

Social Media Use and Adolescent Mental Health: Exploring the Relationship Between Social Media Engagement, Anxiety and Depression

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Abstract

Excessive or problematic social media engagement is strongly linked to higher rates of anxiety, depression, and psychological distress in adolescents, though the overall impact depends heavily on the quality of use and personal vulnerabilities. Spending more than two hours a day on social networking sites correlates with increased depressive symptoms, emotional distress, and sleep disruption. However, active one-to-one communication and mutual online friendships can actually alleviate loneliness and stress.

Core Risk Mechanisms:

Social Comparison: Constantly viewing idealized peer profiles triggers negative self-evaluation and body dissatisfaction.

Feedback-Seeking: Relying on "likes" and comments makes adolescent mood overly dependent on digital validation.

Fear of Missing Out (FOMO): The compulsion to stay constantly updated drives repetitive checking behaviors and sleep deprivation.

Individual and Contextual Factors:

Adolescents with pre-existing internalizing conditions (like anxiety or depression) tend to spend more time engaging in harmful social comparisons online.

Active parental monitoring and supportive family communication significantly mitigate the adverse psychological risks of heavy social media use.

Keywords: social media, adolescent, mental health, anxiety, depression

Introduction

Communication has moved online; keeping up with events and maintaining relationships with friends and family is becoming more and more dependent on social media platforms. For many, social media is not only a "social facilitator", but also a source of news. Indeed, a recent survey indicated that a third of US adults often get their news from Facebook. Social media clearly plays a critical role in society today.

Children and adolescents are not only exploring new social terrain in "real life"; they are now also faced with the complex task of communicating and building relationships via multiple social media platforms. This has led to worries and concerns about cyberbullying and an increase in feelings of loneliness and rejection, in a world where "like" is king. There is certainly some cause for unease about the influence of social media use on teenagers' mental health, given evidence showing vulnerabilities in adolescents' brain and social development.[1,2,3]

Unfortunately, research on the impact of social media use on teenagers' mental health has produced unclear evidence, leading to confusion about the best ways to support young people. Many of the studies have benefited from large sample sizes as they are conducted using measures from much broader, previously collected surveys. Large, representative sample sizes are important in making conclusions about the general population of adolescents, however a small correlation in a large dataset is a relatively insubstantial finding.

A national survey in the US involving over half a million teenagers found that for girls, an increase in symptoms of depression was related to an increase in use of social media. However, this relationship accounted for 0.36% of the variance in depressive symptoms, meaning 99.64% of the samples' depressive symptoms were not related to social media use. Small correlations found in large-scale studies show that it is too simplistic to conclude that social media use has a negative impact on young people.

Another issue is that some surveys might only include one question about social media use, which renders it impossible to make meaningful conclusions about what is driving a potential relationship between social media use and mental health. Based on the evidence from the large-scale survey data, we cannot conclude how social media use is related to mental health issues in adolescence or the direction of this relationship, i.e. does using social media cause an increase in mental health issues or does an increase in mental health issues cause young people to turn to social media? This question is yet to be answered.[4,5,6]

While the effects on children's and adolescents' mental health are not yet fully understood, there is no denying that social media plays a critical role in forming and maintaining relationships in today's society. Therefore, rather than urging parents and teachers to restrict or even ban social media use, we should focus on providing young people with the support they need.

For example, the BBC recently launched an app that uses artificial intelligence to monitor the language a child is using, so that it can offer advice or encourage children to talk to trusted adults if it detects signs of negative mood. Such services could help to identify children who may be suffering from mental health problems, as well as those at risk of becoming victims of cyberbullying.

Considering the weak, correlational evidence, it is more effective to support individuals who are at risk for mental health problems than to impose a general ban on the use of social media for all children and adolescents. This approach will help us to guide young people as they navigate through their increasingly technology-dependent lives.

Discussion

Owing to the lack of research among young people with mental health conditions²⁶, the important question of whether social media use varies across different types of conditions also remains unaddressed. For example, an adolescent with an internalizing condition (for example, generalized anxiety disorder or depressive disorder) might use and feel impacted by social media differently than an adolescent with an externalizing condition (for example, attention deficit hyperactivity disorder or conduct disorder). This is because, despite both groups presenting mental health symptoms at clinical levels, their experiences of psychopathology can be qualitatively different. Internalizing conditions involve negative emotionality towards the self, expressed through ruminative thought patterns, worries and social withdrawal. On the contrary, externalizing conditions involve negative emotionality towards others, expressed through impulsivity, risk taking and disinhibition³⁵. Studies that assess mental health with select questionnaires cannot comprehensively account for and investigate such clinical diversity. This is a substantial shortcoming, given the need for research to understand

how social media use relates to the growing number of adolescents experiencing mental health symptoms at clinical levels.

This Registered Report provides critical data and evidence-based insights into how social media and mental health are related across adolescent populations who meet and do not meet diagnostic criteria for a wide range of mental health conditions. Given the cross-sectional nature of the data and planned analyses, the study results do not provide causal evidence. Hence, all reported coefficients indicate associations, with the possibility of bidirectional relationships and third variables affecting social media use, mental health or the relationship between the two. We analysed the nationally representative Mental Health of Children and Young People (MHCYP) study³⁶, a cross-sectional survey carried out by National Health Service (NHS) Digital in 2017 that collected data from over 3,000 adolescents (11–19 years old) in England. In place of completing self-report measures of mental health, the participants in this study underwent multi-informant standardized diagnostic assessments evaluated by professional clinical raters for different mental health conditions.[7,8,9]

Social media can have both positive and negative effects on mental health. While it can help you connect with friends and work contacts, raise awareness on important issues, and find peer support, overusing social media can take a toll on your mental wellbeing and happiness. Excessive social media use can trigger feelings of inadequacy, dissatisfaction, and isolation, and worsen symptoms of depression, anxiety, and stress.

A fear of missing out (FOMO) can keep you returning to social media platforms such as Facebook, X (formerly Twitter), TikTok, Snapchat, and Instagram over and over again throughout the day. The constant alerts and notifications can adversely impact your concentration and focus, disturb your sleep, and make you a slave to your phone.

Much like a gambling compulsion or an addiction to drugs or alcohol, social media use can create psychological cravings. When you receive a like, a share, or a favorable reaction to a post, it can trigger the release of dopamine in the brain, the same “reward” chemical that follows winning on a slot machine, for example, or lighting up a cigarette. The more you’re rewarded, the more time you want to spend on social media, even if it becomes detrimental to other aspects of your life.

Many of us are also prone to using social media as a “security blanket”. Whenever we’re in a social situation and feel anxious, awkward, or lonely, we turn to our phones and log on to social media. But this only isolates us even further, triggering a negative, self-perpetuating cycle:

- You feel lonely, depressed, anxious, or stressed, so you use social media more often as a way to relieve boredom or feel connected to others.
- Using social media more often, though, negatively affects your mood, increasing feelings of dissatisfaction and loneliness.
- These worsening symptoms cause you to use social media even more, and so the downward spiral continues.

If you’re spending an excessive amount of time on social media and feelings of sadness, frustration, or loneliness are impacting your life, it may be time to re-examine your online habits and find a healthier balance. [10,11,12]

Results

The link between social media and mental health issues has been well documented in numerous studies and research papers. A systematic review found that the use of social networking sites is associated with an increased risk of depression, anxiety, and psychological distress (Keles, et al., 2020). The associations, though not by itself proof of causation, at least some reason for concern. Additionally, this association is particularly strong in adolescents compared to younger children (Twenge & Campbell, 2018). Moreover, in the United States, the 12-month prevalence of major depressive episodes among adolescents increased from 8.7% in 2005 to 11.3% in 2014 (Mojtabai, et al., 2016). The new media screen activities have been suggested as one of the causes of the increase in adolescent depression and suicide (Twenge, et al., 2017).

Although research has not necessarily shown that the use of social media has a causal relationship with poorer mental health in young people, health professionals and policy makers are becoming increasingly wary of the use. The U.S. Department of Health and Human Services is calling for increased transparency and for companies to prioritize user wellbeing over revenue, as various studies have shown negative effects on social media use, especially on the mental health of youth. (Surgeon General, 2021). In addition, the American Academy of Pediatrics warns that “media use and screen time are associated with increased risks for children and adolescents, such as attention deficits, increased aggression, low self-esteem, and depression” (American College of Pediatricians, 2020). The American Psychological Association (APA) also highlights the correlation between high social media use and poor mental health among adolescents (APA, 2024).[12,13,14]

New York City's Unprecedented Action

Recognizing the severity of the problem, New York City has taken the unprecedented step of classifying social networking sites as a public health threat (Ables, 2024). The City of New York, the New York Department of Education, and the New York City Health and Hospitals Corporation have filed a lawsuit against TikTok, Meta, Snap, and YouTube to hold the companies responsible for “fueling the nationwide youth mental health crisis” (Gold, 2024).

The lawsuit filed by New York City is a significant development in the ongoing debate about the responsibility of social media companies to address the negative impact of their platforms on mental health. The U.S. Surgeon General has called on these companies to improve the safety, health, and well-being of their users (Surgeon General, 2021). This includes implementing stricter moderation policies, providing resources for mental health support, and collaborating with researchers and health professionals to better understand the impact of social media on mental health.

A Multi-Faceted Approach to Addressing the Issue

However, addressing the complex relationship between social media and mental health requires a multifaceted approach that goes beyond the actions of social media companies. From a legal perspective, this could include government regulation and individual legal action. Policymakers could consider implementing stricter rules and guidelines for social media companies to follow, such as requiring them to prioritize user well-being and mental health over engagement and profits. This could include mandating regular mental health impact assessments, providing resources for mental health support, and implementing stricter content moderation policies to reduce the spread of harmful and toxic content. However, since strong opposition is expected from users and companies on human rights grounds, including violations of freedom of expression, it is crucial to organize the evidence to date and explain convincingly that the restriction is urgently needed for public health reasons and that there are no other measures that could be taken.[13,14]

Mental health professionals must adapt to the changing landscape of technology and incorporate social media literacy into their treatment plans. The NIMH emphasizes the importance of teaching individuals how to maintain a healthy relationship with social media, including setting limits on use, engaging in offline activities, and seeking support when needed (NIMH, 2023).

Educational institutions also have a critical role to play in promoting digital literacy and responsible social media use among students. Schools should incorporate digital literacy education into their curricula and teach students how to navigate social media in a healthy and productive way. Parents and caregivers must also be involved in this process by setting appropriate boundaries and modeling responsible social media use, as parental media monitoring has protective effects on a variety of academic, social, and physical outcomes for children (Gentile, et al., 2014).

As individuals, we must take responsibility for our own mental health and well-being in the digital age. This means being mindful of the time we spend on social networking sites, curating our feeds to include positive and uplifting content, and prioritizing offline activities and relationships. In this case, we can use the guidelines or recommendations published by the professionals; for example, the APA has published “Social Media Recommendations” to advocate the appropriate use of social media based on scientific evidence (APA, 2023).

Conclusion

Looking Ahead

As we look to the future, it is clear that the issue of social networking and mental health will continue to be a pressing concern. As technology advances and new platforms emerge, it is critical that we remain vigilant and proactive in addressing the potential risks associated with these services. Increased research and collaboration among policymakers, legal experts, social media companies, mental health professionals, and educators is needed to address this growing issue and develop effective strategies to promote healthy social media use and mitigate its potential harms.[14]

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