

Written Evidence Submitted by the Digital Mental Health Research Group, University of Cambridge

Introduction

1. [Dr Amy Orben](#) is a world-leading expert about 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 given oral evidence about the topic of screen time, social media and children to the House of Commons Science and Technology Select Committee in 2018. 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 this topic over the past 5 years.
3. Georgia Turner is a PhD student in the group studying technological designs and addiction through a neuroscientific and computational lens, while Amelia Leyland-Craggs is a Research Assistant focusing on social media use, schools, and teen identity development. Both were involved in drafting this written evidence.
4. This evidence is based on a range of studies conducted by the Digital Mental Health Group over the past 5 years, as well as our deep expertise of the scientific literature in this area.

Evidence Detail

Call for evidence: What is the current understanding of how screen time can support and impact children's development and educational outcomes, including the effect on concentration and behaviour?

5. The concept of 'screen time' is inherently flawed. It collapses many different activities into one very ineffective measure. For example, 20 minutes spent on screens could be spent doing online yoga, watching YouTube unboxing videos, video calling one's grandma or viewing self-harm content - all of which would have drastically different impacts on children's development and behaviour.
6. Even a more specific measure, such as time spent using social media, is ineffective. Technological effects will not predominately be governed by the time spent on devices or applications, but on what there are being used for, what content is being viewed, what social interactions the child is experiencing and also the background and capacity of the child.
7. Because screen time is such an ineffective measure, it is often difficult to understand whether the lack of clear-cut evidence about the effects of screentime (see points 10-14) are because of measurement issues or real trends in the data.

8. For this reason, any guidelines based on screen time will be inherently **extremely limited**, something highlighted by the Royal College of Paediatrics and Child Health Report in 2019.^{1,2}
9. A better way to understand screen time would be to conceptualise it in the context of a 'digital diet'³. Through this metaphor, screen time is likened to food: like food, screen time's effects depend on the 1) type of screen time, 2) amount of screen time, 3) balance of different types of use and activities, 4) individuals' own biology and psychology, 5) as well as the strategic utility of the use (e.g., is it for boredom or work). Just like with diet, the effects of screen time are to be determined holistically, taking both the use and the user into account.

Call for evidence: What is the current understanding of how screen time can support or impact children's wellbeing and mental health, including the use of social media?

10. Studies attempting to quantify the impact of overall screen time on wellbeing have typically found small, negative associations across the population.⁴ However, correlations are not very informative and there have been a range of conflicting meta-analyses on this topic. Simply studying the association between time and wellbeing cannot tell us about the underlying causal mechanisms linking the two, which is the key question we need to ask when designing interventions.
11. Longitudinal studies, such as our seminal 2019 analysis of 12,672 UK 10-15 year olds, find that the impacts of digital technology use such as social media on well-being are not a one way street, but bidirectional or more complicated.⁵ More recent analyses of ours also showed that the impact of social media on well-being vary by age, with specific windows of sensitivity or risk emerging during specific times in adolescence.⁶
12. Screens and digital technology use also impacts different people in different ways. For example, a study showed that different individual adolescents had different relationships between time spent on social media and wellbeing, varying between positive and negative correlations for different individuals.⁷ The effects of screen time will therefore vary substantially across different individuals, activities, and contexts (see point 9).
13. There are also clear positive impacts of screen time. Our research showed that during the COVID-19 pandemic, adolescents without access to the internet experienced more negative mental health trajectories, probably due to the specific, unprecedented context of physical social isolation and lack of access to educational materials, which could be partially remediated by screen time.⁸
14. Future research needs to understand the mechanisms linking screen time to wellbeing outcomes to adequately pinpoint policy targets. For example, is it certain types of content, platforms or interactions, which cause benefit or harm? And further, what are the mechanisms determining the amount of screentime (e.g., if it is due to maladaptive coping simply removing the screen would not remedy the problem).

Call for evidence: How can schools and parents be better supported to manage children's screen usage, for example, through age-related guidance? Could the Department for Education be doing more in this area?

15. A large part of managing children's screen usage is understanding what the risks are and when they might present.
16. Our team's conversations with panels of parents and adolescents suggest that managing children's digital device usage is not one-size-fits-all. Adolescents respond differently to different strategies, and what might help manage one young person's device use might not be useful with another. There are various reasons for this, including developmental stage^{6,9} or aspects of their identity.
17. Our research on large-scale UK national datasets have shown that developmental stage plays a key role in risk susceptibility for social media use. Many of the cognitive, biological and social changes that happen during adolescence overlap with changes that social media makes to our environment. For example, as adolescents become more sensitive to social feedback, social media's design features quantify social approval through likes potentially having impacts on outcomes such as mental health.^{6,9}
18. Some children will benefit more from digital device use than others. Young people from minority groups might benefit from building communities online that are not present in their school. In a focus group project currently in progress, we asked Transgender and Non-binary adolescents how they use social media, and many described positive aspects of social media use.
19. When commonly cited associations between higher levels of social media use and poor wellbeing and body image were investigated in a population of transgender and gender non-conforming teens, the opposite trend was found, showing higher wellbeing and better body image with greater social media use.¹⁰ This suggests that higher levels of digital device use might not be inherently problematic.
20. Online worlds and digital devices exist in contexts beyond schools, and it is possible that policies regarding device use in educational contexts could have unintentional knock-on effects in other aspects of young people's lives. The effect on family life and parent relationships is understudied in the literature and we are unsure of the potential effect. Home contexts and family relationships, particularly those with parents, are paramount to wellbeing in adolescence, making this area crucial to understand better.
21. The full extent of the influence of online lives on the family environment remains unknown. We are in the process of validating a digital parenting questionnaire, which 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.¹¹
22. 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 girls and boys found that social media might especially impact family connectedness because young people feel misunderstood by parents, and believe there are not trusted to responsibly navigate

the online world.¹² Similar results were found in educational settings, with feelings of being misunderstood by teachers.

Conclusions

23. There is a severe shortage of adequate evidence to approach the questions raised by the call for evidence. But we understand that insufficient evidence should not mean that we must assume no effect, nor wait to act.
24. In research on the effects of new technology, the constantly evolving object of research means that we will always be 'behind' on the evidence when defining 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.¹³
25. However, in an area with an incomplete evidence base, it is very important to consider unintended, indirect consequences of policy actions. 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 their authority figures.

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October 2023