Impact of Social Media Usage on Psychological Well-Being

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Abstract

This study examines the impact of social media usage on the psychological well-being of undergraduate students in India. A sample of 88 first-years BSc students (46 males, 42 females) aged 18-22 years from Pathardi, Ahmednagar district, participated in this descriptive-analytical and correlational study. Data were collected using a personal data sheet, social media usage questionnaire, and the Anxiety, Depression, and Stress Scale (ADSS). Results revealed significant gender differences, with female students experiencing higher levels of depression, stress, and overall psychological distress compared to males. Students with multiple social media accounts (more than 2) demonstrated elevated depression and stress levels. Fear of Missing Out (FOMO) emerged as a significant risk factor for depression and mental health distress. However, specific features of social media usage, such as time spent online and the impact of posts, showed no significant correlation with mental health outcomes. The findings underscore the complex relationship between social media engagement and psychological well-being, highlighting the need for targeted interventions, particularly for female students and those experiencing FOMO.

Keywords: Social Media Usage, Psychological Well-Being, Depression, Anxiety, Stress, Fear of Missing Out (FOMO)

Introduction

The social nature ingrained in human beings traces back to our evolutionary past. As we grappled with the challenges of survival, a natural inclination towards forming social groups, known as herd instinct or gregariousness, emerged. This innate tendency toward socialisation has become crucial for our daily functioning, catering to various physical, mental, emotional, and economic needs. Consequently, maintaining social connections is often seen as a way of alleviating stress, worry, and melancholy (Mohamad et al., 2018). With the advent of social networking platforms like Facebook, WhatsApp, Instagram, and others (Messenger, Snapchat, X (Twitter), TikTok, YouTube) in recent years, there has been a significant shift in how people interact and communicate (Khalaf et al., 2023). In today's digital era, human society has increasingly moved into virtual spaces. Although this virtual expression of human sociality is innovative and beneficial in many ways, its far-reaching consequences are now beginning to emerge.

Social media platforms have become an integral part of modern people's everyday lives, which allow users to engage in two-way communication through the sharing of text, photos, and videos across vast, worldwide webs of interconnected user-generated material (Duradoni et al., 2020; Duradoni et al., 2023). Recent data indicate a significant surge in global social media usage, with approximately 3.484 billion users worldwide in 2023, representing a 9 percent increase from the previous year (Wong & Jain, 2024; Global Social Media Statistics, 2024). Notably, India boasts a substantial user base, with 398.0 million users aged 18 and above, constituting 40.2 percent of the nation's total population (Forbes Advisor, 2023). Despite individuals' awareness of the value of time, statistics reveal that the average person globally dedicates a considerable portion of their day, approximately 145 minutes, to engaging with social networking platforms (Beyari, 2023). Individuals in India spend an average of 141.6 minutes daily on social media platforms (Global Social Media Statistic Report, 2024). Today, Instagram and Facebook stand out as the most popular social media applications among Indian internet users, with

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74.70 percent and 71.20 percent of users, respectively, maintaining profiles on these platforms.

Undoubtedly, the pervasive integration of social media into daily existence underscores its profound significance in contemporary society. While social media offers myriad opportunities for connectivity and enjoyment, it can also cause adverse mental health outcomes (Nazari et al., 2023; Cunningham et al., 2021; O'Reilly et al., 2018; Khalaf et al., 2023; Beyari, 2023).

People who are mentally well can assess their lives, capitalise on opportunities, cope effectively with daily stresses, excel in their careers, and contribute positively to their communities (WHO, 2004). Hedonic (pleasure) and eudaimonic (meaning, fulfilment) happiness, resilience, and overall mental health make up what is known as psychological well-being (Tang et al., 2019). Mental health is characterised by the absence of emotional disorders, including depression, anxiety, and stress. A state of unease, apprehension, or terror is known as anxiety. Persistent melancholy and lack of interest are symptoms of depression, a mental illness. Stress is a state of emotional or physical tension that can arise from situations or thoughts that trigger negative emotions such as anger, nervousness, or frustration. Numerous factors can negatively impact mental health; however, recent scientific literature in newspapers, magazines, and academic journals increasingly identifies social media as particularly harmful (Beyari, 2023; Martinsen, 2008). However, the protective function of social media in maintaining psychological health should not be overlooked. Prior studies have demonstrated that one's social network significantly influences their physical and mental health, as well as their mortality risk (Martinsen, 2008). Research indicates that strong social ties significantly impact mental health by promoting a sense of belonging and social identity, thereby enhancing quality of life (Chang et al., 2014).

Numerous studies examining the consequences of social media have linked excessive Facebook usage to detrimental indicators of mental health, including anxiety, despair, and stress (Berryman, Ferguson, & Negy, 2018; Coyne et al., 2020; Escobar-Viera et al., 2018; O'Reilly et al., 2018). Additionally, Kim et al. (2016) highlighted the link between excessive use of the internet and social media, elevated levels of depression, and thoughts of suicide. Numerous studies have demonstrated that young people's mental health is negatively impacted by their usage of social media (Chen et al., 2020). Consequences of engaging in cyberbullying include increased vulnerability to anxiety, depression, stress, social isolation, and thoughts of self-harm (Khalaf et al., 2023). Previous studies have primarily focused on adolescent populations in Western countries. This study specifically examines Indian undergraduate students enrolled in B.Sc. programs.

The objectives of the present study are threefold. First, it aims to assess the impact of social media usage on the mental health of college students. Second, it seeks to examine the gender-based differences in both social media engagement and psychological well-being. Third, the study endeavours to explore the specific ways in which social media use influences key dimensions of students' mental health, such as anxiety, depression, and stress.

Methodological Framework

Demographic and Social Media Usage Profiles of Participants

The demographic profile of each participant, including age, gender, educational attainment, marital status, and frequency of social media usage, was carefully documented. Table 1 summarises and discusses the demographic aspects of the sample as well as the individuals' social media usage profiles. Data were collected from first-year BSc students at Babuji Avhad Mahavidyalaya, Pathardi, during February-March 2024. A sample of 88 undergraduate students, 46 male students and 42 female students (52.28 percent males and 47.72 percent females) aged 18 to 22 years (mean age = 19.87, SD = 1.63) was taken from Pathardi town (Ahmednagar district) for the study. All the participants were first-year BSc students and were unmarried.

When comparing the use of various social media platforms, male and female students showed some clear gender differences. On average, male students used more than three social media applications (3.21), while female students used about two social media applications (1.71). Furthermore, male students allocated more time to social media (166 minutes) compared to female students (139 minutes). However, female students share more posts/ status updates on social media (1.09) in a day than male students (0.91).

Research Design & Procedure: The present study employed a descriptive-analytical (short survey) and correlational design, conducted with first-year undergraduate students of the BSc faculty in Pathardi tehsil, Ahmednagar (MS). The following procedure was employed:

Students were divided into smaller groups of twelve to fifteen and asked to complete standardised psychometric instruments, social media usage surveys, and personal data sheets. First, each participant filled out a separate data sheet with their personal information. The next step was to provide a mental health exam and a social media usage questionnaire to every single student. Students received

general instructions on completing the questionnaire and mental health scale, which were subsequently collected once their responses were submitted.

Research Tools

Personal data sheet & social media usage questionnaire: Personal information of the participants was collected through a personal data sheet. A multiple-choice questionnaire consisting of 7 questions was used to gather information about the usage of social media features by participants. Also, a standardised psychological test (Anxiety, Depression, and Stress Scale by Bhatnagar et al., 2011) was used to measure the mental health of participants.

Anxiety, Depression, and Stress Scale (ADSS) by Bhatnagar et al., 2011: The ADSS scale (Bhatnagar, Singh, Pandey, Sandhya, and Amitabh, 2011) was used to collect data. The measure consists of 48 items in total, with three subscales measuring anxiety (19 items), depression (15 items), and stress (14 items). Using Cronbach's Alpha and the Spearman-Brown coefficient to assess overall reliability, values of 0.81 and 0.89 were obtained, respectively. Results showed that the anxiety, depression, and stress subscales were reliable (Cronbach's Alpha = 0.76, 0.75, and 0.61, respectively) and had strong correlations (Spearman-Brown = 0.86, 0.86, and 0.76, respectively).

Statistical Analysis: Data were analysed using SPSS version 20.0 (Statistical Package for the Social Sciences). For every variable, descriptive statistics were calculated. Independent samples t-tests were used to compare male and female students. To further investigate any correlations between these variables, we computed the Pearson product-moment correlation.

Social Media Usage Profile of Participants

Questions	Response Options	Response (%) N = 88	
		Male students $(n_1 = 46)$	**Female Students** $(n_2 = 42)$
Number of Social Media Account/s (SMA/C)	1	4 (8.70%)	19 (45.24%)
	2	4 (8.70%)	16 (38.09%)
	3	22 (47.82%)	7 (16.67%)
	4	10 (21.74%)	0 (0.0%)
	5	6 (13.04%)	0 (0.0%)
Time spent on the SMA/C in Hrs (Spent time)	1	7 (15.22%)	14 (33.33%)
	2	10 (21.74%)	7 16.67%)
	3	16 (34.78%)	15 (35.71%)
	4	13 (28.26%)	6 (14.29%)

Number of statuses posted in a single day	0	14 (30.43%)	19 (45.24%)
	1	14(30.43%)	13 (30.95%)
	2	16 (34.78%)	10 (23.81%)
	3	2 (4.34%)	0 (0.0%)
Impact of others' comments/ likes (on posts) on emotional state (Impact I)	Yes	19 41.30%)	21 (50.00%)
	No	27 (58.70%)	21 (50.00%)
Impact of others' posts on emotional state (Impact II)	Yes	28 (60.87%)	26 (61.90%)
	No	18 (39.13%)	16 (38.10%)
Fear of Missing Out (FOMO)	Yes	11 (23.91%)	28 (66.67%)
	No	35 (76.09%)	14 (33.33%)

Results and Discussion

Following data collection, preliminary screening was performed. All the demographic details were checked and categorised. The measure of central tendency, normality of the data, screening of the outliers, extreme scorers and other factors were sorted out. Parametric tests were employed as the data showed no significant deviation from normal distribution. Details of the data obtained on mental health variables are presented in Table 1.

Significant gender differences in psychological well-being were found, with female students' mean scores significantly higher for depression (M=5.54; $p < .05$), stress (M=7.00; $p < .01$), and the ADS composite (M=18.09; $p < .01$) compared to male students (M=3.97; M=5.28 & M=13.97), respectively. No gender differences were noted in anxiety (p = .190).

No significant difference was observed between students with more than 2 social media accounts and those with fewer than 2 accounts regarding anxiety (p = .550) or overall ADSS scores (p = 1.60). However, significant differences were observed for depression (p < .05) and stress (p < .05), with students having more than 2 accounts showing higher scores than those with fewer accounts. The mean scores of the depression subscale (M=5.41) and the stress subscale (M=6.53) of the group having more than 2 social media accounts are higher than the group having less than 2 social media accounts.

No significant differences were found in anxiety (p =

Table 1: Comparing the mental health components like anxiety, depression, and stress with the gender of the participants and features of the social media usage profile

Variable (N=88) M (SD)		Anxiety		Depression		Stress		Total ADS	
		t (Sign.)	M (SD)	t (Sign.)	M (SD)	t (Sign.)	M (SD)	t (Sign.)	
Gender	Male Stu. (n=46)	5.41 (3.16)	.190	3.97 (2.93)	2.30* (.024)	4.58 (2.69)	3.94** (.000)	13.97 (7.02)	2.70** (.008)
	Female Stu. (n=42)	5.54 (3.46)		5.54 (3.46)		7.00 (3.04)		18.09 (7.25)	
SMA/C	SMA/C I (n=43)	5.27 (3.55)	.550	4.06 (3.04)	1.96* (.052)	4.97 (2.84)	2.42* (.018)	14.31 (7.18)	1.61
	SMA/C II (n=45)	5.66 (3.05)		5.41 (3.40)		6.53 (3.18)		17.61 (7.46)	
Time spent	Spent time I (n=37)	5.70 (3.25)	.545	4.89 (2.75)	.400	5.83 (2.96)	.254	16.43 (7.13)	.527
	Spent time II (n=51)	5.31 (3.34)		4.60 (3.62)		5.66 (3.21)		15.58 (7.61)	
Impact I	Yes (n=40)	5.50 (3.41)	.059	4.72 (3.55)	.006	5.67 (3.42)	.175	15.90 (7.69)	.050
	No (n=48)	5.45 (3.22)		4.72 (3.05)		5.79 (2.82)		15.97 (7.20)	
Impact II	Yes (n=54)	5.70 (3.31)	.895	5.12 (3.40)	1.46	6.03 (3.22)	1.14	16.87 (7.06)	1.49
	No (n=34)	5.11 (3.27)		4.08 (2.98)		5.26 (2.86)		14.47 (7.75)	
FOMO	Yes (n=25)	5.92 (3.05)	.793	6.12 (3.46)	2.59* (.011)	6.24 (3.21)	1.42	18.52 (6.29)	2.10* (.039)
	No (n=63)	5.30 (3.39)		4.17 (3.05)		5.44 (3.02)		14.92 (7.58)	

*-p< .05, **-p<.01

.545; p = .059; p = .895), depression (p = .400; p = .006; p = 1.46), or stress (p = .254; p = .175; p = 1.14) based on features of social media usage such as time spent on social media, impact of comments received on shared posts on emotional state, and the impact of posts shared by others on emotional state, respectively. No significant differences in anxiety (p = .793) or stress (p = 1.42) were found between groups reporting high versus low fear of missing out (FOMO). However, the group with a high fear of missing out had more depression ($p < .05$) and mental health distress ($p < .05$) than the group with a low fear of missing out.

The Pearson product-moment correlation was calculated to establish if gender, social media usage, anxiety, sadness, stress, and total ADSS among BSc faculty students are related. The results are shown in Table 2.

Students with multiple social media accounts (more than 2) experienced higher levels of depression and stress compared to those with fewer accounts (fewer than 2). However, no significant differences were found in anxiety levels between the two groups. These findings imply that excessive social media use may be associated with increased mental health concerns, particularly depression and stress, in students.

Gender was significantly correlated with depression, stress, and overall ADS scores, indicating that female students may experience more mental health challenges. Social media account count (SMAC) is negatively correlated with stress (variable 9), suggesting that having more social media accounts might not necessarily increase stress levels. FOMO (variable 6) is significantly correlated with depression and ADS (variables 8 and 10), indicating that fear of missing out might contribute to depressive symptoms and overall mental health distress. Anxiety, depression, and stress are all intercorrelated (variables 7, 8,

Table 2: Correlations Among All Variables

Sr.	Variables	1	2	3	4	5	6	7	8	9	10
1	Gender	1									
2	SMAC	-.659**	1								
3	Time	-.154	.042	1							
4	Impact I	-.087	.021	-.084	1						
5	Impact II	-.011	.029	.109	.209	1					
6	FOMO	-.104	.140	-.026	-.120	.086	1				
7	Anxiety	.021	.059	-.059	-.006	-.087	-.085	1			
8	Depression	.241*	-.207	-.043	.001	-.156	-.269*	.297*	1		
9	Stress	.391**	-.253*	-.027	.019	-.122	-.152	.525**	.311**	1	
10	ADS	.280**	-.172	-.057	.005	-.159	-.221*	.797**	.706**	.791**	1

**. Correlation is significant at the 0.01 & *. Correlation is significant at the 0.05

and 9), which is expected given the complex relationships between these mental health constructs. Time spent on social media showed no significant correlations with any mental health variables, suggesting it may not be a strong predictor of mental health outcomes. Impact of comments received on shared posts (variable 4) and impact of posts shared by others (variable 5) do not show significant correlations with most mental health variables, indicating that these factors might not play a major role in determining mental health outcomes.

The results of the present study indicate that social media usage has a differentiated impact on the psychological well-being of undergraduate students. Female participants reported significantly higher levels of depression and stress than their male counterparts, suggesting gendered vulnerabilities consistent with findings from Nazari et al. (2023) and O'Reilly et al. (2018). These differences may stem from variations in social media engagement styles and emotional sensitivity. Furthermore, the observation that students with multiple social media accounts exhibited higher depression and stress suggests that increased engagement does not necessarily fulfil emotional needs but may instead contribute to cognitive overload and emotional fatigue. Interestingly, time spent on social media was not a significant predictor of distress, reinforcing Coyne et al.'s (2020) argument that qualitative aspects of engagement, rather than quantitative duration, are more influential in determining mental health outcomes.

The strong association between Fear of Missing Out (FOMO) and depression validates that unmet psychological needs for relatedness and autonomy may intensify dependence on social validation through online interactions, thereby diminishing well-being. These findings underscore that while social media

platforms provide avenues for connection, they also pose psychological risks when used excessively or for maladaptive purposes. Overall, the study highlights the complex, bidirectional nature of social media's influence on mental health. Future research should incorporate longitudinal designs and qualitative insights to unravel the causal mechanisms underlying these relationships. Targeted mental health interventions and digital literacy programs could help young users cultivate healthier and more balanced engagement with social media platforms.

Conclusion

The study revealed significant gender differences in psychological well-being, with female students exhibiting higher levels of depression, stress, and overall psychological distress than their male counterparts. However, no notable differences were observed in anxiety levels between genders. These findings indicate that female students may be more vulnerable to certain mental health challenges, underscoring the need for further investigation and gender-sensitive support measures. Moreover, the study found no significant associations between specific features of social media usage—such as time spent online, the emotional impact of comments received, or reactions to others' posts—and levels of anxiety, depression, or stress. This suggests that the relationship between social media use and mental health is more intricate than previously assumed, with other mediating factors such as self-esteem, coping mechanisms, or social support potentially influencing outcomes.

The results also highlight that individuals experiencing a high degree of Fear of Missing Out (FOMO) reported greater levels of depression and psychological distress

compared to those with lower FOMO tendencies. However, no significant differences were found in anxiety and stress levels between the two groups. These findings imply that FOMO may serve as a distinct risk factor for depressive symptoms and overall mental health deterioration, necessitating targeted interventions to address this issue. Approximately half of the respondents reported normal psychological well-being, while the remaining participants exhibited varying degrees of anxiety, depression, and stress ranging from mild to severe. These results emphasize that even moderate engagement with social media can pose potential risks to psychological health, depending on individual susceptibility and psychosocial context.

In light of these findings, it is recommended that educational institutions implement awareness programs promoting mindful and balanced social media use, along with accessible counselling services to address stress and depressive symptoms among students. Initiatives focusing on digital literacy, emotional regulation, and resilience training can help mitigate the negative psychological impacts of online engagement. Furthermore, gender-sensitive mental health support systems and strategies to reduce FOMO, such as encouraging offline social interactions and promoting self-acceptance, should be prioritized to foster healthier digital behaviors and enhance overall well-being among students.

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