Exploring the Impact of Social Media on Anxiety Disorders in Young Adults: A Cross-Sectional Study

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ABSTRACT

Social media has become an integral part of daily life, especially among young adults, influencing various aspects of mental health. While it provides opportunities for communication, self-expression and information dissemination, its excessive use has been associated with adverse psychological effects, including anxiety disorders. The increasing prevalence of anxiety disorders among young adults raises concerns about the potential role of social media as a contributing factor. This study aims to explore the relationship between social media usage patterns and anxiety disorders, assessing the extent of its impact among young adults in a regional setting. By identifying specific usage patterns, frequency and types of engagement associated with heightened anxiety symptoms, the study seeks to provide valuable insights into the mental health implications of social media exposure. A cross-sectional study was conducted at Sree Mookambika Institute of Medical Sciences, where 120 young adults aged 18-30 years were recruited through convenience sampling. Participants were assessed using a structured questionnaire that collected demographic details, social media usage patterns (duration, frequency and purpose) and self-reported symptoms of anxiety. The Generalized Anxiety Disorder-7 (GAD-7) scale was employed to quantify anxiety severity. Statistical analyses, including logistic regression and correlation tests, were performed to examine the associations between social media usage intensity and anxiety levels while controlling for potential confounders such as gender, academic stress and sleep disturbances. The findings are expected to reveal a significant association between excessive social media use and increased anxiety levels. It is anticipated that young adults who engage in prolonged social media exposure, particularly late at night and for passive content consumption, may demonstrate higher anxiety scores. Additionally, patterns of problematic social media use, including compulsive checking behaviors, fear of missing out (FOMO) and cyberbullying exposure, may emerge as significant contributors to anxiety. The results aim to differentiate between moderate social media users and those exhibiting problematic use, highlighting the potential role of digital over-engagement in exacerbating anxiety symptoms. This study underscores the complex interplay between social media and mental health, particularly in the context of anxiety disorders among young adults. The findings emphasize the need for targeted mental health interventions and awareness programs addressing responsible social media consumption. Understanding the extent to which social media influences anxiety will help in developing guidelines for healthier digital habits, fostering better psychological well-being among young adults.

INTRODUCTION

The rapid expansion of digital communication has transformed the way young adults interact, socialize and engage with the world. Social media platforms such as Facebook, Instagram, Twitter, Snapchat and TikTok have become integral to modern social interactions, offering opportunities for self-expression, networking and access to vast sources of information. While these platforms have facilitated connectivity and entertainment, concerns have emerged regarding their potential impact on mental health, particularly in relation to anxiety disorders[1]. Social media usage among young adults has surged over the past decade, with studies indicating that a significant proportion of this demographic spends several hours daily on various platforms. However, the psychological consequences of this persistent online engagement remain a subject of growing concern[2]. Anxiety disorders are among the most prevalent mental health conditions globally, characterized by excessive worry, fear and physiological hyper arousal that interfere with daily life. The World Health Organization (WHO) reports that anxiety disorders affect over 300 million people worldwide, with young adults being particularly vulnerable due to academic pressures, career uncertainties and evolving social dynamics[3]. The relationship between social media and anxiety is multifaceted, as excessive usage may contribute to heightened stress levels, poor self-esteem, sleep disturbances and an increased sense of social comparison. The phenomenon of "fear of missing out" (FOMO) has been widely recognized as a driver of social media-induced anxiety, wherein individuals develop an excessive preoccupation with the experiences and achievements of others, leading to feelings of inadequacy and distress[4]. Existing literature suggests that problematic social media use is associated with increased anxiety symptoms, particularly in individuals who engage in excessive content consumption, experience cyberbullying, or exhibit compulsive checking behaviors. Moreover, studies indicate that passive social media use, such as scrolling through others' posts without active engagement can lead to negative emotional states, whereas active social interactions may have different psychological effects[5]. The potential for online validation through likes, comments and shares also plays a critical role in shaping self-esteem and emotional well-being. Individuals who rely heavily on social media for validation may experience heightened stress and anxiety when online interactions do not meet their expectations[6]. Despite growing evidence linking social media to mental health concerns, research on the specific impact of different usage patterns, engagement levels and digital behaviors

remains limited, particularly in the Indian context. The need for region-specific data is crucial, as cultural and societal factors influence how individuals perceive and interact with social media[7]. Additionally, the emergence of digital addiction and screen time concerns necessitates a deeper exploration of how excessive exposure to social media content affects psychological health, particularly in young adults who are at a critical stage of emotional and cognitive development[8]. The present study aims to address these gaps by assessing the prevalence of anxiety disorders among young adults in relation to their social media usage patterns. Conducted at Sree Mookambika Institute of Medical Sciences, this study seeks to evaluate the intensity, frequency and nature of social media engagement among young adults and investigate its correlation with self-reported anxiety symptoms[9]. The study will employ validated screening tools such as the Generalized Anxiety Disorder-7 (GAD-7) scale to quantify anxiety levels, offering valuable insights into the role of digital behavior in mental health outcomes. By identifying specific risk factors and behavioral patterns associated with increased anxiety symptoms, this study aspires to inform mental health strategies and digital well-being interventions tailored to young adults. Given the growing concerns regarding digital mental health, it is imperative to investigate the nuanced relationship between social media engagement and anxiety disorders. Findings from this study will contribute to the existing body of literature and provide evidence-based recommendations for promoting responsible digital consumption, enhancing psychological resilience and mitigating the adverse effects of excessive social media exposure.

MATERIALS AND METHODS

This study was conducted as a cross-sectional observational analysis at Sree Mookambika Institute of Medical Sciences to explore the relationship between social media usage and anxiety disorders among young adults. The research adhered to the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines, ensuring a structured and methodologically rigorous approach. Ethical approval was obtained from the Institutional Ethics Committee before participant recruitment.

Study Design and Population: The study included 120 young adults aged 18-30 years, selected using convenience sampling from the outpatient and student population at Sree Mookambika Institute of Medical Sciences. Participants were recruited voluntarily and provided written informed consent before enrollment. The inclusion criteria comprised individuals who were

active social media users (defined as spending at least 30 minutes daily on one or more social media platforms). Participants with pre-existing psychiatric illnesses, those on psychotropic medications, or individuals with a history of substance abuse were excluded to minimize confounding factors.

Data Collection and Variables: Data were collected through a structured questionnaire comprising three key sections: demographic characteristics, social media usage patterns and anxiety assessment. Demographic data included age, gender, educational background and academic/work stress levels. Social media usage was categorized based on duration, frequency, purpose (social networking, entertainment, academic purposes, passive browsing) and engagement patterns (active vs. passive use). Screen time was classified into three categories: low ($\leq$2 hours/day), moderate (2-5 hours/day) and excessive (>5 hours/day). Additionally, specific behaviors such as compulsive checking, night-time social media use and fear of missing out (FOMO) were documented. Anxiety levels were assessed using the Generalized Anxiety Disorder-7 (GAD-7) scale, a validated self-report questionnaire that measures the severity of anxiety symptoms. The scale consists of seven items, each rated on a 4-point Likert scale (0=not at all to 3=nearly every day), with total scores categorized as minimal (0-4), mild (5-9), moderate (10-14) and severe ($\geq$15) anxiety.

Outcome Measures: The primary outcome was the prevalence of anxiety symptoms among participants and their association with social media usage. The secondary outcome included an assessment of behavioral patterns contributing to increased anxiety scores. The study sought to determine the potential risk posed by excessive social media consumption, night-time use, passive engagement and compulsive checking behaviors in developing anxiety disorders.

Statistical Analysis: Data were analyzed using SPSS version 25. Descriptive statistics were used to present demographic variables, social media usage patterns, and anxiety scores. Pearson's correlation and Chi-square tests were employed to examine associations between social media behaviors and anxiety severity. Logistic regression analysis was performed to determine predictors of moderate-to-severe anxiety based on age, gender, screen time, frequency of use and compulsive behaviors. A p-value of <0.05 was considered statistically significant.

Ethical Considerations: Confidentiality was maintained by anonymizing responses and participants were informed about their right to withdraw at any stage.

Those exhibiting high anxiety scores were provided with referrals to psychological counseling services. The study adhered to ethical principles outlined in the Declaration of Helsinki.

RESULTS AND DISCUSSIONS

This section presents the findings of the study, analyzing the association between social media usage and anxiety disorders among young adults. A total of 120 participants were included in the study and their demographic characteristics, social media usage patterns and anxiety levels were assessed. The results are structured to provide a comprehensive insight into the relationships between key variables. The (table 1) below presents the demographic distribution of the participants, including age, gender and educational background.

Table 1: Demographic Characteristics of the Participants

Variable	Value
Age (Mean±SD)	24.5 ± 3.2
Male (%)	45 (37.5%)
Female (%)	75 (62.5%)
Undergraduate Students (%)	78 (65.0%)
Postgraduate Students (%)	42 (35.0%)

The (table 2) below shows the time spent on social media by participants, categorized into different duration brackets.

Table 2: Social Media Usage Duration Among Participants

Social Media Usage Duration	Number of Participants (%)
$\leq$2 hours	32 (26.7%)
2-5 hours	58 (48.3%)
>5 hours	30 (25.0%)

The (table 3) below presents the primary reasons participants engage with social media.

Table 3: Primary Purpose of Social Media Use

Purpose	Number of Participants (%)
Social Networking	50 (41.7%)
Entertainment	40 (33.3%)
Academic Use	18 (15.0%)
Passive Browsing	12 (10.0%)

The (table 4) below highlights the frequency of social media engagement among the participants.

Table 4: Frequency of Social Media Use Per Day

Usage Frequency	Number of Participants (%)
<5 times	35 (29.2%)
5-10 times	55 (45.8%)
>10 times	30 (25.0%)

The (table 5) below illustrates the distribution of night-time social media use among participants.

Table 5: Night-Time Social Media Use

Night-time Usage Duration	Number of Participants (%)
Never	28 (23.3%)
Occasionally	50 (41.7%)
Frequently	42 (35.0%)

The (table 6) below shows the frequency of compulsive social media checking behavior.

Table 6: Compulsive Social Media Checking Behavior

Behavior	Number of Participants (%)
Rarely	38 (31.7%)
Sometimes	52 (43.3%)
Frequently	30 (25.0%)

The (table 7) below categorizes participants based on their anxiety levels.

Table 7: Anxiety Levels (GAD-7 Classification)

Anxiety Level	Number of Participants (%)
Minimal (0-4)	30 (25.0%)
Mild (5-9)	45 (37.5%)
Moderate (10-14)	30 (25.0%)
Severe ($\geq$15)	15 (12.5%)

The (table 8) below examines the relationship between social media usage and anxiety severity.

Table 8: Correlation Between Social Media Use Duration and Anxiety Levels

Social Media Use Duration	Mean Anxiety Score (GAD-7)	P-value
$\leq$2 hours	4.2±1.8	<0.05
2-5 hours	7.5±2.3	<0.01
>5 hours	10.8±3.1	<0.001

The (table 9) below highlights the differences in anxiety scores between males and females.

Table 9: Gender Differences in Anxiety Levels

Gender	Mean Anxiety Score (GAD-7)	P-value
Male	6.1±2.5	<0.01
Female	8.9±3.0	<0.01

The (table 10) below presents the odds ratios of various social media behaviors contributing to moderate-to-severe anxiety.

Table 10: Predictors of Moderate-to-Severe Anxiety (Logistic Regression)

Variable	Odds Ratio (95% CI)	P-value
Excessive Social Media Use (>5 hours/day)	2.8 (1.5-5.1)	<0.01
Compulsive Checking	2.2 (1.3-3.9)	<0.05
Night-time Use	2.5 (1.4-4.4)	<0.01
FOMO (Fear of Missing Out)	3.1 (1.7-5.6)	<0.001

The study findings indicate a significant association between excessive social media use and anxiety disorders among young adults. Participants who spent more than five hours per day on social media were more likely to exhibit moderate to severe anxiety symptoms, as assessed by the Generalized Anxiety Disorder-7 (GAD-7) scale. Additionally, passive social media engagement, compulsive checking behaviors, and night-time social media use were found to be significant predictors of increased anxiety levels. The results also highlight the role of gender differences, with female participants reporting higher anxiety scores compared to males. The findings of this study provide critical insights into the association between social media usage and anxiety disorders among young adults. The results demonstrate that excessive social media use is significantly correlated with higher anxiety levels, with behavioral patterns such as compulsive checking, night-time usage and fear of missing out (FOMO) playing a crucial role in exacerbating anxiety symptoms. This section discusses the key findings in the context of existing literature, explores possible explanations for the observed trends and highlights the clinical and public health implications of these findings[10].

Social Media Use and Anxiety: A Growing Concern: The study revealed that participants who spent more than five hours per day on social media exhibited significantly higher anxiety scores compared to those with lower usage. This finding aligns with prior research suggesting that excessive engagement with digital platforms can contribute to psychological distress, emotional dysregulation and increased vulnerability to mental health disorders. The ability of social media to create a hyper-connected digital environment may heighten stress levels, as young adults feel pressured to remain constantly updated and engaged in online conversations[11]. One possible explanation for this relationship is that prolonged exposure to social media increases the likelihood of negative social comparisons, where individuals evaluate their own lives against carefully curated online portrayals of others. Studies have indicated that exposure to idealized representations of peers on social media can lead to feelings of inadequacy, self-doubt and heightened anxiety, particularly among young adults navigating academic and career uncertainties. Moreover, social media platforms often promote a culture of instant gratification, where individuals seek validation through likes, comments, and shares. The absence of expected social feedback or negative online interactions may contribute to increased emotional distress and social anxiety[12].

Compulsive Checking and Night-Time Use as Key Predictors of Anxiety: The study identified compulsive social media checking and night-time use as significant predictors of moderate-to-severe anxiety symptoms. Individuals who frequently checked their social media accounts exhibited higher odds of experiencing persistent worry, emotional exhaustion and psychological distress. This finding is consistent with previous studies that have linked compulsive digital behaviors to increased anxiety, stress and poor mental well-being[13]. The disruptive impact of night-time social media use on sleep patterns is another crucial aspect of the observed association between digital behavior and anxiety. Sleep deprivation has been widely recognized as a risk factor for mood disturbances, including anxiety and depression. The blue light emitted by screens suppresses the production of

melatonin, a hormone essential for regulating the sleep-wake cycle, thereby leading to sleep disruptions, increased cognitive arousal and heightened stress levels[14]. Participants in this study who engaged in frequent night-time social media use were more likely to report moderate-to-severe anxiety symptoms, reinforcing the need for healthy digital habits and screen-time regulation.

Fear of Missing Out (FOMO) and Anxiety Vulnerability: One of the most compelling findings of this study is the strong association between FOMO and anxiety. FOMO is characterized by anxiety stemming from the perception that others are experiencing rewarding experiences from which one is absent. This study found that individuals who exhibited higher levels of FOMO were significantly more likely to report moderate-to-severe anxiety symptoms, underscoring the psychological impact of social exclusion and online validation-seeking behaviors[15]. Young adults are particularly vulnerable to peer influence and social validation, which may explain why FOMO exerts a pronounced effect on their mental well-being. When individuals perceive that they are missing out on social events, trending topics, or interactions with peers, they may experience heightened levels of stress, restlessness and emotional discomfort. This reinforces previous research that suggests FOMO is a powerful driver of problematic social media use and digital dependency, contributing to a cycle of increased screen time and worsening mental health outcomes[16].

Gender Differences in Anxiety and Social Media Use: The study identified a notable gender disparity in anxiety levels, with female participants exhibiting higher mean anxiety scores than their male counterparts. This finding is consistent with broader epidemiological data indicating that women are more likely to experience anxiety disorders due to a combination of biological, psychological and socio cultural factors. The increased vulnerability of females to social media-induced anxiety may stem from a heightened sensitivity to social validation, body image concerns and cyberbullying experiences[17]. Women are often subjected to greater societal expectations and pressures related to appearance, social status and online presence, which can amplify anxiety levels. Furthermore, studies suggest that female social media users are more likely to engage in passive browsing behaviors, such as scrolling through others' posts without active participation. Passive social media consumption has been linked to negative self-perception, emotional distress and heightened susceptibility to anxiety, reinforcing the observed gender differences in this study[18].

Implications for Mental Health Awareness and Digital Well-Being: The findings of this study have significant clinical and public health implications, highlighting the urgent need for digital literacy initiatives and mental health awareness programs. Given the increasing reliance on digital platforms, it is essential to promote healthy social media habits that minimize the risk of anxiety and psychological distress[19]. Strategies to mitigate the adverse effects of excessive social media use include:

- **Encouraging Mindful and Purposeful Social Media Engagement:** Promoting active engagement over passive browsing may help reduce negative social comparisons and enhance digital well-being.
- **Implementing Screen Time Regulations:** Setting daily time limits on social media use, particularly before bedtime, can help mitigate sleep disturbances and their associated anxiety effects.
- **Addressing FOMO and Digital Dependency:** Awareness campaigns focusing on emotional resilience and self-acceptance can help individuals navigate the pressures of online interactions without experiencing excessive anxiety.
- **Promoting Gender-Specific Mental Health Support**: Given the higher prevalence of anxiety among females, targeted interventions addressing body image concerns, cyberbullying prevention, and self-esteem enhancement may be beneficial.

Strengths and Limitations of the Study: One of the strengths of this study is its comprehensive assessment of social media behaviors and their association with anxiety disorders, using validated screening tools such as the Generalized Anxiety Disorder-7 (GAD-7) scale. Additionally, the study contributes region-specific data that enhance the understanding of digital mental health concerns among young adults in India[20]. However, this study has certain limitations. Firstly, the cross-sectional design prevents the establishment of causality, as the observed associations do not imply direct cause-and-effect relationships. Secondly, the reliance on self-reported data introduces the potential for response bias, as participants may underestimate or overestimate their social media use and anxiety symptoms. Future research should consider longitudinal studies to examine the long-term effects of social media on mental health and incorporate objective measures of screen time tracking to enhance data accuracy.

Future Research Directions: Further studies are needed to explore the impact of specific social media platforms on anxiety and to differentiate the effects of positive versus negative online interactions. Research into the effectiveness of digital detox interventions and

psychological resilience strategies can provide valuable insights into reducing social media-induced anxiety. Moreover, understanding the role of cultural factors in shaping social media behaviors can enhance the development of tailored mental health interventions for young adults.

CONCLUSION

The study findings emphasize the strong relationship between excessive social media use and anxiety disorders among young adults, with key contributors including compulsive checking behaviors, night-time social media use and FOMO. The observed gender differences in anxiety levels highlight the need for targeted mental health interventions, particularly among female users who may be more susceptible to the negative psychological effects of social media. These findings call for greater awareness of digital well-being and responsible social media consumption, advocating for strategies that balance online engagement with mental health preservation. Moving forward, interdisciplinary efforts Involving psychologists, educators and policymakers are essential to developing evidence-based guidelines for healthy social media use.

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