

MARIA KONNIKOVA


IS INTERNET ADDICTION A REAL THING?

By Maria Konnikova

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Marc Potenza, a psychiatrist at Yale and the director of the school's Program for Research on Impulsivity and Impulse Control Disorders,

has been treating addiction for more than two decades. Early in his career, he, like most others studying addiction at the time, focussed on substance-abuse problems—cocaine and heroin addicts, alcoholics, and the like. Soon, however, he noticed patients with other problems that were more difficult to classify. There were, for example, the sufferers of trichotillomania, the inescapable urge to pull your hair until it falls out. Others had been committed for problem gambling: they couldn't stop no matter how much debt they had accumulated. It was to this second class of behaviors—at the time, they were not called addictions—that he turned his attention. Were they, he wondered, fundamentally the same?

In some sense, they aren't. A substance affects a person physically in a way that a behavior simply cannot: no matter how severe your trichotillomania, you're not introducing something new to your bloodstream. But, in what may be a more fundamental way, they share much in common. As Potenza and his colleague Robert Leeman point out in a [recent review](#) of the last two decades of research, there are many commonalities between those two categories of addiction. Both behavioral and substance addictions are characterized by an inability to control how often or how intensely you engage in an activity, even when you feel the negative consequences. Both come with urges and cravings: you feel a sudden and debilitating need to place a bet or to take a hit in the middle of a meal. Both are marked by an inability to stop.

Substance and behavioral addictions also both seem to have some genetic basis, and, Potenza has found, the genetics seem to share many common characteristics. Some of the same gene mutations found in alcoholics and drug addicts, for instance, are often found in problem gamblers. Furthermore, the neurochemistry that these addictions evoke in the brain is similar. Drugs, for example, are known to affect the mesolimbic dopamine pathway—the pleasure center of the brain. Behaviors like gambling similarly activate the same parts of

the brain's reward circuitry. Earlier this year, Trevor Robbins, a cognitive neuroscientist at the University of Cambridge, and the psychologist Luke Clark, then at Cambridge and now the director of the Centre for Gambling Research at the University of British Columbia, came to a similar conclusion after conducting an overview of the existing clinical research into behavior addictions. The basic neuroscience of the two types of addiction showed a substantial overlap.

In recent years, however, Potenza has been increasingly treating a new kind of problem: people who come to him because they can't get off the Internet. In some ways, it seems exactly like the behavioral addictions that he has been treating for years, with much of the same consequences. "There are core features that cut across those conditions," Potenza says. "Things like the motivation to engage in the behaviors and put aside other important elements of life functioning, just to engage in them." Or, in the words of Robbins and Clark, "behavior for behavior's sake."

There's something different, and more complicated, about Internet addiction, though. Unlike gambling or even trichotillomania, it's more difficult to pin down a quantifiable, negative effect of Internet use. With problematic gambling, you're losing money and causing harm to yourself and your loved ones. But what about symptoms like those of a woman I'll call Sue, who is a patient of Potenza? A young college student, Sue first came to Potenza at the behest of her parents, who were becoming increasingly concerned about the changes in their daughter. A good—and social—student in high school, she found herself depressed, skipping or dropping classes, foregoing all college extracurricular activities, and, increasingly, using the Internet to set up extreme sexual encounters with people she had never met in real life. Sue spends the majority of her time online social networking, but does that mean that she has a problem with the Internet or with managing her social life and her sex life? What if she were obsessively online, for the rest of her life, but learning

languages or editing Wikipedia?

The Internet, after all, is a medium, not an activity in and of itself. If you spend your time gambling online, maybe you have a gambling addiction, not an Internet addiction. If you spend your time shopping online, maybe it's a shopping addiction. "Some people have posited that the Internet is a vehicle and not a target of disorder," Potenza said. Can you be addicted to a longing for virtual connectivity in the same way that you can be addicted to a longing for a drink?

As far back as 1997, before the days of ubiquitous smartphones and laptops, when dial-up and AOL dominated the landscape, psychologists were already testing the "addictive potential" of the World Wide Web. Even then, certain people were exhibiting the same kinds of symptoms that appeared with other addictions: trouble at work, social isolation, and the inability to cut back. And, to the extent that there was something that people referred to as an addiction, it appeared to be to the medium itself—the feeling of connectedness to something—rather than to an activity that could be accomplished via that medium.

By 2008, the worry about Internet addiction progressed to such a point that *The American Journal of Psychiatry* published an editorial strongly suggesting that Internet Addiction be included in the next, and fifth, version of the so-called bible of psychiatry, the Diagnostic and Statistical Manual (*DSM*). A decade of research, wrote the psychiatrist Jerald Block, had only proven what the 1997 study had suspected, that the Internet could inspire the same patterns of excessive usage, withdrawal, tolerance, and negative repercussions as more traditional substance use. What's more, Block concluded, "Internet addiction is resistant to treatment, entails significant risks, and has high relapse rates." It was a disease that needed treatment as much as any other disease did.

The realization that the Internet may be inducing some addictive-seeming behaviors in its own right has only grown more widespread. One study, published in 2012, of nearly twelve thousand adolescents in eleven European countries, found a 4.4 per cent prevalence of what the authors termed “pathological Internet use” or using the Internet in a way that affected subjects’ health and life. That is, through a combination of excessive time spent online and that time interfering with necessary social and professional activities, Internet use would result in either mental distress or clinical impairment, akin to the type of inability to function associated with pathological gambling. For maladaptive Internet use—a milder condition characterized by problematic but not yet fully disruptive behavior—the number was 13.5 per cent. People who exhibited problematic use were also more likely to suffer from other psychological problems, such as depression, anxiety, A.D.H.D., and O.C.D.

Internet addiction ultimately did not make the list of officially recognized behavioral addictions in *DSM-V*, but compulsive gambling did. It had taken gambling several decades of extensive research to make the cut, and there simply wasn’t enough systematic, longitudinal data about Internet addiction. But, to Potenza, Block’s conclusions rang true. Sue wasn’t the first patient that he’d seen for whom the Internet was causing substantial, escalating problems; that number had been rising slowly over the last few years, and his colleagues were reporting the same uptick. He had been working with addicts for decades, and her problems, as well as those of her fellow sufferers, were every bit as real as those of the gambling addicts. And it wasn’t just an iteration of college angst in a new form. It was something endemic to the medium itself. “I think there are people who find it very difficult to tolerate time without using digital technologies like smartphones or other ways of connecting via the Internet,” Potenza said. It’s the very knowledge of connectivity, or its lack, that’s the problem.

He agrees that the subject remains far more disputed than other behavioral

areas: psychiatrists are no longer debating that behavioral addictions exist, but they are ambivalent about whether Internet use can be classified as one of them. The difference, Potenza feels, is one of degree. Internet use remains so disputed because it's changing too rapidly for researchers to keep up, and, though the immediate effects are fairly visible, there's no telling what the condition will look like over the long term.

Internet addiction remains a relatively minor part of Potenza's work—he estimates that fewer than ten out of every forty patients he sees come in for an Internet problem. These patients tend to be younger, and there seems to be a gender divide: male patients are more likely to be addicted to activities like online gaming; women, to things like social networking. But it's hard to make generalizations, because the nature of the problem keeps changing. “The truth is, we don't know what's normal,” Potenza says. “It's not like alcohol where we have healthy amounts that we can recommend to people.” In other words, just because you're online all day doesn't mean you're an addict: there are no norms or hard numbers that could tell us either way.

Behavioral addictions are quite real, and, in a number of respects, Internet addiction shares their core features. But the differences that set it apart mean that the avenues of treatment may differ somewhat from those typically associated with behavioral—and substance—addictions. One of the most effective ways of treating those addictions is by identifying and removing the catalysts. Cancel the credit card. Get rid of the bottles. Avoid the places you go to drink or to gamble, and, at times, avoid the people you do these activities with. Be aware of your triggers. With the Internet, though, that solution is far more problematic. Computers and virtual connections have become an integral part of daily life. You can't just pull the plug and expect to function. A student may be suffering from what she's doing online, but she also might need to use the Internet for her classes. The thing she needs to avoid in order to do well is also the thing she needs to use to reach the same end.

But Potenza hopes that that very ubiquity can, ultimately, be enlisted as part of the solution. You may not be able to remove the triggers, but you can reprogram the thing itself, a kind of virtual bottle that automatically clamps shut when you've had too much to drink or a casino that turns off its lights as you move into dangerous territory. "The hope is to harness these same technologies within the mental-health field to promote health," Potenza said. Already, there are apps that block certain Web pages or that disable a computer's Internet connectivity. There are also ones that tell you when to put your smartphone away. Why not customize them, in conjunction with a therapist, to avoid the pitfalls that are most likely to lead to problem use for you personally? As is so often the case, technology may end up being both the problem and the answer.



Maria Konnikova is the author of “The Confidence Game” and “Mastermind: How to Think Like Sherlock Holmes.”

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