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University of Northern Colorado
Greeley, Colorado

IMPACT OF SOCIAL MEDIA ON MENTAL HEALTH :
A LOOK AT COHORT DIFFERENCES

A Thesis Proposal Submitted in
Fulfillment for Graduation with Honors Distinction and
the Degree of Bachelor of Arts

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May 2022

IMPACT OF SOCIAL MEDIA ON MENTAL HEALTH:
A LOOK AT COHORT DIFFERENCES

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Abstract

Based on the amount of published research projects, interest continues to grow regarding the impact social media has on mental health. Yet with this increasing interest, research on the relationship between social media and mental health has not been fully explored across multiple age populations. Social media's impact on mental health has been primarily examined among young adults, typically between the ages of 18-23; however, it has not been widely studied among age groups beyond the emerging adult. To identify how social media impacts the mental health of individuals on a broader age range, the current study considered two age cohorts, the Millennial Generation (born between 1981-1995) and Generation Z (born between 1996-2012), and compared differences and similarities between these age groups. Specific social media platform use and mental health conditions were measured with an overall goal of a more comprehensive view of social media type (Facebook, Instagram, and Twitter) and use on self-reported levels of depression, anxiety, stress, and self-esteem. The preliminary findings indicate that individuals who are categorized as part of Generation Z report a more negative impact on mental health as influenced by the use of any of the three prominent forms of social media considered.

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Social Media and It's Side Effects

Social media, in various formats, has experienced an increasing number of users (Clemmitt, 2013). However, with an increase in popularity and usage, social media has been found to negatively affect user mental health (McLean Hospital, 2020). Social media is commonly defined as a collective term for websites and applications that focus on communication, interaction, content-sharing, and collaboration (Rouse, 2020). Since social media is a collective term, it entails a variety of forums, specifically social networking. Social networking uses websites and applications to interact and maintain connections with between individuals (Rouse, 2020). Various platforms have been created to accommodate the differing social media purposes, such as Facebook, Instagram, and Twitter. These three platforms were of interest for the current study because of the number of world-wide users (monthly 7.6 billion Facebook users and 1 billion Instagram users, and 31 million daily Twitter users) (Walton, 2022).

With an increase in social media use, prior research has sought to identify if social media has impact on users. Results suggest social media use tends to have an impact on the mental health of users (Robinson & Smith, 2020). Past research findings indicate a common people group with these investigations which include examining individuals ranging between the ages 18-23. This may be because younger adults make up most social media users (Clemmitt, 2013). However, the impact for social media use with individuals beyond this age range is less well-known with limited generalizable conclusions to other age groups. Since social media has continued to grow in patron use, it is crucial to identify potential effects and long-term repercussions. This study aims to specifically examine two generations, the Millennial generation (born between 1981-1995) and Generation Z (born between 1996-2012), which have

experienced social media in different ways and compare the experiences of each age cohort. This study also intends to fill gaps left by past research for social media impact on cohort mental health.

Introduction

Social media can serve multiple purposes, for example providing a need in several areas such as communication, entertainment, and/or occupation (Clemmitt, 2013). However, with the increase in social media use, individuals have been impacted in various ways, including financial, behavioral, and personal mental health (Lenhart, 2018). Further research on the impact of social media use on an individual's overall mental health is only going to become more relevant due amount of use and the number of areas social media can have influence on an individual's life (Clemmitt, 2013).

With increasing amounts of research being conducted for social media impact on personal mental health, there have been several identified limitations when it comes to the populations studied. It is more common to look at younger populations, Generation Z, regarding this topic (Cipolletta, Malighetti, Cenedese, & Spoto, 2020; Frison & Eggermont, 2017; Hanna, Ward, Seabrook, Jerald, Reed, Giaccardi, & Lippman, 2017; Primack, Shensa, et al., 2017). There have not been studies specifically that have considered age cohort comparisons for social media impact, which laid the foundation for the current study.

The current study aimed to look at the broad impact of social media and to compare reported levels of depression, anxiety, stress, and self-esteem on the Millennial generation, which are individuals born between the years of 1981 and 1995, and Generation Z, which are individuals born between the years of 1996 and 2012. Based on prior literature, it is believed that Generation Z will report more negative mental health scores because they grew up in the prime

of social media and the internet (Golbeck, 2017); however, this may also be the case with Millennials that were born toward the end of the generation. This study targeted four areas of mental health: depression, anxiety, stress, and self-esteem, which will be the focus of the current study.

Mental Health

Depression is a mental health disorder characterized by persistently depressed mood or loss of interest in activities, causing significant impairment in life (Mayo Clinic, 2018).

Depression is a condition that can occur once, or through multiple episodes. During depressive periods various symptoms occur. The symptoms of depression include tiredness, loss of interest, angry outbursts, reduced appetite, and in some cases, suicidal thoughts (Mayo Clinic, 2018).

Depression is a condition that can affect individuals in different ways, the effects ranging from mild to severe.

Anxiety disorder is a mental health disorder characterized by feelings of worry, anxiety, or fear that are strong enough to interfere with one's daily activities (Mayo Clinic, 2018).

Experiencing anxiety is considered a normal part of life; however, individuals with anxiety disorder frequently have episodes that severely impact one's daily activities, making it difficult to function. The symptoms of anxiety disorder include increased heart rate, hyperventilation, sense of impending danger, difficulty controlling worry, and even having the urge to end things that cause anxiety (Mayo Clinic, 2018). Anxiety episodes can peak within minutes and can be extremely difficult to control.

Stress is a feeling of emotional or physical tension; it can come from any event or thought that makes you feel frustrated, angry, or nervous (Medline Plus, 2020). It is not uncommon to experience stress in one's daily life, yet it is essential to recognize that stress can impact more

than just emotions or mood, it can take a physical toll. Stress symptoms include headaches, forgetfulness, tiredness, lack of energy, and can even lead to the use of alcohol or drugs (Medline Plus, 2020). Although it is common to experience stress in one's everyday life, mild or situational stress tends to be temporary. In contrast, chronic stress persists over extended periods of time.

Psychological well-being breaks down into one subsection: self-esteem. Self-esteem is the positive or negative feelings individuals have about themselves (Tafarodi & Swann, 1995). Various social and personal influences impact self-esteem, whether positive or negative (1995). Emotional moods, personal ideas of oneself, and perceptions of social relationships reflect on self-esteem and determine whether it is high or low, positive or negative. Essentially, self-esteem fluctuates throughout daily activities based on performance or events that can occur in one's social life.

Social Media

Social media is an ever-changing, growing phenomenon since its inception (Clemmitt, 2013). Social media is software designed primarily to facilitate social interaction. Social media developers have sought to draw more individuals online through various media formats (Clemmitt, 2013). Essentially, social media is one of the most captivating and accessible ways to keep in touch and communicate with other individuals. "In July 2012, the number of individuals using social media had risen 5 percent, to about 172 million people," and it can be assumed that those numbers have only continued to rise (Clemmitt, 2013, p. 3). However, with the increased use of social media, the mental health of participating individuals has seen an increase in research interest (Clemmitt, 2013).

In 2018, a study focused on finding the relationship between social media use and depression and anxiety (Shensa, Sidani, Dew, Escobar-Viera, & Primack 2018). After conducting a cluster analysis, these authors concluded individuals that use social media report higher levels of both depression and anxiety. Higher levels of depression and anxiety were not common for those with limited social media use. There was an earlier study conducted out of this lab among young adults in the United States looking to identify an association between the number of social media platforms used with depression and anxiety (Primack Shensa, Escobar-Viera, Barrett, Sidani, Colditz, & James, 2017). The researchers concluded participants who used seven or more social media platforms reported elevated levels of depression and anxiety. In a study by Lin, Sidani, Shensa, Radovic, Miller, Colditz, Hoffman, Giles, & Primack (2016) also focused on young adults and the association between depression and social media use, participants who used social media frequently showed more symptoms of depression as opposed to those who reported limited social media use. A separate study, focusing on young adults and a social media use connection to depression, reported similar findings but reached a slightly different conclusion (Shensa et al., 2017). Social media was said to be associated with depressive symptoms among individuals; however, the identified association was based on *how* social media was used instead of *how long* it was used.

Other authors have suggested specific reasons as to why social media is associated with depression and anxiety. Considering age and its connection with social media and the impact on self-esteem, studies by Andreassen, Pallesen, and Griffiths (2017), and Hardy and Castonguay (2018) are particularly relevant. The study by Andreassen et al. focused on the relationship between addictive social media use, narcissism, and self-esteem. Findings were broken down by gender and age. Regarding both factors, it was reported women had higher scores of addictive

social media use than men, but it was also more common among young adults than it was with older adults, ages 61-88 (Andreassen et al., 2017). Addictive social media use was positively linked to narcissism but negatively linked to self-esteem among younger adults, age 16-30 (Andreassen et al., 2017).

In 2018, there was an analysis of the 2016 General Social Survey, specifically looking at the role of age in the relationship between social media and well-being (young versus middle/older adults). Hardy and Castonguay (2018) concluded there was a strong relationship between social media use and anxiety; however, this relationship depended on the age of individuals; as it appeared in middle/older adults (ages 46-60), but not in young adults.

An analysis published in 2017 took a different approach when looking at the connection between social media and well-being. The authors state that social media can have either a negative or positive impact depending on the way that it is used (Clark, Algoe, & Green, 2017). Positive associations between well-being and social media use are commonly linked to increased connection, whereas negative associations are frequently linked to behaviors that do not meet users' needs for acceptance (Clark et al., 2017). In a recent study published in 2020, researchers specifically looked to compare student health, well-being, and social media use (Wright Schaeffer, Mullins, Evans, & Cast, 2020). In order to look at this comparison, Wright and colleagues looked at the different impact social networking sites have. The study was survey-based with a total of 630 undergraduate participants. It was concluded that increased time spent daily on certain social networking sites were generally associated with more negative outcomes (Wright et al.). It was also reported that video-based and professional platforms were related to an increase in well-being, while image-based and text-based platforms were not.

Facebook

Facebook is one of the three social media platforms the current study included in data collection. This platform was established in February of 2004 by founder Mark Zuckerberg. Facebook was one of the first platforms in the ongoing era of social media. Many individuals today use it, including individuals from both the Millennial generation and Generation Z. Since Facebook is one of the first platforms to gain popularity, there has been research on its impact on depression, anxiety, and psychological well-being (Brailovskaia, Schillack, & Margraf, 2020; Hanna et al., 2017; Steinfield, Ellison, & Lampe, 2008).

In 2020 there was a study specifically focusing on young adults in Germany. The study aimed to identify the relationship between reasons for social media use, daily stress, depression, and anxiety. The study concluded social interaction, self-presentation, information seeking, relaxation, entertainment, as well as others were the reasons for using social media (Brailovskaia et al., 2020). However, the results were inconclusive in determining the relationship between social media use, depression, anxiety, and daily stress. Another study focused on finding the relationship between reasoning for the use of social media and psychological well-being among young adults. The study explicitly focused on self-objectification and social comparison in terms of the reasoning individuals have to use social media. It was concluded that social comparison and self-objectification mediate the relationship between Facebook use and psychological well-being (Hanna et al., 2017). Social comparison and self-objectification tend to be the primary reasons as to why social media use occurs among young adults.

A study in 2016, targeted the relationship between self-esteem, social comparison, and Facebook use (Cramer, Song, & Dent). The study utilized a survey-based methodology that focused on 267 undergraduate students in ages ranging from 18 to 51. The authors found self-esteem did not necessarily have a connection to social comparison in Facebook use, however,

individuals with lower self-esteem indicated a perceived increase in Facebook use that was not actually indicated (Cramer et al., 2016). Another study published in that same year, looked at a theory that suggested that well-being is negatively impacted by Facebook use (Tromholt, 2016). In order to find the true relationship between well-being and Facebook use, Tromholt conducted a week-long study with 1,095 participants with an average age of 34 years. Participants took an initial questionnaire before being assigned to one of two groups: don't use Facebook for a week or continue to use Facebook regularly. The study was able to provide causal evidence that quitting Facebook leads to an increase in both cognitive and affective well-being (Tromholt, 2016). Taking a break from the platform allowed users to report a greater overall satisfaction in their lives.

However, one study, stood out because researchers had reached a different conclusion in terms of the relationship between social media and psychological well-being (Steinfeld, Ellison, & Lampe, 2008). A longitudinal analysis was conducted to find the relationship between social capital, self-esteem, and social networking. The research was conducted among university students incorporating an interview process. The findings conclude that Facebook is a beneficial way for students to maintain relationships and individuals with low self-esteem have more opportunities to engage with others. This study contributed by reporting different findings than prior research while widening the knowledge that social media has on mental health. Steinfeld and colleagues aided in proving that social media may be serving the purpose it was meant to, helping individuals communicate.

Instagram

Instagram is the second social media platform this study intends to include in the data collected. It was established in October 2010 by founder Mark Zuckerberg. Mark Zuckerberg

established Instagram as a branch of Facebook. It is a social platform used to share photos of individuals' lives. Like Facebook, it is prevalent, primarily because of its simplicity. Since Instagram is still one of the newer social media platforms, there is limited research regarding its impact on the relationship between Instagram use and mental health.

In 2016, a study was conducted specifically focusing on the connection between Instagram use, loneliness, and social comparison. Many previous studies have looked at the connection between social media use and loneliness before, but the results have been inconclusive, so this study specifically into Instagram as the only social media platform (Yang, 2016). The study was survey-based and focused on 208 undergraduate participants between the ages of 18 and 25. It was concluded that browsing on Instagram was related to lower levels of loneliness, but broadcasting, which is what influencers engage in, was related to higher levels of loneliness (Yang, 2016). It was also found that users that engaged in upward social comparison reported higher levels of loneliness. Another study published in 2016 also focused on the relationship between social media use and loneliness, while considering specific platforms: Instagram and Twitter. Researchers hypothesized that picture-based platforms create more of a social presence, allowing them to better combat loneliness compared to text-based platforms (Pittman & Reich, 2016). The study utilized a mixed-method survey design focusing on 253 undergraduate participants. It was concluded that using more image-based platforms, like Instagram, is associated with lower levels of loneliness.

In 2017 there was a study conducted that specifically focused on the types of Instagram use and its relationship with depressed moods among adolescents (Frison & Eggermont). This longitudinal study was conducted to fill gaps that had not yet been addressed in previous research. The study consisted of self-report surveys after each use of Instagram. Participants

were instructed to use Instagram twice a day and to fill out the survey after each use. The findings from this study suggest individuals that used Instagram the first time in the day were more depressed than when they used it the second time.

A recently conducted study focused on the possible benefits of Instagram use on psychological well-being among adolescents. The study utilized an interview basis among adolescents to identify possible connections between the use of the platform and well-being (Cipolletta, Malighetti, Cenedese, & Spoto, 2020) . It was found after adolescents had received likes on posted photos, there was an increase in personal self-acceptance. In the case of receiving likes and increased psychological well-being, self-esteem and self-image tend to increase with more social recognition. However, according to these authors, as quickly as self-acceptance can increase, it can also decrease when posts on Instagram lack the amount of desired ‘likes.’

Twitter

Twitter is the third social media platform this study intends to consider. Twitter was established in March 2006 by founder Jack Dorsey (Hayes, 2014). Twitter is a social platform that combines characteristics of both Instagram and Facebook. Although Twitter was launched before Instagram, it does not have the same popularity among both the Millennial generation and Generation Z (2014). It is more commonly used by individuals between the ages of 18 and 23 and is starting to gain more popularity across the age span. Due to this, there has been limited research conducted on the relationship between social media and user mental health.

A study published in 2015 looked to find the differences in personality among users that use both Twitter and Facebook and users that only use Facebook. Petrocchi and researchers (2015) hypothesized that Facebook only users would positively correlate with feelings of loneliness, whereas users of both platforms would have no significant correlation with loneliness.

The study was survey-based and focused in 214 undergraduate students between the ages of 18 and 23 years old. The conclusion was supported by the hypothesis, for Facebook only users, who reported more hours of usage on the one platform for higher levels of loneliness than users of both Twitter and Facebook.

In 2016 a study was conducted with the intention to identify a relationship between life satisfaction, happiness, and Twitter use. The study specifically aimed to see if life satisfaction could be interrupted by outlying societal factors, like politics, disasters, etc. (Yang & Srinivasan, 2016). The study utilized a surveillance methodology where researchers observed tweets that were posted. It was found that expressions of life satisfaction were immune to current events (political, disasters, etc.) and showed few random fluctuations.

A study conducted in 2018 by Brailovskaia and Margraf looking at German students and the impact social media has on mental health, the researchers used survey methodology. The findings led the authors to conclude Twitter is associated with depression, anxiety, and stress. The researchers state findings may be due to the nature of the platform. Twitter is not considered as interactive as other social media platforms, making it more difficult for individuals to improve mental health status (Brailovskaia & Margraf, 2018).

However, a separate study reached the opposite conclusion. A longitudinal study focused on the relationship between Twitter and depression. It was found that individuals who indicated low in-person social support and used Twitter had reduced symptoms of depression (Cole, Nick, Varga, Smith, Zelkowitz, Ford, & Lédeczi, 2018). Twitter is a platform that many individuals use to relate to others. Because the platform is used in this manner, many individuals find support online rather than in person. These findings suggest that individuals that conveyed

positive sentiment through the platform also showed reduced symptoms of depression (Cole et al., 2018).

Conclusion

When it comes to the relationship between social media and mental health, it has been more common to conclude social media negatively impacts mental health. However, there are studies that suggest exceptions to these conclusions for a negative impact (Cipolletta et al., 2020; Cole et al., 2018; Steinfield et al., 2008). There is a range of findings on the relationship between social media and mental health. Impacts on mental health differ based on the reasons as to why it is used and even how individuals are using it (Clark et al., 2017; Shensa, Sidani, Dew, Escobar-Viera, & Primack, 2017; Wright et al., 2020). There simply is not enough research on the topic to know what impact social media has on user mental health.

Looking at studies that have already been conducted, there has been a variety of reported limitations. Most studies reported problems with participants enacting social desirability when filling out surveys, which limited the findings of the studies because participants could have altered responses based on perceived notions of desirability. It is also common for studies to be conducted with only young adults, specifically from Generation Z, and no individuals from the Millennial generation. This limits findings because they become less generalizable to the entire population. It was recommended that future studies focus on multiple age groups to make conclusions more generalizable.

Due to the recommendations, this study investigated the impact of social media on mental health across two age groups, comparing the Millennial generation and Generation Z. This study fills the gaps of knowledge to existing research with specific regard to the ages considered and cohort differences on the impact social media has on personal mental health.

Methodology

In order to gather the necessary data, this study utilized a self-report survey method. The survey collected quantitative data and was constructed to specifically target the amount of time individuals spend using social media, which social media platforms used, and to identify any issues of mental health, including self-reported mental health issues and prior mental health treatment that occur due to social media use.

Participants

The survey was given to individuals born within the years 1996-2012 (Z Generation) and 1981-1995 (Millennials). The study gathered a total of 126 participants; 100 of which identified as part of Generation Z and 26 of which identified as part of the Millennial Generation. With the ability to gather 126 participants, this study contains a power score of 0.96.

Data Collection Procedures

After an IRB was submitted and approved, a consent form (Appendix A) was provided to participants before data collection began. Data was collected by utilizing two sources. First, in order to target the younger age pool (Z Generation participants) and in hopes of obtaining Millennial respondents as well, the survey was provided to students taking Principles of Psychology courses. Students completed the survey as part of a course requirement. A second way used to obtain Millennials; the survey was presented on the social media platform, Facebook, and was also distributed to alumni of the University of Northern Colorado Honors Program through their newsletter. Qualtrics was used to collect data on the one specific social media platform (i.e., Facebook, Instagram, Twitter) as a way to reach individuals from both age groups.

Instrumentation

Various surveys were utilized to collect data. A demographic survey was used to gather background information from participants on gender, age, birth year, race, highest education level completed, marital status, number of days per week social media is used and the average number of hours per week the three social media platform(s) are used.

The Bergen Social Media Addiction Scale (BSMAS) was used to measure the amount of time and frequency on Facebook, Twitter, and Instagram. The BSMAS is a six-item self-report scale on a 5-point Likert scale and was adapted from the Bergen Facebook Addiction Scale (Golbeck, 2017). The BSMAS is widely accepted and has a Cronbach's alpha of 0.88 (Duradoni, Innocenti, & Guazzini, 2020).

Levels of anxiety were measured using The Generalized Anxiety Disorder 7-item Scale (GAD-7). The scale asks participants to rate the severity of symptoms from four options including "not at all," and "nearly every day" (Child Outcomes Research Consortium, n.d.). The widely accepted GAD-7 Scale has been validated to assess the general population (CORC, n.d.). The GAD-7 scale has been shown to be reliable with a Cronbach's alpha of 0.88 (Johnson, Ulvenes, Oktedalen, & Hoffart, 2019). Johnson et al. (2019) reports the scale to have high validity through consistent findings.

The Beck Depression Inventory (BDI) was used to measure depression. Created by Aaron T. Beck, the Beck Depression Inventory is a 21-item self-reporting questionnaire (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961; Jackson-Koku, 2016). The inventory runs on a 4-point scale from 0 to 3, and has become widely accepted (Jackson-Koku, 2016). The BDI was found to yield a reliability with a reported Cronbach's alpha of 0.86 (Beck et al., 1961).

The Rosenberg Self Esteem Scale (RSES) was used to measure self-esteem. Created in 1965 by Dr. Morris Rosenberg, the RSES is the most commonly used measure of self-esteem in

psychology research (Jordan, 2020). The RSES is a 10-item self-report measure using a 4-point Likert scale ranging from “strongly agree,” to “strongly disagree” (Jordan, 2020). The RSES indicates excellent internal consistency with a Cronbach’s alpha of 0.92 and high validity because the scale correlates with other measures of self-esteem (Rosenburg, 1979).

Data Analysis Procedures

An analysis was conducted through the utilization of an independent T-test using the IBM SPSS software. In order to do this, all of the possible answers to the survey had to be converted into a Likert scale. Multiple T-tests were ran for each scale that comprised the survey, comparing the data from both generations and was analyzed on a basis of a 0.05 significance.

The current study sought to fill the gaps in previous research with regard to the ages considered and cohort differences and similarities on the impact social media has on personal mental health. The two research questions for this study are:

(1) What are the implications of social media on the mental health of individuals (i.e., depression, anxiety, stress, and self-esteem) born between the years of 1981-1995 (Millennial/Generation Y) and 1996-2012 (Generation Z)?

H1: Participants who are part of the Millennial generation and those part of Generation Z will report differing levels of depression.

H2: Participants who are part of the Millennial generation and those part of Generation Z will report differing levels of anxiety.

H3: Participants who are part of the Millennial generation and those part of Generation Z will report differing levels of stress.

H4: Participants who are part of the Millennial generation and those part of Generation Z will report differing levels of self-esteem.

(2) What is the impact with the three social media types: Facebook, Twitter, and Instagram for reported levels of depression, anxiety, stress, and psychological well-being in Generation Z and Millennial participants?

H5: Participants who are part of the Millennial generation (1981-1995) and those part of Generation Z (1996-2012) will display differing levels of depression, anxiety, stress, and self-esteem based on the type of social media used (Facebook, Twitter, or Instagram).

H6: Participants who are part of the Millennial generation and those part of Generation Z will report differing levels of social media usage.

These questions and hypotheses were used to not only guide the data collection process, but the data analysis process as well.

Results

Demographics

As previously mentioned, this study included a total of 126 participants. Of these participants, 100 were identified to be part of Generation Z and 26 to be part of the Millennial Generation. Majority of participants identified as single ($n=100$), female ($n=104$), white ($n=53$), and reported a High School Diploma ($n=95$) as their highest level of education (see Table 1).

Highest Level of Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High School Diploma	95	75.4	75.4	75.4
	Associate Degree	13	10.3	10.3	85.7
	Bachelor Degree	11	8.7	8.7	94.4
	Masters or higher	7	5.6	5.6	100.0
	Total	126	100.0	100.0	

Marital Status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	100	79.4	79.4	79.4
	Married	18	14.3	14.3	93.7
	Divorced	4	3.2	3.2	96.8
	Widowed	4	3.2	3.2	100.0
	Total	126	100.0	100.0	

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	104	82.5	82.5	82.5
	Male	21	16.7	16.7	99.2
	Other	1	.8	.8	100.0
	Total	126	100.0	100.0	

Race					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	53	42.1	42.1	42.1
	Black/African American	12	9.5	9.5	51.6
	Hispanic/Latinx	44	34.9	34.9	86.5
	Other	17	13.5	13.5	100.0
	Total	126	100.0	100.0	

Table 1. Demographics

Participants had reported an average of 2.5 hours spent engaging in social media per day. The usage of the Facebook and Instagram social media platforms were higher the usage of the Twitter platform (see Table 2).

Do you use Facebook

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	77	61.1	61.1	61.1
	No	49	38.9	38.9	100.0
Total		126	100.0	100.0	

Do you use Instagram

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	109	86.5	86.5	86.5
	No	17	13.5	13.5	100.0
Total		126	100.0	100.0	

Do you use Twitter

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	39	31.0	31.0	31.0
	No	87	69.0	69.0	100.0
Total		126	100.0	100.0	

Table 2. Social Media Platform Usage

Bergen Social Media Addiction Scale

The Bergen Social Media Addiction Scale was utilized in this survey to measure the level of addiction, feelings, and thoughts towards the usage of social media. This scale was also used to measure the stress that can come with the use of social media. In this study, the scale had a Cronbach Alpha of 0.840.

Of the six questions in the scale, only 4 questions were found to show a significant difference between participants in the two cohorts. Participants of Generation Z reported higher levels of addiction regarding: feeling an urge to use social media more and more, using social media to forget about personal problems, trying to cut down on the use of social media without

success, and becoming restless/troubled when being prohibited from using social media (see Table 3).

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-Test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
BSMAS 1	Equal variances assumed	.084	.801	.172	124	.884	.015	.089	-.181	.192
	Equal variances not assumed			.155	38.475	.877	.015	.098	-.184	.215
BSMAS 2	Equal variances assumed	4.229	.042	3.230	124	.002	.755	.234	.292	1.218
	Equal variances not assumed			3.360	46.314	.002	.755	.225	.303	1.207
BSMAS 3	Equal variances assumed	2.351	.127	6.154	123	.000	.803	.131	.545	1.062
	Equal variances not assumed			6.045	40.475	.000	.803	.133	.535	1.072
BSMAS 4	Equal variances assumed	80.185	.000	9.933	123	.000	1.413	.142	1.131	1.694
	Equal variances not assumed			6.239	28.021	.000	1.413	.226	.949	1.877
BSMAS 5	Equal variances assumed	246.421	.000	-4.034	123	.000	-.408	.101	-.605	-.207
	Equal variances not assumed			-5.618	80.841	.000	-.406	.072	-.549	-.262
BSMAS 6	Equal variances assumed	7.039	.009	1.134	123	.259	.115	.101	-.085	.314
	Equal variances not assumed			1.210	45.662	.232	.115	.095	-.076	.305

Table 3. Bergen Social Media Addiction Scale

Generalized Anxiety Disorder 7 – Item Scale

The GAD 7 – Item Scale was used to measure the level of anxiety participants through the behaviors in which anxiety may present itself. In this study, the scale had a Cronbach Alpha of 0.943. All questions in the scale were found to have a significant difference between the cohorts. Participants in Generation Z displayed higher levels of: feeling nervous, anxious or on edge, not being able to stop or control worrying, worrying too much about different things, trouble relaxing, being so restless that it is hard to sit still, becoming easily annoyed or irritable, and feeling afraid, as if something awful might happen (see Table 4).

		Independent Samples Test									
		Levene's Test for Equality of Variances		t-Test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper	
GAD 1	Equal variances assumed	1.050	.307	-3.273	123	.001	-.740	.226	-1.187	-.292	
	Equal variances not assumed			-3.395	43.674	.001	-.740	.218	-1.179	-.301	
GAD 2	Equal variances assumed	7.627	.007	-2.780	123	.006	-.851	.234	-1.114	-.187	
	Equal variances not assumed			-3.269	54.268	.002	-.851	.199	-1.050	-.252	
GAD 3	Equal variances assumed	1.567	.213	-2.838	123	.005	-.648	.229	-1.102	-.187	
	Equal variances not assumed			-2.906	42.861	.006	-.648	.223	-1.100	-.199	
GAD 4	Equal variances assumed	2.098	.151	-2.355	122	.020	-.507	.215	-.933	-.081	
	Equal variances not assumed			-2.597	48.437	.012	-.507	.195	-.899	-.114	
GAD 5	Equal variances assumed	2.930	.089	-2.606	123	.010	-.549	.211	-.966	-.132	
	Equal variances not assumed			-3.226	60.498	.002	-.549	.170	-.890	-.209	
GAD 6	Equal variances assumed	2.289	.133	-3.364	123	.001	-.708	.211	-1.125	-.291	
	Equal variances not assumed			-3.798	50.190	.000	-.708	.187	-1.083	-.333	
GAD 7	Equal variances assumed	.030	.864	-2.372	122	.019	-.538	.227	-.988	-.089	
	Equal variances not assumed			-2.450	41.087	.019	-.538	.219	-.981	-.094	

Table 4. Generalized Anxiety Disorder 7-Item Scale

Beck Depression Inventory

The Beck Depression Inventory was used to measure the level of depression in participants through the way that depression can present itself in individuals. In this study, the scale had a Cronbach Alpha of 0.929. In the analysis of this scale, questions 18 and 19 were not considered because they did not carry significant data, meaning that participants from both cohorts did not resonate with the question being asked. Without the consideration of those questions, there was a significant difference between the the cohorts, displaying that participants a part of Generation Z reported higher levels of depression (see Table 5).

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-Test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
BDI 1	Equal variances assumed	2.357	.127	-3.153	121	.002	-.596	.190	-.974	-.223
	Equal variances not assumed			-3.642	46.129	.001	-.598	.164	-.929	-.268
BDI 2	Equal variances assumed	.007	.932	-.384	121	.702	-.062	.181	-.379	.256
	Equal variances not assumed			-.363	34.671	.719	-.062	.170	-.406	.283
BDI 3	Equal variances assumed	7.085	.009	-1.860	120	.066	-.342	.184	-.706	.022
	Equal variances not assumed			-2.460	56.401	.017	-.342	.139	-.620	-.063
BDI 4	Equal variances assumed	1.499	.223	-2.657	120	.012	-.301	.149	-.676	-.066
	Equal variances not assumed			-2.846	40.649	.007	-.381	.134	-.651	-.111
BDI 5	Equal variances assumed	16.790	.000	-2.439	121	.016	-.402	.185	-.729	-.078
	Equal variances not assumed			-3.608	76.558	.001	-.402	.115	-.630	-.174
BDI 6	Equal variances assumed	16.810	.000	-1.943	120	.054	-.356	.183	-.716	.007
	Equal variances not assumed			-3.160	98.078	.002	-.356	.112	-.577	-.132
BDI 7	Equal variances assumed	14.036	.000	-3.320	120	.001	-.660	.199	-1.053	-.268
	Equal variances not assumed			-6.334	94.791	.000	-.660	.124	-.905	-.414
BDI 8	Equal variances assumed	1.206	.274	-3.102	120	.002	-.583	.188	-.958	-.211
	Equal variances not assumed			-3.935	51.492	.000	-.593	.140	-.881	-.266
BDI 9	Equal variances assumed	58.939	.000	-3.082	119	.003	-.376	.122	-.616	-.134
	Equal variances not assumed			-6.179	98.740	.000	-.376	.072	-.519	-.231
BDI 10	Equal variances assumed	20.299	.000	-2.779	120	.006	-.609	.240	-1.100	-.199
	Equal variances not assumed			-4.268	83.454	.000	-.689	.161	-1.010	-.368
BDI 11	Equal variances assumed	6.735	.018	-3.079	120	.003	-.574	.186	-.943	-.205
	Equal variances not assumed			-4.272	83.258	.000	-.574	.134	-.842	-.308
BDI 12	Equal variances assumed	6.683	.011	-2.697	120	.011	-.361	.140	-.638	-.085
	Equal variances not assumed			-3.144	67.273	.003	-.361	.115	-.593	-.130
BDI 13	Equal variances assumed	19.694	.000	-2.691	120	.011	-.446	.172	-.786	-.105
	Equal variances not assumed			-3.769	71.657	.000	-.446	.118	-.680	-.209
BDI 14	Equal variances assumed	8.129	.003	-2.629	119	.005	-.693	.245	-1.178	-.208
	Equal variances not assumed			-4.179	68.418	.000	-.693	.166	-1.024	-.362
BDI 15	Equal variances assumed	9.651	.002	-2.380	120	.019	-.423	.178	-.774	-.071
	Equal variances not assumed			-3.023	51.602	.004	-.423	.140	-.703	-.142
BDI 16	Equal variances assumed	.203	.653	.090	121	.928	.016	.177	-.334	.366
	Equal variances not assumed			.095	39.794	.926	.016	.188	-.324	.368
BDI 17	Equal variances assumed	.109	.742	-3.072	121	.003	-.489	.159	-.805	-.174
	Equal variances not assumed			-3.848	53.945	.000	-.488	.127	-.744	-.234
BDI 20	Equal variances assumed	7.826	.006	-2.145	121	.034	-.383	.179	-.737	-.030
	Equal variances not assumed			-2.774	57.677	.007	-.383	.138	-.660	-.107
BDI 21	Equal variances assumed	6.305	.005	-1.609	120	.114	-.308	.205	-.714	.096
	Equal variances not assumed			-2.027	58.462	.047	-.309	.152	-.613	-.004

Table 5. Beck Depression Inventory

Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale was utilized to measure the perception participants had of themselves, whether it is negatively or positively. In this study, the scale had a Cronbach Alpha of 0.877. Of the ten questions in the scale, only half were considered in the analysis. Since this study looked to find the levels of negative self-esteem related to the usage of social media, these specific questions were decidedly left out of the analysis. Generation Z participants reported higher levels of negative aspects of self-esteem like: thinking they are no good at all, feeling that they don't have much to be proud of, feeling useless at times, wishing they could have more respect for themselves, and being inclined to feel that they are a failure (see Table 6).

		Independent Samples Test								
		Levene's Test for Equality of Variances			t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
RSES 2	Equal variances assumed	1.959	.184	5.103	119	.000	1.006	.197	.818	1.396
	Equal variances not assumed			5.972	47.854	.000	1.006	.188	.867	1.345
RSES 5	Equal variances assumed	7.983	.006	4.848	119	.000	.920	.190	.544	1.295
	Equal variances not assumed			6.361	60.931	.000	.920	.145	.631	1.209
RSES 6	Equal variances assumed	.173	.678	3.420	118	.001	.729	.213	.307	1.151
	Equal variances not assumed			3.610	37.988	.001	.729	.202	.320	1.138
RSES 8	Equal variances assumed	.753	.387	4.899	118	.000	1.122	.224	.678	1.567
	Equal variances not assumed			4.858	36.301	.000	1.122	.231	.654	1.590
RSES 9	Equal variances assumed	.072	.789	2.355	118	.020	.469	.198	.075	.863
	Equal variances not assumed			2.455	37.365	.019	.469	.191	.082	.855

Table 6. Rosenberg Self-Esteem Scale

Discussion

After conducting the analysis of all of the data that was collected in this study, it was essential to take the hypotheses that were made before data collection. All of the hypotheses made from the first question were supported. The hypotheses stated participants in the Millennial Generation and Generation Z would display differing levels of depression, anxiety, stress, and self-esteem. In every scale that was tested, participants in Generation Z displayed higher levels depression, anxiety, stress, and negative perceptions of self-esteem. Five of the six hypotheses were supported by current study data. Hypothesis 1 was supported because participants in Generation Z reported higher levels of depression compared to participants in the Millennial Generation. Hypothesis 2 was also supported because participants in Generation Z reported higher levels of anxiety compared to participants in the Millennial Generation. The third hypothesis was supported with participants from Generation Z reporting higher levels of stress than the Millennial Generation. Hypothesis 4 was supported with participants identified as Generation Z reporting higher levels of negative self-esteem as compared to Millennial participants.

Looking at hypotheses 5 and 6, which stem from the second research question, only one was supported from data gathered in this study. Specifically, Hypothesis 5 was not supported by the data with no correlation found between mental health and the type of social media used. The hypothesis stated participants who are a part of the Millennial Generation and Generation Z would report differing levels of depression, anxiety, stress, and self-esteem based on the social media used. However, the current data did not find a correlation between mental health and the type of social media being used.

However, Hypothesis 6 was supported because participants from Generation Z indicated higher levels of social media use compared to Millennial participants. This hypothesis derived from the second question stated participants who are a part of the Millennial Generation and Generation Z would report differing levels of social media usage. Participants whom identified as part of Generation Z reported higher levels of social media usage compared to participants in the Millennial Generation. This was expected considering the increased use of social media in society as a whole.

Conclusion

This study looked to further knowledge and identify gaps with research created when looking at the impact social media has had on mental health across generations. The findings suggest Generation Z participants displayed predicted impacts of social media on mental health. Based on the hypotheses, this study was able to support that participants in Generation Z report higher levels of depression, anxiety, stress, and negative perceptions of self-esteem in relation to social media use compared to participants self-identified as part of the Millennial Generation.

Limitations

The main limitation in this study was the self-report survey format. The survey format led to two possible issues: social desirability and introspective ability. Social desirability is a phenomenon where individuals who are taking a self-report survey may choose the answer that is most socially desirable, as opposed to choosing the answer that is most true. Introspective ability is a phenomenon where individuals are not truly able to reflect on themselves, which makes it hard for individuals to accurately answer a self-report survey.

Two other limitations in this study went hand in hand. Not being able to reach the goal of 100 participants that are part of the Millennial Generation was a limitation. Without being able to

reach this goal of 100 Millennial participants prohibited the findings from being generalizable to the larger population. This also led to resorting to social media to spread the word about the survey. The survey was shared to the Facebook social media platforms in hopes of attracting more participants. However, the goal was still not reached and this also created the potential presence of bias in the results.

Although participants from Generation Z were found to show higher levels of depression, anxiety, stress, and having negative self-esteem, participants in the Millennial Generation also reported similar levels. However, from the lack of Millennial participants, there was not enough data gathered for there to be a significant connection. The findings in this study are supported by previous research studies (Brailovskaia et.al., 2020; Cramer et.al., 2016; Frison et.al., 2017), but the variables of interest should receive further investigation using a greater number of Millennial participants. Future research should also consider recent changes in social media ownership (Twitter) along with potential changes in use and specific perceptions of the various social media formats.

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Appendix A

UNIVERSITY OF
NORTHERN COLORADO

CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH
UNIVERSITY OF NORTHERN COLORADO

Project Title: Social Media Use Among Different Age Groups

Researchers: Mireya Marquez, School of Psychological Sciences
Nancy J. Karlin, Ph.D. School of Psychological Sciences (970) 351-2717

The intent of this research project is to collect data from individuals on if being born into the Millennial Generation or Generation Z has had an impact on an individual's relationship with social media and if that relationship has gone on to impact mental health. We are interested in learning about your experiences with social media and how your experiences may have impacted your own mental health. The time required to complete the interview may vary depending upon the length of your responses. However, we anticipate that it will take approximately 30 minutes to complete.

The results of your participation will remain confidential. Your name will not be tied in any way to the responses you give. Information provided will be identified as a number and will be combined with the responses from other participants.

Participation is voluntary. You may decide not to participate in this study at any time. You may choose to answer the questionnaire and choose not to complete the additional questions with the researcher. Your decision will be respected and will not result in any penalty to you. Your participation will also benefit others by helping us understand some of the experiences of using multimedia along with multitasking abilities.

All data will be stored in a locked file cabinet of the locked office of Dr. Nancy J. Karlin in the School of Psychological Sciences, McKee Hall, at the University of Northern Colorado.

Risks involved in this study are minimal, although participation may represent a mild intrusion given the time and concentration necessary to complete the survey.

Please feel free to phone the researcher if you have any questions or concerns about this research and please retain one copy of this letter for your records. Having read the above and having had an opportunity to ask any questions, please sign below if you would like to participate in this research. You should keep one copy of this form for future reference and return one form with the questionnaire. If you have any concerns about your selection or treatment as a research participant, please contact the Office of Sponsored Programs (OSP), Kepner Hall, University of Northern Colorado Greeley, CO 80639, 970-351-2161.

-

Participant's Signature (Date)

-

Researcher's Signature (Date)

Appendix B

Demographic Survey

Year you were born:

Your age:

Please identify your gender:

- Female
- Male
- Transgender
- Non-binary
- Other_____

Please identify your race:

- White
- Black or African-American
- Hispanic or Latino/Latinx
- Asian
- Native Hawaiian or Other Pacific Islander
- American Indian or Alaska Native
- Other_____

What is your marital status?

- Single
- Married
- Divorced
- Widowed

- Other

What is your highest education level completed?

- High school diploma
- Some college
- Associate's Degree
- Bachelor's Degree
- Master's or higher

When asked how many total hours per week on average do you use Facebook, Twitter, and/or Instagram, if you use a social media platforms 7 days a week and are engaged 6 hours per day you use that platform 42 hours on average per week).

Do you use Facebook? Yes No

If yes, how many days per week on average do you use Facebook? _____ days per week

How many total hours per week on average do you use Facebook? _____ hours per week on average

Do you use Twitter? Yes No

If yes, how many days per week on average do you use Twitter? _____ days per week

How many total hours per week on average do you use Twitter? _____ hours per week on average

Do you use Instagram? Yes No

If yes, how many days per week on average do you use Instagram? _____ days per week

How many total hours per week on average do you use Instagram? _____ hours per week on average

