

A precautionary approach to social media: protecting young minds in an evolving digital world

The negative impact of social media on children's mental health has raised concerns at the highest levels¹ despite limited causal evidence. To mitigate concerns, Meta (a social technology company that owns several social media platforms) created "teen accounts";² several European nations are considering age-based restrictions, and Australia legislated a world-first social media ban for children under 16 years.³

Debates concerning social media's impact on young people's mental health are polarised. One view is that social media harms mental health through social comparisons, cybervictimisation and fears of missing out.^{4,5} An alternative view attributes the rising rates of youth mental illness since the coronavirus disease 2019 pandemic to broader societal factors⁶ and increased mental health awareness.

The relationship between social media and mental health is complex and dynamic. As mental health exists along a continuum, framing it solely as a discrete set of outcomes (eg, anxiety, depression) overlooks social media's potential effects across the continuum. Social media has been linked to sleep, self-esteem and eating behaviours.⁷ Exposure to harmful content, cyberbullying, misinformation and identity theft also represent significant concerns.

Delineating social media's mental health impacts is challenging and evolving. Yet the absence of unequivocal evidence of harm is not evidence of its absence. The precautionary principle, which emphasises proactive harm mitigation in the face of scientific uncertainty, is important here.⁸ This perspective is guided by an interpretivist epistemology and shaped by our experiences as public health researchers and policy makers working on youth mental health. We argue that the debate over whether social media's impact on mental health is correlational or causal should not delay actions to protect young people's wellbeing. Moreover, we believe that system-oriented approaches can harness social media's potential for good while minimising its risks.

Policy action

Australia's recent legislation to ban social media for children and adolescents aged under 16 years is a bold and precautionary move. However, the effectiveness of the ban hinges on its enforceability and the capacity to prevent access to social media through alternative means. As such, this age-based ban should not be viewed as a panacea but rather a component of a multifaceted approach. We believe that the implementation of comprehensive social media use guidelines for young people is integral to this multifaceted approach. Even in countries such as Australia with legislated age bans, guidelines

are essential in establishing a framework for responsible behaviour. This is because: (i) bans may be circumvented; (ii) bans may be lifted or modified in the future; and (iii) regardless of platform access, the promotion of healthy online behaviour is essential. It is also important to recognise that research has not identified precise age-based thresholds for safe and unsafe social media use in adolescents. Rather, existing age restrictions are broadly based on developmental milestones. Urgent research is needed to investigate age-appropriate use, considering factors such as gender, maturity and family environment.^{9,10} Although such research may be constrained for certain age groups by existing bans, it can be conducted in countries with comparable social and cultural structures, social media use and mental health patterns, with the aim of generalising the results more broadly.

Vigilance of the potential negative impacts of social media restrictions across the targeted population, including among vulnerable persons, is essential. This stems from an understanding that young people are not homogenous in their engagement with social media, and restrictions may lead to increased marginalisation, particularly for geographically isolated youth, minorities and young people with disabilities. Thorough evaluation and careful tracking of mental health, wellbeing and service use indicators across various populations are essential for early detection and the mitigation of any unintended harms. Existing strategies must also be proactively adapted to new evidence and the enforcement of data privacy protections, particularly concerning youth-targeted advertising.

Social media platform accountability

Although screen time tools and "teen accounts" offer a glimmer of responsible innovation, they represent largely cosmetic changes that arguably put a "bandaid" on the "symptom" without addressing the "disease".^{2,11} Critically, these measures, which place an unfair burden on parents to regulate young people's time on social media, fail to address a core problem: addictive design that prioritises consumption over wellbeing. A paradigm shift in how platforms protect young users is essential. Social media interfaces should be co-designed with young people and health professionals to create platforms that are less manipulative and that minimise risks and promote positive experiences.⁷ Design changes should apply alternative engagement metrics that foster positive interactions and reduce harmful social comparisons and infinite scrolling.

Artificial intelligence (AI) algorithms can be deployed to proactively identify and mitigate the spread of harmful content. Nevertheless, we must remain mindful of biases that AI can introduce, stemming

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from both the training data and the code, which may inadvertently reflect programmers' prejudices. With recent shifts towards community moderation, platforms must improve their reporting processes for harmful content, including easily accessible reporting buttons, clear instructions, transparent labelling of moderated posts, and clearly defined content removal policies. More broadly, to address gaps in scientific understanding, social media companies must improve transparency concerning young people's platform use, providing data beyond simple metrics such as time spent online, but also objective measures of their engagement and content consumption.^{7,12}

School-based initiatives

Mobile phone bans or restrictions in schools have been implemented in several countries. Although these bans may enhance academic performance, their relationship to mental health and cyberbullying remains inconclusive.^{13,14} More broadly, the banning of phones in schools has raised concerns about secret phone use and the potential to intensify students' desire for their devices.¹⁵ This has fuelled growing support for a more balanced approach, for example, permitting limited phone access during school hours.¹⁶

Investments in digital literacy remain important in equipping adolescents with the skills to critically evaluate online content and interactions so that they may benefit from its positive effects.¹⁷ Many available online information assessment tools and resources fail to foster critical thinking and lateral reading skills because they focus on surface-level features, limiting students' ability to evaluate the credibility of online information. Lateral reading interventions, on the other hand, have proven effective in enhancing information evaluation across all age groups.¹⁸ By integrating design principles from these interventions into existing curriculum materials, schools can play a pivotal role in fostering the positive consumption of social media.¹⁹ Although research on the effective intervention and prevention of cyberbullying remains limited, a recent meta-analysis suggests that school-based anti-cyberbullying programs can reduce both cyberbullying perpetration and victimisation.²⁰

The role of caregivers

Establishing open family dialogue about social media goals and a proactive approach to curating social media feeds are crucial.²¹ This includes discussions around unfollowing or muting accounts that undermine mental wellbeing, and actively seeking out inspiring role models and other positive online experiences. Even with legislated social media bans, this is especially important, as adolescents may find ways to circumvent restrictions. Bans can serve as a catalyst for open and honest dialogue between caregivers and children, providing a framework for establishing clear boundaries and expectations for online conduct.

It remains equally important for caregivers to model healthy use of digital media as children with parents who engage in excessive daily screen use are four times more likely to exhibit similar behaviour.²²

Although further research is needed,¹¹ digital tools can help young people manage their social media use. By using in-built smartphone time tracking tools to understand application (hereafter, app) use frequency and duration, as well as "focus modes" to temporarily disable apps, young people and caregivers can target and eliminate the most distracting and intrusive apps during critical periods (eg, bedtime, homework). Understanding their social media use patterns can also help young people recognise its toll on their mental health. Critically, young people should be encouraged to avoid passive scrolling on social media when feeling depressed.⁷ Although resources to manage fears of missing out arising from limiting social media use⁷ are scarce, families can use existing educational resources, which offer strategies for digital resilience.²³

Recommended considerations for a research agenda

Alongside multifaceted action, we need a research agenda co-designed by policy makers, researchers,

Areas for consideration within a research agenda alongside potential public health implications

- **Establishing a robust evidence base for the causal impact of social media on a range of social and health outcomes.** Depending on the findings of emerging research, governments may either be justified in promoting social media restrictions for youth (if a causal link to harm is established) or be advised to reconsider blanket bans and shift their focus to other mental health determinants (if such a link is not established).
- **Investigating the complex feedback loops and dynamics that amplify or mitigate the impact of social media on mental health (complex systems perspective).** Understanding feedback loops, both positive and negative (eg, social comparisons may lead to social anxieties fuelling social media use and exposure to content that worsens social comparison) can enable the development of targeted interventions addressing negative cycles or amplifying positive feedback loops to support mental health.
- **Examining the long term mental health impact of adolescent social media use into adulthood (life course perspective).**²⁴ Life course-oriented research would inform long term policies related to social media use, recognising potential impacts that may not manifest until adulthood. This research would also help inform critical time periods during which preventive measures such as educational programs or restrictions may be most effective.
- **Understanding the specific ways that social media impacts marginalised young people.**⁹ If social media use supports the mental health of marginalised youth, strategies should amplify its positive aspects, such as safe online communities and access to online resources. Whereas, if it proves to be detrimental, equity-focused strategies to mitigate harm (eg, digital literacy, online safety, privacy protections, use restrictions) may be needed.
- **Investigating the influence of social media design features on fears of missing out and behaviours such as compulsive use and potential addiction.**^{7,11} Evidence connecting platform design to mental ill-health may justify shifting from user-centred regulations such as blanket bans to targeted, platform-centred approaches focusing on specific harms such as algorithms promoting extreme content. It could also inform ethical design standards for social media platforms, prioritising user wellbeing over engagement.
- **Exploring the potential of social media to promote positive health and social wellbeing.**²⁵ If research identifies population subgroups or specific social media uses that positively impact mental health, then strategies leveraging these uses for health promotion, healthy behaviours and social engagement should be prioritised over regulation.

schools, social media platforms, parents and youth to better understand social media's impact on the mental health of young people. The Box outlines recommended areas for consideration within a research agenda.

Conclusion

Addressing the impact of social media on young people's mental health requires a proactive, multifaceted approach guided by the precautionary principle. Although evidence remains complex and evolving, policies, platform accountability, school-based initiatives and family engagement must be brought together to mitigate risks and promote healthier online environments. Critically, public health strategies must remain agile and responsive to new evidence, ensuring that the focus on social media is warranted and does not overshadow other crucial factors contributing to youth mental ill-health. By fostering digital literacy, encouraging mindful use and advancing a co-designed research agenda, society can better protect young people while leveraging social media's potential for positive connection and empowerment. Collaborative efforts across stakeholders are vital to ensuring that social media supports, rather than undermines, adolescent wellbeing.

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