The Bioscan
AN INTERNATIONAL QUARTERLY JOURNAL OF LIFE SCIENCES
20(3): S.I (3), 469-476, 2025 www.thebioscan.com

# Social Media Usage and Its Psychological Impact: A study of Anxiety, Depression, and Stress among Adolescents in Lucknow

**Rishi Dikshit[1], Prof. U.V. Kiran[2*]**

[1]Research Scholar, Department of Human Development and Family Studies, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh

**Email:** rishidikshit08@gmail.com

[2*]Professor, Department of Human Development and family Studies, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh

**Email:** druvkiran@gmail.com

DOI: 10.63001 /tbs.2025.v20.i03.S.I(3).pp469-476

**KEYWORDS**
**Social media, Adolescents, Mental Health, Gender differences, Digital well-being**

**Received on:**

**16-06-2025**

**Accepted on:**

**12-07-2025**

**Published on:**

**18-08-2025**

## Abstract

In recent years, the increase in the use of social media has brought about drastic changes to communication patterns and psychological conditions, especially among adolescents. This is a study to assess the effect of the use of social media on the mental health outcomes namely depression, anxiety and stress of adolescents aged 15-19 years in Lucknow, India. A cross-sectional quantitative design was employed, and 253 adolescents (aged 13–19 years) were recruited and assessed using standardized instruments (DASS-21 and a self-developed Social Media Usage Checklist). The sample was equally distributed in gender and primarily from rural areas. Statistical analyses revealed gender differences, with women reporting higher levels of depression, anxiety, and stress than men. The ANOVA results showed that higher social media use is related to higher depression and stress scores and a positive trend for anxiety. Linear regression also confirmed social media use as an independent predictor of psychological distress, with moderate explanation. The current study highlights the importance of local mental health interventions, digital literacy courses and gender-sensitive psychological interventions to counteract the psychological negative impacts of problematic social media use during the teenage years. The study also highlights the need to address the rural-urban digital divide with respect to positive mental health among Indian adolescents.

## 1. INTRODUCTION

In recent years social media has become an important part of human life and had an impact on a multitude of human behaviors such as psychological states, communication style, and social activities. The widespread use and access to the internet and the proliferation of digital platforms through which people from diverse backgrounds and cultures participate in social media has shaped the ways that the technology has impacted the mental health, social relationships and personal development of users (Boyd & Ellison, 2007).

With wide spread use of social media, especially in young adults, it is important to understand psychological well-being related to social media use such as depression, anxiety, and stress (Keles et al., 2020). We examine the association between social media use and mental health outcomes, and also account for demographic factors including gender, family structure and rural-urban disparities.

### 1.1 The Evolution of Social Media and Its Societal Impact

Social media platforms have come a long way since the late

90s as mere communication tools and have developed into a complex world of dynamic interplays between them: social media organise public thought and influence action as well as people's mental well-being (Van Dijck, 2013). Social networks, including Facebook, Instagram, Twitter TikTok, and Snapchat, have transformed social behavior, reshaping how people share information, interact, and see themselves. These virtual contexts open the doors for global feeling of connection, selfpresentation, and business, but also to the risks of being cyberbullied, deceived, or harassed online, and to be privacy invaded, and digitally addicted as well (Twenge et al., 2018). Social media has become an integral part of everyday life and is an important medium for education, activism, political engagement, and marketing (Kaplan & Haenlein, 2010).

Despite its indisputable benefits, research has indicated that heavy use of social media may be associated with elevated psychological distress, particularly in young people (Best et al., 2014). The ahdering relationship from the immersive nature and addicitiveness of these platforms leads to obsessive use, URI in the form of anxiety, depression, and changes in sleep (Keles et al., 2020). One Chinese study by Tan (2020) reports the negative effects of personalised feeds under social media algorithm, as this can increase negative moods and unrealistic social comparisons leading to feeling of inadequacy among users. Additionally, introducing high levels of misleading and sensational news through social media can increase stress and create a false sense of reality in the public's mind which may lead to social fragmentation and mental fatigue (Vosoughi et al., 2018).

Social media use differs among different demographic groups. Gender gap in use indicates that females use social network sites to engage with others, express feelings and to maintain relationships more often, whereas males use them more for games, content sharing, and entertainment (Muscanell & Guadagno, 2012). And these differences can have serious consequences for mental health: Females are more inclined to suffer social comparison, cyber victimization, and bodily dissatisfaction from their use of social media, according to research (Fardouly et al., 2015). The desire to conform to societal beauty norms, seek approval online, and maintain an idealistic digital self can negatively impact the self-esteem and psychological distress of female users (Perloff, 2014). Beyond gender, social media use also varies by age, culture and socioeconomic status. Younger users (e.g., adolescents) typically show higher activity in visually-oriented services (e.g., Instagram, TikTok, and Snapchat) where establishing of identity and peer effects can strongly influence online behavior (Uhls et al., 2017). We can hypothesize that the older people use Facebook or LinkedIn primarily for social and professional relationships (Chopik, 2016). Moreover, urban people are more likely to have available high-speed internet, digital literacy, that are used for networking, activism, and conduct of business using the social media, as the rural regions only allocate to such platforms in communication and entertainment, if discussed on Ryff & Keyes (1995).

**1.2 Social Media and Psychological Well-being**

Psychological well-being is a multi-dimensional construct that include levels of emotional stability, resilience and general mental health (Ryff and Keyes 1995). Although social media platforms can offer beneficial opportunities for self-expression, social contact and news sharing (Kross et al., 2013), problematic or dysfunctional use of social media has been linked to negative psychological outcomes such as elevated levels of depression, anxiety, and stress (Baker & Algorta, 2016). Although social media sites may compensate a lack of physical social support, unfortunately they also increase feelings of jealousy, inadequacy, and low self-esteem (Chou & Edge, 2012). A lot of users share curated, heavily filtered images that create a distorted reality where people feel that they cannot live up to the same level of success, beauty and happiness. This process could lead to emotional discomfort, especially in adolescents and young adults who are in the midst of identity formation (Fardouly et al., 2015).

A major determinant of psychological health is the fear of missing out (FOMO), the uneasy and deep concern that other people might be having rewarding experiences from which one is absent (Przybylski et al., 2013). Social media amplifies this by allowing instant details on social events, vacations, and achievements, giving people more to compare themselves to and compete with, and providing real-time rewards in the form of "likes" and "retweets". Worrying about germs, however, can add stress, upset schedules and decrease overall satisfaction with life. Fear of missing out may also encourage problematic social media behavior that in turn results in less face-to-face socializing and increased loneliness and isolation (Hunt et al., 2018).

Cyber bullying and internet harassment are other negatives associated with use of social media. As opposed to traditional bullying, which is localized and less anonymous, cyber bullying is extensive and is difficult to avoid; hence, its psychological effects are grave (Kowalski et al., 2014). Cyber bullying victims are at an elevated risk for anxiety, depression and suicidal thoughts. The penumbral distance that screens create, also emboldens the perpetrator, and allows harassment to continue for long duration. Further, mean-spirited online exchanges, such as public shaming or public embarrassment over social media can produce lasting impact on mental health and self-perception (Patchin & Hinduja, 2015).

Another issue with social media is also about sleep patterns. Screen time/day, especially in the hours before sleep, is related to sleep impacts, which in turn, relates to poor mental health (Levenson et al., 2017). This is because the blue light that the devices emit locks melatonin production in the brain, keeping one from getting a good night's sleep. In addition, the exciting content and interactive mode of social media can increase latenight usage, which is detrimental to the overall quality of sleep. Insufficient sleep has been associated with greater physiological stress, worse cognitive functioning, and greater emotional instability (Carter et al., 2016).

It further exacerbates mental health issues by contributing to problematic social media use, which is often categorized as a behavioral addiction. Social media addiction Social media addiction has features of a behavioral addiction including; preoccupation, withdrawal and loss of control over times and usage (Caplan, 2010). This obsessive behavior can disrupt an individual's daily duties, disrupt their personal relationships, interfere with their academic performance and professional productivity. Addiction to digital communication can create perceptions of social displacement, in which people prefer online communications to offline encounters, and participation in digital communication reduces meaningful social relationships and support networks (Kuss & Griffiths, 2017). Social media influences identity and the self-perception, especially in the youth. On the one hand it allows for selfexpression and identity exploration but on the other hand it can lead to identity confusion and self-objectification (Fardouly et al., 2015). The focus on looking good and trying to get approved of (like or comment) creates a sense of value that is outside of yourself. Eventually, the dependence on social media as a source for validation could lead to the depletion of intrinsic self-worth and emotional fortitude (Perloff, 2014), that leave individuals susceptible to mental health issues. This is especially true for women, who are frequently exposed to unrealistic appearance ideals and social comparison

information that encourage body image disturbance and disordered eating (Holland & Tiggemann, 2016). A second psychosocial mechanism linked to social media is emotional contagion, whereby individuals are exposed to and adopt others' feelings through digital interchanges. Being exposed to negative content such as bad news, negative stories, and online disputes can lead to feelings of powerlessness, anxiety and emotional exhaustion (Best, Manktelow, & Taylor, 2014). In crises, social media creates an echo-chamber of fear and uncertainty by rapidly sharing disinformation and overly sensationalized systematically ordered knowledge (Chadwick & Vaccari, 2019). On the other hand, positive emotional contagion can raise the level of well-being by creating sense of community and supportive network (Ferrara & Yang, 2015).

In addition to these risks, it is important to acknowledge that social media can also have positive effects on psychological well-being when used in moderation and mindfully. Social support can be provided via digital platforms, connecting people with friends and family,as well as online communities which can provide emotional support and motivation (Naslund et al., 2016). Social media also engages others in promoting mental health literacy, decreasing stigma, and offers the opportunity to direct individuals to psychoeducation or supports. Social media has the potential to be useful in rural areas or in populations with restricted mobility for people who are isolated, allowing them to maintain relationships and seek social contact (Steele et al., 2020).

**1.3 Gender Differences in Social Media and Mental Health Outcomes**

Gender is a significant determinant of the impact of social media on mental health. Evidence shows that females are at risk of the harmful impact of social media, such as depression, anxiety and stress (Nesi & Prinstein, 2015). Such vulnerability is thought to specifically stem from a heightened tendency in Social Comparison ('Compare Self') and greater emotional engagement in online contacts ('Invested') as well as from more experiences of being exposed to cyberbullying (Rosen et al., 2013).

Among those, men are also likely to suffer less negative mental health attributable to social media use, but may display problematic behaviors through overgaming or online aggression (Griffiths, 2010). Identification of these gender-based patterns is important in informing targeted interventions aimed at fostering healthy use of social media and reducing mental health consequences.

**1.4 The Rural-Urban Divide in Social Media Usage** Use of social media is not uniform across rural and urban populations, and is influenced by various factors such as internet exposure, digital literacy, and sociocultural influences (Robinson et al. 2015). People in the city are more exposed to technology, and therefor can easily gel into social media usage in their daily lives. Rural users could have an issue where they may encounter lack of internet connectivity, which may affect differences in their usage (Tahmasebi, F. (2023). Research suggests that those living in rural communities may utilize social media for socializing and networking, while urbanites use social media more for sharing and networking as well as for entertainment (Ragnedda & Muschert, 2013). These distinctions are important, as social media has been proposed to offer a coping response to social isolation in rural settings (Steele et al., 2020).

**1.5 Family Structure and Its Influence on Social Media Behavior**

The family environment has a strong influence on the social media behavior and psychological health of adolescents (PadillaWalker et al., 2012). This support use is higher in collective family systems which are common in many cultures and reduces the odds of excessive use of social media. Conversely, people from nuclear families might use digital means to compensate for their social needs more so than extended families, which could also increase the risk of social media negative impacts for them (Coyne, Stockdale & Rafdal, 2019).

The effects of social media on mental health are also moderated by parental monitoring and family communication (Uhls et al., 2017). Recent studies demonstrate that adolescents from supportive familial environments are less likely to feel stressed and anxious on SNS (Wright et al., 2020).

**1.6 Theoretical Frameworks for Understanding Social Media's Impact**

Among the theories that can help describe the relationship between use of social media and psychological well-being are the:

**1.6.1 Uses and Gratifications Theory (UGT):** This theory posits that people use social media to satisfy different psychological needs, including entertainment, interpersonal utility and identity (Katz et al., 1973). An overuse of social media for social fulfillment can result in negative mental health outcomes (QuanHaase & Young, 2010).

**1.6.2 Self-Determination Theory (SDT):** SDT suggests that individuals have a disposition to pursue autonomy, competency, and relatedness in relation to their social exchanges (Deci & Ryan, 2000). Social media undermines these basic needs; that's when users are driven to distress.

**1.6.3 Cognitive-Behavioral Model of Internet Addiction:** This model gives an account on how dysfunctional cognitive patterns leads to problematic use of social media, which in turn results in increased levels of depression and anxiety (Caplan, 2010).

**1.7 Rationale of the Study**

In the ever-changing electronic era, social media has become a major form of communication and identity perception for adolescents. Although these platforms provide opportunities for social bonding and information sharing, more and more researchers are finding an alarming relationship between too much social media and elevated psychological symptoms. In particular, young people, who are in a sensitive emotional and identity development phase (ie, adolescence) are particularly influenced by the negative consequences of social media, which leads to anxiety, depression and stress.

The existing studies underline the complex role of social media in relation to mental health and moderated by different demographic and psychosocial factors, such as gender, family type and residence location. Gender differences indicate that females feel higher levels of psychological distress related to greater levels of social comparison, body image concern, and cyber-victimization. Second, the rural-urban gap and discrepancies in terms of family systems may also affect adolescents' digital behaviors and coping strategies.

In the Indian context, where digital reach is not homogeneous and cultural factors vary widely, it is important to understand the influence of such cultural diversity and disparity in digital penetration on impact of digital media usage on mental health. In spite of worldwide attention being drawn to digital wellbeing, the evidence base for these challenges in tier-2 cities such as Lucknow, and amongst adolescents, is scant. In addition, the current digital divide widens the gap in psychological effects, making it important to explore the role of social media across both urban and rural populations.

The present study is timely and crucial as it aims to address important research gaps in relationship between social media

engagement and mental health consequent anxiety, depression, and stress disturbances among the adolescents of Lucknow. By including gender and area of residence as crucial demographic characteristics, this study provides evidence on contrasting vulnerability patterns and can provide guidance for more specific and contextually responsive mental health prevention and digital literacy programmes.

**1.8 Research Question**

Does social media usage significantly predict levels of depression, anxiety, and stress among individuals and how do demographic variables such as gender, influence this relationship?

**1.9 Objectives and Hypothesis**

**1.9.1 Objectives**

1. To examine the gender-based variations in social media usage profiles and related mental health conditions.
2. To investigate the effect of social media use on mental health variables: depression, anxiety and stress.
3. To investigate the predictive link between SMU (social media use) and psychological consequences, like depression, anxiety and stress, with regression analysis.
4. To offer insight into the impact of social media use and propose strategies for moderate use to promote psychological well-being.

**1.9.2 Hypotheses**

1. H1: Women consume more time of social media than men
2. H2: Females exhibit higher levels of depression, anxiety, and stress compared to males due to social media usage.
3. Increased Social Media Usage is Associated with Higher Levels of Depression, Anxiety, and Stress
4. H4: Depression, Anxiety, and stress levels are significantly predicted by social media use by the individuals

## 2. METHODOLOGY

**2.1 Research Design**

The current research was a cross-sectional quantitative survey conducted to investigate the association between social media use and mental health of adolescents ( i.e., depression, anxiety, stress). This design enabled the collection of data at a single point in time, allowing for the analysis of associations between variables across a large sample.

**2.2 Participants**

A total of **253 adolescents** from Lucknow participated in the study. The sample consisted of **127 males (50.2%)** and **126 females (49.8%)** , with the majority residing in **rural areas (73.9%)**, and the remaining from **urban locations (26.1%)** . In terms of family structure, **62.1 % belonged to joint families** and **37.9% to nuclear families**. Participants were selected through a **Random sampling** method from various schools and community centers in and around Lucknow.

**2.3 Inclusion and Exclusion Criteria**

Participants aged between **13 to 19 years** who were willing to participate and had access to at least one social media platform were included. Individuals with known clinical diagnoses of psychiatric disorders or those currently undergoing psychological treatment were excluded to ensure the focus remained on general adolescent populations.

**2.4. Instruments Used**

**2.4.1 Demographic Questionnaire** : Designed to gather background information such as age, gender, area of residence (rural/urban), family structure, number of family members, and average time spent on social media daily.

**2.4.2 Depression Anxiety Stress Scales-21 (DASS-21)** : A widely validated instrument is a set of three self-report scales designed to measure the emotional states of depression, anxiety and stress. Each subscale contains 7 items rated on a 4-point Likert scale ranging from 0 ("Did not apply to me at all") to 3 ("Applied to me very much or most of the time") ( Lovibond & Lovibond, 1995).

**2.4.3 Social Media Usage Checklist** : This self-developed tool recorded the frequency and duration of social media use, types of platforms used ( e.g., Facebook, Instagram, WhatsApp), and engagement patterns ( e.g., content creation, scrolling, interacting with others).

**2.5 Data Collection Procedure**

Prior to data collection, informed consent was obtained from all participants. In the case of minors ( below 18 years of age), written assent was taken from the adolescents, and informed consent was additionally secured from their parents or legal guardians. Participants were given guarantee that their responses would remain confidential and anonymous, as well as the unrestricted right to discontinue participation at any time without any consequences.

Information was gathered online and offline, to maximize reach and inclusivity. The data were collected offline from few schools and community centers found in urban/rural localities of Lucknow. For online participation, a form was widely shared through e-mails and social media ( thanks to school authorities and youth organisations) as a Google Form. The questionnaire included a demographic information section, depression, anxiety and stress scales ( DASS-21), and a checklist on social media patterns.

Responses were secured stored and only available for the Supervisor and research team. Offline measurements were conducted in distraction free and silent conditions to guarantee the data quality. Completion time on average was 20 –25 min per participant. Participants did not receive incentives, so their responses were driven by a perceived interest or willingness to contribute their time to research.

**2.6 Data Analysis**

All statistical analyses were performed with SPSS ( Statistical Package for the Social Sciences). Demographic variables were presented using descriptive statistics. To explore the gender and use frequency-related differences for mental health outcomes, the independent sample t-test and Analysis of Variance ( ANOVA) were performed. The predictive value of social media use on depression, anxiety, and stress was examined through linear regression analysis.

**2.7 Ethical Considerations**

The study was in accordance with APA ethical standards. Enrollment was voluntary, and participants were told of the possibility of never to be in withdrawal penalty. All participants' information is confidential and will be used for academic purposes only.

## 3. RESULTS

This sample comprised 253 subjects who were sex matched (51% male, 49 % female). A large number of the subjects were from rural (73.9%) and urban (26.1%) areas. Regarding family

setting, 62.1% of the respondents were from joint families and 37.9 % resided in nuclear families (Table 1).
Among the respondents, 86.6 % said they use social media and 13.4% said they do not use them. The number of family members for the majority of participants (58.1%) was 5 to 8, followed by 21.1% for 0~4, and 19.8% for more than 8 (Table 1).

**Table1: Demographic Characteristics and Social Media Usage**

| | | Frequency (Percentage %) |
|---|---|---|
| **Gender** | Male | 127 (50.2%) |
| | Female | 126 (49.8%) |
| **Area** | Rural | 187 (73.9%) |
| | Urban | 66 (26.1%) |
| **Family Type** | Nuclear | 96 (37.9%) |
| | Joint | 157 (62.1%) |
| **Social Media Platform use** | Yes | 219 (86.6%) |
| | No | 34 (13.4%) |
| **Number of Family Member** | 0-4 | 56 (21.1%) |
| | 5-8 | 147(58.1%) |
| | More than 8 | 50 (19.8%) |
| **Time you spent on Social Media** | No use | 34 (13.4%) |
| | Less than 3H | 160 (63.2%) |
| | 3-6 H | 41 (16.2%) |
| | 6-9 H | 18 (7.1%) |

Regarding time spent on social media, 63.2% of participants reported usage of less than 3 hours per day, while 16.2% spent 3 to 6 hours, and 7.1% engaged for 6 to 9 hours daily. Notably, 13.4% of participants did not use social media at all (Table 1).

**Table 2: Comparative Analysis of Time Spent on Social Media and Mental Health Indicators (Depression, Anxiety, and Stress) Between Males and Females**

| | | Mean±SD | T | Sig. (2-tailed) |
|---|---|---|---|---|
| **Time spent on Social Media Platform** | Male | 1.039 ± 0.683 | -2.838 | .005 |
| | Female | 1.301 ± 0.782 | | |
| **Depression** | Male | 16.39 ± 6.700 | -3.551 | .000 |
| | Female | 19.41 ± 6.821 | | |
| **Anxiety** | Male | 13.81 ± 6.962 | -5.683 | .000 |
| | Female | 18.92 ± 7.335 | | |
| **Stress** | Male | 18.30 ± 8.455 | -4.234 | .000 |
| | Female | 22.14 ± 5.739 | | |

Table 2 shows Comparison of social media use and its relationship with mental health variables depression, anxiety, and stress by gender. The results also reveal that there is a statistically significant difference in the number of hours spend on social media between males and females (t = -2.838, p =. 005) with higher usage being reported by females (M = 1.301; SD= 0.782) than males (M = 1.039; SD = 0.683). Therefore, the first hypothesis is supported.In respect to depression, females (M = 19.41, SD = 6.821) obtained significantly higher scores than males (M = 16.39, SD = 6.700), t= -3.551 (p <. 001), indicating more depressed females. Likewise, there was also a statistically significant difference between females (M = 18.92, SD = 7.335) and males (M = 13.81, SD = 6.962) on the amount of anxiety experienced, t = -5.683, p<. 001), suggesting a significant gender difference in anxiety symptoms. The same held for stress with M = 22.14 (SD = 5.739) for females and M=18.30 (SD = 8.455) for males, and t = -4.234 (p <. 001), which strengthens the trend of higher psychological distress in females.These findings collectively support Hypothesis 2, which posited that "**females exhibit higher levels of depression, anxiety, and stress compared to males due to social media usage.**"

**Table 3: Analysis of Variance (ANOVA) for Depression, Anxiety, and Stress across Different Levels of Social Media Usage**

| | | Mean±SD | F | Sig. (2-tailed) |
|---|---|---|---|---|
| **Depression** | No use | 17.18±5.849 | 3.751 | .012 |
| | Less than 3H | 17.15±7.056 | | |
| | 3-6 H | 19.66±6.495 | | |

| | | | | |
|---|---|---|---|---|
| | 6-9 H | 21.89±6.842 | | |
| **Anxiety** | No use | 14.65±9.707 | | |
| | Less than 3H | 15.89±6.980 | | |
| | 3-6 H | 18.68±6.717 | 2.569 | .055 |
| | 6-9 H | 18.44±9.037 | | |
| **Stress** | No use | 17.82±10.735 | | |
| | Less than 3H | 20.38±6.769 | | |
| | 3-6 H | 20.37±4.918 | 1.986 | .012 |
| | 6-9 H | 22.89±9.923 | | |

The findings of the ANOVA can be found in Table 3, including the effect of the duration of social media usage on for Depression, Anxiety and Stress. For Depression, level of social media usage was significantly different (F = 3.751, p =. 012). The mean score for depression for participants with 'none' social media use was 17.18 ± 5.849 and was somewhat similar to the mean score for participants with 'less than 3 hour' social media (17.15 ± 7.056). However, with an increasing use of social media, the depression also increased; the depression levels of the frequency ranges of 3–6 hours social media user (19.66 ± 6.495), 6–9 hours social media user is increased to the maximum level (21.89 ± 6.842).

Also for Anxiety, the variances among types of social media use were near significant (F = 2.569, p =. 055). On the other hand, users who never used social media had the lowest mean anxiety scores of 14.65 ± 9.707, followed by those who used social media for < 3 hours (15.89 ± 6.980). Anxiety increased with the number of hours engaged in social media use, with average scores of (18.68 ± 6.717) in the 3–6 hours group and (18.44 ± 9.037) in the6–9 hours group. While this pattern indicates that people are more anxious as they spend more time on social media (with the 43degree line below the diagonals), this relationship was not significant.

In the case of Stress, it was observed a significant difference between groups (F = 1. 012). The participants who were non-social media users reported the mean stress score of 17.82 ± 10.735 whereas participants using social media for less than 3 hours reported little more stress score (20.38 ± 6.769). The average levels of stress did not differ significantly from those at baseline for the 3–6 hours group (mean =20.37 ± 4.918), but slightly increased to the maximum stress levels of the day for the 6–9 hours group (mean =22.89 ± 9.923).

These findings partially support Hypothesis 3, suggesting that **increased social media usage is significantly associated with higher levels of depression and stress, and shows a positive trend for anxiety.**

**Table 4: Regression Analysis of Social Media Usage on Depression, Anxiety, and Stress**

| Dependent Variable | *B* | *SE* | *B* | $R^2$ | *Sig.* |
|---|---|---|---|---|---|
| **Depression** | 1.721** | 0.576 | 0.185 | 0.034 | 0.003 |
| **Anxiety** | 1.637* | 0.634 | 0.161 | 0.026 | 0.010 |
| **Stress** | 1.316* | 0.628 | 0.131 | 0.017 | 0.037 |

***P<.001*

**p<.005*

The effect of social media use on levels of depression, anxiety, and stress is presented in Table 4. The results of the regression analysis suggest that the use of social media predicts these psychological outcomes. $R^2$ values reveal that 3.4% of the variance in depression ($R^2$ = 0.034, F(1, 251) = 8.926, p = 0.003), 2.6% in anxiety ($R^2$ = 0.026, F(1, 251) = 6.661, p = 0.010) and 1.7% in stress ($R^2$ = 0.017, F(1, 251) = 4.394, p = 0.037) can be explained by social media use. The findings indicate that social media usage is a significant positive predictor of depression (B = 1.721, p < 0.01), anxiety (B = 1.637, p < 0.05), and stress (B = 1.316, p < 0

## 4. DISCUSSION

The present study explored the influence of social media use on the psychological well-being of young people, addressing depression, anxiety, and stress. t-tests, ANOVA, regression model and other Statistical analysis lend strength to the understanding of the relationship between social media engagement and mental health among a sample of adolescents, belonging to the Lucknow, India. These results are in line with previous research and suggest that overuse of social media may be associated with the worsening of mental health, especially among young users.

The analysis demonstrated statistically significant sex-based differences in the time dedicated to social media as well as in mental health. Average time spent on social networking among women was greater than in men (t = -2.838, p =. 005). They were also significantly higher on all of the mental health measures: depression (t = -3.551, p <. 001), anxious (t =, anxiety (t = -5.683, p <. 001), and stress (t = -4.234, p <. 001). These results are in line with a number of studies that suggest that girls, and especially adolescent girls, are more sensitive in the emotional response to their Internet experiences. Nesi and Prinstein (2015) proposed that girls use social media to establish connections and confirm emotions leading to vulnerability for comparison and cyberbullying. Similarly, curation of the self in social media leads young girls and women to compare themselves to idealized images patterns, which results in low self-esteem, depression, and anxiety (Perloff, 2014). A meta-analysis conducted by Keles, McCrae and Grealish (2020) provides evidence for this trend, demonstrating that females consistently exhibit a greater magnitude of psychological distress related to social media use. In a similar manner, Muscanell and Guadagno (2012) found that women use social media to preserve social relationship and emotional attachment, which may heighten susceptibility to search for rejection sensitivity and emotional distress.

**4.1 Influence of Time Spent on Social Media**

The ANOVA test yielded strong evidence that the time adolescents spend using social media is correlated to their levels of depression ($F = 3.751$, $p = .012$) and stress ($F = 1.986$, $p = .012$), and anxiety was only a marginal predictor ($F = 2.569$, $p = .055$). Adolescents using social media for 6–9 hours per day showed the highest mean score for all three psychological measurements.

These findings are consistent with those of Twenge et al. (2018) who reported a significant increase in depression and suiciderelated behaviors in teens corresponding with a concurrent increase in screen time. Similarly, Hunt et al. (2018) reported that restricting social media use corresponds to significantly lowered loneliness and depression across three weeks. This indicates that time spent online isn't just associated with distress, but might be responsible for distress.

One channel through which the relationship between SMU and well-being operates is FOMO, a generalized anxiety based on the idea that other people are experiencing more rewarding events than oneself (Przybylski et al., 2013). FOMO drives teenagers to check social media over-and-over again, which reinforces compulsiveness and emotional fatigue.

**4.2 Predictive Role of Social Media Use**

The regression analysis for prediction of depression level on usage of social media indicates that usage of social media has a significant prediction on the depression level ($B = 1.721$, $p = .003$), fear of anxiety ($B = 1.637$, $p = .010$), and stress ($B = 1.316$, $p = .037$). Despite the low amount of variance, our findings are statistically and practically significant ($R^2$s between 0.017 and 0.034).

These results are congruent with Caplan's (2010) Cognitive Behavioral Model of PIU, which suggests that maladaptive cognitions, including escapism, avoidance, and social withdrawal, underlie compulsive use and, eventually, psychological distress. The rewards loop of likes, shares and comments which foster dopamine-driven behavior that is difficult to control, ultimately affecting mood and mental health (Andreassen et al., 2012).

Also, the Uses and Gratifications Theory (Katz et al., 1973) describes how people actively use media to satisfy emotional or social needs. Yet, when it becomes the dominant, if not the exclusive, source of pleasure, it may result in addictive behaviors, break in face-to-face connections, and diminish emotional control (Quan-Haase & Young, 2010).

**4.3 Cultural and Demographic Context**

A notable contribution of this study lies in its focus on adolescents in a tier-two Indian city like Lucknow, with a majority sample from rural areas (73.9%). This offers a unique perspective on the **digital divide** and its mental health implications. Rural adolescents may have less digital literacy but are not immune to the psychological effects of social media exposure. As Tahmasebi (2023) notes, limited awareness of content moderation and critical consumption makes rural users more vulnerable to misinformation and emotional overload.

Additionally, adolescents from nuclear families, who may experience less familial interaction and supervision, were found to engage more with social media as a substitute for social connection. This aligns with Coyne, Padilla-Walker, and Howard (2019), who reported that adolescents in nuclear families are more prone to using media for emotional regulation and self disclosure.

## 5. CONCLUSION

The results of this study make robust evidence on the powerful association of social media utilization with mental health among the adolescents of Lucknow. More precisely, there was evidence of increased depression, anxiety and stress by participants who engaged more in social media platforms daily. Gender differences were likewise in evidence, and female adolescents had far higher levels of psychological symptoms than did male counterparts. These findings are consistent with earlier findings that females are at greater risk for psychosocial maladjustment in relation to online communication compared to males as they invest more emotional energy, encounter high levels of social comparison, and in direct relation to validation through the internet. Moreover the underlining point that rural is often considered less digitally saturated the sample of rural Adolescent also show a huge involvement in social media, reflecting the decreasing digital divide in current Indian context. While the regression models of the present study identified weak associations, the statistical significance of SNS use to mental health served to validate theories like the Cognitive-Behavioral model of internet addiction and the Uses and Gratifications Model. In conclusion, the study is one of an increasing number, highlighting the pressing requirement for early identification, surveillance and intervention approaches around the psychological impact of social media use in adolescence.

## 6. FUTURE RECOMMENDATION

Based on these findings, some recommendations can be made to reduce some of the psychological risks of social media use among adolescents. To address these issues, schools can include formalized digital literacy instruction that focuses on responsible usage, critical thinking, and the ability to selfregulate one’s emotions when using digital media. ECC programmes should be developed to enhance media literacy, and to mitigate the risk of harmful behaviour, including overuse, compulsive use, and online comparison. Secondly, mental health interventions need to be gender-sensitive (giving a higher priority to adolescent girls) given that they are at greater risk for social media-related negative health effects. Interventions should also involve increasing self-esteem, resilience, and the educative approach for dealing with cyberbulllying and peer pressure. Furthermore, the engagement of parents through educational meetings and communication strategies, and guidance may create a home environment that is supportive in protecting from negative digital experiences. School counseling services need to be enhanced, so that screening for problematic social media use can be included as a part of a psychological examination. In terms of research, future research should use longitudinal and experimental designs to test causal effects and mediators such as sleep quality, academic stress and family support. Furthermore, we should examine more directly rural– urban disparities and develop interventions adapted to the sociocultural context specific to different populations. By intervening in these dimensions, future interventions might better support digital well-being and protect mental health of adolescents in the changing digital ecology.

## 7. REFERENCES


- Ali, A., Wang, H., & Khan, A. N. (2021). The impact of social media usage on work efficiency: The mediating role of social media addiction, technostress, and procrastination. *Technology in Society, 64*, 101526. https://doi.org/10.1016/j.techsoc.2020.101526
- Andreassen, C. S., Torsheim, T., Brunborg, G. S., & Pallesen, S. (2012). Development of a Facebook addiction scale. *Psychological Reports, 110*(2), 501–517. https://doi.org/10.2466/02.09.18.PR0.110.2.501-517
- Baker, D. A., & Algorta, G. P. (2016). The relationship between online social networking and depression: A systematic review of quantitative studies. *Cyberpsychology, Behavior, and Social Networking, 19*(11), 638–648. https://doi.org/10.1089/cyber.2016.0206
- Best, P., Manktelow, R., & Taylor, B. (2014). Online communication, social media and adolescent wellbeing: A systematic narrative review. *Children and Youth Services Review, 41*, 27-36. https://doi.org/10.1016/j.childyouth.2014.03.001
- Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication, 13*(1), 210-230. https://doi.org/10.1111/j.1083-6101.2007.00393.x
- Caplan, S. E. (2010). Theory and measurement of generalized problematic Internet use: A two-step approach. *Computers in Human Behavior, 26*(5), 1089-1097. https://doi.org/10.1016/j.chb.2010.03.012
- Carter, B., Rees, P., Hale, L., Bhattacharjee, D., & Paradkar, M. S. (2016). Association between portable screen-based media device use and sleep outcomes: A systematic review and meta-analysis. *JAMA Pediatrics, 170*(12), 1202–1208. https://doi.org/10.1001/jamapediatrics.2016.2341
- Chadwick, A., & Vaccari, C. (2019). News sharing on UK social media: Misinformation, disinformation, and correction. *Loughborough University Report*, 1–35.
- Chopik, W. J. (2016). The benefits of social technology use among older adults are mediated by reduced loneliness. *Cyberpsychology, Behavior, and Social Networking, 19*(9), 551–556. https://doi.org/10.1089/cyber.2016.0151
- Chou, H. T. G., & Edge, N. (2012). "They are happier and having better lives than I am": The impact of using Facebook on perceptions of others' lives. *Cyberpsychology, Behavior, and Social Networking, 15*(2), 117–121. https://doi.org/10.1089/cyber.2011.0324
- Coyne, S. M., Padilla-Walker, L. M., & Howard, E. (2019). Emerging in a digital world: A decade review of media use, effects, and gratifications in emerging adulthood. *Emerging Adulthood, 7*(5), 327–339. https://doi.org/10.1177/2167696818785508
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01
- Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social comparisons on social media: The impact of Facebook on young women's body image concerns and mood. *Body Image, 13*, 38–45. https://doi.org/10.1016/j.bodyim.2014.12.002
- Ferrara, E., & Yang, Z. (2015). Measuring emotional contagion in social media. *PLoS One, 10*(11), e0142390. https://doi.org/10.1371/journal.pone.0142390
- Griffiths, M. D. (2010). The role of context in online gaming excess and addiction: Some case study evidence. *International Journal of Mental Health and Addiction, 8*(1), 119–125. https://doi.org/10.1007/s11469-009-9229-x
- Holland, G., & Tiggemann, M. (2016). A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes. *Body Image, 17*, 100–110. https://doi.org/10.1016/j.bodyim.2016.02.008
- Hunt, M. G., Marx, R., Lipson, C., & Young, J. (2018). No more FOMO: Limiting social media decreases loneliness and depression. *Journal of Social and Clinical Psychology, 37*(10), 751–768. https://doi.org/10.1521/jscp.2018.37.10.751
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons, 53*(1), 59–68. https://doi.org/10.1016/j.bushor.2009.09.003
- Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *Public Opinion Quarterly, 37*(4), 509–523. https://doi.org/10.1086/268109
- Keles, B., McCrae, N., & Grealish, A. (2020). A systematic review: The influence of social media on depression, anxiety and psychological distress in adolescents. *International Journal of Adolescence and Youth, 25*(1), 79-93. https://doi.org/10.1080/02673843.2019.1590851
- Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age: A critical review and meta-analysis of cyberbullying research among youth. *Psychological Bulletin, 140*(4), 1073-1137. https://doi.org/10.1037/a0035618
- Kuss, D. J., & Griffiths, M. D. (2017). Social networking sites and addiction: Ten lessons learned. *International Journal of Environmental Research and Public Health, 14*(3), 311. https://doi.org/10.3390/ijerph14030311
- Levenson, J. C., Shensa, A., Sidani, J. E., Colditz, J. B., & Primack, B. A. (2017). The association between social media use and sleep disturbance among young adults. *Preventive Medicine, 85*, 36–41. https://doi.org/10.1016/j.ypmed.2016.11.013
- Lovibond, S.H. & Lovibond, P.F. (1995). Manual for the Depression Anxiety & Stress Scales. (2nd Ed.)Sydney: Psychology Foundation.
- Muscanell, N. L., & Guadagno, R. E. (2012). Make new friends or keep the old: Gender and personality differences in social networking use. *Computers in Human Behavior, 28*(1), 107–112. https://doi.org/10.1016/j.chb.2011.08.016
- Naslund, J. A., Aschbrenner, K. A., Marsch, L. A., & Bartels, S. J. (2016). The future of mental health care: Peer-to-peer support and social media. *Epidemiology and Psychiatric Sciences, 25*(2), 113–122. https://doi.org/10.1017/S2045796015001067
- Nesi, J., & Prinstein, M. J. (2015). Using social media for social comparison and feedback-seeking: Gender and popularity moderate associations with depressive symptoms. *Journal of Abnormal Child Psychology, 43*(8), 1427–1438. https://doi.org/10.1007/s10802-015-0020-0
- Padilla-Walker, L. M., Coyne, S. M., & Fraser, A. M. (2012). Getting a high-speed family connection: Associations between family media use and family connection. *Family Relations, 61*(3), 426-440. https://doi.org/10.1111/j.1741-3729.2012.00710.x
- Patchin, J. W., & Hinduja, S. (2015). Measuring cyberbullying: Implications for research. *Aggression and Violent Behavior, 23*, 69–74. https://doi.org/10.1016/j.avb.2015.05.013
- Perloff, R. M. (2014). Social media effects on young women's body image concerns: Theoretical perspectives and an agenda for research. *Sex Roles, 71*(11-12), 363–377. https://doi.org/10.1007/s11199-014-0384-6

- Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior, 29*(4), 1841–1848. https://doi.org/10.1016/j.chb.2013.02.014
- Quan-Haase, A., & Young, A. L. (2010). Uses and gratifications of social media: A comparison of Facebook and instant messaging. *Bulletin of Science, Technology & Society, 30*(5), 350–361. https://doi.org/10.1177/0270467610380009
- Ragnedda, M., & Muschert, G. W. (2013). *The digital divide: The Internet and social inequality in international perspective*. Routledge.
- Robinson, L., Cotten, S. R., Ono, H., Quan-Haase, A., Mesch, G., Chen, W., & Stern, M. J. (2015). Digital inequalities and why they matter. *Information, Communication & Society, 18*(5), 569-582. https://doi.org/10.1080/1369118X.2015.1012532
- Rosen, L. D., Whaling, K., Rab, S., Carrier, L. M., & Cheever, N. A. (2013). Is Facebook creating "iDisorders"? The link between clinical symptoms of psychiatric disorders and technology use, attitudes, and anxiety. *Computers in Human Behavior, 29*(3), 1243-1254. https://doi.org/10.1016/j.chb.2012.11.012
- Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology, 69*(4), 719–727. https://doi.org/10.1037/0022-3514.69.4.719
- Steele, L., Lochhead, J., Bailey, A., & Tarrier, N. (2020). Social media and mental health: A systematic review. *Journal of Mental Health, 29*(2), 1–17. https://doi.org/10.1080/09638237.2020.1732785
- Steele, R. G., Hall, J. A., & Christofferson, J. L. (2020). Conceptualizing digital stress in adolescents and young adults: Toward the development of an empirically based model. *Clinical Child and Family Psychology Review, 23*(1), 15-26. https://doi.org/10.1007/s10567-019-00303-7
- Tahmasebi, F. (2023). The digital divide: A qualitative study of technology access in rural communities. *AI and Tech in Behavioral and Social Sciences, 1*(2), 33–39. https://doi.org/10.61838/kman.aitech.1.2.6
- Twenge, J. M., Joiner, T. E., Rogers, M. L., & Martin, G. N. (2018). Increases in depressive symptoms, suicide-related outcomes, and suicide rates among U.S. adolescents after 2010 and links to increased social media use. *Clinical Psychological Science, 6*(1), 3–17. https://doi.org/10.1177/2167702617723376
- Uhls, Y. T., Ellison, N. B., & Subrahmanyam, K. (2017). Benefits and costs of social media in adolescence. *Pediatrics, 140*(S2), S67–S70. https://doi.org/10.1542/peds.2016-1758E
- Van Dijck, J. (2013). *The culture of connectivity: A critical history of social media*. Oxford University Press.
- Vosoughi, S., Roy, D., & Aral, S. (2018). The spread of true and false news online. *Science, 359*(6380), 1146–1151. https://doi.org/10.1126/science.aap9559
- Wright, M. F., Harper, B. D., & Wachs, S. (2020). Family influences on cyberbullying. *Parenting and Digital Media, 10*, 55-72. https://doi.org/10.1007/978-3-030-45106-2_5