

Written Evidence for NTIA-2023-0008-0001 submitted by the Digital Mental Health Group at the MRC Cognition and Brain Sciences Unit, University of Cambridge

This letter is in response to the call for evidence *‘Initiative to protect youth mental health, safety, and privacy online’* by the National Telecommunications and Information Administration, Department of Commerce (Docket No. 230926–0233).

This evidence was written by Dr Amy Orben (Group Leader) with assistance from Lukas Gunschera and additional material drafted by Georgia Turner and Amelia Leyland-Craggs.

Introduction

1. [Dr Amy Orben](#) is a world-leading expert on digital technology use and adolescent mental health, who founded the [Digital Mental Health Research Group](#) at the MRC Cognition and Brain Sciences Unit, University of Cambridge, in 2021. Dr Orben is also a Fellow of St. Johns College, University of Cambridge.
2. Dr Orben has previously presented evidence on the topic of screen time, social media, and children to the UK House of Commons Science and Technology Select Committee in 2018 and the UK House of Commons Education Select Committee in 2023. In 2023 she has provided verbal briefings about the topic to the Secretary of State for Education, the Minister for Children, the US Surgeon General and the Biden-Harris Administration. She has published many of the leading scientific articles analysing UK data about the topic over the past 5 years.
3. [Lukas Gunschera](#) is a PhD Student in the group, studying cognitive risk and protective factors for the relationship of social media on mental health using computational approaches.
4. Georgia Turner is a PhD student in the group studying technological designs and addiction, while Amelia Leyland-Craggs is a Research Assistant focusing on social media use, schools, and teen identity development.
5. The presented evidence is based on a range of studies conducted by the Digital Mental Health Group over the past 5 years, as well as our in-depth expertise in the scientific literature in this area.

Evidence Detail

Mental Health Research

6. Studies examining the effect of social media on wellbeing have reported small, negative associations across the population.^{1,2} However, correlational evidence has limited informative value and there have been a range of conflicting meta-analyses on the topic. The US Surgeon General called for more mechanistic evidence in his advisory on social media published in early 2023, asking “what are the pathways through which social media may cause harm [...]”.³ The limited mechanistic understanding of how social media relates to mental health is reflected in current guidelines aimed at reducing overall screentime, failing to embrace the complexity of the issue.
7. A ‘digital diet’ more accurately captures contemporary thinking about the effects of social media use on mental health.⁴ This metaphor likens social media to food, the effects of which depend on 1) what is consumed, 2) the amount that is consumed, 3) the balance of consumption, 4) individual differences in biology and psychology, and 5) the strategic utility of the use (e.g., boredom or productivity). Just like with diet, the effects of time spent on social media are determined holistically, taking both the use and the user into account.

8. Longitudinal research, such as our seminal 2019 analysis of 12,672 adolescents in the UK, revealed that the effects of social media use on wellbeing are bi-directional and complicated.⁵ More recent work of ours showed the importance of taking into consideration individual differences such as age, with windows of sensitivity or risk emerging during specific times in adolescence.⁶
9. Individual differences are an important factor in determining the effects of social media. For example, a study showed different relationships between time spent on social media and wellbeing across individuals, with effects varying between positive and negative.⁶ The effects will therefore vary substantially across individuals, activities, and contexts (see point 5).
10. The effects of technologies such as social media on wellbeing are not exclusively negative. Our research showed that during the COVID-19 pandemic, adolescents without internet access experienced more negative mental health trajectories. We suspect this results from the specific, unprecedented context of physical and social isolation and lack of access to educational materials, which could be partially remediated by screen time.⁷
11. Future efforts should target the mechanisms linking social media use to wellbeing outcomes to adequately pinpoint policy targets. For example, is it certain types of content, platforms, or interactions, which cause benefit or harm? Further, what mechanisms at the individual level make some more or less prone to experiencing negative or positive outcomes as a result of their social media use (e.g., what factors facilitate enriching experiences on social media or predict resilience to negative experiences).

Managing Digital Media Use

12. Despite the above-described limitations of the scientific literature, parents and policymakers need to make decisions now. A large part of managing children's screen usage is understanding what the risks are and when they might be present. This goes beyond oversimplistic approaches that aim to reduce overall screen time without understanding the right experiences on digital media, both positive and negative.
13. Our team's regular conversations with panels of parents and adolescents confirmed the idea that managing children's digital device usage is not one-size-fits-all. Adolescents respond differently to different parenting strategies, and what might help manage one young person's device use might not be useful with another. Parents tailor their approach based on factors such as developmental stage or child identity differences.^{6,8}
14. Our work on large-scale UK national datasets has shown that developmental stage plays a key role in susceptibility to social media use. This relates to explored provisions such as the use of age gates (limiting access by age). Yet, there is no one-size-fits-all approach and at any age and it is important to consider other factors in determining when access should or should not be granted to individuals. However, further cognitive, biological, and social changes during adolescence overlap with changes social media brings to our environment. For example, adolescence is a period of heightened sensitivity to social evaluation and cues of social approval in the form of likes are ever more salient on social media.^{6,8}
15. It is important to consider how different communities interact with social media, and what these interactions mean for their wellbeing. Minority group members might benefit from building communities online that are not easily accessible in offline environments.⁹ In an ongoing focus group project, we ask transgender and non-binary adolescents how they use social media, and what their positive or aversive experiences are.
16. Previous examinations of social media in relation to wellbeing and body image in transgender and gender non-conforming teens reported higher wellbeing and improved body images with greater social media use, an effect that tends to be the opposite in the general population.¹⁰ This further supports the notion that not social media use per se but the kinds of experiences and interactions determine wellbeing outcomes.

17. The relative ease of implementing digital media restrictions in schools makes it a compelling target of intervention. However, digital media exist outside of schools and much remains unknown about how digital media affect the home environment. The home context and family relationships are paramount to the wellbeing of adolescents, making this a crucial target of further study.
18. Research has found that parents and educators should adopt nuanced approaches when addressing young people's social media use. Findings from a UK study with 13-14 year-old children found that social media can critically affect family relationships because young people feel misunderstood by parents, and believe they are not trusted to navigate the online world.¹¹ These findings align with reports during our focus groups with adolescents, who frequently stress the importance of feeling understood, valued, and taken seriously in the process of navigating rules around digital device use.
19. To further examine the influence of online lives on the family environment and vice-versa, we are in the process of validating a digital parenting questionnaire. This questionnaire will allow researchers to accurately measure digital parenting, and some of the techniques currently used to regulate digital device use, along with how effective they are in different contexts.¹² This parallels more general efforts to improve measurement quality in social media research.

Current Research Practices

20. The above points illustrate many ways in which the existing literature is insufficient to address some of the most pressing questions of policymakers, parents, and adolescents. Our ability to answer questions pertaining to the effects of digital media is limited by pervasive methodological and data availability issues.
21. Broad measures of digital media, such as screentime, collapse many different activities into one ineffective measure. For example, 20 minutes on social media could be spent watching educational YouTube videos or viewing self-harm content – both of which would have drastically different impacts on children's development and behaviour.
22. More specific measures of screentime, that break up overall time into time spent on applications suffer from similar issues. They fail to capture the nature of online experiences, contents viewed, or conversations had. Moreover, these measures fail to consider the environment in which digital media unfolds. For instance, using one's smartphone may have drastically different effects when using it to avoid a social interaction, as opposed to spending some spare time waiting for the bus.
23. The Royal College of Paediatrics and Child Health Report in 2019 highlighted both the limitations of measures (described in points 20 and 21) as well as any guidelines based on them.^{13,14}

Accessing Social Media Data

24. Access to social media data has become increasingly constricted over the past years. Whereas researchers used to get free access to public data of millions of Twitter/X users via the academic application programming interface, they are now being charged \$42,000 per month for the same services. We have entered a "post-API" age.¹⁵
25. Social media companies are collecting vast amounts of data on their billions of users. Yet, this data remains hidden from impartial researchers and is instead subject to in-house examination that falls short of basic standards in science. For instance, leaks showed that Meta had undertaken research into how Instagram was affecting teenagers but had not published the work. Experts from the fields of psychology, technology, and health have called for social media companies to make their data available for impartial research that targets the wellbeing of the population at large.¹⁶ Enabling impartial researchers' access to the rich data collected by social media platforms can alleviate misleading conclusions that may result from the selective reporting of in-house research conducted by biased social media companies.

26. Points 20 to 22 illustrate ways in which methodological shortcomings of the literature hamper our ability to address some of the most pressing questions of policymakers, parents, and adolescents. These shortcomings in part result from the difficulty of obtaining high-quality social media data.
27. Our team is currently addressing the shortage of high-quality social media data by investing in a data donation framework to adequately capture the rich digital world that is now central to adolescent life. Data donation is a digital data collection method that makes use of an individual's right to data access and right to data portability as stated in the General Data Protection Regulation (GDPR/GDPR-UK) and many other legislations worldwide.¹⁷ These laws give any individual the right to request and receive an electronic copy of their personal data collected by any data controller.
28. Efforts of researchers to facilitate access to high-quality social media are inherently contingent on the legislation for digital media platforms. In the UK, the Online Safety Act is a set of laws aiming to protect children and adults online. A proposed but withdrawn amendment (Bethell amendment) included requirements for digital platforms to follow a code of practice that would be overseen by independent researchers' access to data.^{18,19} If governments wish to make evidence-based policy decisions, it is vital that barriers that are currently impairing researchers from providing adequate evidence are addressed via targeted legislature.

Conclusions

29. There is a severe shortage of high-quality evidence to answer questions about the relationship between social media use and mental health. Nonetheless, insufficient evidence does not mean we must assume no effect, nor wait to act.
30. In an area with an incomplete evidence base, it is important to consider unintended, indirect consequences of policy interventions. For example, blanket bans on screens or social media could convey to children that there is a generational gap in understanding their online worlds, which could exacerbate the communicative distance between them and authority figures. It could also harm those for whom social media enables or encourages positive activities.
31. Research into the effects of new digital media struggles to keep up with the fast-paced technology industry and is behind on the evidence when wanting to define policy responses. This situation can be remedied by prospective funding, mixed methods research including qualitative interviewing, and a conceptualisation of policies as part of a continually adaptable process which warrants regular scrutiny, rather than one-off interventions.²⁰
32. The dire need for evidence to inform sensible policies surrounding digital media and mental health calls upon both policymakers and researchers. Policymakers need to facilitate researchers' ability to access rich social media data to keep up with the pace of innovation in the digital space. In turn, researchers must utilise innovative approaches to targeting mechanisms and providing actionable insights into the relationship between social media and mental health.

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