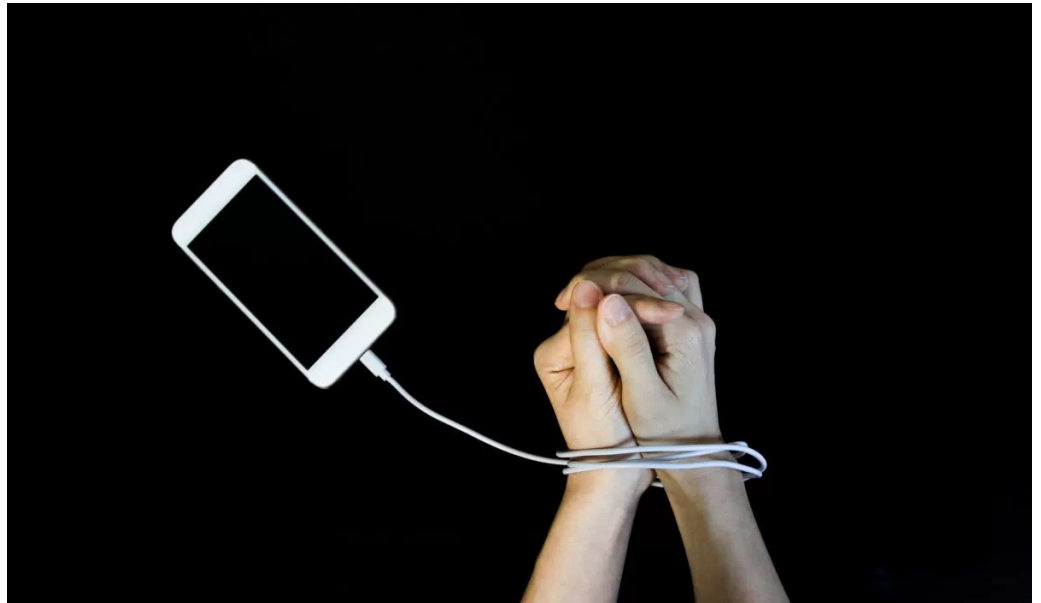


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How Smartphone Addiction Is Affecting Teens' Brains

BY
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Kids today are spending an exorbitant amount of time glued to their electronics. A 2015 [survey](#) published by Common Sense Media found that American teenagers (ages 13 to 18) averaged six and a half hours of screen time per day on social media and other activities like video games. In addition, a 2015 [report](#) from Pew Research Center found that 24 percent of teenagers ages 13 to 17 reported being online “almost constantly,” and that 73 percent had a smartphone or access to one.

Sadly, more teens are also starting to get addicted to their phones and other devices. There is even now a term – “nomophobia” – to describe people who can’t handle being away from their phone. One [study](#) found that 66 percent of people in the United Kingdom have some form of nomophobia.

With all of this excessive phone use, a group of neuroscientists wanted to find out if the exposure is damaging neurological health, especially in children and teens whose brains are still developing. The research team from Korea University in Seoul, South Korea, recently published a [study](#) that found that being addicted to smartphones creates a chemical imbalance in the brain linked to depression and anxiety in young people.

About 20 teens being treated for smartphone or internet addiction, half boys and half girls with an average age of 15, were recruited to participate in the study. First, researchers evaluated the seriousness of the teens’ addiction by looking at their productivity, feelings, social life, and daily routines. They noted that teens addicted to their phones had higher rates of anxiety, depression, impulse control problems, and sleep disorders than other teens their age.

Next, researchers used a technology called magnetic resonance spectroscopy (MRS) to track the movement of biochemicals in the teens’ brains. They looked at a chemical called gamma aminobutyric acid (GABA) that’s involved in motor control and vision, and regulates brain function. Too much GABA may lead to anxiety.

They also observed levels of glutamate-glutamine (Glx), a neurotransmitter that causes the brain's nerve cells to become excited. The amount of these chemicals that we have in our brains affects our emotions and cognitive ability. Thus addiction, anxiety, and depression can result when these chemicals are out of balance.

The amount of these two chemicals in the study participants clearly showed that the brain was altered from smartphone addiction. They saw how GABA slowed down their brain function, resulting in poorer attention and control. Therefore when people are too attached to their phone, they are essentially destroying their ability to focus. In addition, they noted how the addicted teenagers had significantly higher levels of anxiety, depression, insomnia, and impulsivity.

Finally, the teens went through a nine-week cognitive behavioral therapy program, which included mindfulness, to address their phone addiction. Interestingly, the levels of GABA to glutamate-glutamine normalized after the therapy.

Although the study was limited because of the small sample size used, the results are troubling. We can clearly see the connection between extensive phone use and negative changes to the brain. No matter what age our children are, we can start to think about how to break their reliance on phones and other electronics before they get too attached, or possibly even addicted.

Here are some ways to start:

- [Learn more](#) about technology addiction and evaluate if your children are struggling. Consider taking this [online quiz](#).
- Seek professional help so they can undergo cognitive behavioral therapy.
- Introduce mindfulness to help break their tech habit.
- Enforce tech use rules, such as putting gadgets away during dinner and homework time, and while driving.
- Remove social media apps, like Facebook and Twitter, from their phone and only allow them to check those sites from their laptop.
- Remove chimes from their phone so they are not constantly prompted to look at a new text or post as it arrives.
- Forbid the use of electronics before bedtime, as this can disturb sleep patterns.
- Help your children replace electronics with healthier activities like creative arts, meditating, exercise, and talking to people in person.

Being mindful of our teens' tech habits will help them, and their brains, develop into adulthood.



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Nena • 24 days ago

This is a very informative but quite frightening news. I thought the smartphone is just wreaking havoc with the social development of my teens, worse, it is destroying their brains!!! I know most moms would agree with me that it's hard to compete with a teen's relationship with a smartphone. Even if we set rules, they're out of sight most of the times making it even harder to monitor them.

Thank you Sandi for this article. It is good to know that we have science to back us up when we say enough is enough. I have already sent the link to all moms I know.

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