

Video game addiction is real, rare, and poorly understood

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German Lopez

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Scott knew he needed to focus on his work. His bosses were increasingly unhappy with his performance, and he was struggling to earn enough to support his wife and son. As he put it to me, “I was falling down on my job.”

Something else had consumed his attention: Scott just couldn’t stop playing video games.

As a computer programmer working from home, it was easy for Scott, now 45, to turn on a game at any time. And increasingly, he found himself playing instead of working — a problem for someone who was paid by the hour and was honest in reporting his hours.

Scott played online card games like *Absolute Poker* and *Bridge Base Online*, and massively multiplayer online roleplaying games like *World of Warcraft* and *Final Fantasy XI*. He was, he said, “obsessed” with the escape that they offered him. “Even when I wasn’t gaming, I was thinking about gaming,” Scott, who asked I not use his last name, told me.

Scott had previously battled alcohol addiction. And he said gaming addiction began the same way: with a sense of despair — that “life just seemed pointless in a lot of ways.” Then came an escalation of use that over time crowded out the other things in his life.

His life deteriorated. He neglected his now-ex-wife and son. He abandoned his other hobbies. He lost sleep. His social life evaporated.

After years of this, Scott found help groups online in 2010 and tried to moderate his gaming. “I’m going to try it again, but I’m not going back to that old craziness,” he told himself. “It’ll just be a little bit here and there. I know now what it does to me. I know better than to get back into it.”

But Scott would eventually relapse — letting games dominate all his priorities once again. It wasn’t until 2012, when he totally quit games (with the help of support groups like [CGAA](#)), that he turned his life around, improving his relationships and work, and getting back to his other hobbies.

Public health experts now are starting to take stories like Scott's more seriously. This year, the World Health Organization (WHO) for the first time recognized "gaming disorder" in the 11th Revision of the International Classification of Diseases (ICD-11). In doing so, the WHO joined the American Psychiatric Association (APA), which had previously added "internet gaming disorder" as a phenomenon worthy of more research in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5).



Javier Zarracina/Vox

The WHO's designation in particular drew quick skepticism from gamers, experts, and gaming and tech websites. To many gamers, the issue was personal: They felt that their hobby was being scapegoated as a societal problem. Having not experienced anything close to addiction themselves, they felt that the WHO's designation was made without any good evidence.

Those who support the designation, though, note that the majority of gamers wouldn't experience anything close to addiction. As is true for most other addictive activities and substances, the great majority of people who play games are not going to be addicted.

But some people truly do struggle with gaming addiction — a legitimate medical condition, the WHO argues. The idea behind the designation is to acknowledge that this group needs health care and other resources for help.

What's more, there are aspects of games that may make them particularly susceptible to addiction, including their unique abilities to immerse, the easy access to them, and the gambling-like mechanics that have increasingly popped up in games in recent years.

Unpacking all of that, though, requires not just understanding video games, but also addiction — which continues to be greatly misunderstood in America.

Video games are now mainstream — and that comes with some risks

It was only a few decades ago when video games were seen as a niche activity. When I was in high school, gamers were nerds.

That's now changed. With the rise of phenomenon like *Pokémon*, *World of Warcraft*, *Call of Duty*, and *Fortnite*, games are now mainstream. According to [Statista](#), the number of active gamers worldwide will rise to more than 2.7 billion people in 2021, up from 1.8 billion in 2014 and 2.3 billion in 2018.



A gamer plays Fortnite against professional gamer Tyler “Ninja” Blevins at a gaming convention in Las Vegas in April 2018.

Ethan Miller/Getty Images

This is true for other kinds of addiction, even for drugs that are considered highly addictive. For example, [some research](#) estimates that about 8 percent of opioid painkiller patients get addicted — still a significant amount, but definitely not a majority.

But when billions of people around the world are playing games, even a small percent can lead to a large population — literally tens of millions — with problems.

The WHO's designation is meant to get ahead of this problem. It creates a basis that the health care system can build a response around. Doctors will have a condition to diagnose patients with. It enables more research into the disorder. And health insurers will be pushed to pay for treatment as it's recognized as a real medical condition.

Joël Billieux, a University of Luxembourg professor involved in clinical and research work on gaming disorder, argued that's why the WHO designation is necessary.

"It will allow the systemization of education and prevention," Billieux, who served on the WHO's gaming disorder committee, told me. "There will also be more means for doing research and better understanding the condition."

"Yet, on the opposite side," Billieux added, "it's legitimate to be concerned about the risks of pathologization of normal behavior or unnecessary treatment."

That latter concern is what's driven a lot of the opposition to the WHO's designation. Coming from researching video games and violence, Stetson University psychologist Christopher Ferguson is especially concerned about a moral panic — a kind of negative overreaction that often follows new trends and technologies.

"Often times, there are these kinds of visceral, negative reactions to new technologies that in some cases lead to pretty extreme claims," Ferguson said. "It's not hard to see that in the video game addiction realm, where you see headlines that video games are 'digital heroin.'"

Just consider: Most recently, President Donald Trump suggested that video games may be to blame for mass shootings. There is simply no conclusive evidence to support this claim. But it's the kind of thing we have seen consistently, from parents calling rock and roll "the devil's music" to comic book censorship to fears over violent movies.

What is addiction, anyway?

There is still a major divide between the public understanding of addiction and the expert view. It's common to hear people casually call an activity "addictive" just because it's fun. Some people continue to see addiction not as a medical condition but as a moral failure, contrary to what major public health and medical organizations have said for decades now. There are still misconceptions that addiction requires some sort of physical component — for example, physical dependence that causes withdrawal — or that physical dependence is conclusive proof of addiction.

Experts, however, have long moved away from these old views of addiction, if they ever held such beliefs at all. Under the expert view, addiction doesn't even require a physical dependence component.

"We long ago moved away from thinking about addiction as a physical or physiological need for a drug," Robert West, editor in chief for the scientific journal *Addiction*, told me. "In most cases, it's not the physiological [dependence] that's causing the problem, because you can quite easily get people over that" — through, say, supervised detoxification. "It's a behavioral problem. Where the problem lies is that certain drugs and behaviors in certain people lead to such powerful motivation to engage in the behavior that it's damaging or could be damaging."

It's that last part of West's comment that's key to understanding addiction: It's when a person compulsively does something even as it leads to negative outcomes, physical dependence or not.

How gaming disorder is defined

The WHO's designation of gaming disorder, in so many words, essentially fits games into the modern understanding of addiction:

Gaming disorder is characterized by a pattern of persistent or recurrent gaming behavior ('digital gaming' or 'video-gaming'), which may be online (i.e., over the internet) or offline, manifested by: 1) impaired control over gaming (e.g., onset, frequency, intensity, duration, termination, context); 2) increasing priority given to gaming to the extent that gaming takes precedence over other life interests and daily activities; and 3) continuation or escalation of gaming despite the occurrence of negative consequences. The behavior pattern is of sufficient severity to result in significant impairment in personal, family, social, educational, occupational or other important areas of functioning. The pattern of gaming behavior may be continuous or episodic and recurrent. The gaming behavior and other features are normally evident over a period of at least 12 months in order for a diagnosis to be assigned, although the required duration may be shortened if all diagnostic requirements are met and symptoms are severe.

The key consideration here is not any sort of physical symptom. No physical symptoms are mentioned. It's, again, about compulsive use despite negative consequences. This fits with how other addictions are viewed by experts.

This is not a simple diagnosis. You can't say that someone is addicted just because he plays games for more than a certain number of hours a week. Experts like Billieux, in fact, strongly cautioned against that kind of interpretation.

“We should not mix high involvement with problematic involvement,” Billieux said. “You can have a high involvement in gaming, if gaming is your main hobby, but you can do it in a totally controlled way that will not have any negative consequences on your daily life.”

“The main thing for me is loss of control — meaning you don’t play when you planned to play, you play more than expected, and you lose voluntary control of the time you spend gaming,” Billieux added. “The other thing is evidenced negative consequences at, for example, the social level, the academic level, professional level, or personal level.”

One commonly cited example is serious sleep deprivation. If someone is consistently losing a lot of sleep over video games, chances are something bad is going on there.

Scott can attest to that. Over time, he got less and less sleep as he stayed up playing games — and it started hurting him throughout his everyday life. “With that small of sleep, my head was a total wreck,” he said. “My memory went to hell.”

That doesn’t mean everyone who loses a bit of sleep to play games or do any other hobby is addicted. But it’s one sign that can be used to try to diagnose if someone has a problem.

A good doctor puts these kinds of data points and anecdotes together to gauge whether someone is addicted to games. Are they losing sleep? Are they failing to attend to major responsibilities like school and work? Are they neglecting family and friends? If you put all of this together, and it looks like someone is consistently putting games above everything else despite negative consequences, then that’s an indication of an addiction.

This applies to other drugs, too. It’s not enough to just use alcohol, marijuana, opioids, or other drugs to be addicted. Even using them a lot isn’t a sign of addiction (although it may be unhealthy for other reasons). Addiction is when someone uses these drugs compulsively despite the damage that follows.

We don’t fully understand why, but some people are more susceptible to addiction than others

So what makes the minority of people with addiction problems different than the majority? Researchers don’t have a conclusive answer to the question, but they say it’s likely a whole host of factors.



Gamers play the video game PlayerUnknown's Battlegrounds during the Paris Games Week in October 2018.

Chesnot/Getty Images

Some of it may be other mental health issues. Scott pointed out that his addiction flared up when he felt despair. When he was at his worst with his gaming, he said, "I was feeling really down about life, not sure what to do with myself." Video games gave him an out, letting him set aside his despair for a little while. Other mental health problems, like anxiety, could play a role too.

It also could be genetic. Some people just experience fewer temptations, or have more willpower, than others. Scientists don't totally know why. ([Read Vox's Brian Resnick for more on the science of willpower.](#))

A person's environment could play a role too. Maybe video games, particularly free-to-play online games, are the only affordable release at the end of a long workday that a low-income person can find, making it easier for him to get trapped in it. Perhaps someone will be forced to move to a place where she doesn't have friends, family, or previous hobbies, so games will quickly become the only thing that gives her joy, and soon enough it's all she does. It could be that, for some people, games are uniquely accessible, making them easy to play too much — as was true in Scott's case, working from home.

And it could be all of these things combined or something else entirely. No one knows for sure, whether for gaming addiction or other forms of addiction.

Video games involve unique risks for addiction

There are also factors that might make games uniquely risky compared to other activities, making it more likely that someone will become addicted to them and play far too much.

One is easy access.

Billieux cited a patient who compared the rush he gets playing *Fortnite*, a very popular online multiplayer game, to his experiences skydiving. That may sound hard to believe (especially if you, like me, find *Fortnite* extremely boring), but it's this person's genuine impression of the game.

Consider what that means for this person. In the past, he would have had to take several steps, from booking a plane to physical travel, to get the rush he got from skydiving. Now, he just needs to turn on whatever device he plays *Fortnite* on and immediately get that same rush.

And *Fortnite* is on every single gaming device, including phones. So someone can play *Fortnite* literally all the time, certainly far more than they can go skydiving.

Scott pointed out that this was a big problem from him: Working from home, he was always a few clicks away from games, and that made it easy to misuse them.



Two gamers play the mobile version of *Fortnite* during Paris Game Week 2018.
Chesnot/Getty Images

In contrast, Scott still plays poker and card games — but now he does it face-to-face, not over the computer. Even if he wanted to, it would be difficult for him to overdo these real-life activities, because they require physical travel and, since he plays with friends, setting up a time and place with other people. As Scott told me, “I can’t just play poker face-to-face whenever I want.”

Another issue is the possibility of immersion. In games, you don’t just follow the stories and actions of certain characters; you *are* the characters. In roleplaying games like *World of Warcraft*, you can spend hundreds, if not thousands, of hours building a character — going through a story you feel like you’re a part of, taking on challenges, and building a reputation for yourself among other gamers. This can be further compounded if a game, like *World of Warcraft*, has an online multiplayer element, compounding the immersion with socialization with other players.

Other forms of entertainment, like books and movies, can be immersive, but they simply don’t put the audience in the middle of a fantasy world like a game can.

Increasingly, some other games are also adopting gambling mechanics, which introduces a whole new layer of addiction. One example is loot boxes, which players buy within games with in-game currency or real money for a chance at exclusive or powerful items.

But there are other gambling-like mechanics in games, from a random chance at a powerful reward for completing certain repeatable challenges to literal in-game casinos with virtual slot machines, that can entice a person to keep playing for far longer than she would otherwise.

Still, even with these mechanics, only a small fraction of gamers get addicted, based on the evidence.



Javier Zarracina/Vox

Video games can do a lot of good, too

Part of the concern here is that stifling video games could substantively harm people. Games are now used in education all the time. Some places, like Radboud University's Games for Emotional and Mental Health Lab in the Netherlands, are now studying the use of video games for therapy. There's even some early research into "prescription video games," trying to see how games — especially with the advent of virtual reality — could be used to help treat mental health conditions.

But beyond a medical setting, video games entertain people. They can let people relax after a hard day. They can provide an escape. All of these are real benefits that help people on a daily basis.

With the news of the WHO's designation earlier this year, I began to think about my own gaming, particularly back when I was in high school. I spent a lot of time playing *World of Warcraft* — 40 hours a week, if not more.

I did not have the problems that Scott did. I got mostly A's in high school, went to college and studied journalism, went to parties, hung out with friends on weekends, and spent time with my family.

In fact, looking back, I still think *World of Warcraft* was good for me. As a closeted gay teen, it was the one space where I found a group of friends I could be totally open with. I came out to them long before I came out to anyone I knew in my real life. (Often hearing remarks at my school like, "It's Adam and Eve, not Adam and Steve," certainly did not help me come out there.) Having a safe space online made my early gay life a lot more bearable.

And video games, from *World of Warcraft* to *Super Smash Bros.*, were one of the things that helped bring my husband and me together. It's still something we do together on a daily basis. So games have helped my later gay life, too.

For the vast majority of the billions of people playing games, this is true as well: Games are a form of entertainment, not a problem to be solved.

From the causes to the solutions, both sides say we need a lot more research into gaming addiction

As gaming addiction continues to capture more attention from the media and public health organizations, one of the big obstacles to identifying and detecting — much less preventing and treating — the problem is that the research in this area remains scarce, from even basic issues like how to define gaming addiction to more complex problems like how to treat it.

A thorough [review of the research](#), published in *Psychiatry and Clinical Neurosciences* in 2017, found evidence that “pathological gaming symptoms” and game addiction, but not gaming in general, were associated with negative health and social consequences, such as depression and worse academic achievement, in one- or two-year follow-ups.

But the review also described the research into the detection and prevention of gaming addiction as “obviously insufficient,” and studies on the natural course of gaming addiction as “limited” — confirming major gaps in the field.

Michelle Colder Carras, a public health researcher now at Radboud University's Games for Emotional and Mental Health Lab in the Netherlands, joined dozens of other experts to write a [letter](#) and [follow-up](#) to the WHO arguing against the addition of gaming disorder to the ICD-11. The authors wrote, “The quality of the research base is low. The field is fraught with multiple controversies and confusions and there is, in fact, no consensus position among scholars.”

It's not that excessive gaming can't ever be a serious problem, Colder Carras told me. But “excessive gaming, even when we feel it's causing problems, we don't feel like we have enough evidence to determine that it's worthy of making it into a disorder.”

One example, according to Colder Carras: A lot of the evidence uses criteria typical for drug and gambling addiction to measure the prevalence and harms of gaming addiction. But there are obvious differences between these types of addiction. For example, a potential sign that someone is addicted to drugs or gambling is consistent use to improve mood. If someone does that with games, though, it's not necessarily bad — just about every hobby is, to some extent, about improving a person's mood.



A gamer uses a virtual reality headset and touch controllers to play a video game during International Games Week on April 26, 2017, in Berlin
Adam Berry/Getty Images

The research on treatment of gaming addiction is even weaker. There are no large-scale randomized controlled trials (the gold standard of research) looking at different kinds of care for gaming addiction.

“The evidence is strong in relation to the negative consequences,” Billieux, of the University of Luxembourg, said, noting that more people are actively seeking treatment for gaming addiction. “It’s less strong regarding evidence-based treatment.”

For now, researchers are largely applying approaches proven to work in other areas of mental health and addiction, particularly cognitive behavioral therapy and motivational interviewing, to patients that come in with gaming addiction.

“The most evidence we have is for the substance use disorders,” Petros Levounis, chair of the Department of Psychiatry at Rutgers New Jersey Medical School, told me. “Then comes gambling disorder. Then it’s internet gaming disorder. Then I would put pretty much all the rest of the behavioral addictions.”

So there’s still some conflict in the research world to be ironed out over time.

For people like Scott, though, gaming addiction is very real now — and quitting games was life-changing for the better. “I’m very grateful to be mentally present when I’m with my son,” he said, “and to not struggle with the feeling that he and video gaming are competing for my time.”

