ADHD Symptoms, Social Media Use, and Social Media Intensity Before and During the COVID-19 Pandemic



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Introduction

- Literature suggests a significant **positive relationship** between ADHD symptoms and social media use.¹
- ADHD symptoms and social media addiction can impair various areas of life including work, academic productivity, and mental health.²⁻³
- In addition, problematic social media use in adolescents predicted increased ADHD symptoms over time.⁴
- After the onset of COVID-19, children with ADHD are now spending less time outside and are **engaging in more social media use**.⁵
- Few studies have looked at the different rates of ADHD symptoms and social media use before and during the COVID-19 pandemic.
- Most studies use self-report questionnaires²⁻⁵ to assess social media use and thus it is beneficial to use observational methods to avoid self-report bias.

Objectives

- Determine the association between observed social media use, selfreported social media intensity, and self-reported symptoms of ADHD
- Compare the mean differences within these variables before and during the COVID-19 pandemic

Methods

Participants:

- 435 undergraduate students and community participants between 17-29 years old who used **Instagram and/or Facebook** at least once a day
- 84.3% were women, 13.2% were men, 1.7% were non-binary
- 31.7% East Asian, 14.0% South Asian, 14.3% South East Asian, 20.9% European, 16.3% other
- Two cohorts: **Before the COVID-19 pandemic** (Sep. 2019-Mar. 2020; *N* = 126) and **during the COVID-19 pandemic** (May 2020-Oct. 2021; N = 309)

Measures:

- Current Symptoms Scale: measured current levels of 18 ADHD symptoms by asking questions such as whether one had difficulty keeping attention on things. Answers ranged from Never or Rarely (1) to Very Often (4). Mean scores ranged from 1-4.
- Multidimensional Social Media Intensity Scale: measured the main facets of social media use, namely **persistence**, **boredom**, **overuse**, and self-expression by asking questions such as whether one goes through Facebook or Instagram to overcome boredom. 13-item scale. Answers ranged from Strongly Disagree (1) to Strongly Agree (5). Mean scores ranged from 1-5.
- Time Spent on Instagram/Facebook: observational data on the number of minutes participants spent on Instagram and Facebook combined in one week and obtained through smartphone generated data of screen time.

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Hypotheses

Hypothesis 1: Participants who report higher ADHD symptoms will spend more time on social media as observed through their smartphone's screen time data. Hypothesis 2: Participants who report higher ADHD symptoms will report higher social media intensity – the extent to which users are engrossed in social media. Hypothesis 3: ADHD symptoms, observed social media use, and social media intensity are higher during the COVID-19 pandemic compared to before the COVID-19 pandemic.

Descriptive Statistics					
Variable	М	SD	N	Min	Max
ADHD Inattention Symptoms	2.33	.63	383	1.00	4.00
ADHD Hyperactivity/Impulsivity Symptoms	2.05	.58	383	1.00	3.67
Social Media Use	390.00	290.05	250	8	1518
Social Media Intensity	3.37	.58	383	1.38	5.00

Bivariate Correlations

Variable

1. ADHD Inattention Symptoms

2. ADHD Hyperactivity/Impulsivity Symptoms

3. Social Media Use

4. Social Media Intensity

Note. *p < .05

Equality of Means Samples *t*-test

	Before COVID-19		During COVID-19					
Variable	Ν	М	SD	Ν	M	SD	t	р
ADHD Inattention Symptoms	111	2.33	.57	272	2.32	.65	.26	.80
ADHD Hyperactivity/Impulsivity Symptoms	111	1.94	.50	272	2.10	.60	-2.41*	.02
Social Media Use	97	398.48	261.53	153	384.61	307.49	.37	.71
Social Media Intensity	111	3.36	.57	272	3.37	.58	23	.82

Note. *p < .05

1	2	3
.669*		
058	063	
.266*	.287*	.210*

- ADHD symptoms were positively correlated with self**reported social media intensity** (p < .05) but not with observed social media use.
- Observed social media use was positively correlated with social media intensity (p < .05).
- There were **no significant differences** between levels of social media use and social media intensity before and during the COVID-19 pandemic.
- For ADHD, hyperactivity/impulsivity (H/I) symptoms were reported to be higher among participants during COVID-19 than among participants before COVID-19 (p < .05) while there were no differences in inattention symptoms.

- This suggests that while people with higher ADHD symptoms may use social media the same amount as people with lower symptom levels, the way they perceive and interact with social media may be different.
- The third hypothesis was only partially supported since H/I symptoms was the only variable reported to be higher among participants during compared to before the pandemic.
- This could mean that instead of spending more time and depending more intensely on social media during the pandemic, people engage in other activities or other forms of technology.
- Implications: Clinicians may need to focus more on treating H/I symptoms during the COVID-19 pandemic and assessing social media intensity coinciding with ADHD symptoms.
- Future studies should look at other social media platforms such as Twitter, Tik Tok, and Snapchat as well as differences between countries and across various COVID-19 waves.

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Results

Discussion

• The first hypothesis was not supported while the second hypothesis was supported.

References