

Terms of reference

The Committee would welcome written submissions addressing the issues, including:

- *What evidence there is on the effects of social media and screen-use on young people's physical and mental well-being — for better and for worse — and any gaps in the evidence;*
- *The areas that should be the focus of any further research needed, and why;*
- *The well-being benefits from social media usage, including for example any apps that provide mental-health benefits to users;*
- *The physical/mental harms from social media use and screen-use, including: safety online risks, the extent of any addictive behaviour, and aspects of social media/apps which magnify such addictive behaviour;*
- *Any measures being used, or needed, to mitigate any potential harmful effects of excessive screen-use — what solutions are being used?;*
- *The extent of awareness of any risks, and how awareness could be increased for particular groups — children, schools, social media companies, Government, etc;*
- *What monitoring is needed, and by whom;*
- *What measures, controls or regulation are needed;*
- *Where responsibility and accountability should lie for such measures.*

Introduction

The Royal College of Paediatrics and Child Health (RCPCH) welcomes the opportunity to respond to the Science and Technology Committee inquiry into the impact of social media and screen use on young people's health. Promoting both the physical and mental health and wellbeing of children and young people (CYP) is a continued priority area for RCPCH. In 2017 the RCPCH launched the landmark State of Child Health report which brought together data for the first time on a comprehensive list of 25 measures of the health of UK children. To inform the report we consulted 326 CYP, with mental health emerging as a major area of concern as many CYP told us of specific anxieties around how to deal with mental health issues in themselves and others. Given this evidence of increasing concern, urgent action is needed to improve young people's mental health and wellbeing, and we are continuing to work with the government to explore how this can be done.

Our CYP are 'digital natives', growing up surrounded by digital information and entertainment on screens. Spending time on screens - from social media, to computers and television - is a major part of modern life, as well as a necessary part of modern education, with 1 in 5 children aged 8-11 years having a social media account, rising to 7 in 10 children aged 11-15 years.¹

¹ Children and Parents: Media Use and Attitudes Report 2017, Ofcom (2017)
https://www.ofcom.org.uk/data/assets/pdf_file/0020/108182/children-parents-media-use-attitudes-2017.pdf p103

This response focuses on key evidence messages relating to screen-use and screen-time. This is largely based on our own systematic review evidence. Whilst we have touched on the impact of social media use on CYP's health and how this can be tackled, we defer to others who have conducted more research into this area as we have not done our own comprehensive literature search.

We are in the process of writing up our screen-time research for publication. We are intending to follow this with policy events during 2018 and will keep the committee informed of such relevant events. We would very much welcome the chance to give evidence at any oral evidence sessions, especially around the key evidence messages for screen-time.

Key evidence messages for screen-time and screen-use

- *what evidence there is on the effects of social media and screen-use on young people's physical and mental well-being — for better and for worse*

There is inconsistent evidence for the impact of screen-time on health. Led by RCPCH President Professor Russell Viner and the UCL Institute of Child Health, we undertook a systematic review of reviews (RoR) of the effects of any type of screen-time on CYP health and wellbeing outcomes. This research is pending publication and is currently being finalised for submission but is summarised here in brief for this inquiry.

The abstracts of 389 articles were reviewed and 13 systematic reviews were identified that met our criteria. The reviews considered the association of screen-time with several domains of physical and mental wellbeing, including body composition (including obesity), diet and energy intake, mental health, cardiovascular risk, fitness and sleep.

Body composition: There is moderately-strong evidence that higher television screen-time is associated with greater adiposity² and at all ages³. However, there is insufficient evidence for an association between adiposity and overall screen-time (i.e. across all types of screens) or for individual categories other than television (including computer, video or mobile device screen-time).

Diet and energy intake: There is moderate evidence of an association between screen-time and higher energy intake and less healthy diet quality (higher intake of energy and lower intake of health food groups), including evidence that television screen-time increases intake of palatable, energy-dense foods⁴.

Mental health: There is moderately-strong evidence for an association between screen-time and depressive symptoms. Only one study found moderate evidence for a positive association between screen-time duration and severity of anxiety symptoms⁵; another reported a positive association of screen-time with internalising problems⁶. However overall, the evidence for an association of screen-time with behaviour problems, anxiety, hyperactivity and inattention, poor self-esteem and poor wellbeing is weak.

² Tremblay et al. Systematic review of sedentary behaviour and health indicators in school-aged children and youth. *International Journal of Behavioural Nutrition and Physical Activity* 2011;8(98)

³ Le Blanc et al. Systematic review of sedentary behaviour and health indicators in the early years (aged 0-4 years). *Applied Physiology, Nutrition, and Metabolism* 2012;37(4):753-72

⁴ Marsh et al. The non-advertising effects of screen-based sedentary activities on acute eating behaviours in children, adolescents, and young adults. A systematic review. *Appetite* 2013;71(1):259-73

⁵ Hoare et al. The associations between sedentary behaviour and mental health among adolescents: a systematic review. *International Journal of Behavioral Nutrition and Physical Activity* 2016;13(108)

⁶ Suchert et al. Sedentary behavior and indicators of mental health in school-aged children and adolescents: A systematic review. *Preventive Medicine* 2015;76:48-57.

No convincing evidence was found to demonstrate health benefits of screen-time aside from a curvilinear association of screen-time with depression which showed that adolescents using screens in a moderate way showed the lowest prevalence of depressive symptoms.⁷

Additionally, there is weak evidence that screen-time is associated with the following domains:

- *Development*: There is weak evidence that screen-time, particularly television screen-time, is associated with poorer educational attainment and limited weak evidence that television screen-time has a negative effect on cognitive development in younger children.^{8,9}
- *Cardiovascular risk*: There is weak evidence of an association between screen-time and television screen-time with the metabolic syndrome.¹⁰ There is no clear evidence for an association with any individual cardiovascular risk factor such as blood pressure, lipids or glucose/insulin.
- *Fitness*: There is weak and inconsistent evidence for an association between screen-time or television screen-time and cardiorespiratory fitness, with weak evidence for a 2-hour daily screen-time threshold.¹¹
- *Sleep*: There is weak evidence that screen-time is associated with poor sleep outcomes including delay in sleep onset, reduced total sleep time and daytime tiredness. There is evidence from one review that this association is seen across all forms of screen-time including television screen-time, computer screen-time, video screen-time and mobile phone screen-time.¹²

Gaps in the evidence and the focus for future research

- *any gaps in the evidence*
- *what areas should be the focus of any further research needed, and why?*

Evidence is strongest for an association between screen-time, adiposity and diet outcomes, including energy intake and diet quality. There is also moderately-strong evidence for an association between screen-time and depressive symptoms, as well as moderate evidence that screen-time is associated with poorer quality of life.

Overall the quality of reviews for screen-time is moderate, with only four meta-analyses identified. A major weakness in the current literature is its domination by television screen-time, which forms a rapidly decreasing proportion of children's overall screen behaviour. Smaller numbers of studies have examined computer use or gaming, and very few studies have included mobile screen devices.

It is important to note that published systematic reviews do not sufficiently examine the effects of social media or mobile device screen-time, likely due to the necessary delays in accumulating sufficient studies for systematic review. None have examined multiple concurrent screen use, which is something on the rise among CYP, for example using smartphones whilst watching television. The lack of research into the use of mobile screens means it is unclear to what extent findings on screen-time can be generalised to social media and mobile screen use.

The RCPCH find it concerning that so little research has been done into the benefits and harms from social media and mobile phone screen use when it affects almost all young people. Indeed, the OECD has

⁷ Suchert et al. Sedentary behavior and indicators of mental health in school-aged children and adolescents: A systematic review. *Preventive Medicine* 2015;76:48-57.

⁸ Tremblay et al. Systematic review of sedentary behaviour and health indicators in school-aged children and youth. *International Journal of Behavioural Nutrition and Physical Activity* 2011;8(98)

⁹ Le Blanc et al. Systematic review of sedentary behaviour and health indicators in the early years (aged 0-4 years). *Applied Physiology, Nutrition, and Metabolism* 2012;37(4):753-72

¹⁰ Goncalves de Oliveira et al. Physical Activity, Sedentary Behavior, Cardiorespiratory Fitness and Metabolic Syndrome in Adolescents: Systematic Review and Meta-Analysis of Observational Evidence. *PLoS One* 2016;11(12):1-24.

¹¹ Carson et al. Systematic review of sedentary behaviour and health indicators in school-aged children and youth: an update. *Applied Physiology, Nutrition, and Metabolism* 2016;41(6):S240-65

¹² Hale L, Guan S. Screen time and sleep among school-aged children and adolescents: A systematic review *Sleep Medicine reviews* 2015;21:50-58

demonstrated that over a third of UK 15-year-olds are 'extreme internet users', using the internet for more than six hours outside of school on a typical weekend day. We therefore call for more research to be conducted into the influences of social media on young people's lives, such that the benefits and harms can be further explored and addressed.

In addition, the lack of data on CYP mental health is a gap that needs urgent action. This is why the RCPCH have called for the government to repeat the Survey of the Mental Health of Children and Young People every three years and extend it to Northern Ireland, to identify the prevalence of mental health problems among CYP in order to aid the planning of healthcare services.

Benefits and harms of social media use, and raising awareness

- *well-being benefits from social media usage,*
- *The physical/mental harms from social media use and screen-use, including: safety online risks, the extent of any addictive behaviour, and aspects of social media/apps which magnify such addictive behaviour;*
- *The extent of awareness of any risks, and how awareness could be increased for particular groups — children, schools, social media companies, Government, etc;*

Social media has many potential positive aspects for young people, including connecting and staying in touch with family and friends, community involvement, sharing creative projects, and accessing health information, and there are growing arguments that digital media have significant health, social and cognitive benefits. Our systematic review addressed the quantity of screen-time and did not investigate the impact of context or content on health outcomes. However, one review¹³ did show a curvilinear relationship between screen-time and depressive symptoms, suggesting that moderate use of digital technology might be important for social integration in adolescents in modern society. It is important that the potential wellbeing benefits of social media use are further and fully understood, and we would welcome the opportunity to work with the government on looking at how to explore this further, including through the newly-established APPG on Social Media and Young People's Mental Health and Wellbeing.¹⁴

In our systematic review, there is very limited evidence (from only one review) for an association of social media screen-time and depressive symptoms.¹⁵ However, we recognise that there is an increasing body of policy reporting on social media and children's mental health^{16,17} which has identified a range of risks associated with social media, including sharing too much information, cyber-bullying, influence on body image, and access to harmful content and advice. The Office for National Statistics national wellbeing survey in 2015 identified a "clear association" between longer time spent on social media and mental health issues.¹⁸ The OECD has reported a statistically significant difference in life satisfaction score between extreme internet users (6.59 out of 10) compared to moderate users (7.4 out of 10)¹⁹. This is a worrying body of statistics that needs urgent attention and further analysis of causality.

¹³ Suchert et al. Sedentary behavior and indicators of mental health in school-aged children and adolescents: A systematic review. *Preventive Medicine* 2015;76:48-57.

¹⁴ APPG on Social Media and Young People's Mental Health and Wellbeing <https://www.rsph.org.uk/our-work/campaigns/status-of-mind/appg.html>

¹⁵ Hoare et al. The associations between sedentary behaviour and mental health among adolescents: a systematic review. *International Journal of Behavioral Nutrition and Physical Activity* 2016;13(108)

¹⁶ Emily Frith – Social media and children's mental health: a review of the evidence. https://epi.org.uk/wp-content/uploads/2018/01/Social-Media_Mental-Health_EPI-Report.pdf

¹⁷ Royal Society for Public Health - #StatusOfMind. <https://www.rsph.org.uk/uploads/assets/uploaded/62be270a-a55f-4719-ad668c2ec7a74c2a.pdf>

¹⁸ Measuring National Wellbeing: Insights into children's mental health and well-being, ONS, 2015

¹⁹ PISA 2015 Results Students Wellbeing Volume III, OECD, April 2016

Looking specifically to online-safety, last year, the NSPCC's Net Aware survey found that four out of five young people thought that social media sites are not doing enough to protect them from harm online.²⁰ In research by Childnet, 6% of young people said that their intimate images had been used to threaten or blackmail them.²¹

We welcome the NSPCC Wild West Web campaign²² and agree that the government should be working to implement laws to keep social media companies in check and keep young people safe on their sites. The role of government should also be to work with industry, schools and families to ensure CYP are supported and taught to learn important digital skills to improve online-safety and resilience. Social media and screen-use is a continually growing, fast-moving industry, and good resilience skills will underpin efforts to keep children safe.

We would encourage awareness raising of online safety risks in schools through the PSHE curriculum. The RCPCH believes that the teaching of safe online relationships should be in combination with wider online safety issues to ensure that young people are equipped to manage the complexities of the modern digital world. This learning should be embedded within a wider programme which covers related issues such as body image, mental health and wellbeing and self-esteem, and which also addresses the positive aspects of engaging with the online world.

A recent focus group with 15 young people aged 11 – 25 years identified cyber security, managing your online presence, awareness, unrealistic behaviours and expectations portrayed in media and social media as areas to be addressed within the PSHE curriculum. This further reinforces the importance of embedding Relationships and Sex Education (RSE) within a wider statutory PSHE programme which would facilitate a curriculum where online safety is addressed across all relevant areas in order to improve emotional wellbeing and resilience.

We would advocate for online tools such as MindEd²³, a cross-professional e-learning tool, to be used by teachers to support their professional development and give them the knowledge to support CYP's wellbeing. The platform includes eLearning on Children and Young People's Digital Lives, Online Risk and Resilience, and Online Safety and Wellbeing in addition to a wider programme of sessions on mental and physical health and wellbeing, and has been developed by experts in child and adolescent mental health.

Measures, controls and regulation

- *Any measures being used, or needed, to mitigate any potential harmful effects of excessive screen-use — what solutions are being used?;*
- *What monitoring is needed, and by whom;*
- *What measures, controls or regulation are needed;*
- *Where responsibility and accountability should lie for such measures;*

No authoritative body has issued guidance on screen-time and media use for children in the UK. The American Academy of Paediatrics (AAP) updated its screen-time guidelines in 2016 to include recommendations for families around media viewing. This included recommendations to limit screen-time for 2-5 year olds to 1 hour per day of high quality programs, and for parents to limit screen-time in agreement with CYP six years and older.²⁴

²⁰ Freedom to Express Myself Safely: How young people navigate opportunities and risks in their online lives, (NSPCC: London) 2017. <https://www.nspcc.org.uk/globalassets/documents/research-reports/net-aware-freedom-to-express-myself-safely.pdf>

²¹ Young People's Experiences of Online Sexual Harassment: A cross-country report from project deSHAME, December 2017. http://www.childnet.com/ufiles/Project_deSHAME_Dec_2017_Report.pdf

²² NSPCC – Wild West Web. April 2018 <https://www.nspcc.org.uk/what-we-do/campaigns/wild-west-web/>

²³ MindEd E-learning - <https://www.minded.org.uk/>

²⁴ Reid et al. Children and Adolescents and Digital Media. *Pediatrics* 2016;138(5)

Our systematic review on screen-time has demonstrated that evidence for a dose-response relationship between screen-time and health outcomes is generally weak. There is moderate evidence for a dose-response association between higher screen-time and unfavourable body composition²⁵, however there is no strong evidence for a particular threshold or cut-point in terms of a recommended number of hours of screen-time in relation to adiposity. Similarly, for depression and health-related quality of life, there is moderate evidence for a dose-response relationship with the amount of time spent on screens, and only weak evidence for a threshold of ≥ 2 hours daily screen-time.

There is moderate evidence that screen-time is associated with higher intake of energy-dense foods, and this is one of a number of reasons why we, as a steering group member of the Obesity Health Alliance, believe that the government should introduce a 9pm watershed for adverts for food and drink products high in fat, sugar and salt (HFSS)²⁶. Loopholes in regulations mean the most popular programmes with children, even ones marketed as ‘family programmes’, do not have the same safeguards on HFSS advertising as programmes watched only by children. This is despite significantly more children watching these programmes than even the most popular children’s TV programmes. To protect our children from adverts that we know can influence their food preferences, choices, and consumption, the Government should extend existing regulations to restrict HFSS advertising where children are exposed to the most HFSS advertising.

Due to the limited evidence for a threshold of screen-time, the RCPCH recommend that parents and health professionals in the UK follow the AAP guidance, in the absence of any similar guidance in the UK. We recommend that further research into screen-time thresholds and dose-response relationships is commissioned as a priority by the UK government to establish similar guidance in the UK. Further evidence to inform screen-time guidance and protect children from the harms of time on screen should also consider potential wellbeing benefits of time on screens and be used to support parents and carers in agreeing appropriate screen-use and time.

Clear strategies and guidance to raise awareness of the benefits and harms of screen-use are also needed. The Children’s Commissioners 5 A Day Digital strategy²⁷ is a step in the right direction in helping parents and young people in establishing common ground for use of the internet. We believe that more work in this area is needed, and clearer guidelines for screen-time and social media use for parents should be issued nationally by the government.

Key Resources

- Stiglic N, Viner RM. The effects of screentime on the health and well-being of children and adolescents: a systematic review of reviews. 2018, pre-publication.
- Viner RM. *State of Child Health: Report 2017*. London: Royal College of Paediatrics & Child Health, 2017

About the RCPCH

The College is a UK organisation which comprises over 15,000 members who live in the UK, Ireland and abroad and plays a major role in postgraduate medical education, as well as professional standards.

The College's responsibilities include:

- setting syllabuses for postgraduate training in paediatrics

²⁵ Carson et al. Systematic review of sedentary behaviour and health indicators in school-aged children and youth: an update. *Applied Physiology, Nutrition, and Metabolism* 2016;41(6):S240-65.

²⁶ OHA – A Watershed Moment, 2017. <http://obesityhealthalliance.org.uk/wp-content/uploads/2017/11/A-Watershed-Moment-report.pdf>

²⁷ Children’s Commissioner Digital 5 A Day <https://www.childrenscommissioner.gov.uk/2017/08/06/digital-5-a-day/>

- overseeing postgraduate training in paediatrics
- running postgraduate examinations in paediatrics
- organising courses and conferences on paediatrics
- issuing guidance on paediatrics
- conducting research on paediatrics
- developing policy messages and recommendations to promote better child health outcomes
- service delivery models to ensure better treatment and care for CYP

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