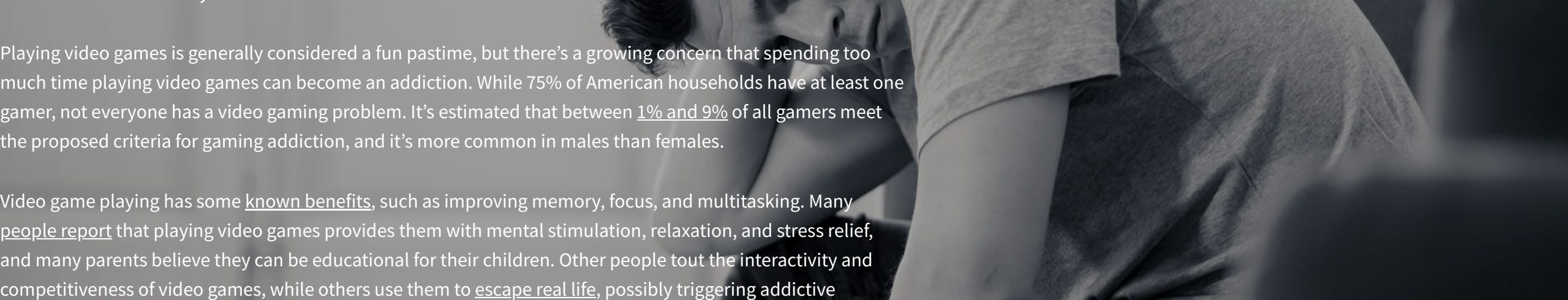


VIDEO GAME ADDICTION AND ABUSE, AND SYMPTOMS



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Playing video games is generally considered a fun pastime, but there's a growing concern that spending too much time playing video games can become an addiction. While 75% of American households have at least one gamer, not everyone has a video gaming problem. It's estimated that between 1% and 2% of all gamers meet the proposed criteria for gaming addiction, and it's more common in males than females.

Video game playing has some **known benefits**, such as improving memory, focus, and multitasking. Many people report that playing video games provides them with mental stimulation, relaxation, and stress relief, and many parents believe they can be educational for their children. Other people tout the interactivity and competitiveness of video games, while others use them to **escape real life**, possibly triggering addictive behavior.

Despite the potential advantages of playing video games, there's **growing evidence** highlighting the more negative aspects, especially among youth and adolescents. Some risks include repetitive strain injuries, obesity, increased aggressiveness, seizures in photosensitive individuals with epilepsy, and hand, wrist, elbow, neck, and back pain. Some studies suggest video game addicts use gaming to avoid deeper problems, such as depression and social anxiety.

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This guide explains the effects, trends, and dangers of video game addiction, as well as the behavioral treatment methods for gaming addiction based on current research and publicly available statistics. In some cases, information and statistics are derived from gaming addiction, internet gaming addiction, or compulsive gaming.

Primary Gaming Addiction Dangers

- Addictiveness:** Video game addiction is a growing concern, but flexible criteria have made addiction statistics difficult to estimate with ranges as low as 0.2% and as high as 46%. In an **American Psychiatric Association study** published in 2016, between 0.32% and 1.04% of participants had an internet gaming disorder, and another 3.88% to 8.71% were preoccupied with internet gaming. Between 4.47% and 11.95% of participants reported a loss of control, 4.57% to 9.29% said they developed a tolerance, and 3.08% to 5.20% said they experienced withdrawal.
- Risks of developing a gaming disorder:** Not all researchers agree that video gaming is an addictive activity, but some consider it a type of impulse control disorder. Compulsive video game playing may also be regarded as a behavioral addiction. **Studies suggest** that gaming disorder only affects a small portion of those who engage in video gaming activities, but gamers should be alert to the amount of time spent on these activities. Gaming in exclusion of other activities and changes in physical or psychological health and social functioning could indicate a pattern of potentially addictive gaming behavior.
- Unintended side effects:** Video game addiction endangers relationships and school or work functions due to the amount of time spent playing. Unintended physical side effects may include headaches and migraines, tiredness, repetitive stress injuries, carpal tunnel syndrome, seizures, increased aggression, problems concentrating or paying attention, and lack of social engagement.

Video Game Addiction Background Information

Video game addiction has been officially classified as a disorder by the World Health Organization and the American Psychiatric Association. The WHO added **Gaming Disorder** to the 11th edition of its International Classification of Diseases (**ICD-11**) released in 2018, and Internet Gaming Disorder appears in Section 3 of the APA's 5th edition of The Diagnostic and Statistical Manual of Mental Disorders (**DSM-5**).

The WHO recognizes gaming disorder as a **diagnosis characterized by** persistent or repetitive video/digital gaming behavior. This pattern includes impaired control over gaming, with increased priority given to gaming over other pursuits to the extent that it takes precedence over all other daily activities and interests. Gaming behavior continues or even escalates despite negative consequences. To meet **diagnosis criteria**, the gaming pattern of behavior must be severe enough to cause significant damage to personal, family, educational, occupational, and social functioning, and must be evident for at least 12 months.

The APA presents more in-depth criteria for **internet gaming disorder**, but its inclusion in Section 3 of the DSM-5 lists it as a condition for further study, not yet an official diagnosis. Proposed criteria state that IGD impairs lifestyle functioning, with a diagnosis supported by at least five of nine core symptoms throughout a period spanning more than 12 months. The nine clinical symptoms include:

- Preoccupation:** Playing video games obsessively/compulsively/pathologically
- Withdrawal:** Feeling unpleasant symptoms when not playing video games
- Tolerance:** Spending increased amounts of time gaming to achieve satisfaction
- Loss of control:** Failed attempts to stop gaming or reduce time spent gaming
- Loss of interest:** No longer interested in past hobbies/activities unrelated to video games
- Continuation:** Keep gaming despite negative physical or psychosocial consequences
- Deception:** Misleading others about the amount of time spent playing video games
- Escape mechanism:** Using video games to escape negative feelings or real life
- Negative consequences:** Losing or jeopardizing significant relationships or educational/career opportunities due to compulsive gaming

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II. Signs of Abuse

Behavioral Symptoms of Video Game Addiction

How video game addiction affects the brain

Some **studies indicate** that excessive use of games, smartphones and/or the internet likely **hinders brain development** in youth and adolescents, especially if this behavior lasts for a long time. Research also shows that when individuals are engaged in gaming, pathways in their **brains are triggered** much the same way as narcotic addicts, producing feelings of pleasure that can manifest into addictive behavior. However, some **psychologists** conclude the release of dopamine that makes gamers feel good while playing would occur during any fun activity. Even so, the reward of feel-good chemicals released by the brain could be a motivator for unhealthy amounts of video game playing.

The **Journal of Psychiatric Research** analyzed changes in the brain of patients with online game addiction compared to professional video game players, because both groups play video games for extended periods. This study indicated that changes in the brain occur in both groups, but with very different results. Those with online game addictions showed increased impulsiveness, recurring errors, and decreased gray matter in specific areas of the brain compared to the healthy control group. The group with online game addictions also displayed increased activity in the thalamus, which would reinforce their impulsive or addictive behavior.

Behavioral signs of video game addiction

There are numerous **changes in mood and behavior** that may be indicative of video game addiction, whether a person plays online or off-line. It's common to see a decline in performance at school or work or to have problems at home or with relationships due to the amount of time spent gaming. Children who experience more **withdrawal in virtual worlds** may display aggressive behavior in the real world. Gaming addiction can even include a form of withdrawal when not playing that results in anxiety, irritability, or depression. Other **behavioral changes** include:

- Spending more and more time playing video games
- Neglecting friendships or other hobbies and activities previously enjoyed
- Abstaining from video games is difficult or even impossible
- Lying to people about the amount of time spent playing video games
- Justifying excessive video game playing
- Downplaying the impact of excessive gaming
- Blaming others for excessive video game playing
- Replacing real-life friends with virtual friends
- Neglecting personal hygiene or grooming
- Skipping meals and/or eating junk food while playing
- Staying up late to play, even with something important scheduled early the next day
- Drinking excessive amounts of caffeine or energy drinks to stay awake and continue gaming
- Having emotional outbursts when games are taken away
- Experiencing frustration, irritation, or anger when forced to stop playing
- Feeling angry or aggressive towards anyone preventing or limiting access to video games
- Feeling anxious or depressed when not playing video games for prolonged periods
- Spending large amounts of money on new games and/or gaming equipment in lieu of paying bills or other obligations
- Losing interest in sexual relationships
- Continuing to play despite all the problems caused by excessive gaming
- Using gaming to ease bad moods or overcome negative feelings
- Using gaming to escape stressful situations or conflicts at home, school, or work

Physical Symptoms of Video Game Addiction

How video game addiction affects the body

Compulsive video game playing can have numerous negative effects on the body, whether the person plays on a video game console or personal computer. Gamers don't necessarily have to be addicted to feel the physical effects of video game addiction for hours. Although professional gamers and video game addicts run a much higher risk of bodily injuries, even casual gamers can experience some of the same **player injuries** and other physical symptoms.

Early physical effects of video game addiction

Gamers may feel the physical effects of prolonged play at different intervals, depending on how long they play at a time and their positioning while playing. Both console and PC gamers tend to experience tiredness, dry or red eyes, eyestrain, and headaches and migraines. They may also experience soreness in the shoulders, neck, and back if they play in a hunched position. Console gamers tend to experience pain in their thumbs, while PC gamers are more likely to have pain in their hands and wrists. Depending on the amount of time spent playing, weight gain can occur early on.

Severe and long-term physical effects of video game addiction

What begins as minor irritations can become more **severe physical effects** with prolonged, pathological gaming. Soreness in the shoulders, neck, and back can turn into muscle strains. Repetitive stress injuries can occur that turn mild pain in the fingers, hands, wrists, and/or elbows into more serious ailments. Tendonitis, which is an inflammation of the thumb, hand, or wrist, may occur. Carpal tunnel syndrome, caused by a pinched nerve in the wrist, can lead to numbness, weakness, and pain in the hand and/or wrist. Cubital tunnel syndrome, caused by a pinched nerve inside the elbow, can lead to the same symptoms as carpal tunnel but extend into the arm.

Hours spent sitting down while playing leads to a sedentary lifestyle, which could cause weight gain to turn into obesity. Lack of physical exercise can lead to muscle weakness and an increased risk of type 2 diabetes. Flickering lights and graphics in video games can trigger seizures in gamers with epilepsy or other seizure disorders. Prolonged game playing can promote lowered concentration and attention span, especially in younger players. Long-term video game addiction could lead to **peripheral neuropathy**, which causes numbness, weakness, and pain in the hands and feet.

This table illustrates the possible physical effects associated with video game addiction

	Physical Symptoms
Casual Players	Dry or red eyes Eyes strain Headaches and migraines Soreness in the fingers, hands, wrists, elbows, shoulders, neck, and/or back Weight gain
Compulsive Players <i>Including all the above effects for casual use</i>	Repetitive stress injuries Tendonitis Carpal tunnel syndrome Cubital tunnel syndrome Shoulder, neck, and back strains Numbness or weakness in the hands and feet Blood clots Obesity Muscle weakness Elevated risk of type 2 diabetes Triggered seizures

Withdrawal Symptoms

- Impatience
- Irritability and anger
- Feeling anxious or tense
- Restlessness
- Lack of pleasure
- Increased dreaming
- Difficulty concentrating
- Increased/decreased eating
- Increased/decreased sleeping
- Craving to game

Further Resources

Both the **U.S. National Library of Medicine** and the **World Health Organization** offer information on the symptoms and treatment of video game addiction.

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III. Video Game Addiction

Video game addiction is a growing problem experts don't understand well

There are more than **2.5 billion** video gamers from all over the world. Video game addiction is a developing crisis that most experts don't understand very well. While a person's geographical region isn't a significant indicator of their risk of video game addiction, statistics show that certain countries have taken notice of the problem. **Disordered internet gaming** seems to appear mostly in male adolescents, especially in Asian countries.

Dr. Alak Kanjlia, an expert in video game addiction psychiatry, posted the results of several studies on his **HealthyGamer** website. Studies indicate that internet gaming disorder affects between 1% and 10% of gamers in North America and Europe, and researchers found that **0.3% to 1% of participants** from the U.S., United Kingdom, Canada, and Germany fit the criteria for an internet gaming disorder diagnosis. An epidemiological review performed by the Japanese Society of Psychiatry and Neurology showed that the prevalence of internet gaming disorder ranged from **0.7% to 27.5%**. Another study of gamers in Singapore discovered that **1.4% were addicted gamers**, and 7.3% were problem gamers. Estimates indicate that 10% of Singapore children are addicted to gaming and the internet, but the highest prevalence of video game addiction is in Iran, with an estimate of 22.8%.

Video Game Addiction Throughout the World

2016 Recorded number of video gamers (by Region)	Asia Pacific 912 million	Middle East & Africa 268 million	South America 192 million	Western EU 185 million	Eastern EU 153 million
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Countries with High Rates of Video Game Addiction	Iran 22.8%	Singapore 10%	Japan 0.7% - 1.4%	Norway 27.5%	Germany 0.3% - 1%
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Source: **WePC** and **Healthy Gamers by Dr. Alak Kanjlia** and **The American Journal of Psychiatry**

Video Game Addiction Demographics in the U.S.

Video game addiction in the U.S. is increasing, especially among young males

Statistics show that more than **200 million** people in the United States play video games. Although gaming has traditionally been male-dominated, recent studies show that the gender breakdown is more balanced than previously thought, with **54% of male gamers** and 46% female. However, males tend to play more often and for longer periods than females, especially young males.

A study of pathological gaming among youth between the ages of eight and 18 by Dr. Douglas Gentile in the Psychological Science journal noted that **33% of participating males** played video games daily. In comparison, only 12% of participating females did. The study also provided evidence that 8.5% of youth who played video games would be classified as pathological gamers. A survey conducted in March/April 2018 by Pew Research reported that **26% of adolescents** believed they spent too much time playing video games. By gender, 41% of boys aged 13 to 17 thought they spent too much time gaming, compared to only 11% of girls. More accurate video game addiction statistics are necessary to better recognize groups at higher risk of developing a gaming disorder.

Demographics of Video Game Players by Gender and Age in the U.S.

Age	Male	Female
Under 18	18%	11%
18-35	17%	10%
36-49	11%	8%
50+	13%	13%

Source: **WePC**

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IV. How to Find Help

While the number of diagnosed gaming disorder or internet gaming disorder patients may be relatively small, video game addiction is a growing problem. Not everyone who plays video games for extended periods suffers from video game addiction, but for those who do, finding help from the right provider can be difficult. Like more traditional substance use disorders, the first step to overcoming a behavioral addiction is admitting to the problem. Learn more about the treatment process in our **Video Game Rehabilitation Guide**, a comprehensive resource for starting the process.

Staging an intervention

If you have a loved one who's struggling with addiction, **staging an intervention** is often the first necessary step towards sobriety, but it's important to be strategic and loving in your approach. Even the most well-meaning of interventions can have a negative effect if they aren't handled correctly.

5 Tips for Staging an Intervention

- Don't Do It Alone.** A professional interventionist is always the most qualified to guide a successful intervention. Also, rely on non-addict family and friends — especially those who have a close relationship with you or the addict.
- Research Ahead of Time.** It's best to do plenty of research ahead of time to gather insight on the addiction and how it affects the addict. Also, be prepared with local resources for getting help.
- Write Out Your Statement.** During the actual intervention, emotions will likely be running high, so it's best to have a statement of how the person's addiction has impacted you and your relationship with him or her. These statements should be honest, yet written from a place of love — no personal attacks.
- Offer Help.** It's important for everyone attending the intervention to offer tangible help and support as the person works through detox and rehabilitation.
- Set Boundaries.** If the person refuses to seek help and take the next steps outlined, it's important that they understand that everyone present will end codependent and enabling behaviors.

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