

European study finds screen time and sleep duration predict overweight in children

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Screen time and sleep duration independently predict excess weight in children and should be considered as part of prevention strategies to reduce the burden of overweight and obesity and related health conditions, according to a study involving over 4,000 children (aged 2 to 11 years old) from eight European countries, being presented at The European and International Congress on Obesity (ECOICO 2020), held online this year from 1-4 September.

Global trends suggest that children's [sleep time](#) is decreasing, whilst screen time and overweight and obesity are increasing. It has been reported that worldwide, 90% of adolescents are not sleeping the recommended nine to 11 hours per night, which has coincided with an increase in the use of screen-based devices. In Britain alone, it is estimated that [young people](#) (aged 8 to 19 years old) spend an estimated 44 hours a week on average looking at screens.

A deeper understanding of the modifiable risk factors leading to [excess weight](#) in children and adolescents could provide unique opportunities for preventing the immediate and long-lasting [health consequences](#) of overweight.

These new findings corroborate evidence from previous studies that indicate that both [sleep duration](#) and screen time are independently associated with becoming overweight, while adding evidence on how these behaviours interact with each other to influence changes in weight status among the young population.

In the study, researchers examined associations between screen time, sleep duration, and incident overweight in 4,285 children (aged 2 to 11 years old) from the IDEFICS (Identification and prevention of Dietary and lifestyle-induced health Effects In Children and infantS) and the I.Family studies—which includes children from eight European countries (Spain, Germany, Hungary, Italy, Cyprus, Estonia, Sweden, and Belgium)—who were followed-up from 2009/2010 to 2013/2014. Parents were asked to report how much time children spent on average watching TV, playing games consoles, using a mobile, computer or tablet, and sleeping each day at the start of the study.

At the start of the study, the researchers found that screen time (hours per day) and sleep duration (hours per day) had an inverse correlation, meaning the decrease in one of them was met with an increase in the other, so the researchers assessed both their separate and joint effects on weight trajectory.

Analyses of 3,734 children who were not overweight or obese at the start of the study, found that for every extra hour of screen viewing children were 16% more likely to become overweight or obese during follow-up, whilst every hour less of sleep was associated with a 23% increased risk of overweight or obesity.

However, after adjusting the data for possible confounding factors including sex, age, European country region, and parental level of education, the researchers found that the association between

screen time and overweight was no longer statistically significant, but sleep duration remained a significant independent predictor of overweight.

"Our study highlights the potential of overweight and obesity prevention strategies that promote adequate sleep duration and limit screen time, given that both independently predicted incident overweight in our study", says Dr. Viveka Guzman from the Royal College of Surgeons in Ireland who led the research.

"Sleep is an often undervalued but important part of children's development, with a regular lack of sleep causing a variety of health problems. Our findings suggest that sleep duration plays a role in the link between screen time and overweight, but more research is need to understand the mechanism underlying this relationship."

The authors acknowledge that their findings show observational associations, so no conclusions about cause and effect can be drawn. They point to several limitations, including that the study did not examine potentially confounding factors such as physical activity, family history of obesity, or dietary patterns, and the possibility of under-reporting or misreporting of sleep duration and [screen time](#), that may have influenced the results. They also note that the questionnaire did not include information about some electronic devices which could be currently widely used by [children](#) (such as smartphones and tablets).

Provided by European Association for the Study of Obesity

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