



# Social Media and Suicidal Behavior in Youth: Slippery Slope or Simply Overstressed?

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## Abstract

**Purpose of Review** Digital device use has become an integral part of modern society. Children and adolescents are particularly avid consumers of digital media, particularly social media applications. Young people have also demonstrated marked vulnerability to mental health issues, including suicide and suicide-related behaviors, with many questioning the role of social media as a possible contributor. This paper synthesizes and comments on the existing literature describing the relationship between social media and suicide risk in youth.

**Recent Findings** Numerous reviews have found contradictory associations between social media use and mental health-related outcomes, including suicide and suicide-related behaviors – some with positive associations and others without statistical significance.

**Summary** Although there is sufficient evidence to suggest a relationship between social media use and suicide-related behaviors exists, the nature of the relationship remains unclear and likely varies across individuals. Further research is required to further characterize the existing associations, define personalized risk factors, and provide guidance for ongoing clinical care.

**Keywords** Suicide · Social media · Screen time · Youth · Mental health

## Introduction

Mental health challenges have become an increasingly recognized challenge facing today's youth. Of particular concern is the rise of suicidal thoughts and behaviors among this population. As per the Center for Disease Control and Prevention's 2021 Youth Risk Behavior Survey: Data Summary and Trends Report, more than 20% of students have seriously considered suicide and about 10% have made a suicide attempt [1]. According to the World Health Organization, suicide is the fourth-leading cause of death globally among teens and young adults between ages 15 and 29 [2]. Meanwhile, the ongoing digitization of the modern world continues to accelerate. Individuals, parents, academics, and clinicians alike have begun to examine the impact of this

significant cultural phenomenon, raising questions regarding the relationship between digital consumption, specifically with social media applications (social media “apps”), and different parameters of mental health. The nature of these associations, however, remains poorly understood and fiercely debated. In recent years, this investigation has intensified, with equally expanding efforts to better understand the role social media plays in the psychological wellbeing of its users, particularly young people [3]. One of the most abundantly clear demonstrators of psychological wellbeing is that of suicidal thoughts and behaviors (STBs), which, as previously described, have appropriately gained traction as a psychiatric epidemic requiring stark attention. Here we will provide a reflective, non-systematic summary of the current literature with commentary discussing the nuanced associations between social media use and STBs, as well as relevant clinical recommendations.

Many have raised questions about the seemingly concurrent rise of both digital media and the prevalence of depression and STBs in adolescents and young adults, though explicitly causal links remain to be seen [4]. What remains apparent is that the shift of socialization to the digital space has had profound changes in the way we interact with one

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another. Youth and young adults may represent a particularly unique population of social media users for multiple reasons. First, teens' documented increased sensitivity to feedback from peers is made easy and accessible by the immediacy of social media applications themselves [5]. Second, the vast majority of adolescents are using some form of social media, sharply increased from even 10 years prior [6, 7]. Collectively, young people appear to be sitting at a specific cathexis within the discussion of digital mental health, and they may be particularly vulnerable to the effects of social media.

There are numerous, competing hypotheses supporting concerns about the effects of social media on mental health in youth broadly, and also suicide risk more specifically. Some studies have argued that information about suicide may be more readily accessible with social media use, thus increasing the risk of suicidal behavior [8]. Similarly, there are suggestions that consumption of suicide-related content may serve as a trigger or reinforcement of maladaptive or other self-injurious behaviors [9]. On the other hand, other studies have suggested social media use may allow for the proliferation of suicide prevention messaging along with reduction in feelings of isolation [10, 11]. All of these hypotheses are also reflected in recent qualitative data obtained from interviews with teens themselves (e.g., [12]). Some have additionally questioned the potential causal role of cyberbullying and cybervictimization in suicidal behavior among youth [13].

It is firstly important to acknowledge the relative scientific nascency of literature regarding the specific interaction between social media and STBs. Many social media companies currently restrict data access to researchers which further impairs scientific understanding of any potential relationship [14]. It is similarly important to recognize the varied methods of assessment, and different definitions of variables within the digital space more generally ("screen time" v. "internet use" v. "social media use"). With many studies using self-reported surveys to quantify screen time and cross-sectional methods to assess temporal risks, the current scientific literature may not be strong enough to support parenting, policy, or clinical decisions [15].

Recent review papers also suggest the relationship is not simple. A review from 2017 found mixed influences of internet use on self-harm and suicidal behavior of young people. Specifically, this review cited both the vast opportunity for both proliferation and verification of harmful behavior on the internet *and* its potential as a vehicle for connection to others and providing access available mental health-related resources [16]. A 2024 systematic review assessed the impact of social media influencers specifically, and although suicide was not explicitly considered, they found evidence for both positive (e.g., improving hygiene habits related to infectious diseases like COVID-19 or influenza) and negative (e.g., decreasing body image and associated

mood) effects on various health outcomes [17]. Another 2024 review also assessed the influence of screen time on various health- and non-health-related outcomes, found that social media use was positively (albeit minimally) associated with depression [18]. The study also revealed a positive association between social media use and sexual content with risky behaviors. As noted by the authors, in prior meta-analyses that assessed general screen time without regard for context or content, the evidence appeared to suggest potentially stronger (negative) associations with outcomes such as depression. However, "when meta-analyses included a more nuanced examination of exposures, a more complex picture appeared," largely with much less dramatic associations.

Interestingly, only one of the studies included in the aforementioned review addressed suicide specifically. Ferguson (2019) sought to further characterize the concept of suicide contagion, particularly within the context of fictional media, and the surrounding sensationalism around series like Netflix's *13 Reasons Why*. The author pointed out the "hotly debated" nature of the topic directly, and suggested that existing evidence – at the time (2018) – was largely lacking in its ability to support a clear causal relationship between suicide-related media and suicide contagion: a term defined as "increase in suicide and suicidal behaviors as a result of the exposure to suicide or suicidal behaviors within one's family, peer group, or through media report" [19, 20]. Even within the specific paradigm of suicide contagion/clusters, there remains discrepancies between the contradictory contributions of digital avenues such as social media and the internet to STBs in young adults. Although, as noted earlier, some suggest that the immediacy and speed of the internet may facilitate misinformation and potentially explicitly harmful suicide-related content (e.g. how to access suicide methods), it may also allow for open discussion with others about their own experiences, allow access to support for those in marginalized or remote communities, and appropriately memorialize those who have died by suicide [21].

Recent efforts have sought to further elucidate the link between social media behaviors and STBs specifically in quantifiable ways. Nesi et. al. reviewed more than 60 studies focused on this dyad, finding medium effect sizes for associations between various social media constructs and both suicidal and nonsuicidal self-injurious thoughts and behaviors [22]. They found a majority of included studies focused on cyberbullying victimization, or cybervictimization, which has been shown to have a positive association with suicidal thoughts [23]. A recent study of Black adolescents reported that posttraumatic stress disorder functioned as a mediator between online racial discrimination and suicide, suggesting a potential mechanism of action [24]. The role of cybervictimization may perhaps also underlie concerns surrounding children and adolescents using social media, and the potential mental health outcomes.

Furthermore, investigators are beginning to employ different methods of analysis for more comprehensive assessment of social media use and STBs, especially in consideration of the limitations of the existing data. One research group used genome-wide-association study to examine potential causal associations between digital device use (characterized by phone, television, and computer) and suicide risk. Although they initially found a positive association between the two, it was not statistically significant after accounting for confounding variables [25]. Another study utilized a specification curve analysis across three, far-reaching social datasets from both the United States and United Kingdom ( $N > 300,000$ ), and found a very small negative association between digital technology use and adolescent well-being [26]. There are ongoing efforts to improve the ability to aggregate and characterize social media data as well, which may allow for improved research methods to elucidate these nuanced matters [27].

One may simultaneously recognize the risks of social media and acknowledge its likely permanence in society. Although there is some substantiation indicating a possible negative association between social media use and STBs among youth, the existing evidence is not overwhelmingly clear. This has appropriately prompted an ongoing discussion about the role of both legal and public health interventions in mediating said risks [28]. For clinicians, it is important to consider individuals' screen time when assessing each patient's overall psychiatric presentation, just as one should recognize the impact of the many other intersectional domains (e.g., environmental, social, economic, cultural, racial, etc.) that may also be contributory to a patient's experience and expression of psychiatric pathology. The American Academy of Child and Adolescent Psychiatry (AACAP) provides extensive, free resources for clinicians, as well as families, for discussing topics such as social media, depression, bullying, and suicide in ways that are both developmentally appropriate and evidence-based. A recent policy statement from October 2023 advocated for both systemic and individual-level improvements, including minimizing exposure to problematic content, collaborative engagement between clinicians, families, and technology companies, as well as ongoing discussion with youth about healthy social media usage [29].

In this sense, it may be worthwhile to regularly assess young patients' digital habits, keeping in mind the complicated ways their behaviors may be impacting their well-being. Incorporating a patient's digital use within their social history during an initial evaluation may be a simple, pragmatic way to begin reflecting on the potential impact in clinical practice. Patient narratives, in children and adults alike, often underscore the myriad ways patients utilize the digital space to both their benefit and their detriment – at times finding solace from isolation versus encountering support for a

wide range of troubling experiences, including self-injurious thoughts and behaviors. Considering that, in 2023, 46% of teens reported being online constantly and 47% several times per day, not assessing their digital lives may ignore the new reality of where much of their time is spent [30].

## Conclusions

Despite much complexity, what remains clear is that ongoing discourse within public, academic, and clinical arenas is necessary to further characterize how our pervasive digital culture continues to shape users' mental well-being. Although this topic may engender polarized views today, future directions to assess personalized risk factors and quantify the unique impact of social media on each youth will enable a future where the benefits of social media may soon outweigh the risks. With new tools to measure social media exposure, behaviors (e.g., sleep, mobility), and mental health symptoms, smartphones running digital phenotyping software offer a useful new tool to bring new data to help elevate the scientific discourse. We are already seeing new approaches to measuring depression risk in teens and the evolution of suicidal thoughts with methods like digital phenotyping [31]. As this and other new research evolves, we must not shy away from these issues as to facilitate an improved understanding in an effort to provide thoughtful, contemporary psychiatric care to our patients and hopefully improved outcomes.

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**Data Availability** No datasets were generated or analysed during the current study.

## Declarations

**Competing Interests** The authors declare no competing interests.

## References

1. Centers for Disease Control and Prevention. Youth risk behavior survey data: data summary & trends report. 2011 Available at: [www.cdc.gov/yrbs](http://www.cdc.gov/yrbs). Accessed on 04/01/24.
2. Mental health of adolescents. World Health Organization. 2021. <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health>. Accessed 01 Apr 2024.
3. Kickbusch I, Piselli D, Agrawal A, Balicer R, Banner O, Adelhardt M, et al. The lancet and financial times commission on

- governing health futures 2030: growing up in a digital world. *Lancet*. 2021;398(10312):1727–76.
4. Anderson M, Jiang J. *Teens, social media & technology*. Pew Research Center; 2018.
  5. Hamilton JL, Biernesser C, Moreno MA, Porta G, Hamilton E, Johnson K, et al. Social media use and prospective suicidal thoughts and behaviors among adolescents at high risk for suicide. *Suicide Life Threat Behav*. 2021;51(6):1203–12.
  6. Twenge JM, Martin GN, Spitzberg BH. Trends in US adolescents' media use, 1976–2016: the rise of digital media, the decline of TV, and the (near) demise of print: psychology of popular media culture. *Psychol Pop Media Cult*. 2019;8(4):329–45.
  7. Mojtabai R, Olfson M, Han B. National trends in the prevalence and treatment of depression in adolescents and young adults. *Pediatrics*. 2016;138(6):e20161878.
  8. Biddle L, Donovan J, Hawton K, Kapur N, Gunnell D. Suicide and the internet. *BMJ*. 2008;336(7648):800–2. <https://doi.org/10.1136/bmj.39525.442674.AD>.
  9. Nesi J, Burke TA, Lawrence HR, MacPherson HA, Spirito A, Wolff JC. Online self-injury activities among psychiatrically hospitalized adolescents: prevalence, functions, and perceived consequences. *Res Child Adolesc Psychopathol*. 2021;49(4):519–31. <https://doi.org/10.1007/s10802-020-00734-4>.
  10. Robinson J, La Sala L, Cooper C, Spittal M, Rice S, Lamblin M, et al. Testing the impact of the #chatsafe intervention on young people's ability to communicate safely about suicide on social media: protocol for a randomized controlled trial. *JMIR Res Protoc*. 2023;12:e44300.
  11. Hamilton JL, Torous J, Szlyk HS, Biernesser C, Kruzan KP, Jensen M, Reyes-Portillo J, Primack BA, Zelazny J, Weigle P. Leveraging digital media to promote youth mental health: flipping the script on social media-related risk. *Curr Treat Options Psychiatry*. 2024;8:1–9.
  12. Kline M, Metcalf AM, Patel E, Chang EL, Nguyen MB. Adolescent experiences with social media and suicidality. *Acad Pediatr*. 2023;23(4):755–61. <https://doi.org/10.1016/j.acap.2022.09.020>.
  13. Hinduja S, Patchin JW. Bullying, cyberbullying, and suicide. *Arch Suicide Res*. 2010;14(3):206–21.
  14. Davidson BI, Wischerath D, Racek D, Parry DA, Godwin E, Hinds J, et al. Platform-controlled social media APIs threaten open science. *Nat Hum Behav*. 2023;7(12):2054–7.
  15. Perlmutter E, Dwyer B, Torous J. Social media and youth mental health: assessing the impact through current and novel digital phenotyping methods. *Curr Treat Options Psychiatry*. 2024;29:1–8.
  16. Marchant A, Hawton K, Stewart A, Montgomery P, Singaravelu V, Lloyd K, et al. A systematic review of the relationship between internet use, self-harm and suicidal behaviour in young people: the good, the bad and the unknown. *PLoS One*. 2017;12(8):e0181722.
  17. Powell J, Pring T. The impact of social media influencers on health outcomes: systematic review. *Soc Sci Med*. 2024;340:116472.
  18. Sanders T, Noetel M, Parker P, Del Pozo CB, Biddle S, Ronto R, et al. An umbrella review of the benefits and risks associated with youths' interactions with electronic screens. *Nat Hum Behav*. 2024;8(1):82–99.
  19. Ferguson CJ. 13 reasons why not: a methodological and meta-analytic review of evidence regarding suicide contagion by fictional media. *Suicide Life Threat Behav*. 2019;49(4):1178–86.
  20. Walling MA. Suicide contagion. *Curr Trauma Rep*. 2021;7(4):103–14.
  21. Hawton K, Hill NTM, Gould M, John A, Lascelles K, Robinson J. Clustering of suicides in children and adolescents. *Lancet Child Adolesc Health*. 2020;4(1):58–67.
  22. Nesi J, Burke TA, Bettis AH, et al. Social media use and self-injurious thoughts and behaviors: a systematic review and meta-analysis. *Clin Psychol Rev*. 2021;87:102038. <https://doi.org/10.1016/j.cpr.2021.102038>.
  23. Kowalski RM, Giumetti GW, Schroeder AN, Lattanner MR. Bullying in the digital age: a critical review and meta-analysis of cyberbullying research among youth. *Psychol Bull*. 2014;140(4):1073–137.
  24. Tynes BM, Maxie-Moreman A, Hoang TMH, Willis HA, English D. online racial discrimination, suicidal ideation, and traumatic stress in a national sample of black adolescents. *JAMA Psychiatry*. 2024;81(3):312–6.
  25. Luo J, Chen Y, Tao Y, Xu Y, Yu K, Anwar O, et al. Causal associations between digital device use and suicide risk: a bidirectional Mendelian randomization study. *J Affect Disord*. 2024;350:513–20.
  26. Orben A, Przybylski AK. The association between adolescent well-being and digital technology use. *Nat Hum Behav*. 2019;3(2):173–82.
  27. Fu G, Song C, Li J, Ma Y, Chen P, Wang R, et al. Distant supervision for mental health management in social media: suicide risk classification system development study. *J Med Internet Res*. 2021;23(8):e26119.
  28. Luxton DD, June JD, Fairall JM. Social media and suicide: a public health perspective. *Am J Public Health*. 2012;102(S2):S195–200.
  29. American Academy of Child and Adolescent Psychiatry. Policy statement on the impact of social media on youth mental health. 2023. [https://www.aacap.org/AACAP/Policy\\_Statements/2023/Social\\_Media\\_Youth\\_Mental\\_Health.aspx](https://www.aacap.org/AACAP/Policy_Statements/2023/Social_Media_Youth_Mental_Health.aspx). Accessed 2024 April 01.
  30. Anderson M, Faverio M, Gottfried J. *Teens, social media and technology 2023*. Pew Research Center; 2023.
  31. Lin V. The use of digital phenotyping to investigate the relationship between digital media use and mental health in a cohort of clinical adolescents. 2021, Doctoral dissertation, Boston University; Available from: <https://hdl.handle.net/2144/43445>. Accessed 01 Apr 2024.

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