

Social media mental health harms might be due to exposure to cyberbullying, loss of sleep or reduced physical activity

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First study to examine three mechanisms by which very frequent use of

social media may harm mental health suggests efforts should be made to reduce young people's exposure to harmful content, and the impact it has on healthy activities (such as sleep and exercise). Authors suggest that direct effects, such as on brain development, are unlikely and so interventions to simply reduce social media use might be misplaced.

Very frequent [use of social media](#) may compromise [teenage girls'](#) mental health by increasing exposure to bullying and reducing sleep and [physical exercise](#), according to an observational study of almost 10,000 adolescents aged 13-16 years studied over three years in England between 2013-2015, published in *The Lancet Child & Adolescent Health* journal. The impact on boys' mental health appears to mainly be due to other mechanisms, not revealed by this study.

In the UK, more than 90% of teenagers use the internet for [social networking](#). There is growing concern about their use of [social media](#) and the impact on their mental health and wellbeing, although evidence for the impact remains contradictory. Half of all mental illnesses start by the age of 14, making adolescence a crucial period for promoting mental health. There is some evidence that [social media use](#) can positively influence health, for example by reducing social isolation. However, few long-term studies exist and few have examined the mechanisms that might impact on wellbeing.

"Our results suggest that social media itself doesn't cause harm, but that frequent use may disrupt activities that have a positive impact on mental health such as sleeping and exercising, while increasing exposure of young people to harmful content, particularly the negative experience of cyber-bullying," says Professor Russell Viner from the UCL Great Ormond Street Institute of Child Health, who led the research.

For the current study, scientists analysed data from three sets of interviews with teenagers from nearly 1,000 schools across England, as

they progressed from Year 9 in 2013 (13 to 14-year-olds) to Year 11 in 2015 (15 to 16-year-olds). It is the first [observational study](#) to track social media use and mental health over these important early adolescent years with enough participants to make it representative of the whole of England.

At all three time points, young people reported the frequency with which they accessed or checked social media. Very frequent social media use was defined in the study as using social networks, instant messaging or photo-sharing services such as Facebook, Instagram, Twitter, Snapchat and WhatsApp multiple (three or more) times daily. The authors note that a limitation of the survey data is that it did not capture how much time the teenagers spent using social media, only how often they checked or accessed it.

In the second year of the study, participants completed the General Health Questionnaire (GHQ), for which a high score indicates psychological distress. They were also asked about their experiences of cyberbullying, sleep and physical activity. In the final year, participants were surveyed about three aspects of their personal wellbeing—life satisfaction, happiness and anxiety, using standard questions supplied by the Office for National Statistics. When the authors found any significant associations between the teenagers' social media use and psychological distress or wellbeing, they assessed the degree to which this could be attributed to cyberbullying, sleep and physical activity.

In 2013, of 13,000 children interviewed, 43% of boys and 51% of girls used social media multiple times a day. By 2014, this had increased to 51% and 68% respectively. In 2015, 69% of boys and 75% of girls used social media multiple times a day.

In both sexes, very frequent social media use was associated with greater psychological distress. In girls, the more often they accessed or checked

social media, the greater their psychological distress—in 2014, 28% of girls who very frequently used social media reported psychological distress on the general health questionnaire, compared with 20% of those using it weekly or less. However, this effect was not as clear in boys.

The 2015 wellbeing survey revealed that persistent very frequent social media use across 2013 and 2014 predicted later lower wellbeing in girls, with girls who regularly used social media very frequently reporting lower life satisfaction and happiness and greater anxiety in 2015. In contrast, no significant associations were identified by the survey in boys.

Some previous studies have suggested that prior mental health problems are associated with greater social media use and the authors note that it's possible this was the case in the first year of the current study. However, in the second and third years, their findings strongly suggest causal links between social media use and mental health and wellbeing.

The authors found that almost all of the effect on girls' wellbeing in 2015 was down to cyber-bullying, reduced sleep and reduced physical activity. They also found that nearly 60% of the impact on psychological distress in girls in 2014 could be accounted for by their sleep being disrupted and by greater exposure to cyber-bullying. Reduced physical activity also played a lesser role.

In contrast, cyberbullying, sleep and physical activity appeared to explain only 12% of the impact of very frequent social media use on [psychological distress](#) in boys. These findings suggest that there are other mechanisms behind the effects of social media on boys' mental health. The authors suggest these influences are likely to be indirect, as they are for girls, rather than due to social media exposure per se, but further research is needed to reveal what these indirect influences might be.

Co-author, Dr. Dasha Nicholls from Imperial College London, UK, says: "The clear sex differences we discovered could simply be attributed to girls accessing social media more frequently than boys, or to the fact that girls had higher levels of anxiety to begin with. Cyberbullying may be more prevalent among girls, or it may be more closely associated with stress in [girls](#) than in boys. However, as other reports have also found clear sex differences, the results of our study make it all the more important to undertake further detailed studies of the mechanisms of social media effects by gender."

Writing in a linked Comment, Dr. Ann DeSmet from Ghent University, Belgium, says: "These findings are important for at least two reasons. First, social media use among youngsters need not be as negative as often assumed. If the displacement of healthy lifestyles and cyberbullying can be attenuated, the positive effects of social media use, such as encouraging social interactions, can be more endorsed. These findings showing nearly full mediation paths may also inspire researchers to investigate mediators of other media use that is generally considered harmful (e.g. gaming). Second, the joint associations of several lifestyles with mental health indicate the importance of multi-behavioural, whole-school programs to promote mental health in youth. This paper demonstrates sleep, cyberbullying and physical activity may be important lifestyles to target in protecting and improving youth [mental health](#)."

More information: Russell M Viner et al, Roles of cyberbullying, sleep, and physical activity in mediating the effects of social media use on mental health and wellbeing among young people in England: a secondary analysis of longitudinal data, *The Lancet Child & Adolescent Health* (2019). [DOI: 10.1016/S2352-4642\(19\)30186-5](https://doi.org/10.1016/S2352-4642(19)30186-5)

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