

The First Step On Your Road To Recovery

844.205.8898



Peter Gray Ph.D.

Freedom to Learn

Video Game Addiction: Does It Occur? If So, Why?

The analogy of "videogame addiction" to gambling addiction is misleading.

Like 629

Posted Feb 02, 2012

[SHARE](#)

[TWEET](#)

[EMAIL](#)

[LESS](#)

[SHARE](#)

[SHARE](#)

[STUMBLE](#)

[SHARE](#)



Source: Google image approved for reuse

"Experts," especially those quoted frequently by the media, are constantly warning us of dangers to our kids. What usually grabs our attention and instills fear (/basics/fear) in our hearts are the case stories they present. Some child, somewhere, was out playing without a parent nearby and was abducted and murdered. Therefore, anyone who allows his or her child to play outside, not closely watched by an adult, is a negligent parent. Some distraught young man in South Korea plays a video game for fifty straight hours without stopping to sleep (/basics/sleep) or eat, goes into cardiac arrest, and dies. Therefore, video games are addictive, dangerous, and we must either ban them or curtail their use so our children don't die like that poor South Korean.

Case stories like these are tragic; and, yes, tragedies do happen, usually in ways that are completely

unpredictable. But what we must remember when we hear such stories is that there are approximately 7 *billion* people in the world. That's 7,000,000,000. That young man in South Korea represents 0.000000014 percent of the world's population. With 7 billion people, some really weird thing is going to happen someplace every day. The fear-mongering "experts" and media will never run out of shocking stories to tell us.

Today, worldwide, hundreds of millions of people play video games. The vast majority of those players are perfectly normal people, meaning that nothing newsworthy ever happens to them, but some small percentage of them are killers, some are extraordinarily depressed, some are suicidal (/basics/suicide); and every day some video gamer somewhere does something terrible or experiences something terrible. All this is also true of the hundreds of millions of people who don't play video games. This is why case stories, by themselves, are worthless. If we want to know about the consequences of playing video games, or of anything else, we need well-designed research studies and statistics. The emphasis here is on the *well-designed*.

For many years now, researchers have been trying to prove that video games are bad. Much of the attention has focused on the violent content of some of the games, and many dozens of studies have been done in attempts to prove that playing violent video games causes real-world violence. This past year, the US Supreme Court was faced with the task of evaluating that research, in the case of *Brown versus Entertainment Merchants Association*. After much testimony and study, the court concluded, "Studies purporting to show a connection between exposure to violent video games and harmful effects on children do not prove that such exposure causes minors to act aggressively." In 2010, the Australian government (/basics/politics)--faced with petitions to ban or restrict video games with violent content--reached a similar conclusion after evaluating all of the evidence. And social scientists who have scrutinized the studies and conducted meta-analyses of them have also come to that conclusion (see my essay of Jan. 7, 2012 (<http://www.psychologytoday.com/blog/freedom-learn/201201/the-many-benefits-kids-playing-video-games>)).

Perhaps the most well-designed research study to date aimed at finding a causal effect of video game violence on real-world violence is that by Christopher Ferguson and his colleagues, at Texas A&M International University, which will soon be published in the *Journal of Psychiatric (/basics/psychiatry) Research*.^[1] Ferguson's group followed a sample of 165 young people over a three-year period, assessing their video game play and various other aspects of their lives. They found no relationship at all between exposure to violent video games and real-world violence committed by these young people. They did find, however, that their subjects' real-world violence was rather strongly predicted by the real-world violence they were exposed to in their daily lives. Kids whose parents (/basics/parenting) or friends were violent were, no surprise, significantly more likely to engage in real violence themselves than were kids whose parents and friends were not violent. Video gaming, no matter how "violent" the game, had no effect at all. Ferguson's study and many others lead to the conclusion that, while real-world violence

causes more real-world violence, pretend violence does not.

In my [last essay \(http://www.psychologytoday.com/blog/freedom-learn/201201/the-many-benefits-kids-playing-video-games\)](http://www.psychologytoday.com/blog/freedom-learn/201201/the-many-benefits-kids-playing-video-games), I outlined some of the social and [cognitive \(/basics/cognition\)](/basics/cognition) benefits that young people experience from playing video games. Far from being isolating, video games generally draw young people together and help them learn to get along with one another. Far from being cognitively stultifying, video games--especially the newer, online multiplayer games--are extraordinarily challenging to players' mental powers and promote cognitive development. Now, however, I want to take on the question of "video game [addiction \(/basics/addiction\)](/basics/addiction)." Next to claims about violence, claims about addiction have accounted for most of the bad press that video games have received.

The flawed analogy between gambling addiction and "video game addiction"

Addiction is a word that is used in a variety of ways, but generally it refers to a compulsive (hard-to-resist) drive to take some substance or engage in some activity that is clearly not good for us and may even be ruining our lives. The clearest examples of addiction, of course, are chemical addictions, where people become physiologically dependent on some chemical--such as alcohol, [nicotine \(/conditions/nicotine\)](/conditions/nicotine), or heroin--and experience painful or debilitating withdrawal symptoms without it. But increasingly, and with some good reason, psychologists have begun to apply the term *addiction* to harmful behaviors that seem to become compulsive even though no chemical is consumed. Perhaps the best example of this is addictive gambling.

Many people suffer--and their families do too--because they can't seem to stop gambling. They gamble away all of their money, and then they borrow and gamble more and go deeply into debt; and then, when they can't borrow any more, they might steal and gamble that away, too, in a desperate, doomed attempt to get out of debt and save themselves and their families from ruin. People who feel compelled to gamble may do it because they see no other possible route out of their debts and/or because of the thrill that comes whenever they win, which motivates them to seek that thrill again. [Compulsive gambling \(/conditions/compulsive-gambling\)](/conditions/compulsive-gambling) is a very serious and prevalent problem, although this hasn't prevented state legislatures from promoting gambling (in the form of casinos as well as state lotteries) in order to add to state coffers and reduce the taxes that non-gamblers have to pay.

Many if not most researchers who support the concept of video game addiction draw an analogy between video game playing and gambling. In fact, much of the research purporting to assess the prevalence of video game addiction--including the much-touted recent study conducted in Singapore [2]--has employed the same questionnaire that is used to assess the prevalence of gambling addiction, changing only the word "gambling" to "video gaming." The analogy may be tempting to people who don't know much about video gaming. From a distance, playing a video game looks a little like gambling at a video screen in a casino. But think of the differences!

First of all, most gambling games--especially the ones that people become addicted to--are pure games of chance (for all except the very few who figure out some way to cheat). They are rigged in such a way that over the long run you will always lose, but in the short run you will sometimes win. There is excellent research indicating that the random, unpredictable nature of these rewards operates on the brains of some people to promote behavior that might reasonably be called addictive.[3] The irrational "thinking" that accompanies the behavior and cannot be refuted is this: "The very next time I pull the lever I could hit the jackpot, so I'll pull it one more time." ... and then one more time, and one more time, and one more time, and so on.

In contrast, video games are games of skill. They are like chess or any other game in which success depends on perseverance, [intelligence \(/basics/intelligence\)](#), practice, and learning, not chance. The rewards are not random; they are earned. To move up to the next level you have to work hard. Moreover, the rewards in video games, as in chess, are purely in-game rewards (unless you are competing in a tournament for prize money). They are rewarding only because they signal mastery. Winning in these games doesn't produce real-world riches; and, more to the point, failing in these games doesn't lead to debt. This is why video games and chess are truly play, while gambling is not.

It's hard to imagine why anyone with a grain of intelligence would spend lots of time gambling unless something irrational was driving him or her to it. Considered as a game, gambling is just dumb. It requires no skill or intelligence whatsoever. You just keep doing the same stupid thing over and over again and sometimes you win and usually you don't. There's no legitimate sense of mastery. I can imagine some healthy people--who have extra cash to throw away and can't think of anything better to do with it--gambling occasionally, just as a lark; but to spend hours a week at gambling is almost by definition pathological. So, it is reasonable to posit that otherwise intelligent people who spend lots of time gambling must have some sort of irrational compulsion to do it, for which the term "addiction" may be an appropriate label.

Not so for video games or chess or other games that depend on skill and knowledge. The more you play these the more skill and knowledge you gain and the better you get at the game (and at anything else that uses similar skills or knowledge). You learn from your mistakes, and the more you play the better you get. So, playing these games a lot does not necessarily imply addiction; it just means that you are really into the game and enjoy it and are trying to get better at it. If you don't think that video gaming involves knowledge and intelligence, take a look at the online compendium of information associated with just one game, *World of Warcraft--WoWwiki*. It's the second largest compendium of knowledge that can be found online! The first largest is Wikipedia. (I thank my colleague Mike Langlois for this bit of information.)

Some researchers who should know better have based their claim for the addictive nature of video gaming on [brain \(/basics/neuroscience\)](#) research. If you do a little tooling around the Psychology Today

blogs, you will find that one or more of my fellow bloggers are among those who have made this claim. Yes, indeed, functional brain imaging studies have shown that certain so-called "pleasure pathways" in the brain light up when gamblers hit the jackpot, and these same pathways also light up when video gamers achieve some goal within the game. Well, of course they do! If they didn't, that would just mean that hitting the jackpot or achieving success in a game isn't pleasurable. Everything that is pleasurable is pleasurable because of activity in pleasure centers of the brain.

I'm sure that if I were hooked up to an fMRI scanner my pleasure centers would light up every time I played a seven-letter word in Scrabble, or every time I got a favorable review on something I wrote, or every time I took a bite of pistachio ice cream, or every time my wife gave me the right kind of kiss. If we were to define every activity that activates the brain's "pleasure centers" as addictive, and therefore to be curtailed, we would have to curtail everything that's fun. We'd have to become Puritans, but then some of us might discover that our very success at Puritanism caused pleasure centers to light up, and then where would we be! Hey, what's the purpose of life anyway? Our national founding fathers perhaps betrayed their puritanical background when they declared that "pursuit of happiness (/basics/happiness)" is a basic human right. Now we've got neuroscientists saying, "If it lights up the pleasure centers, beware of it!" Especially if it does so in kids.

The teams (/basics/teamwork) of psychologists and psychiatrists who create the official list of psychological disorders for the Diagnostic and Statistical Manual (DSM) of the American Psychiatric Association, after careful study, decided to add *gambling addiction* to the next edition of the manual, but decided not to add *video game addiction*, despite much pressure from practitioners who would like a new disorder to treat. I think they made the right decision in both cases.

Negative stereotypes (/basics/bias) can create feelings of stigma in video gamers.

Mike Langlois, who teaches a course in psychotherapy (/basics/therapy) at my university, describes himself as a game-friendly psychotherapist. He works with clients who play video games, and he believes that many are suffering not from the gaming itself but from the stigma associated with it. People play games because they are challenging, fun, and conducive to social interaction with other gamers; but they are bombarded by messages from the larger culture suggesting that gaming is a sign of laziness, is "addictive," and leads to all sorts of ill effects, and so they become concerned about their gaming. People who spend similar amounts of time at chess, or reading English literature, or skiing, don't get these messages. The messages themselves, according to Langlois, can produce distress in gamers. As Langlois puts it, "The stereotype presents the gamer as apathetic and avoidant of any work or investment. One thing we know about stereotypes is that they can be internalized and lead to self-fulfilling negativism, and I've come to hear gamers refer to themselves as lazy slackers." [4]

To counteract the stereotype, Langlois points out that video gaming is *hard* fun, not easy fun. In his

words: "This hard fun would not be possible if gamers were truly lazy or apathetic. And the level of detail that many gamers pay attention to is staggering, whether it be leveling a profession to 525 in WoW, verse. This is not good about their gaming habit. There is no reason why a dedicated video gamer should feel any worse about this or her hobby than a dedicated chess player or skier.

Still, of course, [Find a Therapist](#) [rder](#) [Topics](#) [video](#) [Get Help](#) [o ch](#) [Magazine](#) [g](#), or to anything else--interfere with other aspects of their life, and that can be a problem. Lots of us need to learn [time management \(/basics/time-management\)](#), especially as we reach adulthood, in order to do what we want to do and still fulfill our obligations to others. My loved ones sometimes remind me that it's not fair for me to spend *all* of my time reading and writing or going off alone bicycling or skiing. But, let's not stigmatize any of this by calling it an addiction. Let's just call it a time [management \(/basics/leadership\)](#) problem and figure out constructive ways to deal with it.

In some cases, though, great amounts of time playing video games (or doing any other single thing) can be evidence of something missing in a person's life.

In some cases people engage in an activity not just because of their enjoyment of it, but also because it is an escape from something painful in their lives or is the only route available to them to satisfy basic psychological needs. This can occur for adults as well as children. The activity that seems to become obsessive might be video gaming, or it might be something else.

For instance, some adults devote far more time to their careers than they otherwise might, because that allows them to avoid an unpleasant family [environment \(/basics/environment\)](#). Some kids say they play video games at least partly as a means of escape, and some say they do so because it is the only realm of activity in which they feel free.[5] In an age in which children are often not allowed to play freely outdoors, and in which they are more or less constantly directed by adults, the virtual world of video games is for some the only realm where they are allowed to roam free and explore. If they were allowed more autonomy in the real world, many of them would spend less time at video games.

As illustration of this idea, British gaming researcher Richard Wood gives some case examples.[6] One case is that of Martin, an 11-year-old boy whose mother became concerned about the huge amounts of time he was devoting to *World of Warcraft* and therefore forbade him from playing it or other video games, which made things only worse for Martin. It turned out, according to Wood, that Martin was an only child who was being bullied at school and hated going there, and who was afraid of going outside at home because of repeated [bullying \(/basics/bullying\)](#). The online video game was his only source of free expression and his only satisfying contact with other people. When this was taken away from him, he was understandably distraught.

spent most of her spare time playing the online game *Final Fantasy* alone in her apartment. It turned out that Helen had recently experienced a bad breakup with a long-term partner, was unhappy with her job, and was severely depressed. Playing *Final Fantasy* was not cause of her depression (</basics/depression/depression-and-society>), but was her way of coping with it during this difficult time in her life. The online game provided social connections and pleasure at a time when nothing else did.

In a study of more than 1300 adult video gamers (age 18 to 43), Andrew Przybylski and his colleagues at the University of Rochester found that a small percentage of them, who played many hours per day, described themselves as obsessively engaged--they felt that they didn't just "want" to play, but "needed" to play.[7] These players, when they stopped a session of playing, did not feel refreshed and energized as other players did, but felt tense and unhappy. The extensive questionnaires used in this study also revealed that these "obsessed" player were, in general, those whose basic psychological needs--their needs for freedom, competence, and social relationships--were not being met in real life.

So, if your child or another loved one seems obsessed about video games and unhappy outside of the games, don't jump to the conclusion that the games are cause of the unhappiness. Instead, talk with your loved one and try to find out what might be missing or wrong in other aspects of his or her life and whether or not you can help to solve that problem.

Well, that's what I have to say on this topic, at least for now. What do you have to say? What experiences have you had with video gaming that run with or counter to the thoughts I have presented here? This blog is a forum for discussion, and your views and knowledge are valued and taken seriously, by me and by other readers. Make your thoughts and questions known in the comments section below.

As always, I prefer if you post your comments and questions here rather than send them to me by private email. By putting them here, you share with other readers, not just with me. I read all comments and try to respond to all serious questions. Of course, if you have something to say that truly applies *only* to you and me, then send me an email.

See new book, Free to Learn (<http://www.freetolearnbook.com>)

References

[1] C.Ferguson, C. San Miguel, A. Garza, J. Jerabeck (*In press*). "A longitudinal test of video game violence influences on dating (</basics/mating>) and aggression: A 3-year longitudinal study of

adolescents." *Journal of Psychiatric Research*, to be published in 2012.

[2] D. Gentile, H. Choo, A. Liau, T. Sim, D. Li, D. Fung, & A. Khoo (2011). Pathological video game use among youths: A two-year longitudinal study. *Pediatrics*, 127, e319-e329.

[3] I describe some of this research in my textbook: P. Gray (2011). *Psychology, 6th edition*. pp 194-195.

[4] M. Langlois (2011). *Reset: Video games and psychotherapy*. BookBrewer. Kindle Edition.

[5] (a) Olson, C. K. (2010). Children's motivation (/basics/motivation) for video game play in the context of normal development. *Review of General Psychology*, 14, 180-187; (b) Stevens et al. (2008). "In-game, in-room, in-world: reconnecting video game play to the rest of kids' lives. pp 41-66 in K. Salen (Ed.), *The ecology of games: Connecting youth, games, and learning*. The John D. and Catherine T. MacArthur Foundation series on digital media and learning. Cambridge, MA: MIT Press.

[6] R. T. A. Wood (2008). Problems with the concept of video game "addiction": Some case study examples. *International Journal of Mental Health (/basics/health) and Addiction*, 6, 169-178.

[7] A. Przybylski, N. Weinstein, R. M. Ryan, & G. S. Rigby (2009). Having versus wanting to play: Background and consequences of harmonious versus obsessive engagement in video games. *CyberPsychology & Behavior*, 12, 485-492.



11 superfoods for diabetes



7 Surprising Facts About Erectile Dysfunction

SHARE

TWEET

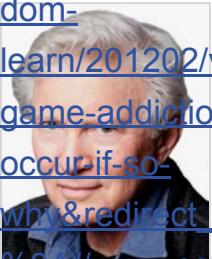
EMAIL

MORE

<https://facebook.com/di> <https://twitter.com/share> <https://www.psychologyt> ([/](#))

92 Comments

<https://www.psychologytoday.com/blog/freedom-to-learn/201202/video-game-addiction-does-it-occur-if-so-why> <https://www.psychologytoday.com/blog/freedom-to-learn/201202/video-game-addiction-does-it-occur-if-so-why> <https://www.psychologytoday.com/blog/freedom-to-learn/201202/video-game-addiction-does-it-occur-if-so-why>



Peter Gray, Ph.D., is a research professor at Boston College and author of the newly published book *Free to Learn* (Basic Books) and *Psychology*.

<https://www.psychologytoday.com/blog/freedom-to-learn/201202/video-game-addiction-does-it-occur-if-so-why> <https://www.psychologytoday.com/blog/freedom-to-learn/201202/video-game-addiction-does-it-occur-if-so-why> <https://www.psychologytoday.com/blog/freedom-to-learn/201202/video-game-addiction-does-it-occur-if-so-why>

FACEBOOK (<https://www.facebook.com/peter.gray.3572>)

Most Recent Posts from Freedom to Learn

<https://www.psychologytoday.com/blog/freedom-to-learn/201202/video-game-addiction-does-it-occur-if-so-why>



[Helicopter Parenting & College Students' Increased Neediness](/blog/freedom-learn/201510/helicopter-parenting-college-students-increased-neediness)

Researchers link helicopter parenting to emotional fragility in young adults.

[\(/blog/freedom-learn/](/blog/freedom-learn/)

[m-](#)



[Declining Student Resilience: A Serious Problem for Colleges](/blog/freedom-learn/201509/declining-student-resilience-serious-problem-colleges)

College personnel everywhere are struggling with students' increased neediness.

[\(/blog/freedom-learn/](/blog/freedom-learn/)



[Do First Amendment Rights Apply to Students in School?](/blog/freedom-learn/201508/do-first-amendment-rights-apply-students-in-school)

Guest blogger Alex Walker interviews Free Student Press founder Damon Krane.

[\(/blog/freedom-learn/](/blog/freedom-learn/)

[See More Posts \(/blog/freedom-learn/](/blog/freedom-learn/)

[resilien](#)

Child Psychologist

Anxiety, Depression, OCD, & Sleep Austin TX



[rights-college-apply-studen](#)

[ts-in-school\)](#)

