

The Effects of Social Media on User Anxiety

Miriam Elfahdi, Grace Galusha, Parker Bell, Zach Round

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Abstract

The rise of technological advancements and the subsequent invention of social media has created an unforeseen reality for the modern world. There are many well-known benefits that have arisen from the implementation of social media and its various platforms. Due to how recent and highly integrated it is into modern society, there has also been extensive dialogue on the potential detrimental effects it may be having on users. This observation has led researchers into the investigation of social media use on user mental health. While many studies have found there to be significant evidence that social media can have negative impacts on users mental health, other's have found there to be a lack of proof surrounding these conclusions, and instead suggested there to be an unnecessary moral panic around social media's innovation. Similar curiosities led to the conduction of this research project. While many studies have investigated the effects of social media on the general mental health of users, we were interested in the effect that it may be holding specifically on users' anxiety levels, as well as the impact that news focused media might have on users anxiety. To do this, we utilized established reliable scales in distributed surveys and analyzed our findings.

Introduction

The emergence of the internet in the early 1980s made the unthinkable become a futuristic reality. The ability to have information instantaneously through a search engine was something that was before thought to be unimaginable. For this reason, its invention was no small matter. The function of the world wide web was enough at the time for mass astonishment, however, the succeeding inventions that followed further changed the reality of the world today. Social media platforms arose right before the turn of the century, and with that, a virtually-connected world that was formerly only known in movies. Websites like MySpace and

Twitter sparked the inventions of new platforms such as YouTube and Instagram. Today, there are more ways to connect with others in the virtual world than one person can know. While people across generations have become increasingly connected in the virtual sphere, its modernity has put the latest generations in a reality unique to any before. With this, however, has come lots of unknowns. The speed in which the virtual world has taken off has made it difficult to gain a comprehensive understanding of its effects on users, particularly within the mental health context. Additionally, the de-stigmatization of mental health issues has greatly contributed to the desire to understand more about potential negative impacts that social media could be having on those who use it.

Literature Review

Curiosity about the effects of social media on mental health have consequently sparked extensive research surrounding various realms within the topic. Concerns about growing mental health issues and its de-stigmatization has sparked many researchers to use various methods to gain more insight into the impacts it may be having on users.

One study conducted in 2022 aimed to investigate the relationship between social media usage and mental health. To do this, the researchers used a quantitative method of distributing a questionnaire to people within generations X, Y, and Z. The data was then analyzed using Partial Least Squares-Structural Equation Modeling in which the evidence found an association between social media use and the users mental health. The authors therefore concluded that there is evidence to support previous claims on the relationship between these two factors and that mental health can be negatively impacted if a user spends too much time on social media (Hassan, 2022). One part of this study that was helpful was its additional acknowledgement of social media being used to raise awareness of the topic of mental health and thus empowering

people to change certain behaviors. This perspective gave insight to the possibly weighed benefits and detriments of social media to mental health.

In a 2020 study by Zhao et al, the authors set out to explore associations between the COVID-19 pandemic and social media use on mental health. The study included a sample of 512 participants and was performed through an online questionnaire. The sample was 62.5% female, and the mean age of respondents was 22.12 years old, with a standard deviation of 2.47. All participants were Chinese college students. Among other covariates, the participants were tasked with answering questions indicating measures of their media use, stress in response to COVID-19, secondary traumatic stress, depression, and anxiety. The study found from a regression analysis that “a higher level of social media use was associated with worse mental health”. In an attempt to best aid some of the mental health stressors and problems that arise with social media, Zhao concluded that it is important to “consider elements of both disaster stressor and negative affect” (Zhao 2020).

In a study published in 2021, statistical analysis was used on users aged 12-18 in order to observe any relationship between screen media and mental health. Due to many nuances on the positives and negatives within the topic, this study found this method beneficial as it combined statistics found in previously conducted studies in order to weaken nuances biases. In the end, this study found there to be no statistically relevant data that screen media has a negative effect on user mental health and thus concluded that there was not robust evidence to prove so (Ferguson, 2021). As concluding remarks, the authors of this study made thought-provoking comments about the external incentive structures that can easily put scholars under pressure when associating these effects. They went on to use the example of the moral panic that arose

during the initial emergence of violent video games, stating that such a phenomenon may be contributing bias in perspective of the potential impacts of social media on mental health.

Other researchers have shown curiosity in age as a factor within mental health and media usage. A study published in the North Carolina Medical Journal found that those under the age of two years old in the US spend an average of 42 minutes a day on screen media (Nesi, 2020). Further, they found that as these children reach adolescents this screen time increases exponentially. Looking at this usage with a holistic perspective, the researchers of this study found evidence for there to be benefits for youth media usage such as its given extension of a social world. In addition, he found reasonable concern for harms of media usage for adolescents like depression and body issues made by comparison. Concluded in this study was the need for evidence-based approaches to encourage the healthy usage of social media, sparking the question of if the manner in which media is interacted may be of more issue than the media itself.

Rationale

Studies like the aforementioned have brought answers to the topic while simultaneously provoked more questions. With each definitive answer is a contradicting one in another study. What many can agree on, however, is the extensive nuance within the topic of social media's relationship with user mental health. Some studies have shown us that time spent and manner of usage can play a factor into the collected responses. Nuances like these sparked our curiosity into the way interactions with different media forms can relate to generalized anxiety within users, and further how content of media platforms can relate to the same anxieties. Such curiosities led us to the development of our research study in which our first hypothesis was that; **H1**: the more time a user spends on social media, the more prone they will be to experiencing anxiety. Further, we predicted in a second hypothesis; **H2**: the more time a user spends on news focused media,

the more prone they will be to experiencing anxiety. Development of the first hypothesis came from predictions that comparison and self-image issues could easily stem from social media as it allows there to be more connections to more people than available before its invention. Our second hypothesis came from the reasoning that news focused media exposes users to many emotionally heavy and negative current events. Because of this, we predicted that the consumption of news focused media would increase the levels of anxiety in users.

Methods

To conduct our study, we utilized network sampling by distributing our survey through our group members' collective social circles. Upon the curation of a qualtrics survey by Rikishi Rey, each team member sent the survey to friends and peers through various media outlets and text streams. In order to test both of our hypotheses, our survey consisted of two parts. To test our first hypothesis, our first set of questions utilized the GAD-7 Anxiety Scale to look for a correlation between time spent on social media and levels of anxiety. To test our second hypothesis, our second set of questions examined correlations between news focused media and anxiety, again utilizing the GAD-7 Anxiety Scale. The survey in addition collected data on the age, gender, ethnicities, and hometowns of participants. It also collected general information about the social media use of participants such as time spent on social media per week and most used social media platforms. The survey asked in relation to both social media and news related social media how often is the participant, 1) Feeling nervous, anxious, or on edge. 2) Not being able to stop or control worrying. 3) Worrying too much about different things 4) Trouble relaxing 5) Being so restless it's hard to sit still 6) Becoming easily annoyed or irritable 7) Feeling afraid as if something might happen. In total, our survey consisted of 22 questions.

Results

A total of 71 people participated in our survey, and of those 71, N=63 were usable in relation to our findings due to completion of the survey. The age range of our respondents were 18 - 55 with a mean age of 24 and a standard deviation of 9.81. About 53% of our participants were male, 42 % were female, 3% identified as non-binary or third gender, and 2% preferred not to say.

After all our data was gathered and ran through IBM SPSS, we found that within our participants there was not a high correlation between time spent on social media and anxiety, or a high correlation between news focused media and anxiety. We were able to trust our data and confidently say our results were reliable as our survey had a very high internal consistency, with a cronbach alpha of $\alpha = .902$ in relation to social media and $\alpha = .952$ in relation to news media. After creating a composite measure of the GAD-7 Anxiety scale questions in relation to social media and also news media, we searched for correlations, specifically a Pearson Correlation between those variables (AnxietySM_Sum & AnxietyNM_Sum) and time spent on social media. What we found was that time spent on social media and AnxietySM_Sum had a very weak relationship at $p = .15$, but the correlation between time spent on social media and AnxietyNM_Sum had a stronger relationship at $p = .30$. Shown here in Table 1.

Table 1.

Correlations

		On average, how many hours do you usually spend a week on social media?	AnxietySM_Su m	AnxietyNM_Su m
On average, how many hours do you usually spend a week on social media?	Pearson Correlation	1	.146	.300 [*]
	Sig. (2-tailed)		.252	.021
	N	63	63	59
AnxietySM_Sum	Pearson Correlation	.146	1	.744 ^{**}
	Sig. (2-tailed)	.252		.000
	N	63	63	59
AnxietyNM_Sum	Pearson Correlation	.300 [*]	.744 ^{**}	1
	Sig. (2-tailed)	.021	.000	
	N	59	59	59

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

The findings were in line with our two hypotheses, such that there is a positive relationship in relation to anxiety and social media/news media. But, while there is a positive relationship, the correlations shown above in [Table 1](#) prove that the positive relationship is very weak, which is not in line with our initial thoughts as we hypothesized there would be a strong relationship.

Due to these findings we questioned whether the totality of the questions from the GAD-7 Anxiety scale was an accurate way to measure anxiety in relation to social media because we found that while most participants did not feel they had “trouble relaxing”, “sitting still”, or “feeling afraid that something awful might happen”, a majority of participants did admit to “Feeling nervous, anxious, or on edge” in relation to social media and news related media. So we ran a post-hoc data analysis to check for any correlations between the specific question from the GAD-7 Anxiety scale which simply asks “Over the last two weeks, how often have you felt nervous, anxious, or on edge” and its relation to social media and also the news. This gave us

new findings, which were more in line with our original hypotheses. Our post-hoc correlation found much higher significant values. When it came to feeling nervous or anxious in relation to social media and feeling nervous or anxious in relation to the news related media we found a p -value of $p = .59$, signifying a strong relationship.

Discussion

What these results tell us is that upon an initial viewing of our participant's answers to our survey (the GAD-7 Anxiety scale), there is in fact a weak relationship between anxiety and time spent on social media and news related social media. We found this to be interesting, considering the fact that a majority of our responses answered that they spend over 10+ hours on social media a week. However, we found that after closely examining our data that most respondents did admit to feeling nervous or anxious in relation to social media or the news (the first question of the GAD-7 scale), with over 50 answering either "sometimes" or above. This is interesting because we can now hypothesize that there may be levels of anxiety, and future research can conduct surveys related to those levels. While a participant may not be scared that something awful will happen in relation to their time spent on social media, they may still feel nervous or slightly anxious; therefore it could be hypothesized that utilizing the entirety of the GAD-7 scale may have skewed the results.

Limitations

During the planning of our research, many limitations were taken into account. The age, availability, personal beliefs, and location of respondents were some limitations we considered, and then most importantly the sample size. For age, we wanted to know if respondents fell into the Gen Z category. Since we are the first generation to grow up with social media, it is easy to assume that our peers will be on social media more so than Millennials, Generation X, and Baby

Boomers. The next limitation taken into account was availability. For example, those who were unable to finish the entire survey had to be deleted from our data. Some of these respondents had completed half of our survey, the first half of our survey being in relation to anxiety and social media, just not the second half which was related to anxiety and news related media. Having that data may have changed our numbers slightly. Personal beliefs also may have had an impact on our respondents' answers due to biases. For example, if a respondent or multiple respondents believed that social media was detrimental, then our data could have been skewed. One other limitation that we faced was location. We had many respondents from California and Colorado, but lacked diversity in respondents from other states. The last limitation we faced was the sample size, as we were only able to gather data from $n=63$ participants. Ideally, our survey would have reached a wider audience, and accumulated more variety in answers to the questions.

Future Directions

Future research can bring this exact survey into more media focused research, finding which social media app or platform may or may not cause more anxiety. As this research was a broad social media questionnaire, future research might delve deeper into each social media platform. We can focus on more of the media or news aspects as well. With our survey and data being structured this way, we can use this as a baseline for other forms of media and their relation to anxiety. One can argue that this survey can be used on movies or television shows and their effect on mental health. Another great direction in the future that can be taken is the relation other mental health illnesses. Instead of looking at anxiety, it can also look at other illnesses such as depression and schizophrenia. Lastly, when focusing on the relationship between anxiety and social media, future research should use a more specific questionnaire about anxiety. Allowing participants to dive into their levels of anxiety, since not all anxiety is extreme.

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