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Social Media and Adolescents: Exploring Links to Depression, Anxiety, and Stress

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Abstract

This study examines the impact of social media on adolescent mental health, focusing on stress, anxiety, and depression while highlighting gender differences. In a hyper-connected world, social media has become integral to teen life, influencing identity and emotional well-being. A random sample of 120 adolescents (60 girls and 60 boys) from three prominent schools in Delhi—Kerala School, R.K. Puram; Kendriya Vidyalaya Sec. 8, R.K. Puram; and Delhi Public School, R.K. Puram—was assessed using the Pallavi Bhatnagar Anxiety, Depression, and Stress Scale. Employing qualitative and quantitative methodologies, the study revealed moderate levels of depression (39.2%) and anxiety (37.5%) among participants. Findings indicate that adolescent girls are particularly vulnerable, with higher levels of mental distress linked to social media engagement, exacerbated by factors such as FOMO, excessive screen time, and cyberbullying. A strong correlation between stress and depression underscores the necessity for targeted interventions, particularly in stress management. The research advocates for age-specific, gender-sensitive mental health programs in schools that address social pressures, body image issues, and academic stress. It emphasizes the importance of parental involvement and the need for further investigation into the root causes of gender disparities in mental health outcomes. Overall, fostering healthier digital environments is essential for promoting adolescent well-being.

Keywords: Adolescents, Social Media, Stress, Anxiety, Depression, Gender Difference

Introduction

Social media is now a major medium for communication and self-presentation (Carr & Hayes, 2015), with 92% of adolescents actively engaging in it (Pew Research Center, 2015). No longer just a tool, social media has become an integral aspect of their existence—a constant companion shaping how they perceive themselves, others, and the world around them. As they engage with these virtual spaces, their sense of belonging and expression flows through algorithms and digital dialogues, blending the real with the virtual. Understanding the relationship between adolescents and social media is key to exploring its broader effects on their mental health, psychological well-being, and development in the digital age to offer insights for targeted interventions to support adolescent well-being.

Developmental Context

Mobile social media (MSM) has become an inseparable thread in the intricate tapestry of adolescence, a phase where identity formation, autonomy, and social connections converge. In this digital era, MSM extends the reach of adolescents' self-exploration beyond the physical world, intertwining it with the constant immediacy of digital interactions. Adolescents currently confront Erikson's (1968) "identity vs. role confusion" dilemma in the digital realm, reflecting the "storm and stress" articulated by Hall (1904). Their pursuit of a cohesive identity is no longer confined to in-person interactions but extends into a realm of likes, comments, and constantly evolving online dynamics, as stated by Bjornsen (2018).

Within Bronfenbrenner's (1979) mesosystem—where interactions among peers, family, and educational environments converge—MSM provides a platform where adolescents can explore multiple facets of themselves, largely removed from the consequences of physical-world interactions. However, this freedom comes with both advantages and disadvantages. While it allows for self-expression, the digital mask they wear can be fragile, subject to the pressures of curation, idealization, and the constant tension between their online persona and offline reality.

The very platforms that offer avenues for identity exploration can also serve as amplifiers of the stress and anxiety adolescents face. On MSM, experimentation with self-presentation becomes a paradox; the quest for validation, through likes and shares, can often deepen insecurities. The sting of negative feedback or social rejection on these platforms intensifies self-doubt, complicating Erikson's idea of role confusion. Adolescents' digital freedom to "try on" identities may make it harder to distinguish between their true self and one they project.

This digital landscape further complicates personal relationships. Despite its design to facilitate connection, MSM has the potential to cultivate jealousy, surveillance, and tension in friendships and romantic relationships (Billedo et al., 2015; Toma & Choi, 2015). The macrosystem, representing broader societal expectations, invades this space, amplifying cultural pressures related to success, appearance, and status. These forces fuel cycles of comparison, anxiety, and depression as adolescents struggle to reconcile their digital personas with their real-world selves, perpetuating emotional turmoil at a time of profound self-discovery. Personality traits shape how adolescents interact with social media. Extraverts, driven by sociability, thrive online, using platforms to expand networks and gain social support, which can reduce loneliness (Correa et al., 2010). In contrast, adolescents high in neuroticism, prone to emotional instability, often seek validation through social media, making them vulnerable to negative psychological effects when their expectations aren't met (Lee-Won et al., 2015). Narcissistic tendencies fuel the curation of idealized personas, leading to feelings of inadequacy when reality falls short (Gnambs & Appel, 2017). Thus, social media can either alleviate or intensify psychological challenges, depending on individual traits.

Cultural Context and Social Media Use

The relationship between cultural context and social media use profoundly shapes adolescent development and mental health, with varying outcomes across different societies. Social media often promotes autonomy, self-expression, and personal achievement in Western cultures, emphasizing individualism, which leads adolescents to engage in social comparison and curate idealized online personas. This can exacerbate anxiety, depression, and self-esteem issues as societal pressures in the macrosystem intensify through digital interactions (Twenge et al., 2018; Bronfenbrenner, 1979). In contrast, adolescents in collectivistic cultures, such as those in Asia and Africa, navigate social media through the lens of family obligations and communal values. Here, the mesosystem highlights the tension between modernity and tradition, as seen in rural India, where social media use aligns with parental concerns about media risks (Pathak-Shelat & DeShano, 2014). Similarly, urban-rural divides, such as those in Thailand, complicate the digital experience, with urban youth acting as cultural brokers between their tech-savvy knowledge and traditional family values (McKenzie et al., 2022).

Furthermore, in places like South Korea and Latin America, social media both enhances connections and

intensifies stress. South Korean adolescents face amplified academic and social pressures due to digital comparisons (Lee et al., 2016), while in Latin America, exposure to American culture via social media reshapes adolescent identities, often at the expense of familial obligations (Ferguson et al., 2012). In the Middle East, social media catalyzes shifts in traditional values, especially around gender roles, though it can also weaken family cohesion (Abu Aleon et al., 2019). Cultural norms deeply influence the impact of social media on adolescent mental health, with individualistic cultures amplifying competition and mental health risks, while collectivistic cultures may offer buffering effects through stronger community ties. Future research should focus on cross-cultural studies to better understand these dynamics and develop culturally tailored interventions.

Challenges of Social Media for Adolescents

Social media significantly shapes the complex landscape adolescents navigate today, presenting numerous challenges that impact their mental health, identity formation, and interpersonal relationships. One prominent issue is social comparison, particularly on platforms like Instagram, where adolescents often compare themselves to idealized portrayals of others' lives, leading to feelings of inadequacy and low self-esteem (Lup & Rosenthal, 2015). This environment can also foster cyberbullying, as the anonymity of online interactions facilitates harmful behaviors, resulting in emotional distress and increased anxiety (Tsitsika et al., 2015). The potential for social media addiction further complicates matters, as excessive use for emotional validation can lead to dependency, adversely affecting academic performance and overall well-being (Andreassen, 2015; Junco, 2012).

Moreover, social media exacerbates body image concerns, particularly among girls, who may develop body dissatisfaction by comparing themselves to curated images, increasing the risk of eating disorders (Patel et al., 2016). While social media can help maintain connections, it often undermines the quality of real-life relationships, fostering superficial interactions and amplifying feelings of loneliness (Germann Molz & Paris, 2015). Issues surrounding privacy also arise, as blurred boundaries encourage behaviours like passive monitoring, leading to misunderstandings and gossip (Bjornsen et al., 2017a). The phenomenon of "Fear of Missing Out" (FOMO) further drives excessive social media use, contributing to heightened anxiety and stress (Przybylski et al., 2013).

The relentless nature of online bullying can expose adolescents to constant threats, increasing the risk of depression and suicidal ideation (Patchin & Hinduja, 2015). Additionally, excessive screen time disrupts sleep patterns, resulting in emotional dysregulation and increased stress levels (Levenson et al., 2016). Studies have indicated a correlation between social media addiction and psychological disorders, particularly among adolescents with pre-existing emotional instability (Andreassen et al., 2016). The pressure to curate an idealized online persona can strain personal relationships, leading to identity confusion and emotional dysregulation (Pittman & Reich, 2016).

Moreover, adolescents who dwell on negative online interactions are more likely to experience depressive symptoms due to rumination and negative feedback loops perpetuated by social media (Baker & Algorta, 2016). Vulnerable populations, including LGBTQ+ youth and those from low-income backgrounds, face heightened mental health challenges online, exacerbated by discrimination (Abreu & Kenny, 2018). Passive social media use, characterized by "creeping" without engagement, can also lead to loneliness and envy, contributing to depressive symptoms (Verduyn et al., 2017). Lastly, social media enables behaviours such as cyberstalking and partner surveillance, fostering jealousy and relational tension (Tokunaga, 2011). The emergence of catfishing and false identities further complicates trust issues among adolescents, leading to emotional conflicts (Whitty & Buchanan, 2016). Some individuals may engage in self-cyberbullying to garner attention, which often results in shame and worsened mental health (Patchin & Hinduja, 2010). Collectively, these challenges underscore the need for greater awareness and supportive measures to mitigate the adverse effects of social media on adolescents.

Gender Differences in Social Media Use and Effects

The interplay between gender and social media use profoundly shapes adolescents' experiences and mental health outcomes, revealing a complex landscape where individual differences significantly affect online interactions. Research indicates that adolescent girls are particularly susceptible to social comparison, leading to heightened anxiety and internalizing symptoms from their social media interactions (Hutton et al., 2024). Svensson et al. (2022) underscores this gendered dynamic, finding a significant positive association between social media use and internalizing symptoms among girls, suggesting that pressures of self-presentation—manifested through seeking validation via likes and followers—adversely impact their self-esteem and overall mental health. In contrast, boys tend to engage differently, benefiting from online sociability, which correlates negatively with internalizing symptoms. This highlights that while excessive social media use contributes to anxiety and depression across genders, the type of engagement matters: self-presentation is particularly hazardous for girls, leading to a cycle of self-comparison exacerbating mental health challenges (Vogel et al., 2014; Fardouly et al., 2015). Svensson et al. (2022) further differentiates among social media activities, revealing that chatting and self-presentation increase the risk of internalizing symptoms, while online sociability acts as a protective factor, especially for boys. This nuanced understanding urges researchers to consider not just the quantity but also the quality and nature of social media interactions, as different engagements yield varied psychological effects (Valkenburg & Peter, 2011). Recognizing the impact of gender differences and individual characteristics becomes crucial for developing targeted interventions that support mental well-being in the digital age, and exploring neurobiological perspectives can bridge the gap between observed behaviors and the adolescent brain's workings, enhancing our understanding of the mental health challenges associated with digital media use among young people.

Neurobiological Perspectives

The relationship between social media use and adolescent mental health is complex and best understood through a neurobiological lens. Adolescence is a critical period characterized by rapid cognitive and emotional development, during which the brain undergoes significant changes. The prefrontal cortex, essential for decision-making, impulse control, and emotional regulation, continues maturing into young adulthood (Hutton et al., 2024), while the limbic system, responsible for emotional responses, matures earlier, creating a developmental imbalance. This imbalance makes adolescents particularly sensitive to the emotional impacts of social media, leading to feelings of inadequacy, anxiety, and stress when confronted with curated representations of peers. Social media platforms offer constant social validation opportunities through likes, comments, and shares but can also foster competition and exacerbate feelings of inadequacy and low self-esteem. Research shows that exposure to idealized images correlates with increased anxiety and depression among adolescents as they navigate peer relationships and identity formation (Hutton et al., 2024). Studies in neuroscience show that using social media too much may change neural circuits that handle rewards and emotions. For example, the need for "likes" activates the brain's reward system, especially the nucleus accumbens, which can cause compulsive use patterns and increased anxiety when expected social reinforcement is lacking (Hutton et al., 2024)}. As adolescents transition to emerging adulthood, their neural circuitry continues to develop, particularly in regions associated with self-regulation and social cognition. While cognitive control improves, the challenges posed by social comparison and reputation management on social media persist. Engaging with social media content activates the precuneus, which plays a key role in self-consciousness and social cognition (Sherman et al., 2017). This illustrates how social media stimulates self-reflection and social evaluation, which are integral to identity formation. Sharing self-related content on a regular basis improves neural connectivity in the prefrontal cortex, the precuneus, and other areas that help with self-awareness and controlling emotions (Meshi et al., 2016). This connectivity may help emerging adults navigate social environments but raises concerns about the long-term effects of social media on mental health and neurobiological development. In conclusion, the interplay between neurobiological development and social media underscores the challenges faced by adolescents and emerging adults in the digital landscape, emphasizing the need for nuanced understanding and tailored approaches to support their mental health amidst pervasive online influences.

Rational of The Study

The increasing prominence of social media in adolescents' lives has raised concerns about its impact on mental health during this crucial developmental period marked by psychological, emotional, and social changes. While social media provides opportunities for connection and self-expression, it also poses risks like social comparison, cyberbullying, and excessive screen time, all of which are associated with anxiety, depression, and stress. However, there is a gap in understanding how different dimensions of social media use—such as time spent online, platform types, and interaction nature—specifically affect adolescent mental health. This study aims to address this gap by investigating adolescents' perspectives on their social media usage and analyzing the associated frequency and severity of stress, anxiety, and depression. Understanding these dynamics is essential for creating informed strategies to mitigate the negative effects of social media, promote positive online experiences, and support adolescent well-being in the digital age. Ultimately, the research will provide insights into how social media affects mental health, informing the development of targeted interventions for adolescents during this critical stage of development.

Research Questions

1. How does the amount of time adolescents spend on social media correlate with their overall stress levels?
    - How is time spent on social media associated with adolescents' sense of identity?
    - How do adolescents' stress and discomfort levels change as their social media usage increases?
2. In what ways is the growing use of social media related to heightened stress levels among adolescents?
3. How does the frequency of social media use affect anxiety levels in adolescents?
4. How do different types of social media usage (e.g., passive browsing, active participation, content creation) impact anxiety levels and adolescents' self-efficacy?

Hypothesis

H1: Increased time spent on social media sites correlates with higher stress levels.

a. A greater amount of time on social media is associated with a worsening sense of identity, which contributes to increased stress.

H2: The nature of social media interactions (e.g., passive consumption vs. active participation) is associated with different levels of stress.

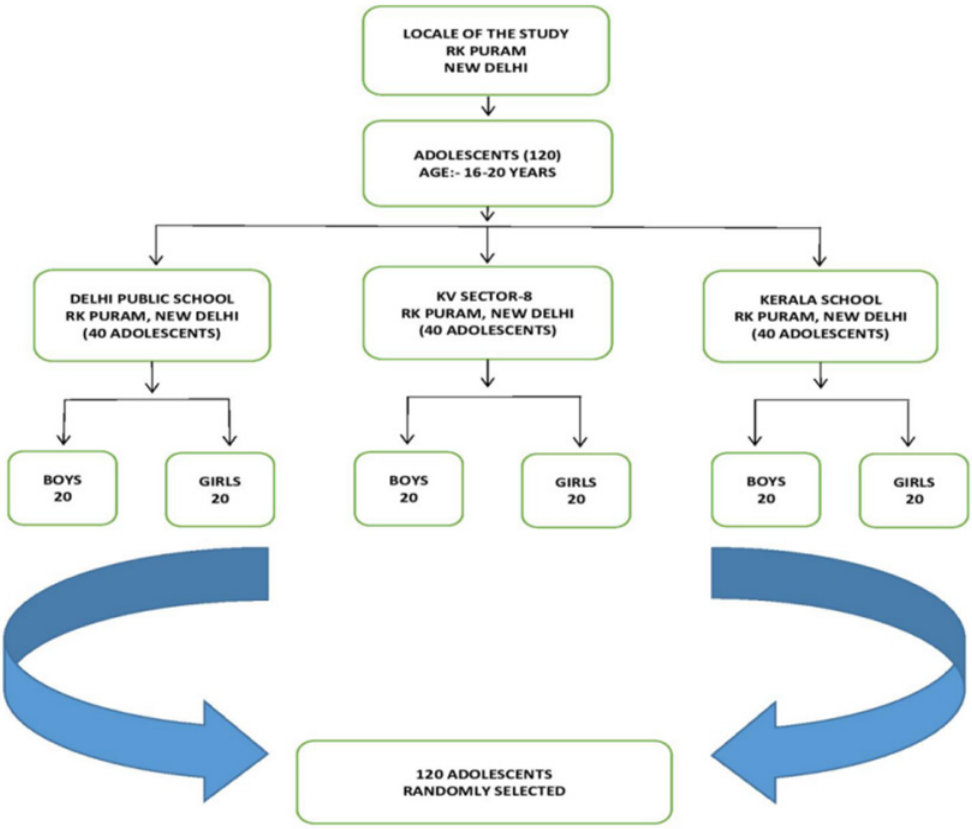
H3: More frequent social media use is associated with higher levels of anxiety.

H4: Different types of social media usage (e.g., content consumption, creation, and social interaction) affect anxiety levels and self-efficacy differently.

Research Methodology

This research used a quantitative methodology to examine the effects of social media on stress, anxiety, and depression in adolescents residing in R.K. Puram, New Delhi. A random sample procedure was employed to pick 120 adolescents aged 16-20 years from three schools, achieving an equal representation of 60 boys and 60 girls. Data collection was conducted using a structured questionnaire derived from the Pallavi Bhatnagar Anxiety, Depression, and Stress Scale (ADSS), which consists of 48 items classified into anxiety, depression, and stress. Responses were evaluated on a three-point scale, with elevated scores signifying increased levels of these circumstances. Before data collection, permits were secured from school principals, and ethical considerations, such as informed consent and confidentiality, were rigorously upheld. The independent variables encompass personal parameters like age and gender, whereas the dependent variables examine the effects of social media consumption on participants' mental

health outcomes. This methodology creates a thorough framework for investigating the connections between social media and adolescent mental health in an educational context.



Data Analysis

The collected data were categorized and coded to facilitate statistical analysis. Descriptive statistics, including frequency and percentage, were employed to assess the distribution of stress, anxiety, and depression levels, as well as the demographic traits of participants. The mean was calculated to determine the average levels of these psychological factors, while standard deviation was computed to measure variability, providing insights into how individual data points deviated from the mean.

For inferential analysis, an independent-samples t-test was utilized to compare the means of two groups (e.g., based on gender) regarding continuous variables such as stress, anxiety, and depression. This test assessed whether there were significant differences between the groups. Additionally, Pearson's correlation coefficient was calculated to examine the strength and direction of relationships between stress, anxiety, and depression, indicating how strongly these variables were associated with each other. Lastly, a Chi-square test was conducted to analyze the association between stress, anxiety, and depression with categorical variables like gender, evaluating the independence of these factors through hypothesis testing.

Results and Discussions

The present study was conducted to assess the levels of stress, anxiety, and depression among adolescents aged 16-20 years, focusing on the impact of social media. The study also examined whether stress, anxiety, and depression influenced each other. Under the following sub-headings, the study's findings are examined:

1. Personal profile of respondents:

In the personal profile of respondents, it has been shown in Table 1 that an equal percentage of boys (60)

and girls (60) were selected as respondents.

Table 1: Personal profile of respondents

	Frequency	Percentage
Boys	60	50%
Girls	60	50%

With regard to age of respondents, the result revealed that those 43.3% respondents were below 18 years of age and 56.7% respondents were above 18 years of age in Table 2.

Table 2: Age wise distribution of adolescents

	Frequency	Percentage
Below 18	52	43.3%
Above 18	68	56.7%

1.1. Perception of stress among adolescents:

Chi-square analysis revealed a significant association between stress and gender at the 1% level. The majority of adolescents (37.5%) reported low stress, then 33.3% reported moderate stress, and 29.2% reported high stress. Most boys (75%) experienced low stress, while most girls (58.3%) experienced moderate stress. Among those below 18 years, 48.1% reported low stress, whereas 38.2% of those above 18 years reported moderate stress. No significant association was found between stress and age at the 5% level (Table 3).

1.1.1. Perception of stress among adolescents

To investigate the connection between adolescent stress and gender, a chi square was computed, and it is evident that the majority of boys reported low levels of stress while the majority of girls reported high levels of stress. There was a statistically non-significant relationship between stress and age of teens at the 1% level of significance. Results displaying the mean and standard deviation of boys and girls stress levels showed that girls were more stressed than boys.

Table 3: Distribution of the sample as per level of stress perceived by adolescents

Stress Scores	Total	Boys	Girls	Below 18 Years	Above 18 Years
Low	45 (37.5)	45 (75)	0 (0)	25 (48.1)	20 (29.4)
Moderate	40 (33.3)	15 (25)	25 (41.7)	14 (26.9)	26 (38.2)
High	35 (29.2)	0 (0)	35 (58.3)	13 (25)	
Chi-square		82.5**		4.415	

N = number of respondents
values in parenthesis are percentage
***values are significant at the 1% level.*

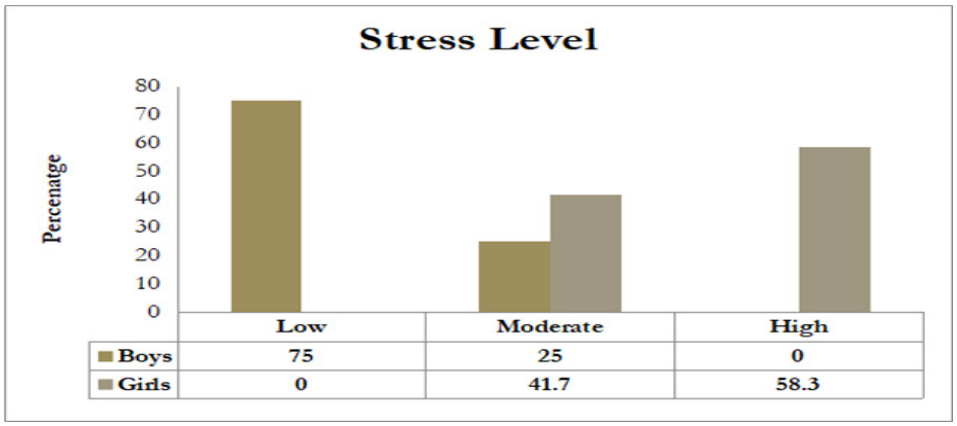


Figure 1: Distribution of the sample as per level of stress perceived by adolescents with regard to gender

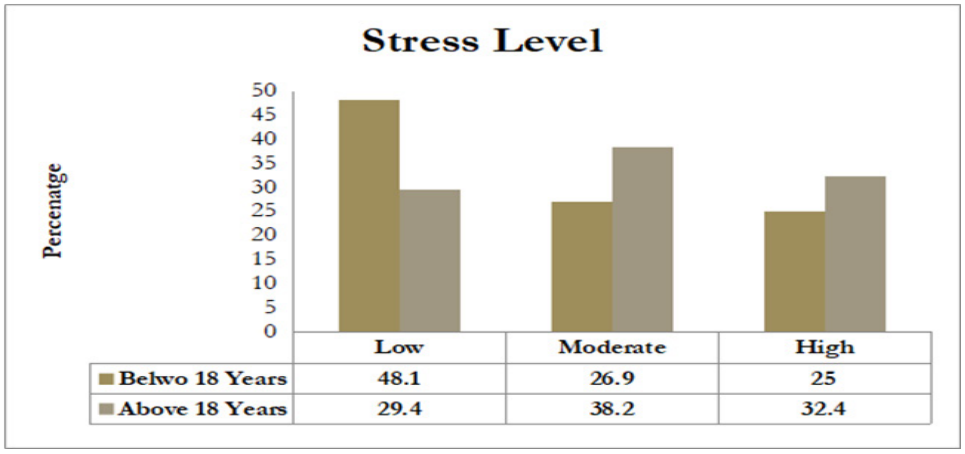


Figure 2: Distribution of the sample as per level of stress perceived by adolescents with regard to age

The mean stress scores for boys and girls were 1.25±0.44 and 2.58±0.50, respectively, indicating that girls experienced more stress. This difference was significant at the 1% level. For age groups, the mean stress was 3.08±1.70 for those below 18 years and 3.63±1.76 for those above 18 years, with no significant difference at the 5% level (Table 4).

Table 4 Comparison of Stress in Boys vs. Girls Adolescents

	Boys (n=60)	Girls (n=60)	Below 18 Years	Above 18 Years
Stress	1.25±0.44	2.58±0.50	3.08±1.70	3.63±1.76
t-value	15.61**		1.737	

N = number of respondents
***values are significant at the 1% level.*

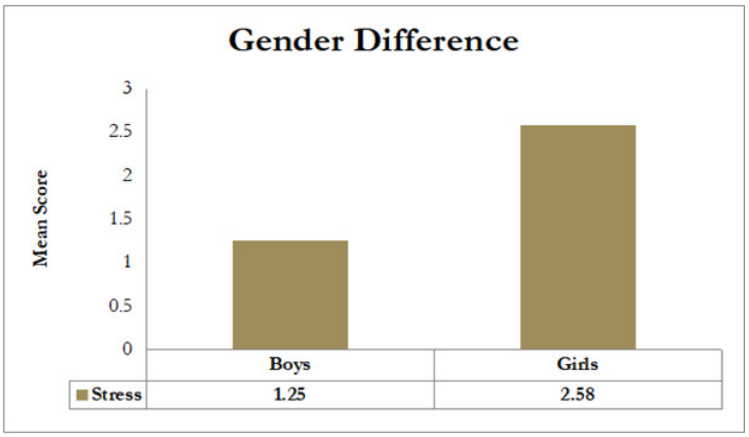


Figure 3: Comparison of Stress in Boys vs. Girls Adolescents

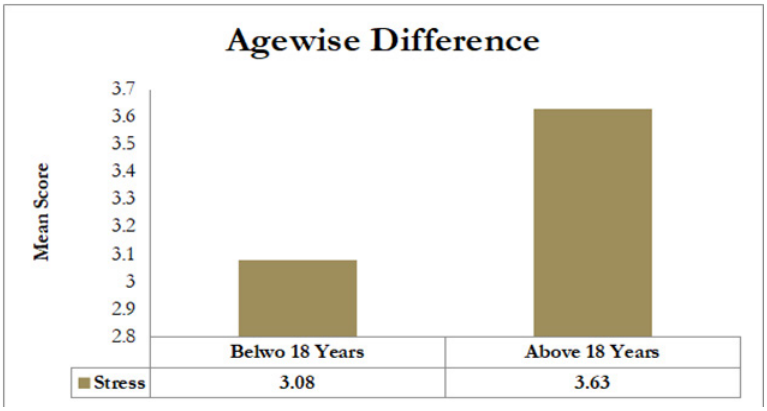


Figure 4: Comparison of stress in below-18 years vs. above-18 years adolescents

1.2. Perception of anxiety among adolescents

Chi-square analysis found a significant association between anxiety and gender at the 5% level. A major proportion (37.5%) of adolescents reported moderate anxiety, followed by 33.3% with low anxiety and 29.2% with high anxiety. Most boys (43.3%) reported low anxiety, compared to most girls (38.3%), who reported moderate anxiety. Among those below 18 years, 34.6% reported low anxiety, while 42.6% of those above 18 years reported moderate anxiety. At the 5% level, no discernible correlation was discovered between age and anxiety (Table 5).

Table 5: Distribution of the sample as per level of anxiety perceived by adolescents

Anxiety Scores	Total (n=120)	Boys (n=60)	Girls (n=60)	Below 18 Years	Above 18 Years
Low	40 (33.3)	26 (43.3)	14 (23.3)	18 (34.6)	22 (32.4)
Moderate	45 (37.5)	22 (36.7)	23 (38.3)	16 (30.8)	29 (42.6)
High	35 (29.2)	12 (20)	23 (38.3)	18 (34.6)	17 (25)
Chi-square		7.079*		2.088	

N = number of respondents
values in parenthesis are percentage
**Values are significant at 5% level.*

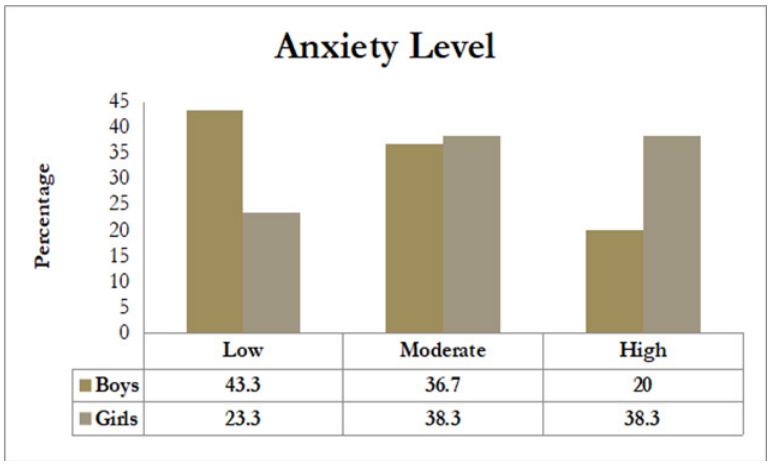


Figure 5: Distribution of the sample as per level of anxiety perceived by adolescents with regard to gender

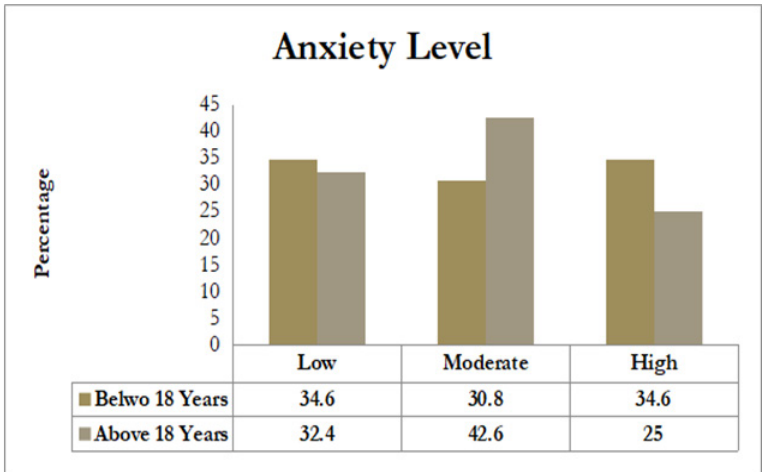


Figure 6: Distribution of the sample as per level of anxiety perceived by adolescents with regard to age

The mean anxiety scores for boys and girls were 1.77±0.77 and 2.15±0.78, respectively, indicating that girls experienced more anxiety. This difference was significant at the 1% level. For age groups, the mean anxiety was 3.31±2.74 for those below 18 years and 2.93±2.16 for those above 18 years, with no significant difference at the 5% level (Table 6).

Table 6: Comparison of Anxiety in Boys vs. Girls Adolescents

	Boys (n=60)	Girls (n=60)	Below 18 Years	Above 18 Years
Anxiety	1.77±0.77	2.15±0.78	3.31±2.74	2.93±2.16
t-value	2.719**		0.852	

N = number of respondents
***values are significant at the 1% level.*

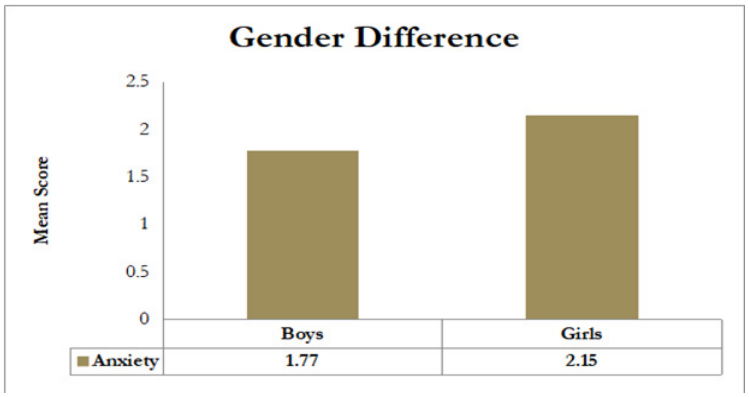


Figure: 7. Comparison of Anxiety in Boys vs. Girls Adolescents

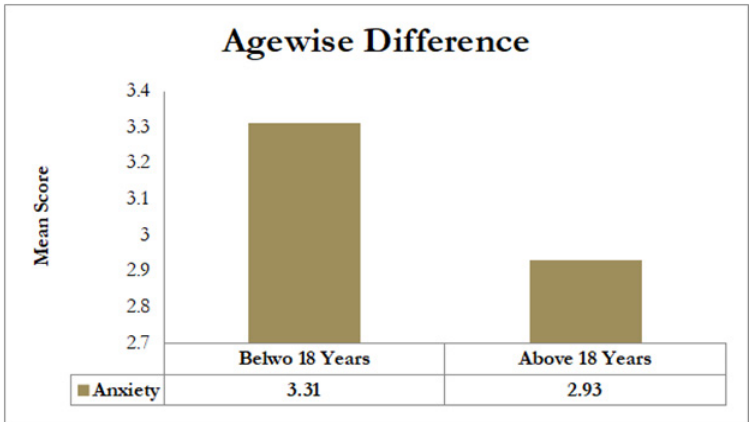


Figure: 8. Comparison of Anxiety in below-18 years vs. above-18 years adolescents

1.3. Perception of depression among adolescents

Chi-square analysis indicated a significant association between depression and gender at the 1% level. Most boys (51.7%) reported low depression, while most girls (45%) reported high depression. Among those below 18 years, 36.5% reported low depression, and 45.6% of those above 18 years reported moderate depression. No significant association was found between depression and age at the 5% level (Table 7).

Table 7: Distribution of the sample as per level of depression perceived by adolescents

Depression Scores	Total (n=120)	Boys (n=60)	Girls (n=60)	Below 18 Years	Above 18 Years
Low	41 (34.2)	31 (51.7)	10 (16.7)	19 (36.5)	22 (32.4)
Moderate	47 (39.2)	24 (40)	23 (38.3)	16 (30.8)	31 (45.6)
High	32 (26.7)	5 (8.3)	27 (45)	17 (32.7)	15 (22.1)
Chi-square		25.902**		3.053	

N = number of respondents
values in parenthesis are percentage
***values are significant at the 1% level.*

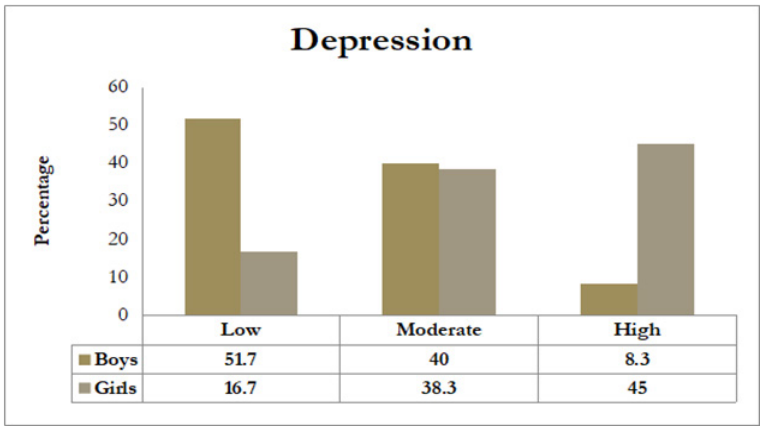


Figure 9: Distribution of the sample as per level of depression perceived by adolescents with regard to gender

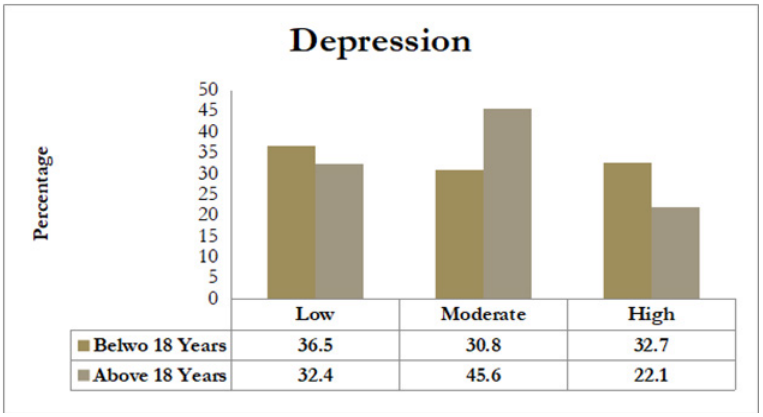


Figure 10: Distribution of the sample as per level of depression perceived by adolescents with regard to age

The mean depression scores for boys and girls were 1.57±0.65 and 2.28±0.74, respectively, with girls reporting higher levels of depression. This difference was significant at the 1% level. For age groups, the mean depression scores were 5.37±3.38 for those below 18 years and 5.28±3.12 for those above 18 years, with no significant difference at the 5% level (Table 8).

Table 8: Comparison of Depression in Boys vs. Girls Adolescents

	Boys (n=60)	Girls (n=60)	Below 18 Years	Above 18 Years
Depression	1.57±0.65	2.28±0.74	5.37±3.38	5.28±3.12
t-value	5.652**		0.143	

N = number of respondents
***values are significant at the 1% level.*

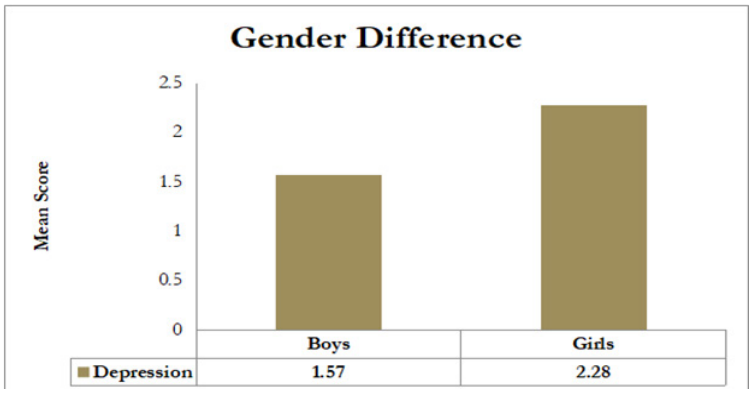


Figure 11: Comparison of Depression in Boys vs. Girls Adolescents

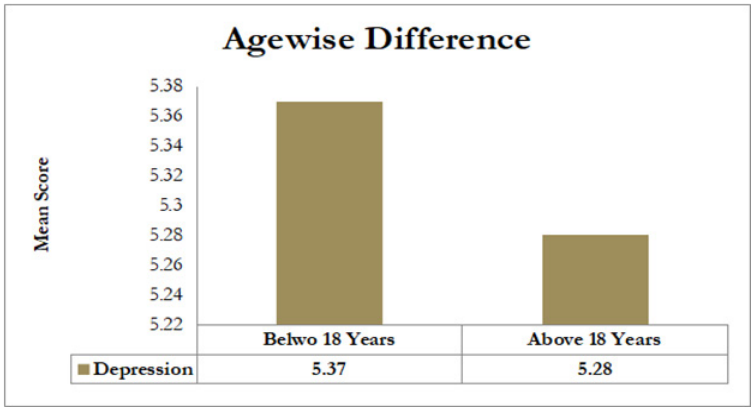


Figure 12: Comparison of depression in below-18-year-old vs. above-18-year-old adolescents

2. Correlation Analysis

Karl Pearson's coefficient of correlation was used to examine the relationships between stress, anxiety, and depression among adolescents aged 16-20 years.

2.1 Correlation between Stress and Anxiety

Table 9: Correlation between Stress and Anxiety among Adolescents

Correlation Coefficient (r)				
Total (n=120)	**Boys (n=60)**	**Girls (n=60)**	**Below 18 years**	**Above 18 years**
0.286**	-0.079	0.060	0.319*	0.295*

N = number of respondents
** Values are significant at 5% level.*
***values are significant at the 1% level.*

Table 9 shows that, overall, stress and anxiety are positively correlated (r = 0.286**), meaning higher stress is associated with higher anxiety. For boys, the correlation is negative and not significant (r=-0.079), while for girls, it is positive but not significant (r=0.060). However, both age groups show a positive and significant correlation: below 18 years (r = 0.319*) and above 18 years (r = 0.295*).

2.2. Correlation between Stress and Depression

Table 10: Correlation between stress and depression among adolescents

Correlation Coefficient (r)				
Total (n=120)	**Boys (n=60)**	**Girls (n=60)**	**Below 18 years**	**Above 18 years**
0.529**	0.258*	0.325*	0.534**	0.543**

N = number of respondents
**Values are significant at 5% level.*
***values are significant at the 1% level.*

Table 10 reveals that stress and depression are significantly positively correlated overall (r = 0.529**), indicating that higher stress is associated with higher depression. Both boys (r = 0.258*) and girls (r = 0.325*) show significant positive correlations. Additionally, significant positive correlations are observed in both age groups: below 18 years (r = 0.534**) and above 18 years (r = 0.543**).

2.3. Correlation between Depression and Anxiety

Table 11: Correlation between Depression and Anxiety among Adolescents

Correlation Coefficient (r)				
Total (n=120)	**Boys (n=60)**	**Girls (n=60)**	**Below 18 years**	**Above 18 years**
0.404**	0.255*	0.328*	0.502**	0304*

N = number of respondents
**Values are significant at 5% level.*
***values are significant at the 1% level.*

Table 11 shows that depression and anxiety are significantly positively correlated overall (r = 0.404**), meaning higher anxiety is associated with higher depression. This correlation is significant in both boys (r = 0.255*) and girls (r = 0.328*). Significant positive correlations are also found in both age groups: below 18 years (r = 0.502**) and above 18 years (r = 0.304*).

Correlation analysis between stress, anxiety, and depression among adolescents

The degree of correlation between two variables was determined in the current study using Karl Pearson's coefficient of correlation. It was a two-way statistical technique that sought to find the connection between teenagers stress, anxiety, and depression. In the entire sample, a positive and significant correlation between anxiety and stress was observed for respondents below 18 years old (r = 0.319) and above 18 years old (r = 0.295). On the other hand, a positive and non-significant correlation was observed between stress and anxiety for boys, while a negative and non-significant correlation was noticed for girls.

Conclusion

The study reveals several critical insights into the relationship between social media usage and mental health among adolescents. Firstly, it establishes a significant link between social media usage and heightened levels of depression, anxiety, and stress in adolescent girls, indicating a self-reinforcing cycle where mental health struggles drive increased reliance on social media. Additionally, the phenomenon of "Fear of Missing Out" (FOMO) is identified as a powerful factor, as adolescents experience emotional distress when offline, prompting more frequent social media engagement. Gender differences are also evident, with adolescent girls displaying greater vulnerability to these mental health issues compared to boys, highlighting the need for gender-specific strategies in addressing the impact of social media. Furthermore, the study notes that increased screen time associated with social media usage can lead to physical health problems and contribute to higher depression levels. Adolescents engaging frequently with social media are also at greater risk of forming unhealthy relationships and experiencing cyberbullying, which further exacerbates their mental health challenges. Lastly, a strong positive correlation is found

between stress and depression, underscoring the necessity for targeted interventions that focus on stress management for adolescents, as this association is significant for both genders. Overall, the findings emphasize the urgent need for comprehensive approaches to mitigate the adverse effects of social media on adolescent mental health.

Implications of the Study

This study's findings highlight several important implications for adolescent mental health. The necessity for gender-specific interventions is evident; tailored programs for adolescent girls can effectively address unique stressors, including social pressures, body image issues, and academic concerns, while also acknowledging the distinct mental health needs of boys. Schools should implement comprehensive mental health programs that emphasize preventive measures such as stress management, resilience building, and emotional regulation through age-appropriate activities designed to create a supportive environment. Age-specific approaches are crucial to addressing the distinct needs of older adolescents and younger teens. Programs targeting older adolescents should focus on coping strategies for academic pressures and social transitions, whereas younger teens would gain from emotional education and peer support initiatives. Promoting participation in hobbies and physical activities can function as a beneficial outlet, decreasing screen time and improving overall well-being.

Comprehensive assessments that collectively evaluate stress, anxiety, and depression are essential for effectively monitoring adolescent mental health. Educators and counselors should employ integrated tools to identify at-risk adolescents, fostering self-acceptance and resilience in the face of social media challenges and peer pressure. Parental involvement is essential; facilitating open discussions regarding emotional health can enhance trust and support for adolescents facing these challenges. There is a critical necessity for gender-responsive mental health policies in educational institutions. These policies should ensure access to counseling services, integrate mental health education into curricula, and encourage outdoor activities to reduce the risks associated with excessive screen time. Future research should examine the underlying causes of gender differences in stress, anxiety, and depression. Longitudinal studies could provide valuable insights into the evolution of these psychological factors during the transition from adolescence to adulthood.

References

Abu Aleon, T., Weinstock, M., Manago, A. M., & Greenfield, P. M. (2019). Social change and intergenerational value differences in a Bedouin community in Israel. Journal of Cross-Cultural Psychology, 50, 708–727.

Abreu, R. L., & Kenny, M. C. (2018). Cyberbullying and LGBTQ youth: A systematic literature review and recommendations for prevention and intervention. *Journal of Child & Adolescent Trauma*, *11*, 81-97.

Andreassen, C. S. (2015). Online social network site addiction: A comprehensive review. *Current addiction reports*, *2*(2), 175-184.

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.

Billedo, C. J., Kerkhof, P., & Finkenauer, C. (2015). The use of social networking sites for relationship maintenance in long-distance and geographically close romantic relationships. *Cyberpsychology, behavior, and social networking*, *18*(3), 152-157.

Bjornsen, C. (2018). Social media use and emerging adulthood. *Prehod v odraslost: Sodobni trendi in raziskave*, 193-223.

Bronfenbrenner, U. (1979). *The ecology of human development*. Harvard University Press.

Carr, C. T., & Hayes, R. A. (2015). Social media: Defining, developing, and divining. *Atlantic journal of*

communication, *23*(1), 46-65.

Correa, T., Hinsley, A. W., & De Zuniga, H. G. (2010). Who interacts on the Web?: The intersection of users' personality and social media use. *Computers in human behavior*, *26*(2), 247-253.

Erikson, E. H. (1994). *Identity and the life cycle*. WW Norton.

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.

Ferguson, G. M., & Bornstein, M. H. (2012). Remote acculturation: The "Americanization" of Jamaican islanders. International Journal of Behavioral Development, 36(3), 167–177.

Germann Molz, J., & Paris, C. M. (2015). The social affordances of flashpacking: Exploring the mobility nexus of travel and communication. *Mobilities*, *10*(2), 173-192.

Gnambs, T., & Appel, M. (2018). Narcissism and social networking behavior: A meta-analysis. *Journal of personality*, *86*(2), 200-212.

Hutton, J. S., Piotrowski, J. T., Bagot, K., Blumberg, F., Canli, T., Chein, J., ... & Potenza, M. N. (2024). Digital Media and Developing Brains: Concerns and Opportunities. *Current Addiction Reports*, *11*(2), 287-298.

Junco, R. (2012). Too much face and not enough books: The relationship between multiple indices of Facebook use and academic performance. *Computers in human behavior*, *28*(1), 187-198.

Lee-Won, R. J., Herzog, L., & Park, S. G. (2015). Hooked on Facebook: The role of social anxiety and need for social assurance in problematic use of Facebook. *Cyberpsychology, Behavior, and Social Networking*, *18*(10), 567-574.

Levenson, J. C., Shensa, A., Sidani, J. E., Colditz, J. B., & Primack, B. A. (2016). The association between social media use and sleep disturbance among young adults. *Preventive medicine*, *85*, 36-41.

Lup, K., Trub, L., & Rosenthal, L. (2015). Instagram# instasad?: exploring associations among instagram use, depressive symptoms, negative social comparison, and strangers followed. *Cyberpsychology, Behavior, and Social Networking*, *18*(5), 247-252.

McKenzie, J., Castellón, R., Willis-Grossmann, E., Landeros, C., Rooney, J., & Stewart, C. (2022). Digital divides and dyadic gaps: A portrait of media use and perspectives of media in Thailand

Meshi, D., Mamerow, L., Kirilina, E., Morawetz, C., Margulies, D. S., & Heekeren, H. R. (2016). Sharing self-related information is associated with intrinsic functional connectivity of cortical midline brain regions. *Scientific Reports*, *6*(1), 22491.

Patchin, J. W., & Hinduja, S. (2015). Measuring cyberbullying: Implications for research. *Aggression and violent behavior*, *23*, 69-74.

Patel, K., Tchanturia, K., & Harrison, A. (2016). An exploration of social functioning in young people with eating disorders: a qualitative study. *PloS one*, *11*(7), e0159910.

Pathak-Shelat, M., & DeShano, C. (2014). Digital youth cultures in small town and rural Gujarat, India. *New Media & Society*, *16*(6), 983-1001.

Pittman, M., & Reich, B. (2016). Social media and loneliness: Why an Instagram picture may be worth more than a thousand Twitter words. *Computers in human behavior*, *62*, 155-167.

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.

Sherman, D. S., Mauser, J., Nuno, M., & Sherzai, D. (2017). The efficacy of cognitive intervention in mild cognitive impairment (MCI): a meta-analysis of outcomes on neuropsychological measures. *Neuropsychology review*, *27*, 440-484.

Svensson, R., Johnson, B., & Olsson, A. (2022). Does gender matter? The association between different digital media activities and adolescent well-being. *BMC Public Health*, *22*(1), 273.

Tokunaga, R. S. (2011). Social networking site or social surveillance site? Understanding the use of interpersonal electronic surveillance in romantic relationships. *Computers in human behavior*, *27*(2), 705-713.

Toma, C. L., & Choi, M. (2015). The couple who Facebooks together, stays together: Facebook self-presentation and relationship longevity among college-aged dating couples. *Cyberpsychology, Behavior, and Social Networking*, *18*(7), 367-372.

Tsitsika, A., Janikian, M., Wójcik, S., Makaruk, K., Tzavela, E., Tzavara, C., ... & Richardson, C. (2015). Cyberbullying victimization prevalence and associations with internalizing and externalizing problems among adolescents in six European countries. *Computers in Human Behavior*, *51*, 1-7.

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 new media screen time. Clinical Psychological Science, 6(1), 3–17. doi:10.1177/2167 702617723376

Valkenburg, P. M., & Peter, J. (2011). Online communication among adolescents: An integrated model of its attraction, opportunities, and risks. *Journal of adolescent health*, *48*(2), 121-127.

Vogel, E. A., Rose, J. P., Roberts, L. R., & Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of popular media culture*, *3*(4), 206.

Verduyn, P., Ybarra, O., Résibois, M., Jonides, J., & Kross, E. (2017). Do social network sites enhance or undermine subjective well-being? A critical review. *Social Issues and Policy Review*, *11*(1), 274-302.

Whitty, M. T., & Buchanan, T. (2016). The online dating romance scam: The psychological impact on victims–both financial and non-financial. *Criminology & Criminal Justice*, *16*(2), 176-194.