

## **Science and Technology Committee (Commons) inquiry: Impact of social media and screen use on young people's health**

### **Written evidence submitted by CLOSER, the home of longitudinal research (SMH0133)**

#### **1. Summary**

- 1.1 CLOSER is a collaboration of leading social and biomedical longitudinal studies, the British Library and the UK Data Service, funded by the Economic and Social Research Council (ESRC) and Medical Research Council (MRC).
- 1.2 Evidence suggests that most adult mental health disorders start in childhood. By studying individuals throughout their lives (often from early life into adulthood), longitudinal research is uniquely placed to help identify the factors that are contributing to these disorders later on in a person's life. The studies typically collect a rich array of information, allowing insights into how different areas of life intersect. [1]
- 1.3 Longitudinal evidence from the CLOSER studies has found that young people who used social websites for long periods each day were less likely to be happy than those whose use was less than an hour a day. There is significant variability between young people's usage, with some spending more than 3 hours online and others 20 minutes or less. Girls were the heaviest of users and more likely to have wellbeing problems as they reach their later teenage years.
- 1.4 Findings from longitudinal research suggest that it is important to monitor early interactions with social media, particularly in girls, and that there is a need to look at in-built time limits to help manage usage.
- 1.5 At present, there is not enough evidence to draw definitive conclusions on the long-term impact (whether positive or negative) of social media and screen-use on young people's health. For example, some studies suggest that interacting on social media might reduce social isolation; however there are others that have come to opposite conclusions.
- 1.6 We currently do not fully understand the long-term effects of social media and screen-use by young people, limiting the ability of policy to intervene effectively.
- 1.7 There is a need to conduct longitudinal research using the existing studies to track prevalence of social media and screen-use over time and uncover the long-term impacts on young people's health. Relevant CLOSER studies are the Avon Longitudinal Study of Parents and Children, Millennium Cohort Study, and Understanding Society.

## 2. About CLOSER

- 2.1 CLOSER is a unique collaboration of leading social and biomedical longitudinal studies, the British Library and the UK Data Service, funded by the Economic and Social Research Council (ESRC) and Medical Research Council (MRC). [2]
- 2.2 There are currently eight studies in the CLOSER Partnership, comprising four national and three regional birth cohort studies and Understanding Society (the UK Household Longitudinal Study). [3]
- 2.3 Longitudinal studies follow the same people and households over time, often from birth, collecting a wide array of information about participants' lives and enabling researchers and policymakers explore how changes in society affect health, community and education.
- 2.4 CLOSER's mission is to maximise the use, value and impact of longitudinal studies to help improve our understanding of key social and biomedical challenges, including how best to combat life threatening diseases, reduce obesity and improve social mobility and life chances.

## 3. Longitudinal evidence

- 3.1 A study using Understanding Society youth panel data from 2009 on around 5,000 young people aged 10 to 15 examined the impacts of social media and computer gaming on mental health. It found that 64 per cent of young people are using social networking sites, such as Facebook, Twitter and Snapchat, up to one hour every day. A further 30 per cent of young people who chatted on social networking sites between one and three hours per day were about half as likely to be happy as those who chatted for less than one hour per day. The six per cent of young people who were on social media or computer games for four or more hours a day were more than twice as likely to have socio-emotional difficulties than those who spent less than an hour a day on them. [4]
- 3.2 More recent research using five waves of the Understanding Society youth questionnaire data from 2009/10 to 2014/15 followed almost 10,000 children and young people over a five year period to assess how much time they spent on social media on a 'normal school day' and how their emotional and wellbeing scores changed over the years. This study found a gender difference in social media use in tweens and teens: girls were the heaviest users of social media and were more likely to have wellbeing problems as they reach their later teenage years. About half of girls aged 13 were interacting on social media for one hour or more a day, but only a third of boys of the same age. By age 15, both boys and girls had increased the amount of time spent on social media, but girls were still doing more – 59 per cent compared with 46 per cent of boys. [5]
- 3.3 The Millennium Cohort Study found that in 2015, 49 per cent of 14 year olds spend time on social media on a weekday, with about 10 per cent reporting that they spend more than three hours online per day. There was, however, significant variability between young people's usage, with about 10 per cent spending more than three hours online, while at the other end

of the spectrum, 10 per cent spending 20 minutes or less. A higher proportion of girls (60 per cent) than boys (38 per cent) were on social media each weekday. Amongst those reporting some social media use, average daily time spent on it was one hour 26 minutes, with no notable gender differences. [6]

3.4 Findings from longitudinal research suggest that it is important to monitor early interactions with social media, particularly among girls, as this could have an impact on wellbeing later in adolescence and perhaps throughout adulthood, and that there is a need to look at in-built time limits to help manage heavy usage. [7]

#### 4. Evidence gaps

4.1 Further work is required to uncover correlations and causality before drawing any definitive conclusions on the long-term impact of social media and screen-use on young people's health. Using existing and future evidence from the following CLOSER studies will help to inform the evidence base. Relevant information collected by the studies includes:

##### Avon Longitudinal Study of Parents and Children

The Avon Longitudinal Study of Parents and Children study asked respondents (mothers and children) whether they have had any psychiatric problems, depression, and eating disorders such as anorexia and bulimia, as well as indicators of low levels of wellbeing. It also asked about children's feeling about school, including whether they were happy, frightened or being bullied.

##### Millennium Cohort Study

This regional birth cohort study has been following the lives of around 19,000 children born in the UK in 2000-01. Unlike the older cohort studies, it has collected information on the mental health and wellbeing of its participants from the start. This has provided valuable data for research into the mental health of the participants who are now teenagers.

##### Understanding Society (The UK Household Longitudinal Study)

Understanding Society is a panel survey of households with yearly interviews. Adult household members (age 16 or older) are interviewed and the same individuals are re-interviewed in successive years to see how things have changed. Children aged 10-15 years are asked to complete a short self-completion youth questionnaire. Adult study participants are asked questions about their general physical and mental health, life satisfaction, physical activity, sleep quality, smoking and alcohol consumption. Participants are also asked about their social networks, family relationships, friendships, and community interaction. Children are asked about exercise, nutrition, risky behaviours, social networks and their caring responsibilities.

4.2 CLOSER is currently funding a research project that seeks to develop a framework for linking and sharing social media data for high-resolution longitudinal measurement of mental health across longitudinal studies. An open-source software framework will be developed for securely linking Twitter data, archiving and sharing the information for research purposes.

## 5. About the CLOSER studies

- 5.1 The **Hertfordshire Cohort Study** comprises a nationally unique study of 3,000 men and women born during the period 1931-1939 and still resident in the English county of Hertfordshire during the 1990s. The principal objective of the study is to evaluate the relationship between early (prenatal and early postnatal) growth, genetic influences, adult lifestyle and the risk of common age-related disorders such as osteoporosis, osteoarthritis, sarcopenia, type 2 diabetes and cardiovascular disease. The study has been a key source of evidence for lifecourse influences on health and disease in later life.
- 5.2 The **1946 MRC National Survey of Health and Development** is the oldest and longest running of the British birth cohort studies comprising of men and women born in England, Scotland or Wales in March 1946. Today, with study members in their seventies, the study is a leading source of evidence on the long-term biological and social processes of ageing and how ageing is affected by factors acting across the whole of life.
- 5.3 The **1958 National Child Development Study** follows the lives of 17,415 people born in England, Scotland and Wales in a single week of 1958. It has tracked the lives of study members to reveal how the different educational and other paths people take affect their wages, jobs, relationships, and health later in life. It has also been used to uncover genetic risks for a range of diseases.
- 5.4 The **1970 British Cohort Study** follows the lives of 17,198 people born in England, Scotland and Wales in a single week of 1970. The study has shown the importance of reading for pleasure for children's cognitive development, especially in vocabulary and spelling, but also in maths.
- 5.5 The **Avon Longitudinal Study of Parents and Children** charts the lives of 14,500 people born in the former county of Avon between April 1991 and December 1992 as well as the lives of their parents and their children. It is rich resource for the study of the environmental and genetic factors that affect a person's health and development throughout their life.
- 5.6 The **Southampton Women's Survey** is the only birth cohort study in Europe in which the mothers were recruited before conception of the child. The aim of the study is to assess the influence of maternal dietary, lifestyle, intrauterine, genetic and epigenetic factors on the children's health and development, and on the health of the mothers themselves.
- 5.7 The **Millennium Cohort Study** follows the lives of 19,517 children born across England, Scotland, Wales and Northern Ireland in 2000-01. The study has provided important evidence to show how circumstances in the early stages of life can influence later health and development, including that children who are breastfed tend to be healthier and to show better cognitive development and that children born in the summer months were more likely to be placed in lower ability groups than their autumn-born peers.
- 5.8 **Understanding Society:** The UK Household Longitudinal Study follows the lives of all individuals within 40,000 households over time. It covers the whole population, with boost

samples to ensure it is representative of immigrant and ethnic minority groups, and its large sample enables sub-population groups to be examined. The study includes data on key domains of people's lives – their family, health, wellbeing, employment, education, income, expenditure, wealth, time use, behaviours, housing, transport and neighbourhoods, attitudes and beliefs – which enables researchers to investigate the inter-relations between different aspects of people's lives.

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## References

[1] <https://learning.closer.ac.uk/explore-by-topic/mental-health-and-wellbeing/>

[2] <https://www.closer.ac.uk/about/>

[3] <https://www.closer.ac.uk/about/partners/>

[4] Media Use, Sports Participation and Well-being in Adolescence: Cross-Sectional Findings from the UK Household Longitudinal Study: By Cara Booker, Alexandra Skew, Yvonne Kelly and Amanda Sacker

<https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2013.301783>

[5] Gender differences in the association between age trends of social media interaction and wellbeing among 10-15 year olds in the UK, by Dr Cara Booker (University of Essex), Professor Yvonne Kelly (University College London) and Professor Amanda Sacker (University College London) <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-018-5220-4>

[6] [www.cls.ioe.ac.uk/mcs14tud](http://www.cls.ioe.ac.uk/mcs14tud)

[7] <https://www.essex.ac.uk/news/2018/03/20/how-social-media-impacts-on-wellbeing-of-teenage-girls>