

Correlation between Social Media Addiction and Fear of Missing Out After COVID-19 Second WaveSaksh Jain¹, Jayendra Arya², Kratika Arya³¹MBBS, MD, Department of Anesthesiology, Shrimant Rajmata Vijayaraje Scindia Medical College, Shivpuri, Madhya Pradesh, 486001²MBBS, MD, DNB, Department of Paediatrics, Civil Hospital, Gwalior (M.P.) India³MBBS, Government Medical College, Datia (M.P.), India

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Conflict of interest: Nil

Abstract:**Objective:** To evaluate the correlation between social media addiction and fear of missing out (FOMO) among early and late adolescents after COVID-19 second wave.**Method:** This is a cross sectional observational study. The study was conducted from August 2022 to November 2022. Early and late adulthood (12 to 19 years old) were the study's subjects. This study used a correlational research approach to examine the correlation between FOMO and social media addiction among adolescents after the second wave of COVID-19. Data and consent is collected by online questionnaire. A simple random sampling technique was used for the study.**Results:** Positive correlation between FOMO and SMIC $r=0.428$, which is statistically significant $p=0.00$. There was a statistically significant positive correlation between SMEQ and SMIC.**Conclusion:** A substantial significant relation between FOMO and social media addiction among early and late adolescents after the post-covid period. The findings are beneficial for handling, organising and preventing potential detrimental possibilities of social media addiction related FOMO in adolescents in the post-covid period.**Keywords:** COVID-19, Social Media Intensity Scale (SMIC), Fear of Missing Out (FOMO), Social Media Engagement Scale, Addiction.

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Introduction

A series of COVID-19 outbreaks began in Wuhan, China in December 2019 and the World Health Organization (WHO) classified the COVID-19 outbreak as a pandemic in March 2020. On January 27, 2020, Kerala, India, announced the nation's first COVID 19 case. The COVID-19 pandemic has reached almost all nations in 2021.[1] Governments all over the world were forced to adopt restrictions due to the COVID-19 pandemic, including complete lockdowns to stop the spread of the disease. Both the Central government and the state governments implemented lockdowns at different times during the pandemic in India in an effort to halt its spread. From March 25 to May 31, 2020, the central government imposed the first countrywide lockdown. The COVID-19 epidemic has had a significant negative impact on people's mental health all around the world, with young people suffering the most.[2]

As physical distance is one of the most important protective measures for COVID 19, Government authorities established a rigorous

lockdown across the entire country while keeping a 2-foot distance. These lock downs promote internet usage and screen exposure while decreasing outside activity such as going to school, playing with friends, and social gatherings. During this time, there is a dramatic growth in digital play, work, shopping, and socialising. To meet their social requirements, people have resorted to screens and technology, particularly teenagers and young adults. Internet traffic soared by up to 70% in the early stages of the pandemic, and social media sites have seen drastic increases in both hits and visitors.[3] Another factor that seems to contribute to adolescents' excessive internet use is FOMO, which is the impulse to constantly check one's phone for new messages or updates and the worry of being left out.[4]

Social media is a popular way to communicate online with others to share hobbies, ideas, and information. The fact that this technology is relatively new means that it is widely used by young adults. However, there are also worries over

the potential harm to mental health brought on by excessive social media use. Mental health, is defined as "a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively, and is able to make a contribution to his or her community,"[5]. Since FOMO appears to be linked to many mental health disorders, the FOMO has received more attention in recent years. In 2016, Baker, Krieger, and LeRoy discovered a link between college students' use of social media and their FOMO. There is a dearth of research on the degrees of FOMO experienced by students during the COVID-19 pandemic because of the sudden and dynamic character of the pandemics.[6]

Przybylski et al. (2013) define FOMO as "a pervasive apprehension that others might be having rewarding experiences from which one is absent, FOMO is characterized by the desire to stay continually connected with what others are doing" More broadly, it refers to the negative feeling that results from being aware of unattended experiences. FOMO is linked to decreased need, increased life satisfaction, decreased mood, increased social media use, and even distracted driving. [7] According to a study by Beyens et al, social media use and adolescents' FOMO are significantly correlated. The study came to the conclusion that adolescents' greater sense of dread of missing out was associated with their greater need for acceptance and popularity, as well as their more intense use of social media.[8]

FOMO is a by-product of excessive internet and social media use, and researchers are currently testing its effects on wellbeing.[9] Internet addiction problems may become more common due to the enormous increase in online activity, which could have a negative effect on mental health.[10] Additionally, it could expose young people to violent or hazardous content while also causing anxiety, depression, and suicidal thoughts.[11]

The main purpose of the study was to evaluate the correlation between social media addiction and FOMO among early and late adolescents after COVID 19 second wave.

Methodology

This is a cross sectional observational study exploring social media addiction and FOMO after second wave of COVID-19 in early and late adolescents (school and undergraduate going students). The primary objective of the study was to evaluate the correlation between social media addiction and FOMO after second wave of COVID-19 in adolescents.

Hypothesis Testing

1. **H₁**: There is any significant positive relationship between FOMO and social media

usage among early and late adolescents post COVID²nd wave.

2. **H₂**: There is any significant gender differences in FOMO and social media usage among early and late adolescents post COVID 2nd wave.
3. **H₃**: Maternal and paternal education has correlation with FOMO in adolescents.
4. **H₄**: There is an association between social media addiction on mental health.

The research was done in collaboration with Shyam Shah Medical College in Rewa and Gandhi Memorial Hospital's paediatric department (M.P.). The study was conducted from October 2022 to December 2022. Early and late adolescence (12 to 19 years old) were the study's subjects. This study used a correlational research approach to look at the association between FOMO and social media addiction after the second wave of COVID-19, among college-bound adults and adolescents. Institutional ethics approval was received from IEC Rewa Medical College (IEC Approval no 147, 11 October 2022). All research participants provided their written consent before participating in the study. The information was gathered prospectively from October 2022 to December 2022 from undergraduate and secondary school students. total of 228 students enrolled in student out of which, 112 male students and 116 female students participated in the research. A simple random sampling technique was used for the study.

Inclusion and exclusion criteria as follow as:

Inclusion Criteria

- All early and late adolescent school going and undergraduate (MBBS) students
- Students those who gave the consent

Exclusion Criteria

- Suffered from Mental illness or on medication for the same
- Intellectual disability
- students those who are not willing to give consent

Scales used for the research

1. **Personal information sheet**: The participants' demographic details were gathered via a personal information form.
2. **Social Media Addiction scale (SMAS)**: The scale, developed by Lemmens, Valkenburg, and van den Eijnden (2016), was applied. The scale, which contains just one dimension, was created using the DSM-V criteria for Internet Game Addiction. Each of the nine components of the scale needed a "Yes" or "No" response. The cut-off threshold was set at 5 on a scale with a score range of 0 to 9. [12]
3. **Smartphone Addiction Scale (SAS)**: The scale, developed in 2013 by Kwon and

colleagues, was employed. Six factors make up the self-evaluation measure used to evaluate smartphone addiction. A significant phone addiction was deemed to exist in individuals who scored strongly on the measure's 33 items, which used a six-point Likert scale. Dependence, excessive usage, virtual-oriented connections, positive expectations, and day-to-day concerns were among the dimensions of the measure.[13]

4. **Fear of Missing Out Scale.** It was measured using the scale that Przybylski et al. (2013) developed. Ten questions made up the Przybylski et al. (2013) scale. The Likert-type scale's five points produced scores between 10 and 50, and it was assumed that the higher the scale's score, the greater the subject's fear of missing out.[7]
5. **Bergan scale:** In order to gauge how closely behavioural addiction symptoms are tied to social networking sites, the Bergen Facebook Addiction Scale (BFAS) was designed. (Andreassen, Torsheim, Brunborg, & Pallesen, 2012).[14]
6. **Social Media Addiction scale students form (SMAS SF).** A 5-point Likert-type scale with 29 items split into four categories makes up the SMA-SF (virtual tolerance, virtual communication, virtual problem, and virtual information). The statistical analysis shows that the scale is valid and trustworthy enough to be used to assess secondary, high school, and university students' social media addictions.[15]

Statistical Analysis

Data was entered into a Microsoft Excel spreadsheet and analysed using version 26 of the Statistical Package for the Social Sciences (SPSS 26). The findings provide frequency and percent for qualitative data and mean and standard deviation (SD) for quantitative variables. Non-parametric tests were performed to evaluate the Pearson correlation test's statistical significance because the data distribution was non-normal. For the estimation of the multi-group effects, the chi-square difference test was used. It is considered statistically significant when the p-value <0.05. A p-value of >0.05 is considered insignificant.

Result

1. Demographic Characteristics

A total of 228 individuals were enrolled in the study. The demographic characteristics are shown in table-1. There were 116 (50.9%) females and 112 (49.1%) males were participated. Mean± SD age of the participants was 16.5±3.67 years. The youngest study subject was 10 years whereas the oldest study subject was 20 years old. The majority of the study subjects (34.6%) were graduate

students, followed by students in high school (34.2%), and 30.7% of the study subjects were in higher secondary school. The majority of the study subjects (82.5%) were from urban location. 53.1% of the study subjects were in nuclear family. 51.8% of the study subjects had one sibling. The majority of the study subjects (56.1%) engaged in some kind of outdoor activities. There are no pets in the homes of 79.8% study participants. 53.9% of the study subjects reside with their Grandparents.

The majority of the study subject's mothers and fathers (53.9 and 67.1%, respectively) were graduates. Illiteracy was found in 18.4% and 4.4% of the study subjects' mothers and fathers respectively. Higher Secondary (12+) education was done by 14.5% and 13.2% of the study subjects' mothers and fathers respectively. Secondary School (10+) education was done by 13.2% and 15.4% of the study subjects' mothers and fathers respectively.

The majority of the mothers are housewives (82.6%), whereas only 17.4% mothers were working professionals. Professional or skilled employees made up 68% of the study subjects' fathers, with non-skilled workers accounting for 29.8% and househusbands accounting for 1.8%. (Table 1)

2. Social Media usage

The 143 (62.7%) study subjects owned a personal smartphone and the remaining 85 subjects (37.3%) did not have a personal smartphone. However, 68% of the study subject had online personal social networking accounts. Out of 228 study subjects, 58.8% of them did not experience any kind of symptoms while using social media. Only 12.3% had experienced headache, followed by difficulty in sleeping (8.8%), pain in the back (7%), watering from eyes (7%) and neck stiffness (6.1%).

Approximately 38.2% of the study subjects watched the device screen for an uninterrupted period of 2 hours or less, 32.5% of them watched it for an extended period of more than 4 hours, and 29.4% watched it for an extended period of 2 to 4 hours. The majority of them (90.8%) used smartphones to access the internet, 7.9% used laptops, and 1.3% of the study subjects browsed on iPad. (Table 2)

3. Mean, Median and std. Deviation of SMIC, FOMO, SMEQ, BERGAN SCALE AND SMA SSF

The Social Media Intensity Scale (SMIC) had a mean ± std. deviation of 2.42± 1.31. The average mean ± standard deviation for Fear of Missing Out (FOMO) was 2.46 ± 1.3. The Social Media Engagement Scale has a mean ± standard deviation of 2.24 ± 1.3. The mean ± standard deviation of the BERGEN scale was 2.16 ± 1.19, while the mean ±

standard deviation of the SMASSF was 2.66 ± 0.96 . (table. 3)

4. Correlations

Pearson Connection test was used for the analysis. The results suggest that there is a modest positive correlation between FOMO and SMIC $r=0.428$, which is statistically significant $p=0.00$. There is also a slight positive association between SMEQ and SMIC ($r=0.441$, $p=0.00$) and SMEQ and FOMO ($r=0.376$, $p=0.00$), all of which are statistically significant (p value less than 0.05).

This study also found a relatively positive and statistically significant correlation between the BERGEN Scale and SMIC ($r=0.55$, $p=0.00$), the BERGEN Scale and FOMO ($r=0.42$, $p=0.00$), and the BERGEN Scale and SMEQ ($r=0.57$, $p=0.00$). (Table no. 4). According to the findings of this study, there is a substantial significant relation between Fear of Missing Out and social media urges among teenagers and young adults in the post-covid period. There is a negative correlation between SMA SSF and FOMO, hence it is not statistically significant. As shown in fig. 1 and 2.

Table 1: Demographic Characteristics of the study subjects (n=228)

S. N.	Variables	Characteristics	n(%)
1.	Gender	Male Female	112 (49.1) 116 (50.9)
2.	Age	Mean \pm SD	16.5 \pm 3.67 (range 18, minimum age 10- maximum age 20)
3.	Class	Graduate Student High School Higher Secondary School	80 (34.6) 78 (34.2) 70 (30.7)
4.	Locality	Rural Urban	40 (17.5) 188 (82.5)
5.	Type Of Family	Joint Family Nuclear Family	107 (46.9) 121 (53.1)
6.	Sibling	0 1 2 3 >3	21 (9.2) 118 (51.8) 51 (22.4) 21 (9.2) 17 (7.5)
7.	Everyday Outdoor Activity	No Yes	100 (43.9) 128 (56.1)
8.	Pet In House	No Yes	182 (79.8) 46 (20.2)
9.	Live With Your Grandparents	No Yes	105 (46.1) 123 (53.9)
10.	Mother Education	Graduate Higher Secondary (12+) Secondary School(10+) None	123 (53.9) 33 (14.5) 32 (13.2) 42 (18.4)
11.	Father Education	Graduate Higher Secondary Secondary School None	153 (67.1) 30 (13.2) 35 (15.4) 10 (4.4)
12.	Mother Occupation	Housewife Professional	188 (82.6) 40 (17.4)
13.	Father Occupation	House Husband Not Skilled Worker Professional Work (Skilled Shopkeeper	4 (1.8) 68 (29.8) 155 (68.0) 1 (.4)
	Total		228(100)

Table 2: Showing social media usage

S. N.	Variables	Characteristics	n(%)
1.	Personal Smartphones	No	85 (37.3)
		Yes	143 (62.7)
2.	Online Personal Social Networking Account	No	73 (32)
		Yes	155 (68.0)
3.	Any symptoms while using social media	Difficulty in sleeping	20 (8.8)
		Headache	28 (12.3)
		Neck stiffness	14 (6.1)
		NONE	134 (58.8)
		Pain in back	16 (7.0)
		Watering from eyes	16 (7.0)
4.	how much time do you watch the screen	<2hours	87(38.2)
		>4 hours	67 (29.4)
		2-4 hours	74 (32.5)
5.	Use the internet on which device	IPad	3 (1.3)
		Laptop	18 (7.9)
		Smartphone	207 (90.8)
	Total		228(100)

Table 3: Showing Mean, Median and std. Deviation of SMIC, FOMO, SMEQ, BERGAN SCALE AND SMA-SSF

Statistics					
	SMIC	FOMO	SMEQ	BERGEN	SMASFF
Mean	2.4276	2.4649	2.2412	2.1601	2.6623
Median	2.0000	2.0000	2.0000	2.0000	3.0000
Std. Deviation	1.31420	1.30184	1.35330	1.19729	.96866

Table 4: Showing correlations

Correlations						
		SMIC	FOMO	SMEQ	BERGEN	SMASFF
SMIC	Pearson Correlation	1				
FOMO	Pearson Correlation	0.428**	1			
	Sig. (2-tailed)	0.000				
SMEQ	Pearson Correlation	0.441**	0.376**	1		
	Sig. (2-tailed)	0.000	0.000			
BERGEN	Pearson Correlation	0.559**	0.423**	0.576**	1	
	Sig. (2-tailed)	0.000	0.000	0.000		
SMASFF	Pearson Correlation	0.031	-0.036	0.056	0.100	1
	Sig. (2-tailed)	0.643	0.592	0.403	0.132	

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

In terms of SMAS and FOMO, there is no significant gender difference ($p > 0.05$) (Fig 1.).

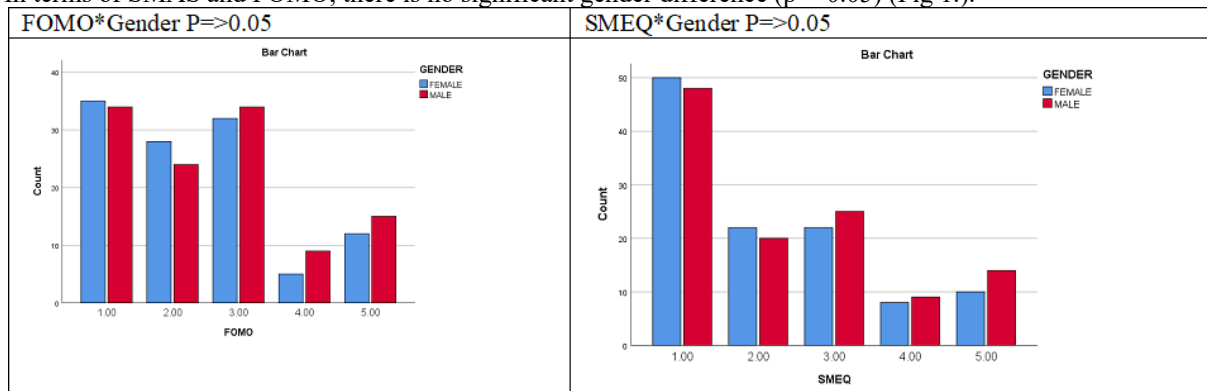


Figure 1:

Additionally, this study demonstrates that there is no statistically significant correlation between maternal and perinatal education and FOMO in adolescents ($p > 0.05$) (Fig 2).

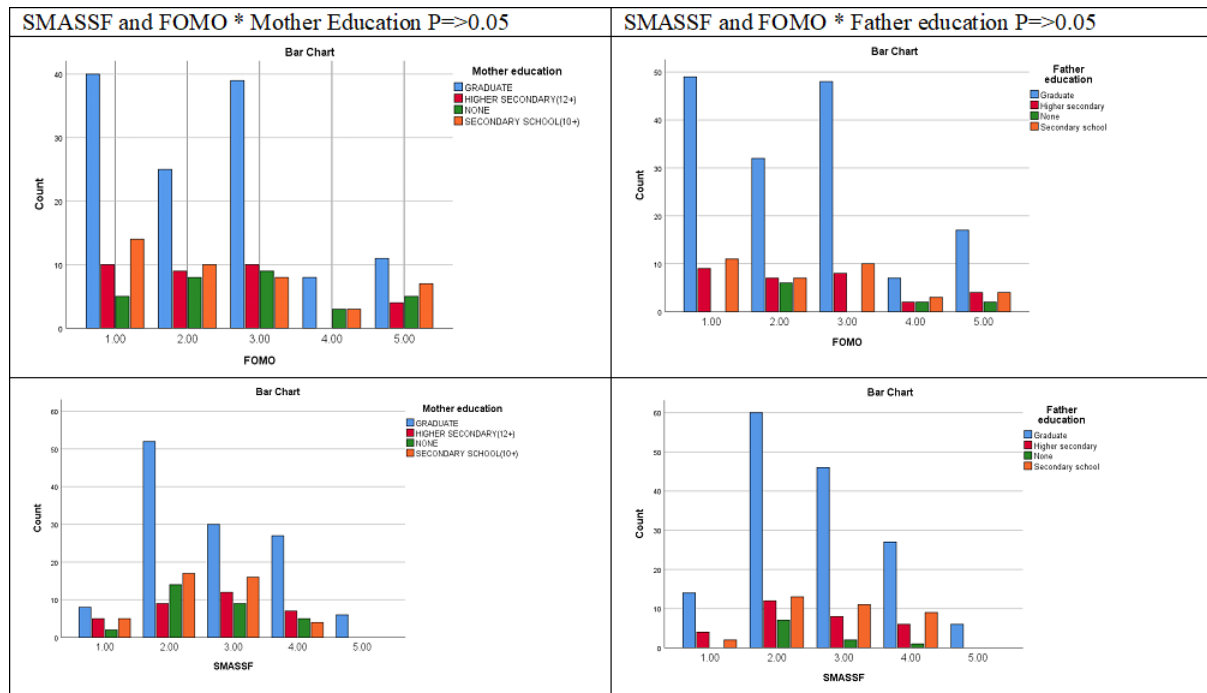


Figure 2:

Discussion

It was a cross sectional observational study exploring social media addiction and FOMO after second wave of COVID-19 in early and late adolescents (school and undergraduate going students). 228 students were evaluated. 50.9 % of study participants were females. 56.1 percent of study participants did outdoor activities. 79.8% survey participants have no pets. 53.9% live with their grandparents. 68% of study participants had personal social media accounts. The majority (90.8%) browsed on smartphones, 7.9% on laptops, and 1.3% on iPads. The Mean±SD deviation of the Social Media Intensity Scale (SMIC) was 2.42± 1.31. FOMO's Mean±SD deviation was 2.46 ± 1.3. The Social Media Engagement Scale has a Mean±SD deviation of 2.24 ± 1.3. The Mean±SD deviation of the BERGEN scale was 2.16 ± 1.19, whereas the SMASSF was 2.66 ± 0.96.

Pearson Connection test is performed for analysis. The findings shows a positive association between FOMO and SMIC $r=0.428$, which is statistically significant $p=0.00$. There is also a statistically significant positive correlation between SMEQ and SMIC ($r=0.441$, $p=0.00$) and FOMO ($r=0.376$, $p=0.00$) (p value less than 0.05). This study also revealed a positive and statistically significant correlation between the BERGEN Scale and SMIC, FOMO and SMEQ.

According to the findings of this study, there is a substantial significant relation between FOMO and social media urges among early and late adolescents in the post-covid period. In terms of SMAS and FOMO, there is no significant gender difference ($p=>0.05$) as shown in Fig. no. 1.

Additionally, this study demonstrates that there is no statistically significant correlation between maternal and perinatal education and FOMO in adolescents ($p=>0.05$) as shown in Fig. no. 2.

The study's findings showed a strong correlation between increasing smartphone addiction and social media addiction as well as a rise in FOMO. These results are in line with the study conducted by Seabrooks, A. D. (2020) et al., The study by Seabrooks, A. D. (2020) et al, have found significant associations between social media addiction and smartphone addiction as well as between FOMO and smartphone addiction. The study by Seabrooks, A. D. (2020) et al, also shown there is a strong positive correlation between FOMO and smartphone addiction.[16, 17]

A study by Tromholt, M. (2016) et all also shown similar result of the present study.[17] The present study demonstrated that there was positive correlation between FOMO and smartphone addiction. According to reach done by (Przybylski et al., 2013)(14)demonstrated that due to student's increasing fear of missing out, they became more preoccupied with social media activities and paid less attention to their academic achievement as a result (Przybylski et al., 2013Alt, 2015;).[14, 18]

According to studies (Hunt et al., 2018; Tromholt, 2016), fear and anxiety, self-esteem, and the presence of loneliness are positively correlated with smartphone and social media addictions as well as a fear of missing out.[19]

Conclusion

Social media is a popular informative and communicative platform among users across the

globe. Despite the various positive outcomes which are beneficial to users in various aspects in life, negative consequences due to excessive social media use are also inevitable. FOMO and social media addiction are prevalent factors which negatively influences users' mental and behavioural conditions. The present study has examined the correlation between social media addiction and FOMO after second wave of COVID-19 in adolescents. The results demonstrate that there is a substantial significant relation

between FOMO and social media urges among early and late adolescents in the post-covid period. The study also showed that there is no significant gender difference in terms of social media addiction and FOMO. The findings are beneficial for handling, organising and preventing potential detrimental possibilities of social media addiction related FOMO in adolescents in the post-covid period. This will also pave the way for future investigations to further examine the correlation between social media addiction and FOMO.

What is already known : Fear of missing out has correlation with social media usage
 What this study Adds : No correlation with parental education and FOMO ,hence any class of society can have FOMO, it's the social media which is the culprit for Fear of missing out, Irrespective of the devices , hence smartphone only is not the culprit.

Figure 3:

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