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REVIEW ARTICLE

# Public Health Implications of Social Media on Adolescent Health Behaviors: Upstream Approaches to Prevention Strategies

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## ABSTRACT

This commentary provides a comprehensive overview of the influence of social media on the health and well-being of adolescents, focusing on emotional/mental health, self-esteem, alcohol and drug use, peer pressure, and both negative and positive influences. It highlights concerns about the potential negative impact of social media, including increased levels of anxiety, depression, and loneliness, as well as the impact on self-esteem through seeking validation and unrealistic comparisons. Furthermore, it discusses how social media exposes adolescents to content promoting alcohol and drug use and amplifies peer pressure, leading to potential substance abuse and negative decision-making. Despite these drawbacks, the abstract acknowledges the positive aspects of social media, such as providing social support, educational resources, and mental health awareness. It emphasizes that social media can be leveraged in the high school classroom to promote healthy behaviors. Strategies for responsible social media use, critical thinking skills, digital literacy, cyberbullying prevention, and content creation are suggested as ways to navigate the online world safely and foster positive online interactions. By understanding both the negative and positive impacts of social media, collectively we can guide adolescents in using social media in a way that promotes resilience, well-being, and healthy habits. Employing strategies that harness the positive aspects of social media, educators, parents, and society can play a pivotal role in helping adolescents navigate the digital landscape, promoting healthy behaviors, and fostering resilience in the face of online challenges.

In the digital era, the influence of social media has fundamentally transformed how people communicate, access information, and interact with the world. This transformation in communication and connectivity carries profound consequences for public health that extend beyond the domain of personal interactions. While social media brings numerous benefits, such as enabling instant global communication and providing access to a vast wealth of information, it also presents significant public health risks, especially among adolescents. As adolescents shape their identities, they seek affirmation and acceptance from their peer group. Since this desire to be socially connected often occurs on digital media platforms, it is not surprising that peer pressure has tremendous influence over adolescent behaviors as it relates to social media addiction. Fortunately, high levels of self-esteem have been found to mitigate these risks.<sup>1</sup> Considering the significant amount of time they spend on social media platforms, it comes as no surprise that adolescents often face a variety of negative consequences such as cyberbullying, mental health issues, social comparisons, and distorted self-images.<sup>2,3</sup> Therefore, it is imperative that parents, educators, and community members encourage responsible and open communication while guiding adolescents' digital literacy and critical thinking skills. In this commentary, we will explore the diverse effects of social media on adolescents, shedding light on the challenges, opportunities, and ethical considerations that revolve around this phenomenon within the context of public health.

The increasing prevalence of social media platforms has sparked growing concerns about the escalating screen time exposure

faced by adolescents. On average, 13 to 18-year-olds spend approximately eight and a half hours a day (8:39) on screen time, while 8- to 12-year-olds allocate about five and a half hours. These figures indicate a more rapid increase in the past two years compared to the preceding four.<sup>4</sup> Watching online videos is the activity enjoyed the most among adolescents regardless of gender, ethnicity, and socioeconomic level.<sup>4</sup> Out of the 79% of 13- to 18-year-olds who frequently engage with social media and online videos (at least once a week), adolescents rank YouTube as their preferred social media platform, with Snapchat and TikTok following closely behind. On average, teens now spend 1 hour and 27 minutes daily on social media, marking an increase from 1 hour and 10 minutes in 2019, which is a 24% increase.<sup>4</sup> And with more than half (66%) of adolescents preferring to direct message their friends on social media, it further reinforces the central role these platforms play in their daily lives.<sup>5</sup>

Adolescents view social media as a valuable tool that notably improves their social interactions and sense of belonging. While it is not typically linked to increasing feelings of isolation and loneliness, adolescents recognize that their academic performance and body image can be negatively affected by it. On the flip side, while social media can foster a sense of social connectedness, its potential to increase negative consequences is notable due to the often superficial nature of these connections and the limited depth of meaningful interactions.<sup>5</sup> Of greatest concern is the extent to which social media use has been correlated with negative psychological and physical complications, including depression, anxiety, poor sleep quality, cyberbullying,

addiction, and suicidal ideation.<sup>6</sup> Frequent and problematic social media use, coupled with challenges in reducing usage, has been associated with low self-esteem.<sup>7</sup> Altogether, these findings underscore the substantial impact of social media on adolescents' attitudes and behaviors, acknowledging its considerable power, even the potential for good.<sup>6</sup>

The influence of social media on adolescents has not only heightened concerns about escalating screen time and negative health implications, but has also shed light on the phenomenon of Fear of Missing Out (FOMO), defined as the "pervasive apprehension that others might be having rewarding experiences from which one is absent."<sup>8</sup> The desire to remain connected with what others are doing can be quite attractive to individuals who wish to be in the know. While FOMO is prevalent among adults, adolescents, due to their intense desire for peer acceptance, may be even more susceptible and attuned to FOMO.<sup>8</sup> Interestingly, research shows that FOMO is related to higher levels of social media engagement<sup>8</sup> as teenagers who spend a significant amount of time on social media were found to have a higher degree of social comparison and envy.<sup>3</sup> Curiously, one is left to wonder, "What do adolescents believe they are missing out on?" Generally speaking, this involves anything perceived as more enjoyable, interesting, or casting a brighter spotlight on various behaviors that their peers are "allegedly" involved in. Unfortunately, a significant number of these beliefs prove harmful or unrealistic when individuals compare their current circumstances to the status of those they are measuring themselves against. As such, unhealthy manifestations of FOMO may include substance use (e.g.

alcohol consumption) and social activities involving substances (e.g. drinking games).<sup>9</sup> Adolescents report that social media tends to present alcohol in a favorable light, which can distort the reality of teenagers' alcohol use and potentially foster behaviors that contribute to unhealthy outcomes. Vaping content on social media platforms, particularly on YouTube and Instagram, also promoted product engagement and depicted the use of vaping and e-cigarettes as socially acceptable. Consequently, this could have repercussions for susceptible young individuals. Despite the presence of measures designed to discourage youths from accessing such material, such as age and health warnings, a noteworthy portion of the videos and posts failed to include these preventive measures.<sup>11</sup> Transitioning to the broader context of personal well-being, the impact extends beyond vaping, as domains like body image and attractiveness are also susceptible to influence. The perception that others possess something more desirable can reinforce FOMO, impacting self-perception and even prompting behavioral changes, even if the desired outcomes may not be realistically attainable.

Since we know that the more time a social media user spends navigating an online platform, the more data is collected about their preferred online activities.<sup>12</sup> In essence, social media companies wield substantial influence, power, and control over the types of content that saturate users' feeds. When individuals excessively use the internet to cope with negative emotions and lack alternative coping methods, such as social support or healthy behaviors, they may increasingly rely on online activities to avoid

negative feelings, potentially leading to Internet Addiction (IA).<sup>13</sup> Although the primary aim of social media is to enhance social interactions, studies have revealed a positive correlation between feelings of loneliness and social media addiction.<sup>14</sup> Adolescents, often lacking the necessary cognitive tools to differentiate credible sources from misinformation, find themselves particularly susceptible to the risks inherent in social media. This vulnerability makes them more prone to impulsive decision-making, ultimately leading to potential risks.<sup>15,16</sup>

With the rising popularity of online platforms among adolescents,<sup>17</sup> there is an escalating probability of encountering specific high-risk content, particularly content depicting substance use. Therefore, the troubling impact of pro-substance use content on social media becomes unmistakable, as research has consistently shown a positive correlation between digital content related to substance use and heightened substance consumption.<sup>18</sup> This insight not only underscores the extent of influence, extending beyond mere consumption, but also emphasizes its profound impact on shaping adolescent social norms; research has found that perceptions of pro-substance related content is likely to influence viewers into adopting pro-substance attitudes and behaviors.<sup>19</sup> Therefore, it is essential to create a healthier digital environment, to promote media literacy and to empower adolescents to make informed decisions that positively shape their attitudes and behaviors alongside the evolving social media landscape. In conclusion, acknowledging the nuanced connection between social media, adolescent psychology, and the impact of Fear of Missing Out underscores the imperative to cultivate

healthier online behaviors for young individuals, safeguarding them from detrimental influences.

Certain social media platforms have taken steps to tackle the problem of propagating misinformation. Social media platforms like TikTok have conscientiously devoted attention to ensuring that content is authentic and misinformation does not spread.<sup>20</sup> Their efforts mark a positive step toward mitigating the adverse effects of online content on adolescents, offering a beacon of responsible digital engagement in an era dominated by social media.

Conversely, social media serves as a valuable platform for health communication and education, with the potential to disseminate accurate information, promote positive behaviors, and destigmatize health-related topics. Empowering adolescents to navigate this digital landscape and cultivate healthier behaviors requires a comprehensive approach. Integrating digital literacy and critical thinking into school health education programs is crucial, and leveraging social media as a platform for health professionals to provide evidence-based guidance can further encourage health-conscious choices.

In the context of addressing the profound impact of social media on behaviors, adopting an upstream mentality becomes essential. Rather than waiting for issues to manifest, the focus shifts to primary prevention. To swim upstream against the negative effects of social media, it's imperative to identify proactive steps that can be taken in advance. While there isn't a single answer, several considerations can significantly impact the future of social media in the lives of adolescents and future adults.<sup>21</sup>

The responsibility for educating youth about social media's influence extends to everyone—educators, parents, society, and social media developers. Instead of solely portraying social media as negative, it's crucial to extract positive elements from it. With billions of individuals using social media daily, leveraging this online airtime becomes a powerful opportunity. Drawing inspiration from public service announcements (PSAs) on television, integrating brief educational messages about topics such as alcohol, body image, emotional/mental health, and vaping before other content may influence a substantial number of users positively. Repetitive educational messages have shown efficacy in research, countering the potential negative influences saturating the minds of youth on social media.

Educators and parents play a vital role in addressing social media messages, discussing potential harmful consequences, and guiding adolescents on how to use social media for entertainment rather than solely education. Encouraging students to create and share healthy social media messages can be a proactive approach. Despite the perception

that "everyone is doing it," research indicates otherwise. By spending significant time on social media, adolescents may perceive certain behaviors as the norm, influencing their decisions. Addressing perceived social norms is crucial, not only in countering unhealthy behaviors but also in reinforcing positive and healthy ones. The impact of social media on public health is a multifaceted challenge, with adolescents, who spend significant time on these platforms, bearing a unique burden. It presents both risks and opportunities, shaping their behaviors and attitudes, and underscores the need for responsible research to effectively address this public health issue in the context of the pervasive influence of social media.

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