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Phone Addiction Is Real -- And So Are Its Mental Health Risks

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A lot of us must be wondering if we're hooked on our tech: Searches for “phone addiction” have risen steadily in the past five years, according to Google Trends, and “social media addiction” trails it closely. Interestingly, phone addiction and social media addiction are closely intertwined, especially for younger people, who probably aren’t playing chess on their phones or even talking on them—they’re on social media. And according to a growing number of studies, it’s looking more and more like this pastime is addictive. Even more concerning is the fact that this addiction is linked to some serious mental health risks.

Last month, MIT’s Sloan Management Review [published](https://sloanreview.mit.edu/article/surviving-a-day-without-smartphones/) a clever experiment—professors at two business schools in Italy and France made giving up one's smartphone for a day a requirement of the students in their courses. Most of the students, who could plan what day they’d give up their phones, felt some degree of anxiety. They didn’t know what to do with the extra time, from eating breakfast to riding on public transportation. They also noted how often people who did have phones checked their phones—one student pointed out that his friend checked his phone four times in a 10 minute period—and that that was probably what they themselves looked like on a typical day.

An earlier [study](http://onlinelibrary.wiley.com/doi/10.1111/jcc4.12109/abstract), in the U.S., which also had young people give up their phones, found that they performed worse on mental tasks when they were in “withdrawal,” and felt physiological symptoms, like increased heart rate and blood pressure. They also felt a sense of loss, or lessening, of their extended self—their phones.

But the reality, especially for younger people, is that phone use, especially heavy use, isn’t so lighthearted. A [study](http://journals.sagepub.com/doi/10.1177/2167702617723376) last month looked at the rise in depression and suicide in teenagers in recent years. The CDC had noted a rise in the rates of both over the years 2010-2015, and found that girls were particularly at risk: Their suicide rate rose by 65% in those five years. The number of girls with severe depression rose by 58%.

The authors of the new study wanted to see what might be causing these disturbing trends. Though it’s only a correlation, the team found a tight relationship between mental health issues and a rise in “new media screen activities.” About 48% of those who spent five or more hours a day on their phones—a lot of time by any measure—had thought about suicide or made plans for it, vs. 28% of those who spent only one hour per day on their phones. No other variables—like household financial issues, homework, or school pressure—could account for the rise in mental health issues over that time.

"Although we can't say for sure that the growing use of smartphones caused the increase in mental health issues, that was by far the biggest change in teens' lives between 2010 and 2015,” study author Jean Twenge said in a statement. She’s the author of the book *[iGen: Why Today’s Super-Connected Kids Are Growing Up Less Rebellious, More Tolerant, Less Happy--and Completely Unprepared for Adulthood--and What That Means for the Rest of Us](https://www.amazon.com/exec/obidos/ISBN=1501151983/theatla05-20/?tag=bisafetynet2-20" \t "_blank),*and has been following this pattern for years*.*

Interestingly, teens who spent more time doing sports, homework, socializing with friends in real life, and going to church had a lower risk for both depression and suicide.

The problem is that teens are spending more and more time, not talking on the phone like they were in decades past, but Instagram-ing and snapchat-ing. These are dangerous pastimes because they give the appearance of social interaction, but they couldn’t be further away from it. The comparisons that are implicit in looking at other people’s lives online, which are often highly manicured (and misleading), is [thought to be](http://guilfordjournals.com/doi/abs/10.1521/jscp.2014.33.8.701) what’s so depressing about social media. "These increases in mental health issues among teens are very alarming,” Twenge said. “Teens are telling us they are struggling, and we need to take that very seriously."

Another study, [presented](https://www.eurekalert.org/pub_releases/2017-11/rson-sac111717.php) last month at the Radiological Society of North America conference, looked at the brains of teens who fell into the category of smartphone or internet addiction. The authors found some differences in the chemistry of the reward circuits of the brain, particularly in the ratio of the neurotransmitter GABA to other neurotransmitters. Interestingly, when the teens went though cognitive behavior therapy (CBT) for their addiction, their brain chemistry changed and looked more like non-addicted controls.

Earlier [studies](http://journals.sagepub.com/doi/abs/10.1177/0956797616645673) have also looked at activity in the addiction circuits of the teenage brain when they're actually interacting with social media. It found that cells in one of these areas, the nucleus accumbens, were activated when participants viewed Instagram pictures with more “likes."

Finally, a particularly telling sign that something's wrong is that some of the developers of social media features have [started speaking up](https://www.theatlantic.com/magazine/archive/2016/11/the-binge-breaker/501122/) about its addictive risks. Features like red, rather than blue, notifications were intentionally designed to grab people’s attention, and keep them coming back for another hit. Loren Brichter invented the pull-to-refresh mechanism for an app that Twitter eventually acquired. “Smartphones are useful tools,” he recently [told The Guardian](https://www.theguardian.com/technology/2017/oct/05/smartphone-addiction-silicon-valley-dystopia). “But they’re addictive. Pull-to-refresh is addictive. Twitter is addictive. These are not good things. When I was working on them, it was not something I was mature enough to think about. I’m not saying I’m mature now, but I’m a little bit more mature, and I regret the downsides.”

Part of the problem with “using” is that we *think* social media will give us a boost, but it doesn’t—it makes us feel worse. This is a “[forecast error](http://www.sciencedirect.com/science/article/pii/S0747563214001241)” that keeps us coming back, even though it often has a negative effect on our mental health. And this cycle sounds eerily like a classic addiction.

It will be interesting to see how our interactions with our phones change over time—maybe the pendulum will swing back the other way as cell phones, and social media, become less novel. But for young people who have grown up with both, it’s not a novelty, it’s just a way of life. It may take bigger pushes to help them see just how addictive phones can be, and how damaging to their mental health.

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