

NEWS RELEASE

# Children's Hospital of Philadelphia Study Links Smartphone Ownership in Childhood to Increased Risk of Depression and Obesity in Youth

Adolescents who own a smartphone early are at greater risk of depression, obesity and insufficient sleep than those who do not

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A new study from researchers at Children's Hospital of Philadelphia (CHOP) in collaboration with researchers from the University of California, Berkeley and Columbia University in New York, found that owning a smartphone in early adolescence is associated with increased risks of depression, obesity and insufficient sleep compared to not owning a smartphone. For youth who own a smartphone, earlier age of acquisition is linked to higher rates of obesity and insufficient sleep. The study was published today in the journal *PEDIATRICS*.

The study on teen smartphone use was prompted by rising societal concerns about smartphone use and its impact on adolescent mental health. Caregivers often struggle with deciding when to allow smartphone access, hindered by a lack of specific data about smartphones' impact on the wellbeing of children and adolescents. While prior research found negative health impacts from screen time, the effects of smartphone use specifically remained unclear.

In this study, researchers analyzed data collected between 2018 and 2021 from more than 10,000 adolescents from across the US who participated in the [Adolescent Brain Cognitive Development study](#) (ABCD). The researchers considered smartphone ownership and the age of first acquisition, adjusting for demographic and socioeconomic variables, ownership of other devices, pubertal development and parental monitoring. The researchers did not investigate which specific features of smartphone use are linked to poorer health.

The researchers found that smartphone ownership at age 12 was associated with increased risks of depression, obesity, and insufficient sleep, with younger age of acquisition linked to additional risks of obesity and insufficient sleep. Furthermore, among adolescents who did not have a smartphone by age 12, acquiring a smartphone within the following year was associated with a greater risk of mental health problems and insufficient sleep at age 13, compared to peers who remained without a phone by 13.



Ran Barzilay, MD, PhD

“Our findings suggest that we should view smartphones as a significant factor in teen health, approaching the decision to give a child a phone with care and considering potential impacts on their life and health,” said [Ran Barzilay, MD, PhD](#), lead author of the study and a child-psychiatrist with the [Youth Suicide Prevention, Intervention and Research Center](#) at CHOP. “We are not claiming smartphones are detrimental to all adolescents' health; rather, we advocate for thoughtful consideration of the health implications, balancing both positive and negative consequences. For many teens, smartphones can play a constructive role by strengthening social connections, supporting learning, and providing access to information and resources that promote personal growth. Likewise, some families may view a smartphone as a necessity for safety or communication.”

In the future, the researchers aim to investigate specific aspects of smartphone use, such as app types and usage patterns that are linked to adverse health effects. They plan to study children acquiring smartphones at younger ages and to understand which youth are vulnerable to negative effects and who might benefit from smartphone use. They hope their findings can help protect children and adolescents who own smartphones.

“Most probably, all teens will eventually have a smartphone. Once this happens, it is advisable to monitor what our children do on their phones, ensuring they’re not exposed to inappropriate content and that smartphones don’t disrupt sleep,” said Barzilay, who is also an assistant professor at the [Perelman School of Medicine at the University of Pennsylvania](#) and a part of the [Lifespan Brain Institute](#) (LiBI) at CHOP and Penn Medicine. “It’s critical for young people to have time away from their phones to engage in physical activity, which can protect against obesity and enhance mental health over time.”

Recommendations include:

- Establish clear family rules before giving your child a phone, possibly using an agreement to define usage terms.
- Set guidelines for phone use in bedrooms, at the dinner table, and during homework, ensuring all caregivers and kids stick to them.
- Adjust privacy and content settings to avoid inappropriate material and regularly discuss phone-related issues like sleep disruption or conflicts to find solutions together.

For caregivers seeking additional resources on managing smartphone use among adolescents, Barzilay recommends additional guidance from the [American Academy of Pediatrics](#) and the [American Academy of Child and Adolescent Psychiatry](#).

Dr. Barzilay is supported by grants from the National Institute of Mental Health and by the American Foundation for Suicide Prevention.

Learn more about the study and its findings in the following [New York Times](#) and [CNN](#) articles.

Barzilay et al. “Smartphone Ownership, Age of Smartphone Acquisition, and Health Outcomes in Early Adolescence.” *PEDIATRICS*. Online December 1, 2025. DOI:

<https://doi.org/10.1542/peds.2025-072941>.

## Contact us



For media requests contact: Kaitlyn Dvorin

**267-426-8614**

[dvorink@chop.edu](mailto:dvorink@chop.edu)

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