson's r	—	
	p-value	—	
	Kendall's tau B	—	
	p-value	—	
Suicide_Total	Pearson's r	0.047	—
	p-value	0.365	—
	Kendall's tau B	0.032	—
	p-value	0.448	—

Conclusion

Although existing research documented that social media can influence an individual's mental health, it was not known if and to what degree there is a relationship between social media usage and mental health among college students. Results from this study indicated that there was a weak positive correlation between the relationship of social media usage and both depression and anxiety among undergraduate students, as well as a non-significant positive relationship between social media usage and suicidality. It was also discovered that the top reason that participants use social media was for entertainment, and participants utilized the social media platform Facebook the most. Participants suggested that their social media usage both positively and negatively influenced their mental health because they used it to maintain connections with family and friends, while also comparing themselves to others.

Results from this study affirm previous research findings that social media can positively and negatively impact mental health. Previous studies found that social media platforms have developed an easier method of maintaining connections with family and friends who live far away and increased social support (Zhang, 2017), yet, social media has also created a space that promotes the comparison of lives, seeking approval, and perpetuates unrealistic expectations (Radovic, Gmelin, Stein, & Miller, 2017; Virden, Trujillo & Predeger, 2014).

There was a weak positive correlation found between both anxiety and depression and social media usage. The researcher speculates that the correlation between social media usage and adverse mental health symptoms is caused by the constant

comparison and perception that others are doing better than oneself because of social media posts. Social media usage may play a more significant role in a college students' mental health than previously realized. While correlation does not equal causation, it is concerning how many participants are experiencing the previously mentioned mental health symptoms.

There were numerous comments about social media promoting comparison among participants, which validated the application of Leon Festinger's Social Comparison Theory (1954) and The Interpretation Comparison Model (Stapel, 2007; Stapel & Koomen, 2000) to this study. Based off of the qualitative data pertaining to how social media negatively impacts perceived mental health, from this study and previous research (Hanna et al., 2017), it may be difficult for individuals to recognize that social media is often edited or altered to display the best aspects of one's life, depicting an unrealistic reality. To emphasize, this supports the application of Social Comparison Theory (Festinger, 1954) and The Interpretation Comparison Model (Stapel, 2007; Stapel & Koomen, 2000), to this study because social media creates standards that students feel they must compare themselves to. Viewing how other students or peers are portraying successes leads to increased self-evaluation (Stapel & Koomen, 2000), as seen within this study. The researcher speculates that social media's pervasive presence in college students' lives perpetuates unrealistic expectations and fosters constant comparison as noted by The Interpretation Comparison Model (Stapel, 2007; Stapel & Koomen, 2000).

Implications for Practice

For many college students, social media is consistently used daily. The relationship between social media usage and perceived mental health is important in understanding the complexities of the needs of college students. On-campus counselors could further explore the nature of the relationship between social media usage and perceived mental health by asking students if they attribute any of their distress to something observed on social media. Further understanding of the potential causes of students' mental health symptoms can help create individualized coping methods when experiencing distress.

Along with the previously mentioned implication for practice, it would be beneficial for student affairs practitioners to analyze how the university's social media accounts are utilized when marketing to current and future students. Presenting information about resources available on campus should a student be experiencing mental distress is equally as important as providing information about opportunities for student engagement and employment to students while attending the university. Similarly, student affairs practitioners should develop content that destigmatizes mental health concerns. While a student may be aware that there are resources available, the student may be afraid to utilize resources because of a lack of normalization around discussing mental health concerns. Creating social media campaigns that destigmatize mental health concerns could

reach the students and promote accessing mental health services. Moreover, with an understanding that social media usage can increase comparison, increasing programming and opportunities that encourage appreciation, gratitude, and self-care can help students cultivate self-worth both with and without a social media presence.

Directions for Future Research

Because this was a quantitative study, there are limitations to the depth that the results could provide. To strengthen the findings of this study, future research should be gathered to explore the relationship between social media usage and mental health to include qualitative procedures to understand participants' in-depth experiences. Similarly, research that requires participants to maintain a social media journal with the following information: which social media platform is utilized, how long the participant is on the platform, what was observed, and what feelings were evoked. This would provide clarity as to what types of content cause mental distress and give a more accurate understanding of how participants are engaging on social media.

Another direction for future research includes repeating the current study and increasing the number of social media platforms that a student could utilize. This study focused on five social media platforms, excluding online dating platforms. Future research could include online dating platforms and other social media platforms to assess whether different social media platforms perpetuate or reduce negative mental health symptoms.

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References

- Baxter Magolda, M. B. (2008). Three elements of self-authorship. *Journal of College Student Development* 49(4), 269-284. Retrieved from <http://muse.jhu.edu.proxy.missouristate.edu/article/241952>
- Bear Stats. (2017). Retrieved from <https://www.missouristate.edu/assets/oir/BearStats2017web.pdf>
- Boyd, D., & Ellison, N. (2010). Social network sites: Definition, history, and scholarship. *IEEE Engineering Management Review*, 38(3), 16-31. doi:10.1109/emr.2010.5559139
- Chou, H. G. & Edge, N. (2012). “They are happier and having better lives than I am”: The impact of using Facebook on perceptions of others’ lives. *Cyberpsychology, Behavior, and Social Networking*, 15(2), 117-121.
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson.
- Eisenberg, D., Gollust, S. E., Golberstein, E., & Hefner, J. L. (2007). Prevalence and correlates of depression, anxiety, and suicidality among university students. *American Journal of Orthopsychiatry*, 77(4), 534-542. doi:10.1037/0002-9432.77.4.534
- Festinger, L. (1954). A Theory of social comparison processes. Retrieved from [https://www.humanscience.org/docs/Festinger \(1954\) A Theory of Social Comparison Processes.pdf](https://www.humanscience.org/docs/Festinger%20(1954)%20A%20Theory%20of%20Social%20Comparison%20Processes.pdf)
- Garcia, S. & Halldorsson, A. (2018). Social comparison. In R. Biswas-Diener & E. Diener (Eds), *Noba textbook series: Psychology*. Champaign, IL: DEF publishers. Retrieved from <https://nobaproject.com/modules/social-comparison>
- Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-statisticians. *International Journal of Endocrinology and Metabolism*, 10(2), 486-489. doi:10.5812/ijem.350
- Hanna, E., Ward, L. M., Seabrook, R. C., Jerald, M., Reed, L., Giaccardi, S., & Lippman, J. R. (2017). Contributions of social comparison and self-objectification in mediating associations between Facebook use and emergent adults psychological well-being. *Cyberpsychology, Behavior, and Social Networking*, 20(3), 172-179. doi:10.1089/cyber.2016.0247

- Healthy Mind Network. (2018). The Healthy Minds Study (HMS): Questionnaire Modules. Published Instrument. Retrieved from http://healthymindsnetwork.org/system/resources/W1siZiIsIjIwMTgvMDcvMzEvMTFfMDRfMDhfODAyX0hNU19RdWVzdGlvbm5haXJlXzE4XzE5X01vZHVhZSZNfRk1lOQUxfNj4zMS4xOC5wZGYiXV0/HMS-Questionnaire_18-19_Modules_FINAL_7.31.18.pdf
- Hefner, J., & Eisenberg, D. (2009). Social support and mental health among college students. *American Journal of Orthopsychiatry*, 79(4), 491-499. doi:10.1037/a0016918
- Henning, G., & Roberts, D. M. (2016). *Student affairs assessment: Theory to practice*. Sterling, VA: Stylus Publishing.
- Johnston, K., Tanner, M., Lalla, N., & Kawalski, D. (2010). Social capital: The benefit of Facebook 'friends'. *Behaviour & Information Technology*, 32(1), 24-36. Retrieved from <http://dx.doi.org/10.1080/0144929X.2010.550063>
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62(7), 768. doi:10.1001/archpsyc.62.7.768
- Knight-McCord, J., Cleary, D., Grant, N., Herron, A., Jumbo, S., Lacey, T., ... Emanuel, R. (2016). What social media sites do college students use most? *The Journal of Undergraduate Ethnic Minority Psychology, Spring(2)* 21-26.
- Larose, R., Mastro, D., & Eastin, M. S. (2001). Understanding internet usage. *Social Science Computer Review*, 19(4), 395-413. doi:10.1177/089443930101900401
- MacMillan, A. (2017). Why Instagram Is the Worst Social Media for Mental Health. *Time.Com*, 1.
- Mojtabai, R., Olfson, M., & Han, B. (2016). National trends in the prevalence and treatment of depression in adolescents and young adults. *Pediatrics*, 138(6). doi:10.1542/peds.2016-1878
- Obar, J. A., & Wildman, S. S. (2015). Social media definition and the governance challenge - An Introduction to the Special Issue. *SSRN Electronic Journal*. doi:10.2139/ssrn.2663153
- Radovic, A., Gmelin, T., Stein, B. D., & Miller, E. (2017). Depressed adolescents positive and negative use of social media. *Journal of Adolescence*, 55, 5-15. doi:10.1016/j.adolescence.2016.12.002

- Reich, S. M. (2010). Adolescents sense of community on Myspace and Facebook: A mixed-methods approach. *Journal of Community Psychology, 38*(6), 688-705. doi:10.1002/jcop.20389
- Rideout, V. (2015). The common sense census: Media use by tweens and teens. Common Sense Media. Retrieved September 19, 2016 from https://www.commonsensemedia.org/sites/default/files/uploads/research/census_researchreport.pdf
- Stapel, D. A. (2007). In the Mind of the Beholder: The Interpretation Comparison Model of Accessibility Effects. In D. A. Stapel & J. Suls (Eds.), *Assimilation and contrast in social psychology* (p. 143–164). Psychology Press.
- Stapel, D. A., & Koomen, W. (2000). Distinctiveness of others, mutability of selves: Their impact on self-evaluations. *Journal of Personality and Social Psychology, 79*(6), 1068–1087. doi: 10.1037//0022-3514.79.6.1068
- Spitzer, T. M. (2000). Predictors of college success: A comparison of traditional and nontraditional age students. *NASPA Journal, 38*(1), 82-98. doi:10.2202/0027-6014.1130
- Strickland, A. (2014). *Exploring the effects of social media use on the mental health of young adults* (Master's thesis). Available from <http://stars.library.ucf.edu/honorstheses1990-2015/1684>. (HIM 1990-2015. 1684.)
- Turner, A. (2015). Generation Z: Technology and social interest. *The Journal of Individual Psychology, 71*(2), 103–113. <https://doi.org/10.1353/jip.2015.0021>
- Viriden, A., Trujillo, A., & Predeger, E. (2014). Young adult females' perceptions of high-risk social media behaviors: A focus-group approach. *Journal of Community Health Nursing, 31*(3), 133-144. doi:10.1080/07370016.2014.926677
- Whiting, A., & Williams, D. (2013). Why people use social media: A uses and gratifications approach. *Qualitative Market Research: An International Journal, 16*(4), 362-369. doi:10.1108/qmr-06-2013-0041
- Zhang, R. (2017). The stress-buffering effect of self-disclosure on Facebook: An examination of stressful life events, social support, and mental health among college students. *Computers in Human Behavior, 75*, 527-537. doi:10.1016/j.chb.2017.05.043