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The Relationship Between Social Media Use and Depression and Anxiety Symptoms during COVID-19

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Introduction

• The rise of the coronavirus (COVID-19) pandemic has caused a global surge in exposure to disaster and crisis-related media. Increases in poor mental health outcomes such as anxiety and depression, are associated with increased exposure to such media content (Abbas et al., 2021; Riehm et al., 2020; Zhao & Zhou, 2020).

• During the COVID-19 pandemic, there has been an increase in social media use due to social distancing and isolation resulting from pandemic-related safety measures (Abbas et al., 2021; Riehm et al., 2020).

• Previous literature prior to the pandemic has found an association between total time spent using social media and increased odds of depression (Lin LY et al., 2016; Shensa et al. 2018).

• The current project will investigate these associations by analyzing results from an ongoing longitudinal study, Spit for Science (S4S). The significance of this study is to contribute to the scientific literature regarding the impact of COVID-19 and other global events and social media use on mental health outcomes.

Methodology

Participants and Procedures

Data was collected from S4S, an ongoing longitudinal study conducted to examine environmental and genetic factors affecting individual susceptibility to substance use and emotional health concerns (Dick et al., 2014). In May of 2020, S4S added additional survey questions assessing the COVID-19 experiences of undergraduate students who were enrolled during the beginning of the COVID-19 outbreak and represents the current study sample. (N= 897).

Measures

Anxiety and Depression Symptoms

Symptoms of anxiety and depression were measured using 8-items that assessed general anxiety and depression during the past month. Items were asked on a 5-point Likert scale with 0 meaning "Not at all" and 4 meaning "Extremely". Some example items include, "nervousness or shakiness inside" and "feeling no interest in things". These items were calculated into a sum score to represent the combined depression and anxiety symptom scores.

Social Media Use

Social Media Use (SMU) was assessed using 3 self-report items that measured Frequency (on a Likert scale 0-4), and whether there was an increase in frequency since the pandemic began, and how much (percentage) of a participant's SMU was related to COVID-19.

Data Analysis

Data analysis was completed in SPSS (Version 27). Linear regressions were used to test the joint association between these SMU variables on anxiety and depression symptoms.

Results

A Multivariate Linear Regression was conducted to analyze the relationship between anxiety and depression symptoms and the SMU variables as predictors; SMU Frequency, Increase in Frequency, and Social Media Exposure (SME) to COVID-19 related content. Our findings showed that there is a statistically significant relationship between the total amount of hours and increase in hours of SMU on higher scores of anxiety and depression symptoms. SME to COVID-19 related content did not significantly predict anxiety and depression symptoms in the context of SMU Frequency and Increase in frequency. (n=885)

Table 1
Frequencies for SMU Variables

Independent Variables		n	%
SMU Frequency per day	No social media	18	2.0
	Under 1 hour	66	7.4
	1-3 hours	344	38.8
	4-6 hours	280	31.6
	More than 6 hours	179	20.2
SMU Frequency Increase	Yes	594	68.8
	No	269	31.2
Percentage of SME Related to COVID-19	0-25%	519	59.0
	25-50%	200	23.1
	50-75%	104	12.0
	75-100%	44	5.1
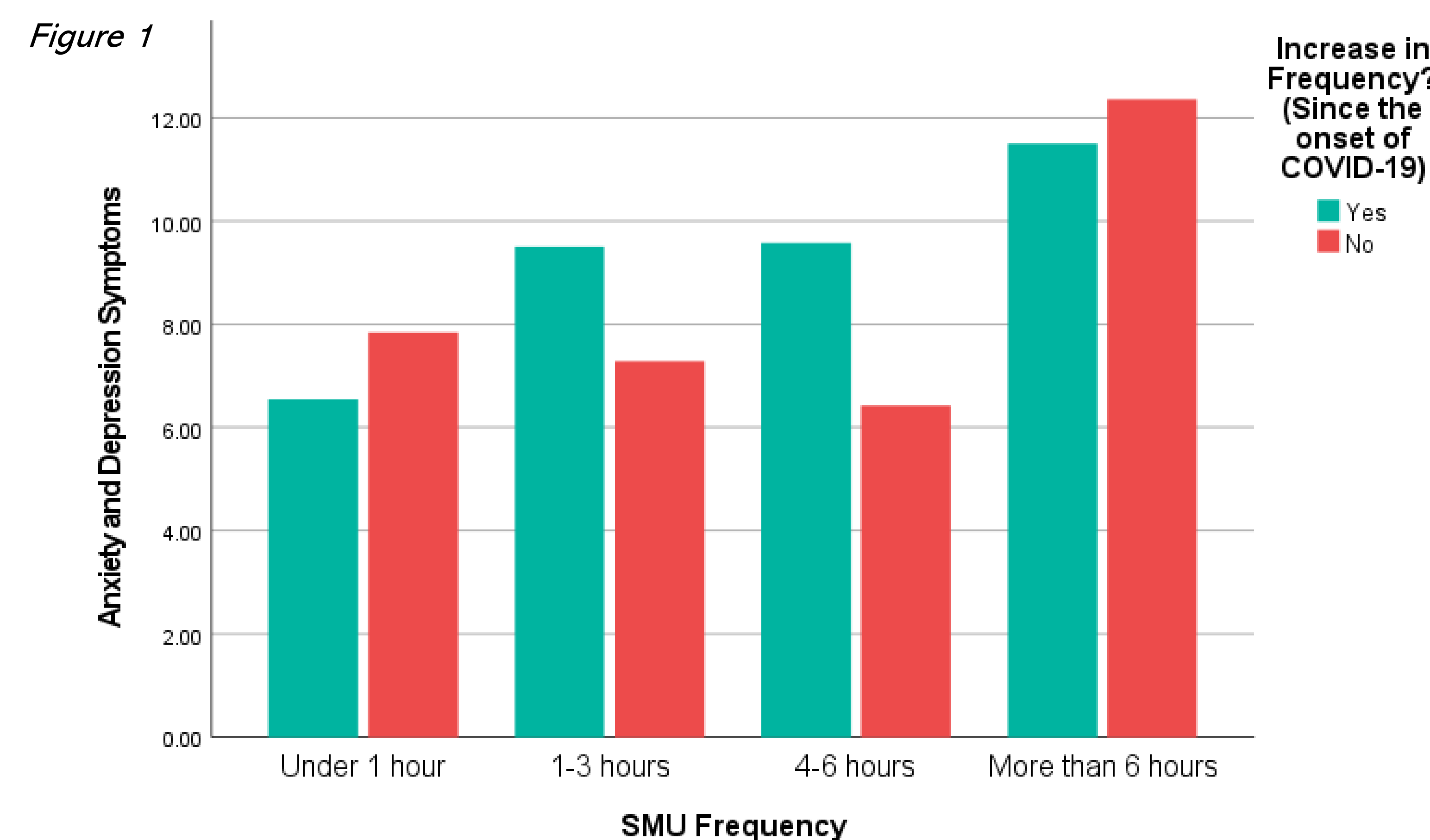
Figure 1

As shown in Figure 1. participants who reported using more than 6 hours of social media per day also reported the highest levels of anxiety and depression symptoms.

Table 2
Linear Regression for Anxiety and Depression Symptoms

Predictors	β	B	P-value	SE
SMU Frequency	0.096	0.877	0.011*	0.345
Increase in Frequency	0.097	1.713	0.007*	0.638
SME to COVID-19 Content	0.017	0.156	0.633	0.326

Discussion/Conclusion

• During COVID-19, there was a significant association between SMU and anxiety and depression symptoms, but only when considering frequency of SMU and whether there was an increase since the onset of COVID-19. Interestingly, SME to COVID-19 related content had no significant relationship with anxiety and depression within our sample.

Implications

• Before the pandemic, research has suggested that the quality of what an individual is exposed to on social media and how they use it plays a crucial role in the effects that it has on their mental health (Berryman et al., 2017). It's important to consider the various ways that social media is used especially during times of worldwide crises when the spread of information is prevalent and affects the kind of content that individuals are exposed to on a regular basis.

• Ongoing research is needed on the interplay of increased SMU and the associated exposure to crisis-related content with anxiety and depression symptoms considering the increasing pervasiveness of social media.

Limitations

• The measures used to assess anxiety and depression were brief, self-report assessments of symptoms as opposed to thorough clinical assessment.

• Our analyses did not account for sociodemographic variables such as age, sex, ethnicity, and socioeconomic status that could potentially play a role in the study's relationship of focus as well as it's generalizability to the greater population.

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