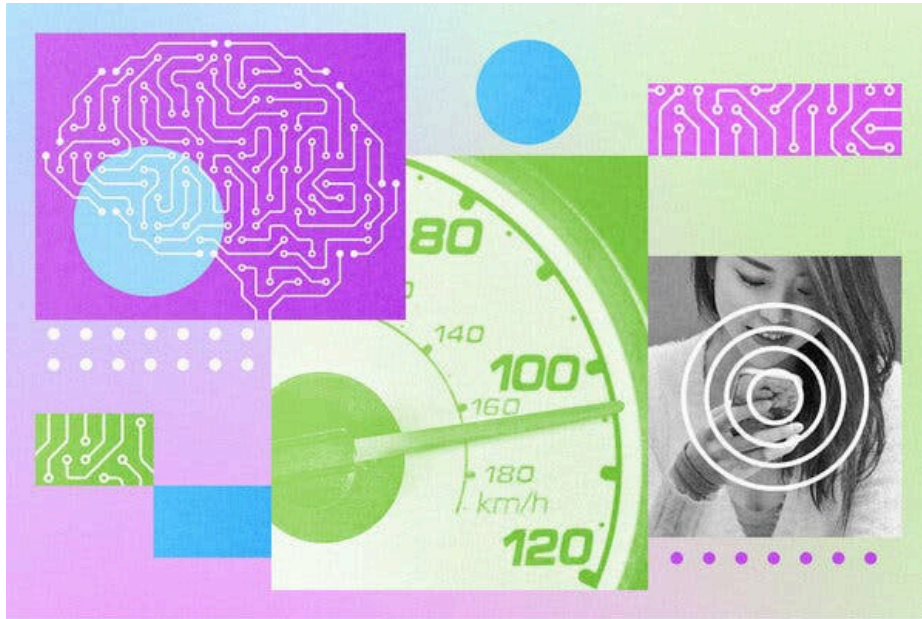


From: [How Social Media Does \(And Does Not\) Impact Teen Brain Development - The New York Times \(nytimes.com\)](#)

What Social Media Does to the Teen Brain

Despite the headlines, the impact of social apps on adolescent mental health isn't so clear.



Credit...Illustration by Andrei Cojocaru; Photographs by Getty Images



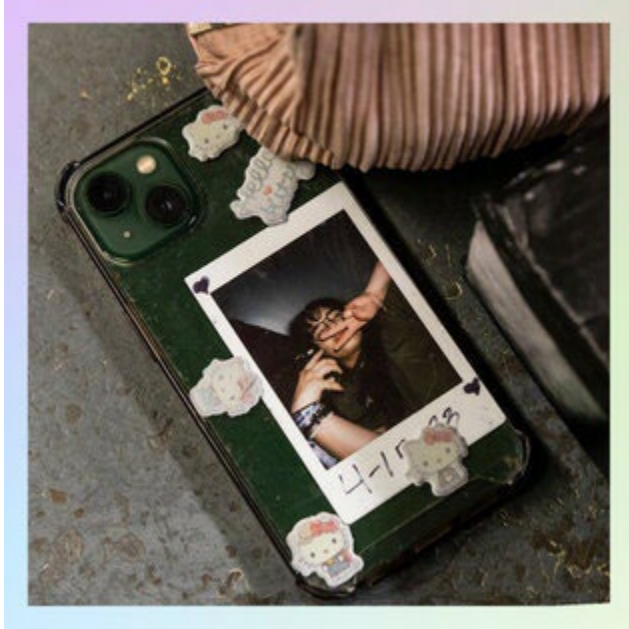
By [Catherine Pearson](#)

Sept. 20, 2023

Every generation has its moral panic and for Gen Z — teenagers today — it is, undoubtedly, social media.

Recent [public health warnings](#) have stoked fears in parents that a generation of kids is doomed because they are always online. Girls, the [headlines warn](#), are at particular risk: [Mental health-related E.R. visits](#) are up, [anxiety is skyrocketing](#) and they are [being inundated with images of the “thin body ideal.”](#)

From: [How Social Media Does \(And Does Not\) Impact Teen Brain Development - The New York Times \(nytimes.com\)](https://www.nytimes.com/2018/05/01/health/teens-social-media-brain-development.html)



This article is part of 'Being 13,' a project that examines what life is like for teenage girls in the age of social media.

Still, neuroscientists and psychologists who specialize in the teenage brain put it plainly: Yes, social media is of concern because the rapidly developing adolescent brain may be uniquely vulnerable to what the platforms have to offer. But the science is not nearly as settled as some of the most [dire headlines would make it seem](#).

“This is really the first truly digital generation, and we have yet to see how much effect this has,” said Dr. Frances Jensen, a neurologist at the University of Pennsylvania and the author of “The Teenage Brain.”

“We can get snapshots,” she added.

What we know is that the brain matures from back to front, a process that starts in infancy and continues into adulthood, Dr. Jensen explained. And during adolescence, there is a particular flurry of activity in the middle part of the brain, which is associated with rewards and social feedback.

“Areas that have to do with peers, peer pressure, impulsivity and emotion are very, very, very active,” Dr. Jensen said.

Mitch Prinstein, the chief science officer at the American Psychological Association, said that “other than the first year of life, this is the most significant and important change that happens in our brains in our entire lives.”

From: [How Social Media Does \(And Does Not\) Impact Teen Brain Development - The New York Times \(nytimes.com\)](#)

In scientific terms, what is happening has to do with synapses (the connections that allow neurons to send and receive signals), which grow stronger, while connections that are no longer needed are pruned. (It's "use it or lose it," Dr. Jensen explained.)

Editors' Picks

At the same time, the long-distance connections between brain cells in various parts of the brain are becoming insulated in a fatty substance known as myelin, which allows for messages to travel through the brain much more efficiently than they did before. That "myelination" process is not complete until the mid- to late 20s, Dr. Jensen said. That means that during adolescence, signals do not always travel through the brain rapidly enough to help kids regulate their emotions and impulses, she explained.

Likewise, the prefrontal cortex — which sits behind the forehead, and which is responsible for tasks like weighing consequences and planning — is still maturing in the teenage years.

"The adolescent brain is kind of like a car that — when it comes to the desire for social feedback — has a hypersensitive gas pedal, with relatively low-functioning brakes," said Dr. Prinstein, who [testified before the Senate on the subject](#) earlier this year. "The brain's inhibition center that says, 'Maybe don't follow every single drive and instinct you have'" isn't fully developed, he said.

While researchers know much more about adolescent brain development now than they did a decade ago, Dr. Prinstein said, [proving any kind of causal connection between social media use and poor mental health outcomes is difficult](#). Reviews of the existing studies on social media and well-being have found them to be [inconclusive](#) or [inconsistent](#).

Some studies have tried to measure the question directly, using brain imaging, including a paper [published in January \(on which Dr. Prinstein was an author\)](#), which found that 12-year-olds who habitually checked their social media accounts experienced changes in the areas of the brain associated with social rewards, though it is unclear what caused those changes, or what they mean.

Experts who are studying teens and social media are observing that girls are being hit harder by the current crisis in teen mental health; they say that female hormones may factor in, but the connection to social media use has not been proven scientifically. "Hormones are modifying this process," Dr. Jensen said. "But in ways we don't fully understand."

She is eagerly awaiting results from the ongoing [Adolescent Brain Cognitive Development](#), or A.B.C.D. study, funded by the National Institutes of Health, which is using brain imaging technology to show how development is affected by a range of experiences, including various types of screen time.

From: [How Social Media Does \(And Does Not\) Impact Teen Brain Development - The New York Times \(nytimes.com\)](#)

Researchers are still tracking the A.B.C.D. study participants into young adulthood, however, and the ever-changing social media landscape compounds how difficult this all is to study, Dr. Jensen said. The apps and sites adolescents are using today are different from those they used just a few years ago.

Yet both Dr. Jensen and Dr. Prinstein noted that social media is not inherently good or bad — a sentiment even the recent public health warnings have echoed. Instead, they sought to emphasize that the changes happening in adolescents’ brains may make them particularly drawn to these platforms and more susceptible to the potential pitfalls.

When tweens start obsessing about their social lives — talking endlessly about their peers and who sits at the “popular table” — that is a sign that they are maturing normally, Dr. Prinstein said.

“That’s how their brains were meant to develop, based on centuries of the social context in which we have all grown up,” he said. But now, adolescents are experiencing those changes in an online world that is “creating the opportunity for reward and social feedback incessantly,” he added. “And that’s the combination we’re concerned about for teens.”



Being 13

Three girls, one year. This is what it’s like to be 13 today, in a world that can’t stop talking about the dire state of your future.

[Catherine Pearson](#) is a reporter for the Well section of The Times, covering families and relationships. [More about Catherine Pearson](#)