

VIDEO GAME ADDICTION

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DAVID A. OLLE / JEAN RIESCHER WESTCOTT

VIDEO GAME ADDICTION

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VIDEO GAME ADDICTION

**David A. Olle
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Contents

PART ONE	
CHAPTER 1	Video Game Basics
	What are video games?
	1. What are video games? viii
	2. What are platforms? 4
	3. What are recent advancements in controllers? 8
CHAPTER 2	How are video games categorized?
	4. What are action games? 9
	5. What are adventure games? 11
	6. What are action-adventure games? 12
	7. What are role-playing games? 13
	8. What are massively multiplayer online games (MMORPGs)? 15
	9. How has the concept of what constitutes a “video game” changed? 17
CHAPTER 3	What is the history of video games?
	10. When did video games become popular? 18
	11. How have technological developments affected the evolution of video games? 18
	12. What is the current state of video games? 18
CHAPTER 4	How are video games played?
	13. How does a gamer begin a play session? 19
	14. How does gameplay develop? 19
	15. What is the unique nature of the avatar? 20
CHAPTER 5	What are the characteristics of video gamers?
	16. How are video gamers classified? 21
	17. Who plays video games? 22
	18. What devices do gamers use? 23
	19. What are the top three types of video games that gamers most frequently play on their wireless or mobile devices? 23
	20. Who do gamers play with? 23
	21. How often do gamers play? 24
	22. What benefits do gamers feel they gain with their gaming? 24
	23. What are the “top” video games? 25
PART TWO	
CHAPTER 6	Video Game Addiction
	What is video game addiction?
	24. What is the nature of addiction? 30
	25. Can playing video games lead to addiction? 31

26. What are some withdrawal symptoms of video game addiction?.....	35
27. Do playing violent video games result in violence in real life?	40
28. What is the best way to study video game addiction?.....	42
29. Is video game addiction similar to gambling addiction?.....	53
<i>Why are video games addictive?</i>	
30. What is the physiological basis of video game addiction?.....	56
31. Why are video games addictive?.....	59
32. What basic human needs motivate people to seek satisfaction through video games?	61
33. How can the visual effect of playing video games lead to addiction?	64
34. What is the Tetris effect?.....	65
35. What is the Proteus effect?.....	66
<i>How can you protect against video game addiction?</i>	
36. What personal strengths are important to protect against video game addiction?	66
37. How does the family environment affect video game addiction among children?	67
38. What actions can parents take to reduce addictive video gaming in their child?	67
<i>What are the benefits of playing video games?</i>	
39. How can playing video games be beneficial?	71
40. Can playing video games help people with psychological problems?.....	72
41. Can playing video games be useful in patient education?.....	75
42. Can playing video games promote well-being?.....	77
43. How can video games be used to develop mindfulness meditation?	79
44. How can video game playing provide benefits for older adults?	82
45. How can virtual reality help in pain management?	84
46. Can virtual reality be useful in stroke rehabilitation?	85
Recovery from Video Game Addiction	
<i>Treating video game addiction</i>	
47. What are the strategies for treating video game addiction?.....	92
48. What is discussed during counseling sessions?	92

CHAPTER 7

CHAPTER 8

CHAPTER 9

PART THREE

CHAPTER 10

CHAPTER 11

49. Can co-existing disorders contribute to video game addiction?.....	93
50. Should you consider a support group for treatment and recovery from video game addiction?	94
51. What are the barriers that prevent gamers from overcoming their addiction?	94
52. What actions can you as a gamer take to overcome your addiction?.....	95
53. Does video gaming lead to depression?	95
54. What is cognitive-behavioral therapy?	95
55. What is dialectical behavioral therapy?	97
56. What is acceptance and commitment therapy?	98
57. Do medications have a place in treating video game addiction?	99
58. Is bupropion useful in treating video game addiction?.....	99
59. Is escitalopram useful in treating video game addiction?.....	100
60. Is naltrexone useful in treating video game addiction?.....	100
61. Does combination therapy have a place in treating video game addiction?.....	100
<i>Life after video game addiction</i>	
62. How do you change your way of thinking about gaming?.....	101
63. Should parents allow video gaming to be reintroduced to their child?	101
64. Why is developing new interests and passions important for the recovering gamer?	102
65. What type of activities should you pursue to replace video gaming?	102
66. Does video gaming have any place for the recovering addict?	103
<i>Index</i>	106

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Introduction

The term, video game addiction, can be somewhat controversial. The American Psychiatric Association (APA) declined to call the condition an addiction in their fifth edition of “Diagnostic and Statistical Manual of Mental Disorders” (DSM-5). The APA instead used the term “Internet Gaming Disorder.” For the multitude of gamers suffering from the condition, however, the symptoms they are experiencing indeed have many of the hallmarks of addiction.

This book is designed to appeal to gamers and concerned family and friends alike. The first part discussing video game basics is particularly useful to non-gamers as it describes the history of video games, the types of video games, how the games are played, and the nature of gamers.

Part two delves into the nature of addiction, discussing the basis of why video games are addictive from physiological and psychological points of view. Video game playing is not entirely detrimental, and this section describes the many ways video gaming can be beneficial. In fact, video gaming has unique aspects to facilitate treating psychological problems.

Part three deals with the various treatments for video game addiction, and how the recovering addict can begin a new life.

Many compelling stories from gamers are interspersed throughout the book. The book is rich in illustrations including pictures, tables, notes, and links to websites for more information.



VIDEO GAME BASICS

Arcade gaming at PAX South 2016.

SOURCE: [https://commons.wikimedia.org/wiki/File:PAX_South_2016_-_Gaming_\(24354713919\).jpg](https://commons.wikimedia.org/wiki/File:PAX_South_2016_-_Gaming_(24354713919).jpg)

Part 1 is an introduction to video games and gamers. This section discusses the hardware of video games, the types of video games, and how video games developed. The non-gamer will gain a little insight as to how video games are played as well as how gamers perform.

PART ONE

CHAPTER 1

What are video games?

CHAPTER 2

How are video games categorized?

CHAPTER 3

What is the history of video games?



CHAPTER 4

How are video games played?

CHAPTER 5

What are the characteristics of video gamers?

What are video games?



1. What are video games?

A video game is an electronic game that involves interaction with a user interface to generate visual feedback on a video device such as a TV screen or computer monitor. The video device is also known as a display or output device that presents information in visual form.

The electronic systems used to play video games are known as platforms. Some examples of these are personal computers and video game consoles. The input device used for games, the game controller, varies across platforms. Typical controllers include gamepads, joysticks, mouse devices, keyboards, the touchscreens of mobile devices, and buttons, or even, with the Kinect sensor, a person's hands and body. Players typically view the game on a video screen, television, or computer monitor. Video game technology continues to advance to include viewing on virtual reality head-mounted display goggles. There are often game sound effects, music and, in the 2010s, voice actor lines which come from loudspeakers or headphones. Some games in the 2000s include haptic, vibration-creating effects, force feedback peripherals, and virtual reality.



◀ FIGURE 1.1
XBOX 360 Super Elite Controllers
https://commons.wikimedia.org/wiki/Category:People_with_game_controllers#/media/File:XBOX_360_controller.jpg

2. What are platforms?

The term “platform” refers to the specific combination of electronic components or computer hardware which, in conjunction with software, allows a video game to operate. (Wikipedia 2017)

The term “system” is also commonly used. The types of platforms used to play video games are the following:

- PC

In common use, a “PC game” refers to a form of media that involves a player interacting with a personal computer connected to a video monitor. Personal computers are not dedicated game platforms, so there may be differences running the same game on different hardware components. PC manufacturers can accommodate gamers by providing specialized high performance video cards. The PC platform allows some attractive features like reduced software cost, increased flexibility, increased innovation, the creation of modifications, open hosting for online gaming (in which a person plays a video game with people who are in a different household), and others.

- Console

A “console game” is played on a specialized electronic device that connects to a conventional television set or composite video monitor. Unlike PCs, which can run all sorts of computer programs, a console is a dedicated video game platform manufactured by a specific company. Usually, consoles only run games developed for it, or games from other platform made by the same company, but never games developed by its direct competitor, even if the same game is available on different platforms. It often comes with a specific game controller. There are currently three console manufacturers: Sony (PlayStation), Nintendo, and Microsoft (Xbox).

Game developers earned money for console games in the sale of the game with long lead times of development and then hopes of a blockbuster release. At this time, the business was risky and dependent on working from release to release to make money.

- Handheld

A “handheld” gaming device is a small, self-contained electronic device that is portable and can be held in a user’s hands. It features the console, a small screen, speakers and buttons, joystick, or other game controllers in a single unit. Like consoles, handhelds are dedicated platforms and share almost the same characteristics. Handheld hardware usually is less powerful than PC or console hardware. Some handheld games from the late 1970s and early 1980s could only play one game. In the 1990s and 2000s, some handheld games used cartridges, which enabled them to be used to play many different games.



▲ FIGURE 1.2

An illustration of a video arcade

[https://commons.wikimedia.org/wiki/File%3A%22Game_On%22_at_Pacific_Science_Center_\(5559659293\).jpg](https://commons.wikimedia.org/wiki/File%3A%22Game_On%22_at_Pacific_Science_Center_(5559659293).jpg)

- **Arcade**

“Arcade game” generally refers to a game played on a more specialized type of electronic device typically designed to play only one game and is encased in a unique, large coin-operated cabinet. The cabinet has one built-in console, controllers (joystick, buttons, etc.), a CRT screen, audio amplifier, and speakers. Arcade games often have brightly painted logos and images relating to the theme of the game. While most arcade games are housed in a vertical cabinet, which the user typically stands in front of to play, some arcade games use a tabletop approach—where the display screen is housed in a table-style cabinet with a see-through table top. With table-top games, the users typically sit to play. In the 1990s and 2000s, some arcade games offered players a choice of multiple games. In the 1980s, video arcades were businesses where game players could use some arcade video games. In the 2010s, there are far fewer video arcades, but some movie theaters and family entertainment centers still have them. In the 2000s and 2010s, arcades found a niche market by providing games that use unique controllers.

mostly inaccessible to home users, such as dance games that have a floor that senses the user's dancing. The arcade game is now a more socially-oriented hangout, with games that focus on an individual's performance, rather than the game's content, as the primary form of novelty.

- **Web browser (online)**

The web browser has also established itself as a distinct platform in the 2000s while providing a cross-platform environment for video games designed to be played on a broad spectrum of hardware from personal computers and tablet computers to smartphones. This in turn has generated new terms to qualify classes of web browser-based games. These games may be identified based on the website that they appear, such as with "Facebook" games. Others are named based on the programming platform used to develop them, such as Java and Flash games.

With online play, games found new models of making money. Consoles moved to online play and the selling of expansion packs, new game maps, and items for in-game use. Other game developers went the subscription route. New types of games that relied on the subscription model, emphasizing the community of players and supporting their interactions, came onto the scene.

- **Mobile**

A mobile game is a video game played on a smartphone, smart-watch, tablet computer, portable media player, or calculator. With the advent of standard operating systems for mobile devices, such as iOS and Android and devices with greater hardware performance, mobile gaming has become a significant platform. While many mobile games share similar concepts with browser games, these games may utilize features of smart devices that are not necessarily present on other platforms, such as global positioning information and camera devices to support augmented reality gameplay. Mobile games also led to the development of microtransactions as a valid revenue model for casual games.

- **Virtual reality**

Virtual reality (VR) games require players to use a particular head-mounted unit that provides stereoscopic screens and motion tracking to immerse a player into a virtual environment that responds to their head movements. Some VR systems

include control units for the player's hands as to provide a direct way to interact with the virtual world. VR systems require a separate computer, console, or another processing device that couples with the head-mounted unit.

3. What are recent advancements in controllers?

A video game can use several types of input devices to translate human actions to a game. The most common game controllers are keyboard and mouse for PC games. Consoles usually come with specific gamepads while handheld consoles have built-in buttons. Other game controllers are commonly used for specific games, like racing wheels, light guns, or dance pads. Digital cameras can also be used as game controllers capturing movements of the body of the player.

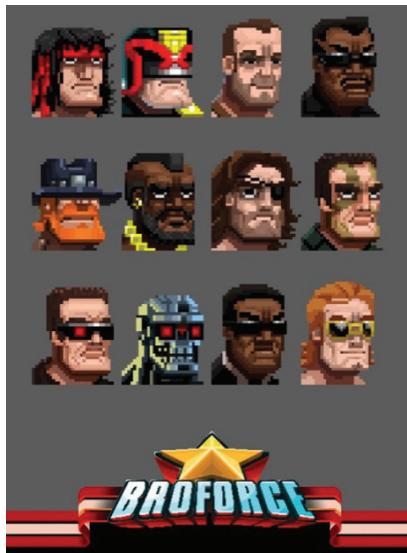
As technology continues to advance, more can be added to the controller to give the player a more immersive experience when playing different games. Some controllers have presets with buttons mapped a certain way to make playing certain games easier. Along with the presets, the player has the possibility to custom map the buttons to accommodate their play style better. On keyboard and mouse, different actions in the game are already preset to keys on the keyboard. Most games allow the player to change that so that the actions are mapped to different keys that are more to their liking. The companies that design the controllers are trying to make the controller visually appealing and also feel comfortable in the hands of the consumer.

An example of a technology that was incorporated into the controller is the touchscreen. It allows the player to interact with the game differently than before. The person could move around in menus easier and can also interact with different objects in the game. They can pick up some objects, equip others, or even just move the objects out of the player's path. Another example is a motion sensor where a person's movement can be captured and put into a game. Some motion sensor games are based on where the controller is. A signal that is sent from the controller to the console or computer results in actions being done that can create specific movements in the game. Another type of motion sensor game is the webcam, where the person can move around in front of it and the actions done are repeated in a character of the game you are playing as.



How are video games categorized?

Video games are classified according to gameplay interaction rather than visual or narrative differences. A video game category (or genre) is defined by a set of gameplay challenges and are classified independently of their setting or game-world content.



◀ FIGURE 2.1

Head sprites from Broforce video game. A sprite is a two-dimensional bitmap that is integrated into a larger scene. It can either be a static image or an animated graphic. Sprites can be objects in 2D video games. https://commons.wikimedia.org/wiki/Category:Video_game_sprites#/media/File:Broforce_avatars.JPG

4. What are action games?

An action game is a video game genre that emphasizes physical challenges, including hand-eye coordination and reaction-time. The genre includes diverse subgenres such as fighting games, shooter games, and platform games which are widely considered the most important action games, though multiplayer online battle arena and some real-time strategy games are also considered to be action games.

In an action game, the player typically controls the protagonist or avatar. The avatar must navigate a level, collecting objects, avoiding obstacles, and



First-person shooters are a type of three-dimensional shooter game, featuring a first-person point of view with which the player sees the action through the eyes of the player character. They are unlike third-person shooters, in which the player can see (usually from behind) the character they are controlling.

battling enemies with various attacks. At the end of a level or group of levels, the player must frequently defeat a boss enemy that is more challenging and often larger than other enemies. Enemy attacks and obstacles deplete the avatar's health and lives, and the player receives a "Game over" when they run out of lives. Alternatively, the player wins the game by finishing a sequence of levels. However, some action games, usually arcade games, are unbeatable and have an indefinite number of levels. The player's only goal is to maximize their score by collecting objects and defeating enemies.

Subgenres

Action games have several major subgenres. However, there are many action games without any clear subgenre, such as Frogger, as well as other types of genres ,like Adventure or Strategy, that have action elements.

- Beat 'em ups are games that involve fighting through a side-scrolling stage of multiple adversaries, using martial arts or other close-range fighting techniques.
- Fighting games feature combat between pairs of fighters, usually using martial arts moves. Actions are limited to various attacks and defenses and matches end when a fighter's health is reduced to zero. They often make use of special moves and combos. There are both 2D and 3D fighting games, but most 3D fighting games largely take place on a 2D plane and occasionally include side-stepping. They are distinct from sports games ,such as boxing and wrestling games, which attempt to model movements and techniques more realistically.
- Maze games such as Pac-Man involve navigating a maze to avoid or chase adversaries.
- Platform games involve jumping between platforms of different heights while battling enemies and avoiding obstacles. Physics are often unrealistic, and game levels are often vertically exaggerated. They exist in both 2D and 3D forms.
- Rhythm action games challenge the player's sense of rhythm, and award points for accurately pressing specific buttons in sync with a musical beat. Rhythm action games is a relatively new subgenre of the action game. Rhythm games are sometimes classified as a type of music game.

- Shooter games allow the player to take action at a distance using a ranged weapon, challenging them to aim with accuracy. Although shooting is usually a form of violence, non-violent shooters exist as well. This subgenre includes first-person shooters and third-person shooters, as well as a plethora of other shoot ‘em up games taking place from a top-down or side-view perspective.



▲ FIGURE 2.2

S.T.A.L.K.E.R. Swamps Military.jpg

https://commons.wikimedia.org/wiki/Category:First-person_shooter_video_game_screenshots#/media/File:S.T.A.L.K.E.R._Swamps_Military.jpg

5. What are adventure games?

An adventure game is a video game in which the player assumes the role of protagonist in an interactive story driven by exploration and puzzle-solving. The genre’s focus on story allows it to draw heavily from other narrative-based media, literature, and film, encompassing a wide variety of literary genres. Many adventure games (text and graphic) are designed for a single player since this emphasis on story and character makes multi-player design difficult.

Initial adventure games developed in the 1970s and early 1980s were text-based, using text parsers to translate the player’s input into commands. As personal computers became more powerful with the ability to show graphics, the graphic adventure

game format became popular, initially by augmenting player's text commands with graphics, but soon moving towards point and click interfaces. Further computer advancements led to adventure games with more immersive graphics using real-time or pre-rendered three-dimensional scenes or full-motion video taken from the first- or third-person perspective.

For markets in the Western hemisphere, the genre's popularity peaked during the late 1980s to mid-1990s when many considered it to be among the most technically advanced genres. By the early 2000s, adventure games became a niche genre due to the popularity of first-person shooters and it became difficult to find publishers to support such ventures. Since then, a resurgence in the genre has occurred spurred on by the success of independent video game development, and the proliferation of new gaming platforms including portable consoles and mobile devices.

Essential elements of the genre include storytelling, exploration, and puzzle solving. Adventure games have been described as puzzles embedded in a narrative framework, where games involve "narrative content that a player unlocks piece by piece over time." While the puzzles that players encounter through the story can be arbitrary, those that do not pull the player out of the narrative are considered examples of good design. Combat and action challenges are limited or absent in adventure games, thus distinguishing them from action games.

6. What are action-adventure games?

An action-adventure game can be defined as a game with a mix of elements from an action game and an adventure game, especially crucial elements like puzzles. Action-adventures require many of the same physical skills as action games, but also offer a storyline, numerous characters, an inventory system, dialogue, and other features of adventure games. They are faster-paced than pure adventure games, because they include both physical and conceptual challenges. Action-adventure games typically include a combination of complex story elements, displayed for players using audio and video. The story is heavily reliant upon the player character's movement, which triggers story events and thus affects the flow of the game. Some examples of action-adventure games include *The Legend of Zelda*, *God of War*, and

Tomb Raider series. Examples of games that can be classified as either action or adventure games include *Game of Thrones*, *Call of Duty*, *Grand Theft Auto*, *Horizon*, and *Uncharted*.

Action-adventure games are faster paced than pure adventure games and include physical as well as conceptual challenges where the story is enacted rather than narrated. While motion-based, often reflexive, actions are required, the gameplay still follows some adventure game genre tropes (gathering items, exploration of and interaction with one's environment, often including an overworld connecting areas of importance, and puzzle-solving). While the controls are arcade-style (character movement, few action commands) there is an ultimate goal beyond a high score. In most action-adventure games, the player controls a single avatar as the protagonist. This type of game is often quite similar to role-playing video games.

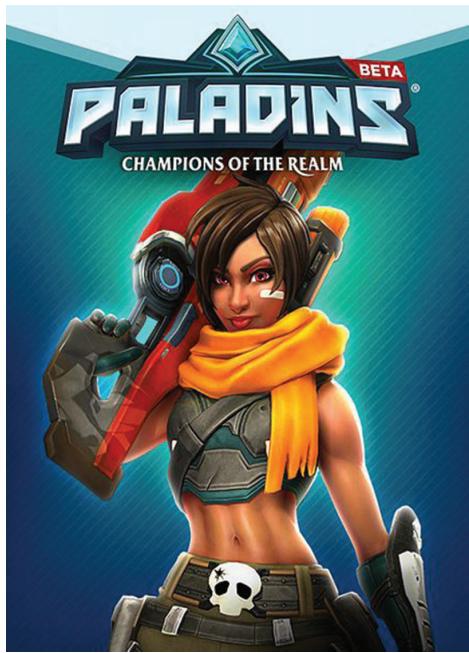
7. What are role-playing games?

A role-playing video game is a video game genre where the player controls the actions of a character (and several party members) immersed in some well-defined world. Role-playing games include developed story-telling and narrative elements, player character development, complexity, as well as replayability and immersion. In role-playing games, players control a central game character, or multiple game characters, usually called a party, and attain victory by completing a series of quests or reaching the conclusion of a central storyline. Players explore a game world, while solving puzzles and engaging in combat. An essential feature of the genre is that characters grow in power and abilities, and the player typically designs characters. Role-playing games rarely challenge a player's physical coordination or reaction time, except action role-playing games.

Role-playing video games typically rely on a highly developed story and setting, which is divided into some quests. Players control one or several characters by issuing commands, which are performed by the character at an effectiveness determined by that character's numeric attributes. Often these attributes increase each time a character gains a level, and a character's level goes up each time the player accumulates a certain amount of experience.

The premise of many role-playing games tasks the player with saving the world or whichever level of society is threatened. There are often twists and turns as the story progresses, such as the surprise appearance of estranged relatives, or enemies who become friends or vice versa. The game world tends to be set in a fantasy or science fiction universe, which allows players to do things they cannot do in real life and helps players suspend their disbelief about the rapid character growth. To a lesser extent, settings closer to the present day or near future are possible.

The story often provides much of the entertainment in the game. Because these games have powerful storylines, they can often make effective use of recorded dialog and voiceover narration. Players of these games tend to appreciate extended cut scenes more than players of faster action games. While most games advance the plot when the player defeats an enemy or completes a level, role-playing games often progress the plot based on other important decisions. For example, a player may decide to join a guild, thus triggering a progression in the storyline that is usually irreversible. New elements in the story may also be triggered by the mere arrival in an area, rather than completing a specific challenge. The plot is usually divided so that each game location is an opportunity to reveal a new chapter in the story.



◀ FIGURE 2.3
Paladins Cover by Hi-Rez Studios.
https://upload.wikimedia.org/wikipedia/commons/6/60/Paladins_Twitch_Cover.jpg

8. What are massively multiplayer online games (MMORPGs)?

A massively multiplayer online game is a multiplayer video game which is capable of supporting large numbers of players simultaneously. By necessity, the games are played on the Internet. Many games have at least one persistent world. However, others just have large numbers of players competing at once in one form or another without any lasting effect to the world at all. These games can be found for most network-capable platforms, including the personal computer, video game console, or smartphones and other mobile devices.

MMORPG games can enable players to cooperate and compete with each other on a large scale, and sometimes to interact meaningfully with people around the world. They include a variety of gameplay types, representing many video game genres.

MMORPGs feature the usual role-playing game objectives of completing quests and strengthening one's player character but involve up to hundreds of players interacting with each other in the same persistent world in real-time. The game players tell the stories through group interaction, the developers provide the environment and players enter the online playground ready to pursue shared quests with fellow gamers. The massively multi-player concept was quickly combined with other genres.



▲ FIGURE 2.4

Defenders of Ardania.

https://commons.wikimedia.org/wiki/Category:Defenders_of_Ardania#/media/File:Defenders_of_Ardania_1.jpeg

The dominant MMORPG in the Western world is The World of Warcraft from Activision Blizzard. As of the end of 2012, the company reported some 9.6 million subscribers. The number of subscribers is down somewhat from the peak at the end of 2010 of 12 million but is still an impressive subscriber base that keeps it as the number one MMO game in North America.

In World of Warcraft (WoW) much of the game is spent performing tasks singly and in groups to level up a character. Leveling up is a process by which characters reach a new level by accumulating “experience points” after completing a variety of tasks. The new level permits access to new areas of the game, and to learn more abilities. Unlike a loose and open world like *Second Life*, there are lots of specified game scenarios that players complete that earn them experience, in-game rewards, and advancing abilities. Players can purchase in game items such as pets and accessories with additional expenditures beyond their monthly subscription fees. The programming includes seasonal celebrations and in many ways resembles a culture unto itself with clan loyalties, specialized language, and rules of behavior. Self-organized and semi-formalized groups of players called guilds are formed with rules of their own and their own traditions.



▲ FIGURE 2.5

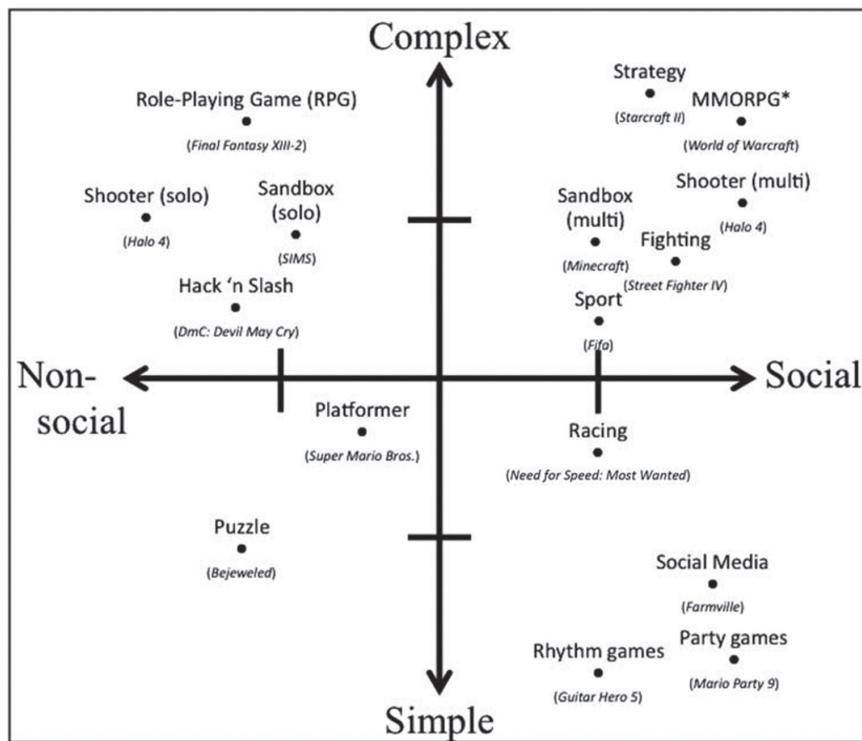
Bloodfrontier v0.80

https://commons.wikimedia.org/wiki/Category:First-person_shooter_video_game_screenshots#/media/File:Bloodfrontier_secure-the-flag_warground.png

The detailed gameplay, the sense of community, and the chance for advancement in the game all reward players who spend more time in the game. The more difficult quests can take ten to twelve hours of constant gameplay with a group of players. Many players find that it can be hard to be both successful in the game and in outside pursuits without significant planning.

9. How has the concept of what constitutes a “video game” changed?

A video game has traditionally been considered as just entertainment, but now video games are being used for a variety of applications, including simulations, training education, and social interaction.



▲ FIGURE 2.6

Conceptual Map of the Main Genres of Video Games (With Examples) Organized According to Two Important Dimensions: Level of Complexity and the Extent of Social Interaction Required.

Source: American Psychologist (Reference 36, Chapter 8)
www.apa.org/about/contact/copyright/index.aspx



What is the history of video games?

10. When did video games become popular?

Video gaming became popular in the 1970s and 1980s, when video arcade games and gaming consoles using joysticks, buttons, and other controllers, along with graphics on computer screens and home computer games were introduced to the general public. The golden age of arcade video games was from 1978 to 1982. Video arcades with large, graphics-decorated coin-operated machines were common at malls and popular, affordable home consoles such as the Atari 2600 and Intellivision enabled people to play games on their home TVs.

11. How have technological developments affected the evolution of video games?

The widespread adoption of microchips, improved video graphics, and software allowed the development of specialized gaming computers, early online gaming, and handheld games.

The 1990s saw the resurgence and decline of arcades, the transition to 3D video games, improved handheld games, and PC gaming. During the 2000s, online gaming and mobile games became increasingly important. Consoles continued to develop during this period; notably the launch of the top-selling Wii console, in which the user could control the game actions with real-life movement of the controller. The period also saw the rise of casual PC games marketed to non-gamers and the emergence of cloud computing in video games.

12. What is the current state of video games?

In 2013, an advanced generation of consoles emerged, including Nintendo's Wii U and Nintendo 3DS, Microsoft's Xbox One, and Sony's PlayStation 4 and PlayStation Vita. Since the development and widespread consumer use of smartphones, mobile gaming has been a driving factor for games, as they can reach people formerly uninterested in gaming, and those unable to afford or support dedicated hardware, such as video game consoles.

How are video games played?



13. How does a gamer begin a play session?

MMORPG games are used as an illustration due to their popularity. MMORPG players control a character avatar within a game world in third- or first- person view. Third-person view refers to a graphical perspective rendered from a fixed distance behind and slightly above the player character. This viewpoint allows players to see a more strongly characterized avatar. Games with a first-person perspective are usually avatar-based, wherein the game displays what the player's avatar would see with the avatar's own eyes. Thus, players typically cannot see the avatar's body, though they may be able to see the avatar's weapons or hands. The players explore the landscape, fight various monsters, complete quests, and interact with non-player characters (NPCs) or other players. MMORPG games require the player to pay for a subscription. To enter the game, the player must select a server, referred to in-game as a realm. Each realm acts as an individual copy of the game world.

14. How does gameplay develop?

As characters become more developed from their initial state, they gain various talents and skills. The player must then further define the abilities of that character. Characters can choose two primary professions and can learn secondary skills. Characters may form and join guilds. Much of World of Warcraft play involves the completion of quests. Quests usually reward the player with some combination of experience points, items, and in-game money. Quests allow characters to gain access to new skills and abilities, as well as the ability to explore new areas. It is through quests that much of the game's story



A squad is a group of players who partner up to work towards a common goal.

Squads are short-term teams that can be easily formed and disbanded.



A faction or guild is a longer term grouping of people. Some factions/guilds have a purpose, goal, or mission for its members, while others do not. Factions/guilds may offer a sense of community for many gamers in the virtual world.

is told, both through the quest's text and through scripted NPC actions. Quests are linked by a common theme, with each consecutive quest triggered by the completion of the previous, forming a quest chain. Quests commonly involve killing some creatures, gathering a certain number of resources, finding a difficult to locate object, speaking to various NPCs, visiting specific locations, interacting with objects in the world, or delivering an item from one place to another to acquire experience and treasures.

While a character can be played on its own, players can group with others to tackle more challenging content. Most end-game challenges are designed in a way that they can only be overcome while in a group. In this way, character classes are used in specific roles within a group.

On both player versus player and player versus environment server types, there are particular areas of the world where free-for-all combat is permitted. Battlegrounds, for example, are similar to dungeons: only a set number of characters can enter a single battleground, but additional copies of the battleground can be made to accommodate additional players. Each battleground has a set objective, such as capturing a flag or defeating an opposing general, which must be completed to win the battleground. Competing in battlegrounds rewards the character with tokens and honor points that can be used to buy armor, weapons, and other general items that can aid a player in many areas of the game. Winning a battleground awards more honor and tokens than losing. Also, players also earn honor when they or nearby teammates kill players in a battleground.

15. What is the unique nature of the avatar?

The choice of an avatar by the gamer can have profound effects on how much he or she enjoys the game, how immersed they become, and how much they identify with the avatar.

Studies have shown that, in general, gamers create slightly idealized avatars based on their actual selves. These studies have shown that players who were able to create an avatar that was approximately their ideal body shape felt more connected to that avatar and also felt more capable of changing their virtual self's behavior.

The avatar, therefore, provides a perceived identity for the gamer and can alter the identity of the gamer that uses them. This perceived identity with the avatar has important implications for the psychological well-being of the gamer. If they do not build their self-esteem and work on their identity in therapy or the real world, they will use online gaming to fill the void in their identity development. This void may result in preference to their avatar over their real-life self. Furthermore, their identity development may be influenced negatively by how they interact with others (this means any person they encounter and build a bond with; positive or negative) in-game. Even if they develop one personality and great self-esteem in-game, it may be limited to virtual life scenarios while their real-life self-esteem is fragile or non-existent.



An avatar is a video game user's representation of himself/herself or alter ego.

What are the characteristics of video gamers?

CHAPTER

5



16. How are video gamers classified?

One classification scheme describes gamers according to the degree of commitment to the games, time spent gaming, skill levels attained, and degree of disruption with their other activities:

- Casual gamers lack attachment to the game and can easily transition in and out of play. They typically play less than 5 hours per week, and their social life is undisturbed.
- Transitional players have some dedication to the game, and play around 5-9 hours per week. Their social life may or not be disturbed.
- Skilled players typically focus on one main character and eventually achieves a high level of achievement. The skilled player plays three or four sessions per week for

a total of about 10–15 hours per week. They are mostly able to maintain balance in their social life and to keep up with their responsibilities.

- Second job players spend about 15–24 hours per week at gaming, but can keep family, school, and job activities as priorities. Gaming, however, is starting to take a toll on his or her non-gaming life.
- Pro-gamers- spend more than 24 hours per week, and in extreme cases more than 70 hours per week. They can achieve great power in the virtual world and have often taken on leadership positions. At this level, the game is a priority, and all other responsibilities and obligations are secondary. Their school/ work performance is greatly affected which may result in failing grades and loss of jobs.

Another classification scheme is based on the motivations of the gamer (Kabbrick 2013):

- Casual – gaming is used primarily to unwind and relax, rather than to seek challenges.
- Social – A social gamer is one who is motivated by connecting with other people through the medium of gaming. Their gaming habits are determined by their social circle more than by what is popular in society.
- Specialist – a gamer who focuses on getting the most out of their gaming experience. A specialist is passionate about playing every part of specific games.
- Expert – in this classification, an expert is not necessarily one who is highly skilled at games. Instead, they are characterized by a wide range of tastes and a desire to enjoy new gaming experiences.

17. Who plays video games?

The following statistics were gleaned from the 2017 report on “Essential Facts about the Computer and Video Game Industry” published by the Entertainment Software Association.

- Households
 - 63% of U.S. households have at least one person who regularly plays (3 hours or more per week).
 - There is an average of 1.7 gamers in each game-playing household.

- 65% of households own a device used to play video games, while 48% of U.S. households own a dedicated game console.
- Age/Gender
 - Overall, 59% of game players are male, and 41% are female.
 - Females tend to enter video gaming at a later age
 - The most frequent female game player is on average 44 years old and the average male game player is 35 years old
 - Women age 18 or older represent a significantly greater portion of the game-playing population (31%) than boys age 18 or younger (17%)
 - An equal number of female gamers are 35 years of age or younger as are over 35 years of age
 - Gamers have been playing video games for an average of 13 years

18. What devices do gamers use?

The devices gamers most frequently use are:

- PC (56%)
- Dedicated game console (53%)
- Smartphone (36%)
- Wireless device (31%)
- Dedicated handheld system (17%)

19. What are the top three types of video games that gamers most frequently play on their wireless or mobile devices?

Puzzle/board game/card game/game shows (38%)

- Action (6%)
- Strategy (6%)

20. Who do gamers play with?

54% of the most frequent gamers play with others, including:

- 40% with friends
- 21% with family members
- 17% with parent(s)
- 15% with spouse/partner

21. How often do gamers play?

The most frequent gamers who play multiplayer and online games spend an average of:

- 6.5 hours per week playing with others online
- 4.6 hours per week playing with others in-person

22. What benefits do gamers feel they gain with their gaming?

- 53% of the most frequent game players feel video games help them connect with friends and 42% feel video games help them spend time with family
- 75% of the most frequent gamers believe playing video games provides mental stimulation or education.



▲ FIGURE 5.1

Young person playing with a GameCube.

https://commons.wikimedia.org/wiki/Category:People_with_game_controllers#/media/File:Attention_span.jpg

23. What are the “top” video games?

A vast number of video games are on the market, and new ones are continuously launched, so it is difficult to come up with a definitive list of the top games. In fact, there are many ways to evaluate games. The most common method is by popularity based on number of sales.

Many organizations evaluate games by various criteria of quality. The top video games can also be categorized by type of platform. For the interested reader, the best way to obtain the latest information on top video games is to conduct a Google search using the search term “top video games.” In the top line of the search results, Google presents icons of the top video games of all time with links to more details about the games. The results pages provide links to organizations giving their lists of the top or best video games. Although these lists are often designed for sales of games, they can also provide the non-gamer with familiarity about the games.



For comprehensive lists of top video games ranked by journalists, critics, and publications visit:

https://en.wikipedia.org/wiki/List_of_video_games_considered_the_best

CASE STUDY

Scott J began as a casual gamer during his teenage years. At that time, he played single player games such as Nintendo. These games did not hook him. A more serious problem for Scott was alcohol addiction. He eventually found out that the signs of alcohol addiction parallel that of video game addiction, namely obsession, compulsion, growing over time, neglecting other things, hiding the activity, and especially denial. Scott had to realize that he had a problem before he could take steps to overcome the addiction.

It was many years before Scott returned to video gaming. At this time, video games had become more sophisticated involving multiple players. When he encountered emotional pain in his life, he played games for relief and diversions. However, he found out that gaming itself could cause emotional pain and distress, mainly as a result of sleep deprivation. Several years had passed before he accepted that he was addicted. There were stretches of time that he only went to single player games, but even these became addictive. He found that the social component is important in both alcoholism and video game addiction.

Scott found other gamers who had become addicted and they formed a community that was structured like Alcoholics Anonymous. Scott would go to meetings where the members could share their experiences. Scott would find out how others were able to overcome their addictions. The members discussed how their problems with addiction evolved over the years.

Scott is now 44 years old and has not been addicted to video games for five years. He is a computer programmer so is continuously exposed to the Internet. His interest in video games is still there, but he plays other types of games with his friends, such as board and card games.

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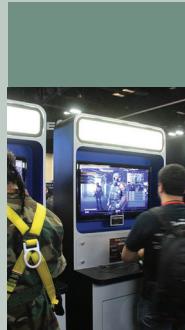
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VIDEO GAME ADDICTION

Part 2 delves directly into the question of video game addiction, including whether it can be considered a true addiction or more correctly a disorder. Comparisons are made with other types of addiction, both substance and psychological addictions. The factors that can make video games addictive are discussed in depth, as well as actions parents can take to reduce the possibility of addiction. Chapter 9 discusses the many benefits of playing video games when understood and applied.

PART TWO

CHAPTER 6

What is video game addiction?

CHAPTER 7

Why are video games addictive?

CHAPTER 8

How can you protect against video game addiction?



CHAPTER 9

What are the benefits of playing video games?



What is video game addiction?

24. What is the nature of addiction?

Addiction can be due to a substance problem (nicotine, alcohol, illegal drugs, or prescription drugs), or due to psychological disorders related to gambling, food, or sex. Substance addiction can also have a psychological component.

The physiological basis of addiction is related to the reward system in the brain. When people have good experiences, such as eating favorite foods, listening to music, or watching a good movie, the brain releases a neurochemical known as dopamine. A psychological addiction to video games rests on how much dopamine is released in those who are believed to be video game addicts, in comparison to the levels released during other positive lifestyle activities.

Addiction is a psychological disorder that affects the way the brain functions by impacting chemical processes related to motivation, decision making, learning, inhibitory control, and pleasure seeking. Behavioral addictions like gambling and sex are forms of psychological dependence; addictions to substances like drugs and alcohol are forms of both psychological and physical dependence.

Addiction is primarily considered to be a brain disorder involving the transmission of nerve impulses and interactions among neurons (nerve cells) within areas of the brain known as “reward structures.” An external stimulus leads to the release of the neurotransmitter dopamine from the reward structures. Dopamine release increases brain stimulation reward. As a result, healthy behaviors are replaced by addictive behaviors. The circuitry of brain neurons can change such that the memory of previous exposures to rewards (such as food, sex, alcohol, and other drugs) leads to a biological and behavioral response to external cues, in turn triggering craving and engagement in addictive behaviors.

Addiction is a primary, chronic disease of brain reward, motivation, memory, and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social,

and spiritual manifestations. This dysfunction is reflected in an individual pathologically pursuing reward and relief by substance use and other behaviors. A person with addiction exhibits problems in inhibiting impulsivity and in delaying gratification. These problems are associated with changes in the frontal cortex.

Addiction is characterized by an inability to consistently abstain from an activity, impairment in behavioral control, craving, diminished recognition of significant problems with one's behaviors and interpersonal relationships, and a dysfunctional emotional response.

The characteristics of an addictive person can include:

- Preoccupation with substance use
- Placing more value on the benefits associated with drugs or rewarding behaviors rather than their detrimental effects.
- The inaccurate belief that problems experienced in one's life are attributable to causes other than as a consequence of addiction
- Increased anxiety, dysphoria, and emotional pain
- Increased sensitivity to stressors associated with the recruitment of brain stress systems, such that "things seem more stressful" as a result
- Difficulty in identifying feelings, distinguishing between feelings and the bodily sensations of emotional arousal, and describing feelings to other people

25. Can playing video games lead to addiction?

Video game addiction is hypothesized to be an excessive or compulsive use of computer games or video games, which interferes with a person's everyday life. Video game addiction may present itself as compulsive gaming, social isolation, mood swings, diminished imagination, and hyper-focus on in-game achievements, to the exclusion of other events in life.

The American Psychiatric Association (APA) periodically revises its "Diagnostic and Statistical Manual of Mental Disorders" which is recognized as the standard for defining mental disorders. The manual is widely used by researchers, doctors, health insurance companies, pharmaceutical companies, and

policy makers. In its 2012 revision (DSM-5), the APA declined to include video game addiction as a mental disorder, stating that more research was necessary to study the condition. When the APA determines a mental disorder is an addiction, it can have important implications such as insurance claims. The APA instead introduced the category “Internet Gaming Disorder.”

Video gaming does not involve a chemical substance, a common feature of addiction. Research does show that those who excessively play video games report some addiction-like symptoms, including impairment in normal social and occupational or educational functioning, tolerance, withdrawal, relapse, and the like.

The APA has been discussing among their colleagues how much this disorder is caused by the gaming activity itself, or whether it is to some extent an effect of other disorders. Contradictions in research examining video game addictiveness may reflect more general inconsistencies in video game research. For example, while some research has linked violent video games with increased aggressive behavior, other research has failed to find evidence for such links.

According to the APA, Internet Gaming Disorder can include the following symptoms:

1. Pre-occupation. Do you spend a lot of time thinking about games even when you are not playing or planning when you can play next?
2. Withdrawal. Do you feel restless, irritable, moody, angry, anxious, or sad when attempting to cut down or stop gaming, or when you are unable to play?
3. Tolerance. Do you feel the need to play for increasing amounts of time, play more exciting games, or use more powerful equipment to get the same amount of excitement you used to get?
4. Reduce/stop. Do you feel that you should play less, but are unable to cut back on the amount of time you spend playing games?
5. Give up other activities. Do you lose interest in or reduce participation in other recreational activities (hobbies, meetings with friends) due to gaming?
6. Continue despite problems. Do you continue to play games even though you are aware of negative

consequences, such as not getting enough sleep, being late to school/work, spending too much money, having arguments with others, or neglecting important duties?

7. Deceive/cover-up. Do you lie to family, friends or others about how much you game, or try to keep your family or friends from knowing how much you game?
8. Escape adverse moods. Do you game to escape from or forget about personal problems, or to relieve uncomfortable feelings such as guilt, anxiety, helplessness or depression?
9. Risk/lose relationships/opportunities. Do you risk or lose significant relationships, or job, educational or career opportunities because of gaming?



Surveys conducted with communities of gamers found that gamers experienced an average of six out of the nine criteria for addiction established by the APA during the last twelve months.

In a study on pathological video games use, Dr. Douglas Gentile asked gamers the following eleven questions to assess if the gamers were addicted:

1. Have you been spending an increasing amount of time playing video games, learning about video game playing, or planning the next opportunity to play?
2. Do you need to spend more time and money on video games to feel the same amount of excitement as you do with other activities in your life?
3. Have you tried to play video games for shorter durations of time without success?
4. Do you become restless or irritable when you attempt to cut down or stop playing video games?
5. Have you played video games as a way to escape problems or negative feelings?
6. Have you lied to family or friends about how much you play video games?
7. Have you ever stolen a video game from a store or a friend, or stolen money to buy a video game?
8. Do you sometimes skip homework or work to play more video games?

9. Do you sometimes skip household chores to play more video games?
10. Have you ever done poorly on a school assignment, test, or work assignment because you have spent so much time playing video games?
11. Have you ever needed friends or family to give you extra money because you've spent too much of your own money on video games, software, or game Internet fees?

Does “Internet Gaming Disorder” have clinical relevance?

The APA considers Internet Gaming Disorder to be a “condition for further study.” As a follow-up, a study was conducted in 2016 to begin evaluating the clinical relevance of the condition. Survey participants were asked about problems related to Internet gaming based on the proposed list of symptoms in the DSM for Internet gaming disorder. The study compared Internet gaming to gambling, the only non-substance related addiction included in the DSM.

The results indicated that less than one out of three gamers experienced symptoms of the disorder, and that gaming was less addictive than gambling. The authors concluded that the evidence linking Internet gaming disorder to game engagement was strong, but that links to physical, social, and mental health outcomes were decidedly mixed.

Read more at: <https://ajp.psychiatryonline.org/doi/10.1176/appi.ajp.2016.16020224>

Why is the adoption of “Gaming Disorder” as a new diagnostic category by the World Health Organization controversial?

As of the publication of this book, the World Health Organization is considering the adoption of “Gaming Disorder” as a new diagnostic category in its ICD-11 (International Classification of Diseases, 11th revision).

This category parallels the category of “Internet Gaming Disorder” in DSM-5, and presents the same issues that the APA had

to deal with in its deliberations on the category. The DSM-5 category is a condition warranting more clinical research and experience before it might be considered for inclusion DSM-5 as a formal disorder. The WHO ICD-11 does not have a category for tentative disorders and would have to include gaming disorder as a definitive disorder with a fixed set of criteria. A group of scholars took issue with WHO's proposed action, stating that gaming disorder is not yet a condition ready for clinical use.

Dr. Van Den Brink responded to this debate by agreeing that there is not anything inherently wrong with gaming. He points out, however, that by identifying gaming disorder as a potential problem will not stigmatize gamers, and that many gamers with the problem can recover without professional help.

Read more at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5700715/pdf/jba-06-03-040.pdf>

26. What are some withdrawal symptoms of video game addiction?

The following withdrawal symptoms of video game addiction are provided on the *On-Line Gamers Anonymous* website and show similarities to other types of addiction. It should be noted that this is a compilation of symptoms and not all will be present in a given individual.

- A feeling of emptiness
- Depression
- A disruption in sleep pattern
- Excessive amounts of time spent sleeping
- “Brain fog:” Difficulty with focus, concentration, and completing complex tasks
- Fantasies and dreams about the game
- Restless, unfulfilling, taunting dreams
- The urge to go back to gaming and try to control the time played
- Thinking about the game for extended periods of time
- Irritability or restlessness
- Relief
- Uncontrollable feelings or rampant mood swings

- Anger and verbal abuse, sometimes extreme
- Excessive crying
- Anxiety
- Fear
- Sadness
- Loneliness
- Boredom/inability to find an activity of interest
- Lack of motivation/direction
- Difficulty facing obligations, procrastination
- Feeling as though a return to gaming will make you feel better
- Physical illness, i.e., colds, allergies
- Nausea

A paper titled “Diagnostic Criteria for Problematic Internet Use among U.S. University Students: A Mixed-Methods Evaluation” form the online journal, *PLOS One*, described the signs and symptoms of Internet gaming disorder experienced by university students:



Symptoms are subjective (what the patient experiences about a condition), while signs are objective (what can be seen and measured by a physician or nurse).

1. Use Longer than Intended

Taking a substance in larger amounts or over longer periods than was intended is a sign of substance use disorder. This sign is not assessed by DSM-5 criteria for gambling disorder and Internet gaming disorder. Focus group participants reported similar signs about their Internet use. Many group members had experienced being on the Internet longer than they had initially intended. Participants noted that they often lost track of time while on the Internet for recreational purposes, resulting in loss of sleep, less social interaction, and reduced academic work productivity. Young’s Diagnostic Questionnaire (YDQ) results showed that 96.3% of participants reported having stayed on the Internet longer than they intended. Similarly, 80.8% of participants reported that they often/very often continued to use the Internet despite their intention to stop.

2. Preoccupation

Preoccupation is characterized by individuals devoting a great deal of time to obtaining, using, and recovering from the effects of substances. This criterion is also used to assess gambling and Internet gaming disorder in DSM-5, and refers to persistent thoughts of previous gambling/gaming activity, anticipating, and planning the next gambling/gaming venture, and thinking of ways to get money for gambling. Preoccupation refers to when substance use, gambling, or Internet gaming has become the dominant activity in an individual's daily life. Focus group participants reported similar signs concerning their problematic Internet use. Participants noted spending substantial amounts of time thinking about activities on the Internet, not only while using the Internet but also when not using or anticipating the next session of use. YDQ results showed that 81.5% of participants felt preoccupied with the Internet. According to the Compulsive Internet Use Scale (CIUS), 29.6% of participants frequently thought of the Internet (even when not online), and 33.3% of participants often/very often reported looking forward to their next Internet session.

3. Withdrawal Signs/Symptoms

Withdrawal refers to a characteristic syndrome of signs and symptoms that follow abstinence from a substance in a person dependent on that substance. Withdrawal signs and symptoms assessed in the DSM-5 diagnostic criteria for gambling and Internet gaming disorder only include psychological dependence. Such psychological dependence is characterized by feeling restless, irritable, or sad when attempting to cut down or stop gambling or gaming, or when one cannot access games. Similarly, focus group participants reported experiencing psychological withdrawal symptoms when unable to use the Internet. Participants noted negative mood states such as "frustration," "irritation," and "anxiety" when they were unable to access the Internet or had attempted to reduce or stop their Internet use. YDQ indicated that 44.5% of participants had experienced feeling restless, moody, depressed, or irritable when attempting to cut down or stop their Internet use. CIUS results showed that 44.4% of participants frequently experienced feeling restless, frustrated, or irritated when they could not use the Internet.

4. Tolerance

Tolerance is characterized by individuals needing increasing amounts of a substance over time to achieve intoxication or desired effects. Tolerance is also a criterion included in the DSM-5 criteria for gambling and Internet gaming disorder. It parallels the criterion for substance use disorder and refers to needs to gamble with increasing amounts of money or to spend increasing amounts of time engaged in Internet gaming to achieve the desired excitement. Focus group participants reported using the Internet in greater amounts due to its accessibility. Some participants noted using the Internet for the entire time they are awake. Participants also indicated that they could use the Internet more when they have smartphones with unlimited data. YDQ results showed that 55.6% of participants reported feeling the need to use the Internet for increasing amounts of time to achieve satisfaction. Tolerance was not examined on the CIUS.

5. Unsuccessful Attempts to Stop or Reduce Internet Use

This sign is characterized by individuals having made unsuccessful efforts to stop or cut back on use of a substance. This criterion is also assessed in DSM-5 criteria for gambling and Internet gaming disorder. It refers to a desire to stop or cut back on pathological gambling or gaming behaviors but being unable to do it. Focus group participants reported similar signs about their Internet use. Participants noted a desire to reduce their Internet use, followed by unsuccessful attempts to stop or reduce their Internet use. YDQ results showed that the majority of participants had repeatedly made unsuccessful efforts to control, cut back, or stop Internet use (74.1%). CIUS results suggested that more than 80% of participants (84.6%) frequently found it difficult to stop using the Internet once they were online, and almost half of the participants (48.3%) reported they had frequently unsuccessfully tried to spend less time on the Internet.

6. Craving

Craving refers to strong desires or urges to use a substance. However, craving for gambling or playing Internet games is not assessed in DSM-5 criteria for gambling and Internet gaming disorder. Focus group participants reported craving regarding their Internet use. Participants noted urges or a strong desire to engage in activities on the Internet, specifically, when Internet

access is available to them. Neither the YDQ nor the CIUS included items related to craving.

7. Loss of Interest in Other Hobbies or Activities

A loss of interest in other hobbies or activities is a sign of substance use disorder and Internet gaming disorder. This criterion is not included in the DSM-5 criteria for gambling disorder. Participants noted having lost interest in (or having participated less often in) activities they had previously found enjoyable including “socializing with friends or family,” “going-out,” and “exercising” due to Internet use. CIUS responses indicated that 22.2% of participants often/very often preferred to use the Internet instead of spending time with others. The YDQ did not include questions regarding the loss of interest in other hobbies or activities.

8. Excessive Use Despite Problems

This sign is characterized by continued use of a substance despite a persistent physical or psychological problem associated with substance use, or playing video games on the Internet. This criterion is not included in the DSM-5 criteria for gambling disorder. Focus group participants reported similar behavior vis-a-vis their problem Internet use. Participants noted continued excessive Internet use despite problems such as academic under-achievement, conflict with others about Internet overuse, negative physical outcomes (e.g., inadequate amount of sleep), and Internet use while driving. Another related criterion in the DSM-5 criteria for substance use, gambling and Internet gaming disorder assesses the actual negative consequences (e.g., jeopardizing or losing important relationships or work/educational opportunities) of substance use, pathological gambling or Internet gaming. Focus group participants reported adverse health and psychosocial consequences due to their problematic Internet use behaviors. The negative consequences related to problematic Internet use have been reported in the previous study by the authors. YDQ results showed that 33.3% of participants had jeopardized or risked the loss of a significant relationship, job, educational, or career opportunity because of their Internet use. CIUS responses indicated that 62.9% of participants frequently experienced being short of sleep because of their excessive Internet

use, 38.5% frequently rushed through their homework to get on the Internet, and 44.4% frequently neglected their daily obligations because they preferred to access the Internet.

9. Use of the Internet to Escape or Relieve a Negative Mood

This sign is characterized by individuals using a substance to cope with negative moods such as depression, guilt, or anxiety; or gambling or playing Internet games when feeling distressed (e.g., helpless, guilty, anxious, or depressed). However, this criterion is not included in the DSM-5 criteria for substance use disorder. Focus group participants noted engaging in excessive Internet use to escape from, or cope with, negative moods or feelings such as “sadness,” “annoyance,” or “boredom.” YDQ results showed that 63.0% of participants had used the Internet as a way to escape from problems or relieve a dysphoric mood. CIUS findings indicated that half (50.0%) of participants often/very often used the Internet when they were feeling “down” and almost half (42.3%) frequently used the Internet to escape from their sorrows or get relief from negative feelings.

10. Lying about Use

Individuals having lied to family members, a therapist, or others to conceal the extent of their involvement with gambling or gaming on the Internet characterize this theme. However, this criterion is not included in the DSM-5 criteria for substance use disorder. Focus group participants also reported deceit in association with their Internet use. Some participants noted having lied to cover up the extent of their Internet use, such as the amount of time spent on the Internet or the specific activities performed online. YDQ results showed that 25.9% of participants had lied to family members, a therapist, or others to conceal the extent of their involvement with the Internet. The CIUS did not ask questions regarding this theme.

27. Do playing violent video games result in violence in real life?

It seems logical that when players become totally engaged in violent video games that they can mix up gaming with reality and begin to feel violence is all right in real life. However, many exhaustive studies have failed to find such a connection.

- U.S. Supreme Court case “Brown Versus Entertainment Merchants Association.”
- Australian Government-2010.
- Meta-analysis of studies by social scientists

In the following article, “The contested field of violent video games: Research roundup,” (Weigel 2015) Margaret Weigel summarizes research on the issue:

A range of legal, policy, and moral issues relating to video games and their possible connection with real-world violence continue to be debated. Few questions in social science are ever definitively “settled,” but the cumulative evidence found in academic studies can make one side of the argument significantly more persuasive. Much can depend on the design of experiments and the precise framing of research questions, however. A prominent example of contested academic terrain is the field of violent video game research, which journalists sometimes find themselves examining and grappling with when reporting on the roots of violent acts and behaviors.

The connection with real-world violence may seem obvious and, at the anecdotal level, the news periodically seems to furnish fresh evidence. For example, the man who killed 77 people in Norway in 2011 testified that he prepared for the assault by playing the first-person shooter video game *Call of Duty: Modern Warfare 2*. Extensive research has linked violent video games and aggressive behavior, with outcomes only moderated slightly when cultural biases and gender are taken into consideration. At the same time, numerous well-designed studies have found no effect or even a decrease in violent crime in response to violent video games.

Research on how scientific knowledge has been reflected in the media suggests that there have been patterns at work in the press over the past 30 years. A 2013 study in the Journal of Communication suggests that, in the past, media consistently connected real-world violence to violent entertainment and media, but beginning in 2000 the stance became more neutral in tone:

Rather than sensationalizing a moral panic about media violence, the news media are suggesting significant ambiguity exists within the research. The overall trend in article tone appears to

be toward even less conclusiveness, with articles from the last five years presenting a less convincing stance than any five-year period since the early 1980s. We argue that a possible explanation for the shift in tone is the coverage of video games. We found fewer stories about video games that suggest a link exists and more stories that take a neutral tone relative to stories about television.

The authors of that study, from Indiana University and the University of Utah, state that this is not necessarily an accurate reflection of trends in research studies. “Collectively, this body of work shows a consistent pattern: Exposure to media violence increases the risk of subsequent aggression,” they write. “Meta-analyses (a compilation of research papers) of the research generally have supported this conclusion.” Also worth noting is that, in general, female reporters are more likely to highlight a strong connection between media and real-world violence than their male counterparts, the researchers find.

Examples of recent studies that support this connection to violence — the prevailing theory and the one most cited in public discourse — are detailed in Reference 15, Ch. 6, along with a wide variety of counterexamples. Journalists would be well-served to pay attention to the nuances of the arguments and the framing of the research questions. Studies on both “sides” often look at slightly different aspects of the overall question.

Adam Thierer of the Cato Institute entered the controversy with an article entitled “Regulating Video Games: Must Government Mind Our Children?” He made a strong appeal that video gaming should not be regulated by the government. He instead proposes that industry self-regulation and parental supervision provide the best solution to the problem.

SOURCE: <https://www.cato.org/publications/techknowledge/regulating-video-games-must-government-mind-our-children>

28. What is the best way to study video game addiction?

Similar to other medical studies, the best way to study video game addiction is through randomized, controlled studies.

This book presents an abundance of case studies on video game addiction to dramatize the situation and to provide stories that the reader can relate to. However, you should realize that true addiction occurs in a small portion of gamers.

CAM'S STORY

“I dropped out of high school, twice.”

My name is Cam and by the age of 21 I had been addicted to playing video games for over ten years.

This addiction affected many areas of my life, including being a major influence in my decision to drop out of high school not once, but twice. I never graduated, never went to college, and struggled with depression for many years.



Credit for photograph:
Derek Heisler
www.derekheisler.com

I want to be very clear, I don't blame video games for why this happened, nor do I think video games were the problem.

I'm not here to vilify gaming, tell you that it's bad or debate with you about whether you or not you should play; because I don't believe gaming is bad and if someone wants to play then I would encourage them to go ahead and play.

What I do want to share with you is about my experience playing video games and how the decision to move on from them has taught me more about living a meaningful life than anything I've done before, and how over the last five years my journey has led me to founding Game Quitters, the largest support community for people who struggle to overcome a video game addiction. Today Game Quitters has members in over 60 countries around the world.

Growing up

I was a fairly normal Canadian kid. I went to school, I played hockey and then I would go home and play video games. I was happy, I felt smart, and I had friends.

My nickname was even “Smiley.”

That all changed in the 8th grade when I began to experience intense bullying. For example, the fun game to play for kids in the 9th grade was “Can we put Cam in a garbage can?”

Every day during lunch hour kids would chase me around the school, trying to put me in a garbage can. I would kick and scream and squirm and do everything in my power to avoid this happening, because otherwise I would be humiliated.

Life on my hockey teams wasn't much better, and after a game in Red Deer, Alberta we all got on the team bus to head back home, and for an entire hour I laid at the back of the team bus in fetal position being spit on.



To be honest, sharing about these situations now feels very odd and bizarre to me. They seem like a different life. But they are true and they are experiences I went through, amongst many others.

What these experiences did was cause me to isolate myself away. I didn't really enjoy going to school much anymore and hockey wasn't any better. **The less I went to school and the less I went to hockey, the more I played video games.** They were a place for me to escape to, a place I had more control over my experience.

I didn't have to worry about kids bullying me online because if they did I could just block them, move to a different server or play a different game. Eventually I dropped out of high school, and retired from hockey, the game I loved more than anything else.

For the next year and a half I was depressed, living in my parents basement, playing video games up to 16 hours a day. My parents would get on my case that if I wasn't going to school then I had to get a job, so I worked the odd job here and there, but I would rarely last over a month before I quit.

I Pretended to Have Jobs

Every morning my dad would drop me off at a restaurant where I was a prep cook. As soon as he drove off I would

walk across the street, and catch the bus back home. I would sneak in through my window and go to sleep — I had been up all night playing video games.

A few weeks later my parents would wonder where my paycheck was, so I would make up an excuse that I quit, or I got fired, or whatever else I could confuse them with. Then I would “get” “another” “job,” rinse and repeat. After doing this a few times my parents just gave up and left me to figure things out.

Looking back I’m embarrassed by this behavior, but I was doing anything I could to play video games. They were a way for me to check out and escape from my situation.

When I was gaming I didn’t have to think about how bad my life had gotten, and how depressed I was.

Unfortunately, although I could escape from dealing with it, games didn’t fix the problem, and things only continued to get worse, **until one night when I wrote a suicide note**. Thankfully I didn’t go through with it because I’m writing this to you right now, but what that night did make me realize was that I needed to get professional support. I no longer felt safe with myself. So I asked my dad if he could help me and I started to see a counselor.

My Counsellor Made Me a Deal

He said I either had to get (and keep) a job, or I had to go on anti-depressants. I’m not sure why, but if there was anything I was certain of at that time in my life, it was that I did not want to go on anti-depressants.

I’m not specifically against them or anything, but I just knew they were not something I wanted for myself. So I got a job.

What the job gave me was stability and with stability I felt inspired that I had a second chance. My life had gotten completely out of control, but this was an opportunity for a fresh start. And I could make this new life anything I wanted it to be. I wanted to see what I could do with it.

I didn't have very many goals at the time, but one of the goals I did have was to learn more about social skills and how to make friends.

With all the bullying I went through growing up I never really understood why it seemed like 50% of people liked me, and 50% didn't. As I've gotten older I've realized that's just something called life, but at the time I wanted to feel more in control of my social experience.

So I figured if I was going to improve my social skills, I had to start going out to meet people. I didn't really know anything else I could do, so I committed to going out every single night to nightclubs. I would be there to learn so I wouldn't drink alcohol, and I would carry a journal to write down the lessons I was learning. Eventually I started to post these lessons on a blog.

But I knew if I was really going to do this, then I couldn't play video games, because I would avoid going out, and just stay in to game.

So I quit cold turkey and for two years I didn't touch a game. To succeed, I was just never home. I would work from 7am to 4pm, come home, nap, shower, get dressed, eat and go out.

But Then I Relapsed

I had just moved to Victoria, B.C. because I was feeling depressed again, and felt like I needed a change of scenery. Looking back I was just running away from my problems, and instead of using video games to escape I moved to a new city.

I had just moved in with new roommates, and one of them was a professional poker player named Ben. My first night at the house Ben and I started talking about our past gaming histories, and we realized we used to play the same game — Starcraft. Ben said he was going to go to the store and buy it for us to play.

I told him I had quit, and really didn't want to play video games anymore. He just laughed it off. Later that night I was

sitting at my desk working on my blog when he came home with a big grin on his face and put the game in front of me.

“Just one game,” he said.

I sighed, and agreed to play. Over the next 30 minutes he absolutely destroyed me.

Humiliated in defeat, I committed to doing everything possible to improve so he could never beat me like that again, and for the next 5 months I played 16 hours a day, and did nothing else but game.

I stopped working, never went out to meet new people, and barely even left the house. **I would eat, sleep and game.** Every single day.

About one month later my two roommates left on a three week trip. I remember being so excited to have the house to myself, where I could just game all day without anybody knowing, or having to feel a single ounce of guilt anytime my roommate, James, would invite me to go on adventures.

Around this time I realized my gaming was out of control, and I needed to quit again, but I decided to do it at the end of my 5 month stay in Victoria to give myself the closure I was looking for. This isn't something I recommend to others because it's a slippery slope, but I do recognize that for me, this helped.

I Quit Once Again

I took time to reflect on why I was so drawn back to games, even after I had quit successfully for two years. How did I go from not gaming for two years to playing 16 hours a day, again, overnight?

What I discovered was that there were four main reasons why I played. It wasn't just because games were fun, but because of these specific reasons:

1. Temporary Escape

With games I could escape. When I was feeling stressed out or needed a break from the day, I could just game and forget

about the situation. And I certainly didn't have to deal with my depression or anxiety.

2. Social Connection

Gaming is a community, and it's how you interact with a lot, if not all, of your friends. It's where you feel welcome and safe. It's where you feel accepted.

In our society we stigmatize gamers as being nerds, loners and losers. We say they are lazy and they are wasting their potential, so they don't feel accepted outside of games, and because they feel this way, their online gaming communities are a place where they all have a special bond. It's them against the world.

Also because I was playing with friends, I didn't feel like I missed out on being social by staying in on a Friday night, because I was being social — I was gaming with my friends.

A lot of parents believe the relationships you have with your gamer friends are not real relationships — and this couldn't be further from the truth.

Last year I traveled to Singapore and for the past seven years I've been interacting with a fellow blogger online named Alden Tan. We spent the week together hanging out and having a great time. We still stay in-touch today. The relationships gamers have online are real and meaningful relationships.

3. Constant Measurable Growth

Games give you a feedback loop. You get to see growth and progress, and it happens immediately through instant gratification.

Today I DJ, and I surf, and both of these fulfill the same need for constant measurable growth, but it's much harder to see my progress. I don't have a scoreboard, a badge or a new level to achieve; I just fall on my face less.

4. Challenge (Sense of Purpose)

Games give you a sense of purpose, a mission and a goal to work towards. And they are specifically designed this way. It's part of the invisible game design. You always know what the next thing is that you need to do. You have to beat this boss, get this weapon, achieve this level. If you don't have a sense of purpose outside of games, they will provide it for you.

These four needs are all human needs we have and there's nothing wrong with them.

We all need a break from stress. We all need to feel social connection. We all want to grow, to be challenged and to have a sense of purpose. The power comes in understanding what these needs are, and then being intentional to choose how we fulfill them.

For example, if you were going to stop playing video games, you would need to fulfill these needs in **alternative activities** — otherwise you will continue to be drawn back to games, just like I was.

Gaming is just an activity. You don't game just because you "love video games," or because games are fun; your drive to game comes from your desire to fulfill these needs.

After I learned these reasons I figured if I struggled to quit playing video games than surely there were many others out there in the world who struggled as well, so I looked online to see what the current advice was about how to quit playing video games, and let's just say I became pissed off.

Imagine identifying that you have a problem, a real problem, and you feel inspired enough to search for an answer.

You don't really know where to turn. You know your family won't empathize, and will instead take the opportunity to shame you for playing in the first place: "told you so!" and you certainly can't bring it up with your friends, they all play and will wonder why you're making such a big deal about it.

You Don't Have Anybody Else.

So you go where you know you can find an answer: Google, and with a subtle rush of hope you type “How to quit playing video games” and hit enter. If anybody knows how to quit, your friend Google will!

Instead of getting practical advice that can help, you get advice like, to study more — when the whole reason you’re playing video games is to avoid studying — or, to hang out with your friends — when all of your friends play.

Is there anything more frustrating than being courageous enough to admit you have a problem (and need help), and then assertive enough to actually search for an answer... only to get one you know is shit?

What I do know is that this process is discouraging, and the consequence of it is that people who were originally open to seeking help are now just like “fuck it, I’ll just continue to play video games.”

These gamers didn’t need a “typical adult” to pretend to have the advice they were looking for, they needed a fellow gamer who had been through the same experience, who understood it and could speak their language.

So I felt called to share what I had learned through my journey as a hardcore gamer who struggled with the same question, and what helped me recover from my addiction, and into a new chapter in my life.

In May of 2011, I published my story and what I had learned in a blog post online titled *How to Quit Playing Video Games FOREVER* and the article (more of a rant) went viral and instantly became the go-to resource online for those in the gaming community looking to quit.

Every day I woke up to new comments.

And these weren’t comments just saying “thank you”, they were thousand word essays of fellow gamers sharing their life story. It was an outlet for them to finally speak up about their experience, and today there are almost 1,600 of them.

And they were young. I received comments from gamers as young as 10, 11, 12 years old, young teenagers opening up and being vulnerable. I also got comments from other demographics as well, including wives of husbands who were neglecting their families for these games, concerned parents, and everything in between; but it was this group of young teenagers that really stood out to me.

Imagine being 12 years old and you're self-aware enough to recognize that you might have a problem.

So you search for the answer in Google, and read an article that is six pages long. Then you go through the comments — many of which are over 1,000 words — and you're courageous enough to leave your own.

At school your teacher struggles to get you to write three paragraphs for an essay about something you don't care about, but here you are writing multiple pages about how you struggle to quit playing video games.

And then you're assertive enough to click "Contact" in the menu bar, and email the author to ask for additional help. And you're 12 years old.

So between the quantity of comments, the quality of them and the ages, I knew there was a real problem here, and it wasn't a problem only I dealt with.

Two years later, in September 2013, the article turned into a TEDx talk, which today has over 125,000 views, and over 1,000 comments.

With an incredible response to the TEDx talk I realized I needed to do more. Sure, I could answer all the comments and emails I received on a daily basis, which I did, but in almost 3+ years since my article came out there were still very few resources outside of mine available.

You Deserved Better

You deserved the best tools and resources to support you to overcome this problem, and instead of waiting for someone else to solve it I would take matters into my own hands.

In January of 2015, I launched Game Quitters and it's been an incredible ride ever since.

Today we have members in over 60 countries, including the U.S., Canada, Singapore, South Africa, Russia, China, Japan, India, Morocco, Poland, Indonesia, Finland, Germany, the U.K., New Zealand, Mexico, Brazil, Turkey, Tunisia, South Korea, Israel, and the Netherlands, amongst others. Our members represent all six habitable continents.

We have a **YouTube channel** with over 90 videos and over 150,000 views. We have over 5,000 members, a community forum with over 14,000 journal entries in the past year alone — where members share their journey and interact with others — and over 80 new posts on average each day.

We have an **online program** to help you quit playing video games called **Respawn**.

We have 20,000+ unique visitors to the **StopGaming community** on reddit every month — with growth doubling over the last six months. Our community is growing rapidly, but...

We're Only Scratching the Surface

Research from 2009 suggests that in the U.S. alone, 8.5% of youth show diagnosable signs of pathological gaming¹. That can be as many as a few million youth.

If you add in countries like China, Japan, South Korea, Canada, Australia, and European countries such as Finland, France, Germany², and Poland, I estimate there are at least between 10 and 50 million video game addicts in the world right now, many of whom struggle in silence.

This issue is much bigger than me and I'm only one of millions who struggle with compulsive gaming or video game addiction. You can read the stories of others in our **Case Studies** section. There is also a need for research and that is why we have partnered with Dr. Daniel King from the University of Adelaide in Australia to run a scientific study on our 90 day abstinence protocol – the “90 Day Detox” – a first of its kind in the academic literature.

Imagine a world where if you're a gamer who struggles with a video game addiction, you are able to find a support

community who you resonate with, where you feel welcome and safe, where you feel understood.

Where you get to learn and be educated on why the problem happens, and exactly how to recover from it. And for this recovery to not just be about surviving without games, but thriving and living a meaningful life.

That's the world I imagine; that is my dream, and our mission is to positively impact at least 10 million video game addicts in the next three years.

Today I am not only a recovering video game addict, but the leading expert and pioneer of the video game addiction field.

I speak regularly at international addiction conferences, and on college campuses. Recently I have been signed by CAM-PUSPEAK, a higher education speaking agency.

My work has been featured in two TEDx talks, and in major media outlets such as VICE, FOX, CW, The Huffington Post, TV Asia, and the Gavin McInnes Show.

In my spare time I enjoy traveling (22 countries to date), DJing, and surfing. I currently live in beautiful San Diego, California.

Reproduced with permission from Cam Adair, founder and owner of:

www.gamequitters.com

29. Is video game addiction similar to gambling addiction?

Some people have considered that video game addiction is similar to gambling addiction since neither involves chemical substances. However, the two types of addiction are different.

Gaming is principally defined by its interactivity, skill-based play, and the means by which the gamer progresses and succeeds in the game. In contrast, gambling is defined by the methods of betting and wagering, outcomes that are predominantly chance-determined, and features that involve risk and payout of money to the player.

Most gambling games, especially the ones that people become addicted to, are games of chance. They are designed in such a way to allow you to win a few times to keep you gambling, but you will always lose in the long term. Gambling games work on the psychology of the person so that he or she feels that winning will undoubtedly take place after the next game. The gambling industry has been promoting some electronic gambling activities as “gaming,” emphasizing the “entertainment” component of gambling.

Video games, in contrast, are games of skill. Success depends on perseverance, intelligence, practice, and learning, not chance. The rewards are not random, they are earned.

CASE STUDY

Lucas is a 20-year-old college student. He was 14 when he started playing a fantasy MMORPG (massively multiplayer online role-playing game). He had always enjoyed playing video games on consoles and hand-held systems. Around school, he had the reputation of being an excellent gamer and his circle of friends enjoyed the same interests. He was a smart kid with average grades, played some sports in community leagues, loved movies, science fiction, and was part of a happy family.

As he steadily increased his prowess at the questing in the online game, his friends were not keeping pace with his skills. Their parents either didn't want to pay the online subscription price or restricted their time online and some of them had other interests that kept them away from the computer screen.

He sought out new friends online and joined a guild (a team). These new friends appreciated his humor and his approach to playing the game. He enjoyed that this guild had adults and teens as members as well as players from around the world. Game play became more challenging than before and his skills increased from his previous abilities.

His schoolwork was often a struggle. Learning the concepts came easy to him, but he needed to be organized and complete work after school. His diagnosed ADHD was poorly

controlled, and he just wasn't willing to put in the work after school when he would rather be online gaming.

His efforts in the online gaming world brought digital achievements that he could display among fellow gamers. To excel he needed to put in a great effort and lots of time, and his game statistics showed that he was making progress towards mastery. Unfortunately, his grades showed the results of lack of effort and time given.

Lucas's parents knew he was developing a problem. They restricted his access to the account to just the period right after school and sometime in the evening if he completed homework and chores. Poor grades resulted in denial of access to his computer. Over the years there were many attempts to balance his gaming time with school and family activities.

There seemed to be positives to his gaming. He was learning to be a leader, part of a team, making friendships with those with different backgrounds. He used strategy, cunning, and was able to weigh multiple variables to achieve success in the game. The achievements he had in the game gave him social status among his circle of friends. He made friends online as well and shared his interests in matters other than gaming with this online circle.

He decorated his room with images from the game and wore clothing that identified his allegiance to the game. He read novelizations of the game that provided background stories to the online characters. Any money he earned doing chores was spent on buying more game time or other products affiliated with the game.

School struggles became more severe as he approached the end of high school. Over and over again, he was punished for falling asleep in class and not being engaged with the lessons. As far as his parents knew he was getting a full night of sleep. He denied that he was depressed and insisted that he wasn't sleeping, just incredibly bored.

What his parents didn't realize was that Lucas was going online at night and "raiding" with his guild members. He

would wait until the family was asleep and sneak downstairs and go on all night sessions. Some nights he got less than an hour's sleep, then went to school, napped for a few hours, and then appeared at dinnertime. He grew cranky and had a short temper. Other days he would be dropped off at school and then leave for home missing school entirely.

Discussions of his temper, behavior, and failing grades often ended in frustration for Lucas and his parents. Eventually, a counselor suggested an alternative path — a GED program designed for older high schoolers. He participated, succeeded, and realized that this was a turning point.

Lucas went cold-turkey. He realized that he needed to stop playing the game that had taken over his life. After cutting off his access to the game, he confessed to his parents the extent of his compulsion to play the game.

He still plays games, including online strategy games. He still self-identifies as a gamer and spends hours each day online. He balances it, however, with schoolwork at a local college, a part-time job, and time with his family. He knows that his addiction to the MMORPG cost him the ability to start his college career at a four-year school and caused many years of frustration and friction with his family and teachers.

He has told his friends and family about the problem he developed with gaming and asked them to support his decision to give up the game that caused him so many problems.

CHAPTER

7

Why are video games addictive?



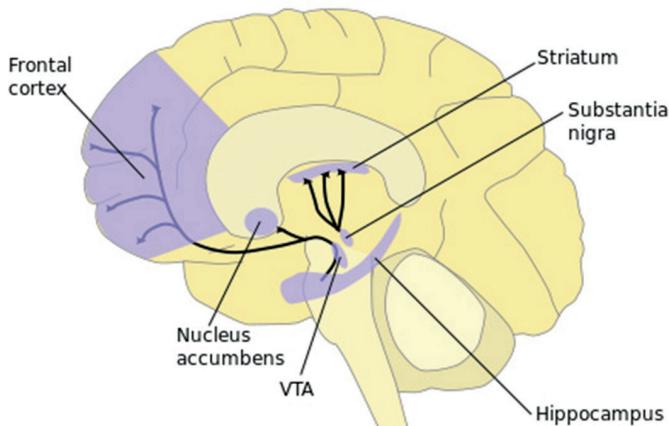
30. What is the physiological basis of video game addiction?

As briefly mentioned in Question 31, addiction is primarily considered to be a brain disorder involving the transmission of nerve impulses and interactions among neurons. Dopaminergic

pathways are sets of neurons in the brain that synthesize and release the neurotransmitter dopamine. In the brain, dopamine functions as a neurotransmitter -a chemical released by neurons (nerve cells) to send signals to other nerve cells. The brain includes several distinct dopamine pathways, one of which plays a prominent role in reward-motivated behavior. Most types of rewards increase the level of dopamine in the brain and many addictive drugs increase nerve activity due to dopamine.

Dopamine contributes to the action selection process in at least two notable ways. It sets the “threshold” for initiating actions. The higher the level of dopamine activity, the lower the stimulus required to evoke a given behavior. As a consequence, high levels of dopamine lead to high levels of motor activity and impulsive behavior.

Many structures in the brain serve as the “reward pathway.” The striatum is part of this pathway and is involved in the release of dopamine. The striatum is involved in nerve cell (neuron) activity related to movements and rewards. The activities of the striatum are determined by its connections to other structures. Striatal neurons show activity related to the preparation, initiation, and execution of movements. Nerve activity in the striatum is regulated

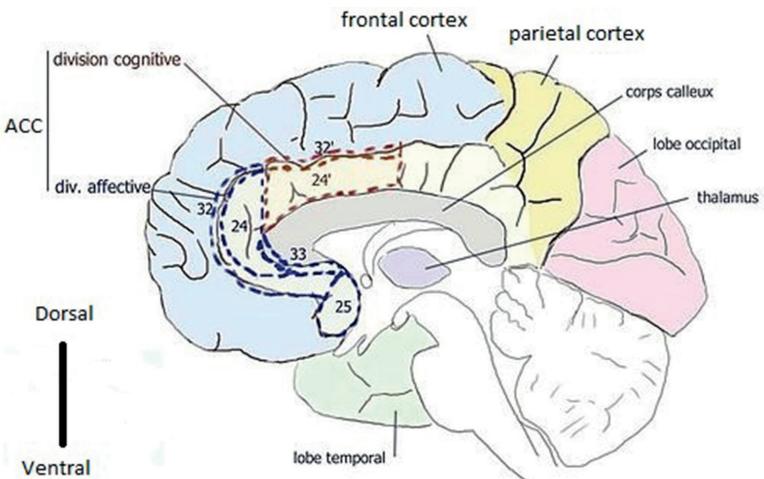


▲ FIGURE 7.1

Dopamine Pathways. In the brain, dopamine plays an essential role in the regulation of reward and movement. As part of the reward pathway, dopamine is manufactured in nerve cell bodies located within the ventral tegmental area (VTA) and is released in the nucleus accumbens and the prefrontal cortex. Its motor functions are linked to a separate pathway, with cell bodies in the substantia nigra that manufacture and release dopamine into the striatum.

Author: Quasihuman, May 2,2013

<https://www.oist.jp/news-center/photos/dopamine-pathways>



▲ FIGURE 7.2

Location of the anterior cingulate cortex (ACC) in the brain. The cognitive division is outlined in red dashes, while the affective (emotional) division is outlined in blue dashes.

Author: Pancrat

https://fr.wikipedia.org/wiki/Cortex_cingulaire_ant%C3%A9rieur#/media/File:Cortex_cingulaire_anterieur.jpg

by reward expectation independent of the movement necessary to obtain it. Rewards are events or objects that promote learning, affect a person's behavior, and produce positive emotions.

The cingulate cortex is a part of the brain involved with emotion formation and processing, learning, and memory. The combination of these three functions makes the cingulate cortex highly influential in linking behavioral outcomes to motivation.

The anterior cingulate cortex (ACC) has been the focus of attention in studying addiction. The ACC can be divided anatomically based on cognitive (dorsal), and emotional (ventral) components. The dorsal part of the ACC is connected with the prefrontal cortex and parietal cortex. It lies in a unique position in the brain, with connections to both the "emotional" limbic system and the "cognitive" prefrontal cortex.

The limbic system is a set of brain structures located on both sides of the thalamus, immediately beneath the cerebrum. The limbic system supports a variety of functions including emotion, behavior, motivation, long-term memory, and olfaction. Emotional life is mainly housed in the limbic system and it has a great deal to do with the formation of memories.

The anterior cingulate cortex (ACC) is a part of the brain that is involved with emotion formation and processing, learning, and memory. The combination of these functions makes the ACC highly effective in producing a positive emotional response as a result of a particular action.

The unique functions of the ACC are due to its connections to two sets of brain structures. The “limbic” system supports a variety of functions including emotion, behavior, motivation, long-term memory, and olfaction. The “cognitive” system resides in the cerebral cortex and is involved in thinking, understanding, learning, and remembering.

31. Why are video games addictive?

Some theorists focus on presumed built-in reward systems of the games to explain their potentially addictive nature. Many video games, especially massively multiplayer online role-playing games, social network, and mobile games, rely on a “compulsion loop” or “core loop,” a cycle of activities that involve rewarding the player and driving them to continue through another cycle, retaining them in the game. The anticipation of such rewards can create a neurological reaction that releases dopamine into the body so that once the reward is obtained, the person will remember it as a pleasurable feeling. This feeling has been found similar to the same neurological reaction believed to be associated with gambling addiction. Griffiths has also proposed that another reason why online video games are potentially addictive is that they “can be played all day every day.” The fact that there is no end to the game can feel rewarding for some thereby further engaging players in the game.

According to a motivational psychologist, many video games satisfy basic psychological needs. Players often continue to play because of rewards, freedom, and a connection to other players.

- Gaming triggers the brain’s reward system. Video game manufacturers exploit this system by providing satisfaction by earning points, completing levels, and winning games.



In psychology, “flow,” also known as the zone, is the mental state of operation in which a person performing an activity is fully immersed in a feeling of energized focus, full involvement, and enjoyment in the process of the activity. In essence, flow is characterized by complete absorption in what one does, losing a sense of space and time. Video game players are often described as being “in the flow.”

- Games never end, people are counting on you. You are part of a group.
- Social obligation-guilt about leaving.
- Escapism-gaming may empower people who live humdrum lives, may be unpopular, or depressed.

CASE STUDY — THE PULL OF *CALL OF DUTY*

Steve was an accomplished *Call of Duty* soldier. After he logged into the PlayStation Network, he was determined and focused on winning. He quickly checked for his friends. He even spent \$50 of his own hard-earned money mowing lawns at \$10 per yard to purchase a Bluetooth headset, allowing him to chat online and talk smack with other players. He carefully picked out his gear, examined his weaponry, determined the grenades he needed, and planned out his strategy during the week.

His parents limited his access to the game, only allowing him to play on the weekends for a few hours, but he spent many hours during the week focusing on his weekend battles. He watched YouTube videos on the latest strategies, read up on new ways to conquer the game, and, every day, all day long, he plotted what he was going to do on Friday evening when he would be allowed to play. At school, between classes and during lunch, he talked to other kids about the game. Steve found a way to feed his obsession with *Call of Duty*, even with limitations on playing time.

When Steve logged onto his PlayStation Network, he found hundreds of thousands of other players ready for death matches. The game paired them up in groups, and they prepared to go into battle -good against evil, squad against squad, nation against nation. Eyes fixated on the screen, Steve ran into the battlefield. He shook his handheld knife; he crawled on the ground finding sniper positions. He fired his weapon through the glass, aiming to kill the enemy. He was concentrating on achieving kill streaks, allowing him the ability to launch special weapons. The adrenaline and endorphins surging through his body were potent. He wiped his sweaty hands on the side of his pants and continued to

play with a sense of concentration that was rarely exhibited in his day-to-day activities of school and competitive soccer. If left alone, Steve would play all day and late into the evening.

Before becoming obsessed with *Call of Duty*, Steve was bright and athletic. He maintained a solid 3.5-grade point average. As Steve became more obsessed with *Call of Duty*, however, his school performance dropped. He also underperformed on the soccer field. At the height of his game playing, Steve was barely making a 3.0-grade point average and was not maintaining his physical fitness. Running and working out was stressful and tiring. School was boring, unlike the video game, which gave him a thrill of excitement that he could indulge on a regular basis. The digital accolades and pixelated medals he received as a five-star general in the game superseded any real-life awards or recognition.

32. What basic human needs motivate people to seek satisfaction through video games?

Dr. Andrew Doan describes nine ways in which playing video games satisfy basic human needs in his book on “Hooked on Games”:

1. Satisfies curiosity: A video game is a new universe to travel, a new puzzle to solve, a new task to achieve. As the player achieves new levels, the undertaking becomes more difficult.
2. Provides a sense of purpose in life: When people lack a purpose in life, the game provides this purpose in a digital world. The goal may be a quest to find a magical item, seeking and destroying criminals, living with an ideal partner, pursuing a dream career, or receiving a reward after a successful quest. The gamers feel like they are accomplishing something.
3. Instills a sense of invincibility: Gamers develop the power to overpower and kill their opponents. If the gamer dies, it is not permanent; they can resurrect by just pressing the reset button.

4. Feeding the ego: Video gamers can be generals, kings, and practically gods. Gamers are made to feel like they are the ideal avatar they created. If a gamer becomes lost, forlorn, depressed, and overwhelmed from issues in real life, he or she can find escape by returning to the game.
5. Overcomes isolation in real life by offering companionship: Gamers waste time on digital relationships instead of investing time in real-world relationships. Digital world companionship is very common and easy to foster.
6. Satisfying the need for challenges: The new games allow one human mind to compete with another. Games offer unlimited challenges.
7. Gratifying the need to be a leader: Video gaming provides an outlet for natural leaders who otherwise would not have an outlet. Other gamers may not have the skills to become successful leaders in real life, but are given opportunities to succeed in gaming.
8. Fulfilling sexual fantasies: The avatars invented online are idealized characters in physical characteristics that do not age. The gamer thereby has the confidence to enter into a relationship with another idealized avatar. A digital partner may always be ready, willing, and able to have virtual sex.
9. Meeting the need for love and acceptance: When people have problems with their real marriage, gaming provides an idealized alternative.

CASE STUDY — CHALLENGES FACED IN *WARCRAFT III: REIGN OF CHAOS*

Andrew logged onto Battle.net, Blizzard's online gaming network. He felt the adrenaline rushing through his body. His heart raced and he was eager to play a *Warcraft III: Reign of Chaos* ladder match. Andrew was within reach of advancing within the top 100 players on Battle.net. The game matched him with another player and they were transported to a

random map where the one-on-one battle would take place. The winner would advance up the ladder ranking and the loser would drop in ranking.

Andrew quickly examined the map and assessed the possible starting locations for the other player. He studied his location and prepared the battle plan. While planning his attack strategy, Andrew directed his online workers to collect gold and lumber resources required to build buildings and assemble troops. The faster the workers collected resources, the quicker he could build an army to defeat my opponent.

After wiping his sweaty palms on the side of his pajama bottoms, Andrew clicked on the peasant who was chopping wood, and he said, “Yes, me lord?” Amused by the audio response of his peasant worker, Andrew felt powerful and in command. Andrew was the army commander for the Human Alliance. After thousands of hours devoted to the game, he felt some emotional attachment to the digital characters he controlled. Andrew was delighted by their animations and audio responses. He was directing and micromanaging his workers and growing army. Andrew had a good start and felt confident that victory favored him in this game.

As Andrew was commanding his workers to gather resources to build farms and barracks for troops, he did not know what his opponent was doing as he could not see beyond the edge of the base due to the “fog” of war.” He continued creating farms and barracks, carefully maintaining an optimum ratio to them to the peasants. He created the first three ground units called footmen. As Andrew planned his strategies on how to advance and to attack his opponent, he contemplated rushing with footmen versus upgrading to knights, or possibly creating air-units.

Suddenly Andrew was ambushed by three grunts, the Orc equivalent of his footmen. It was a three-on-three battle. His opponent had the upper hand, the element of surprise. The grunts concentrated their attack on one footman and quickly killed him. It was now a three-on-two battle. Andrew rallied

his peasants to arm themselves as militia, but his opponent was stronger than his peasants, and soon these grunts killed his footmen. Two more grunts arrived as reinforcements, and the Orc army began to wreak havoc on his militia, annihilating his peasants and destroying his newly created barracks and farms. The game was over. Andrew's heart was racing, his palms were sweaty, and his lips were quivering. Andrew was frustrated and full of rage. He was defeated and his ranking dropped on Battle.net. Yelling profanity at the computer screen, Andrew manically prepared for another battle.

33. How can the visual effect of playing video games lead to addiction?

In a telephone conversation, Dr. Andrew Doan discussed the visual effect of playing video games. When a person is playing video games, their eyes are receiving vast amounts of images. These images impact millions of nerves in the retina, which fire and stimulate the reward system, initiating a release of dopamine. This effect is what happens during addiction but instead of getting high off taking a drug, the player gets high off their own neurotransmitters.



▲ FIGURE 7.3

Trying out a virtual reality headset

SOURCE: Lucas Giolito tries out virtual reality

AUTHOR: Arturo Pardavila III

<https://commons.wikimedia.org/wiki/index.php?curid=50175887>

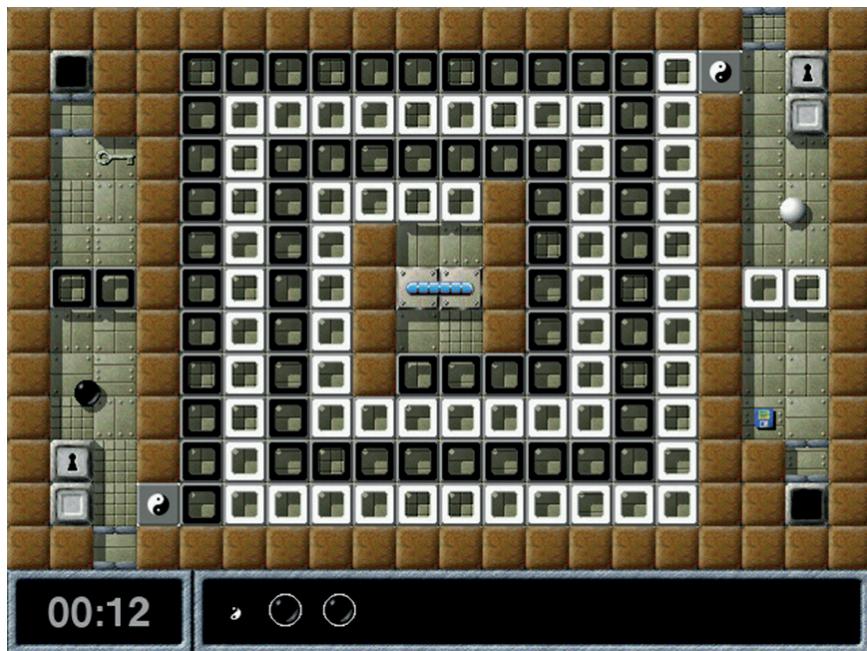
As what happens in other addictions, the gamer's body adjusts its hormonal output to the stimulus, reducing its effect. Game developers are well aware of this effect, and are continuously coming out with new, more challenging games to keep the mind stimulated.

The visual effect of playing video games is further explored in Question 45: "How can virtual reality help in pain management?"

34. What is the Tetris effect?

The Tetris effect (also known as Tetris Syndrome) occurs when people devote so much time and attention to an activity that it begins to pattern their thoughts, mental images, and dreams. This effect takes its name from the video game Tetris. The Tetris effect can be a result of MMORPG addiction.

Examples of the Tetris effect are images falling from the ceiling or interpreting images differently.



▲ FIGURE 7.4

Enigma Screenshot.

<https://commons.wikimedia.org/wiki/File:EnigmaScreenshot.png>

35. What is the Proteus effect?

The Proteus effect describes a phenomenon in which people derive their expected behaviors from observing their avatar's appearance. The person's usual behavior is thereby changed to fit these expectations. Studies have shown that our virtual bodies can change how we act with others in actual avatar-based online communities as well as in subsequent face-to-face interactions. The concept's name is an allusion to the shape-changing abilities of the Greek god Proteus.

Psychology recognizes that self-perception affects behavior. How we think about ourselves affects the confidence with which we approach the world. Self-perception applies in the virtual world too. Studies have shown that the appearance of the avatar's height and attractiveness were significant predictors of the player's performance. The avatar's appearance affects not only the player's behavior but how other players interact with the avatar. Research suggests that the qualities you acquire online, whether it is confidence or insecurity , can spill over and change your conduct in the real world, often without your awareness.

CHAPTER

8



How can you protect against video game addiction?

36. What personal strengths are important to protect against video game addiction?

Personal strengths are the traits of children that are associated with healthy development and life success. These personal strengths have been identified from decades of research on risk and protective factors that are important to the well-adjusted development of children.

Personal strengths consist of five components: emotional awareness, emotional regulation, goal setting, empathy, and social competence. Personal strengths can be expressed internally, such as depression, or externally, such as pathological video-gaming.

These personal strengths are self-regulatory, which is the ability to act in the child's long-term best interest, consistent with his or her deepest values. Such personal strengths are essential in allowing video-gaming to be a harmless and enjoyable pastime rather than a destructive preoccupation.

37. How does the family environment affect video game addiction among children?

The family environment can be either nurturing or dysfunctional. A healthy family environment is nurturing, providing a variety of education and leisure activities for children. A healthy social environment is facilitated, minimizing children from being addicted to video gaming.

In a dysfunctional family environment, family relationships are highly stressful, and children are less likely to conform to their parents' requests regarding video gaming.



▲ FIGURE 8.1

Dialog between parent and child is essential to regulate video game use
<https://pixabay.com/en/face-dialogue-child-talk-psyche-2670533/>

38. What actions can parents take to reduce addictive video gaming in their child?

There are many actions parents can take if they are concerned if their child's video gaming is getting out of control. If the home environment is dysfunctional, however, bear in mind that the child may resist the parent's actions or find ways to circumvent

the actions. Parents should not facilitate addictive behavior. The best way to control video game addiction is by prevention.

1. Establish ground rules for video gaming:
 - Limit gaming to a certain number of hours per day or per week
 - Gaming should not be allowed until homework, or household chores are done.
 - Children must eat regular meals with the family
 - Children must pay for their own game subscriptions through their allowance.
2. Show an interest and understanding in the games.
Offer to participate in the games.
3. Discuss with the child why they have lost interest in other activities. Offer a goal-oriented activity they can participate in.
4. Remove the computer or tablet from the child's room and place in a common area. The computer should be locked down with a password that only the parents know.
5. Cancel Internet access. Unfortunately, this action is a drastic move that can impact the rest of the family.

CASE STUDY — ANDREW DOAN

Dr. Andrew Doan has an extraordinary background. He came to the U.S. at an early age with his parents as Vietnamese immigrants. The family had a difficult time adjusting to life here. The family was poor, and Andrew faced prejudice from classmates at school. Andrew became interested in video gaming. His parents, with the best of intentions, brought home an Atari 2600 gaming console and *Space Invaders* when he was ten years old. The event was crucial as Andrew was immediately hooked and played for twelve hours straight the first day. Andrew found that all the stresses of his life — the fights in the house, the struggles to fit in, and the pressures to make a name for himself — melted away when he played the game. He had discovered a way to escape and to find peace. He was able to conquer and felt in control of his life. In gaming, Andrew found an alternate reality where he

could fit in, in contrast to the real world. Andrew enjoyed being entertained and immersed in a virtual world.

Eventually, playing video games was more important and enjoyable than eating. When his mother gave him \$10 to purchase lunch at a deli while she was shopping, he spotted a Missile Command arcade machine. He cashed in the \$10 for quarters and spent all the money gaming with nothing left for lunch.

In high school and undergraduate college, Andrew developed other interests, putting video gaming on the back burner.

He received a full scholarship and attended John Hopkins School of Medicine. After medical school, we went on to pursue a Ph.D. program in neuroscience. He spent long hours in the lab which proved to be incredibly isolating. At this time Andrew married, and the couple had infant children. Andrew's isolation increased as his wife worked long hours as a nurse, leaving Andrew at home caring for their infant children.

After long, frustrating days in the lab, Andrew went home to dive into video games to escape. While his infant son slept in a baby carrier next to his computer, Andrew was transported to a new world that kept him entertained, engaged, and challenged throughout the night. The video game facilitated his social interaction without requiring him to leave the apartment. During the height of Andrew's video game addiction, Andrew played *Diablo* for forty hours per week. He spent much of his time playing with other strangers to such an extent that he placed more value on his *Diablo* characters than on his real-life relationships.

Andrew was able to overcome his addiction and was doing well in his career as an eye surgeon and physician. However, one fateful day a colleague placed a CD-ROM of *World of Warcraft* on his desk. Andrew had not been playing for three years, so thought he could control his playing. He was wrong.

His playing went from one hour a night to eventually all night long. His commute to work was hell, with nodding off at the wheel to even hallucinating. He found it necessary to pull over into a parking lot to nap before continuing his commute.

Every day he looked forward to coming home from work and playing a “quick” game before dinner. One evening, he started a game of *Starcraft*, hoping to beat his opponent in a fifteen-minute match. After thirty minutes, his wife called him to dinner. He yelled back that he would be there in just a few minutes. His opponent was challenging to defeat, and he lost track of time. Two hours later, he ate a cold dinner alone, not an unusual occurrence.

Andrew enjoyed defeating other players online in real-time strategy games like *Warcraft III* and *Starcraft*. He felt a great sense of accomplishment as he climbed the ladder of rankings, seeing his name at the top of the charts. He felt proud that he won more games than he lost. By feeding the ego, even though the accomplishments were not real, he felt important, successful and skilled. Unfortunately, this sense of success was not long lasting. When he left the game, he had real-life problems and real-life challenges to face, so he had to play more to help forget the real-life issues.

Andrew’s addiction during this period continued for over nine years, playing 40–50 hours per week. He began to change mentally, physically, and spiritually. He was abusive towards his wife and kids, perpetually irritated, and constantly angry. His mind was always preoccupied with video games. He withdrew from his friends and family. He preferred to be alone so he could sneak in additional hours of play. He was glad when his wife went to bed early so that he could have more hours playing before morning. With excessive play, Andrew began to show physical symptoms. He had frequent headaches, chronic red and dry eyes, and rapidly gained thirty pounds. He had urinary incontinence problems and hemorrhoids from sitting for long periods of time.

Eventually, Andrew crushed his wife’s spirit with a constant barrage of severe verbal abuse. She secretly moved 3000 miles away with the help of her mother. She filed a restraining order against Andrew and petitioned for divorce, seeking custody of the kids. Eventually, after defense attorneys and custody battles, his wife agreed to give Andrew a second chance with the understanding that he would start going to church with her.

After a few relapses, Andrew is now a changed man. He attributes his recovery through the reading of *Purpose Driven Life* and realizing that he was created with a specific purpose. He could use these gifts for this purpose or could continue to waste them. Andrew attributes his religious faith to be essential to his recovery.

CHAPTER

9



What are the benefits of playing video games?

39. How can playing video games be beneficial?

According to a paper in American Psychologist, playing video games may have beneficial effects in four areas:

1. Cognitive
 - a. Spatial skill improvements can be transferred to other areas such as science and technology: Gamers have shown an improved ability to track moving objects in a field of distractors (items that can divert your attention).
 - b. Neural processing and efficiency. Gamers can focus their attention more efficiently: Extended video game playing can result in improved visual contrast sensitivity (the ability to distinguish subtle differences in shades of gray).
 - c. Problem-solving skills: All genres of video games are based on problem-solving which are often open-ended, requiring the gamer to solve problems through experimentation, past experiences, and intuition. Gamers develop the ability to allocate his or her mental resources (such as perception, attention, memory) in ways that allow for rapid, efficient problem solving or decision-making. Studies have shown that experience with action video games improves people's abilities to switch rapidly and without error between tasks that have conflicting demands.

- d. Job performance: Many studies indicate that video games improve job performance, especially for jobs that require good eye-hand coordination, attention, excellent working memory, and quick decision-making.
- e. Enhanced creativity-
2. Motivational: Video games provide feedback on the persistence and continuous effort by the gamer.
3. Emotional: Several studies have shown a causal relation between playing preferred video games and improved mood or increases in positive emotion. In psychology, flow experiences have repeatedly been linked to a host of positive outcomes for adolescents, including commitment and achievement in high school.
4. Social: The average gamer is not socially isolated. Over 70% of gamers play their games with a friend, either cooperatively or competitively. In the virtual social communities involved in games, decisions need to be made at the moment about whom to trust, whom to reject, and how to most effectively lead a group.

Mike Langlois, a Clinical Social Worker and Therapist, presented a seminar, "Rethinking Video Game Addiction." At the Pax East 2013 convention. He discussed ways that playing video games may be a positive influence in the lives of many people.

<https://www.youtube.com/watch?v=EJXjtaODsok>



40. Can playing video games help people with psychological problems?

This book has largely focused on the psychological and emotional problems that can arise as a result of playing video games. However, studies are emerging to demonstrate the video gaming can actually be beneficial for people with these problems, under controlled conditions. These conditions include the development of games specifically designed to treat people with these conditions, and to use them under controlled conditions.

The term "serious games" denotes digital games serving serious purposes like education, training, advertising, research, and health.



A study was conducted by the University of Barcelona to determine if playing a video game called *Play Mancer* could be useful for treating patients with specific

mental disorders, namely, eating disorders and impulse control disorders. Due to the lack of effective strategies and adequate psychotherapy tools to cure these cognitive and emotional processes, the researchers decided to consider approaches based on serious games. The primary underlying reasons for using such an approach were, on one hand, the potential positive internal characteristics of the video games (namely intensiveness, isolation from outside world, immersive capacity, low resistance to be used) and on the other hand, their demonstrated effects in brain activity.

The game involves a scenario which is called “Islands,” based on the idea that the patient is on an island that forms part of several islands in an archipelago. On each island, different activities are available. The activities are linked to varying difficulty levels of game tasks. In this adventure game, the player is confronted with several challenges, situations to improve the skills, and attitudes that we are trying to change (i.e., problem-solving, impulse control, facing situations associated with frustration and adverse emotion management). As the player completes the various tasks of the game, he or she can advance to higher levels of difficulty. The final objective is not to win, in a classical game manner, but to achieve a greater capacity of self-control. At all times, the patient receives feedback regarding his or her achievements.

Although new technological approaches have increasingly been used as therapy for mental disorders, there is a lack in the literature regarding the use of video games and controlled studies analyzing its effectiveness. The few studies attempting to analyze video games, as combined therapy in mental disorders, are merely descriptions of series of cases or naturalistic studies with significant methodological limitations. However, the internal features of this type of technologies may encourage clinicians and technicians to continue investigating this field.

Taking into account our clinical experience using and developing video games, the most important lessons that the researchers learned were the following:

- (a) the acceptance of mental disorder patients is very high for participating and using video games;

- (b) this approach is a good platform to work out underlying attitudinal and emotional problems, that otherwise are difficult to treat in mental disorders (such as impulsiveness, emotional regulation, frustration), in an intensive and motivating way;
- (c) internal characteristics of video games make it feasible to apply techniques that tend to be difficult to apply in those patients, such as controlled intensive exposure, immediate positive and negative reinforcing, complex biofeedback approach, and real-time monitoring of physiological-emotional reactions.

Currently the *PlayMancer* evaluation trials are still ongoing, but initial results, based on more than 40 mental disorder outpatients, seem to indicate that:

- (a) emotional disorder and impulse control disorder patients feel comfortable using such a video game (usability over 85%);
- (b) a source of stress (such as specific parts of Islands) is able to trigger high physiological and emotional reactions in mental disorder patients, and is moreover over expressed when compared with healthy controls;
- (c) negative and positive emotions (namely anger and joy, respectively) are positively linked with higher physiological reactivity in mental disorders;
- (d) as shown in other studies, relaxation and intensive biofeedback may significantly reduce the tension triggered by the game. The respiration rate increases during the game play and decreases during the relaxation time (before and after).

Looking at the short-term effects, after using this video game strategy, the patients started to show new coping styles with negative emotions in normal stress life situations, additional generalization patterns, and more self-control strategies when confronted with them. As shown in previous studies, working with underlying attitudinal and emotional factors, in emotional disorders and impulse



▲ FIGURE 2.4

Example of Scenario in Islands

This discussion on *Play Mancer* uses portions of the introduction and Discussion sections from the following article:

"Video games as a complementary therapy tool in mental disorders: PlayMancer, a European multicentre study." *Journal of Mental Health*. (2012 Aug). 21, no. 4; 364–374.
Authors: Fernando Fernández-aranda, Susana Jiménez-murcia, Juan Santamaría, Katarina Gunnard, Antonio Soto, Elias Kalapanidas, Richard Bults, Costas Davarakis, Todor Ganchev, Roser Granero, Dimitri Konstantas, Theodoros Kostoulas, Tony Lam, Mikkel Lucas, Cristina Masuet-aumatell, Maher Moussa, Jeppe Nielsen and Eva Penelo.
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<http://www.tandfonline.com/action/showCopyRight?scroll=top&doi=10.3109%2F09638237.2012.664302>

control disorders, we may reduce their potential maintaining capacity and therefore enhance the long-term effectiveness of traditional therapies. In that case, new technological approaches, namely video games, can certainly be one positive option.

41. Can playing video games be useful in patient education?

Patient education involves methods used to inform patients of their medical condition so that they can better understand their illness and to participate in their treatment. The following are examples of studies:

- A video game, "Re-Mission," was developed to actively involve young people with cancer in their

own treatment. Re-Mission provides opportunities to learn about cancer and its treatment. A study was conducted with participants receiving either a regular commercial game (control) or both the regular game plus Re-Mission. Participants were given a mini-PC with the games installed and requested to play for an hour each week for three months. A test on cancer-related knowledge was given before gameplay (baseline) and again after one and three months. Analyses of the knowledge test scores showed that whereas scores of both groups improved significantly over the follow-up periods, the scores of the Re-Mission group improved significantly more.

- The purpose of a review paper was: (1) to identify diabetes education video games and pilot studies in the literature; (2) to review themes in diabetes video game design and evaluation; and, (3) to evaluate the potential role of educational video games in diabetes self-management education. Nine studies featuring eleven video games for diabetes care were identified. The video games targeted children with type 1 diabetes mellitus and used situation problem-solving methods to teach diet, exercise, self-monitored blood glucose, and medication adherence. Evaluations have shown positive outcomes in knowledge, disease management adherence, and clinical outcomes. The results indicated that video games for diabetes education show potential as effective educational interventions.
- Chronic conditions in children are very prevalent, affecting about 25%. Patient education is frequently provided to these children to improve their understanding of the condition, but also to enhance the self-management skills, which in turn can improve the overall health status, reduce healthcare utilization, and minimize the overall burden of the condition. Although individually tailored educational programs are most effective, these are very resource consuming. By contrast, more traditional and passive methods of patient education, such as oral lecturing or offering printed reading material, fail to improve clinical outcomes substantially.

A more recent alternative approach relies on video games as a medium for improving medical skills and knowledge, as well as a tool in medical treatments, therapy, and disease management. Gaming is a particularly useful tool for children as they are typically more visually oriented than older age groups, can easily manage several flows of information simultaneously, and have a preference for inductive reasoning and fast interactions.

A systematic review of studies found that educational video games can be useful in improving knowledge and self-management in young people with chronic conditions.

42. Can playing video games promote well-being?

Psychological well-being is closely related to flourishing mental health. The essence of well-being is not the absence of mental illness but the presence of positive mental health. Well-being has emotional, psychological, and social components.

Psychological well-being is closely related to flourishing mental health. The essence of well-being is not the absence of mental illness but the presence of positive mental health. Well-being has emotional, psychological, and social components.

A comprehensive review of the relationships between playing video games and well-being resulted in the following findings:

Existing research suggests that videogames contribute to young people's emotional, social and psychological well-being. Specifically, videogames have been shown to positively influence young people's emotional state, self-esteem, optimism, vitality, resilience, engagement, relationships, sense of competence, self-acceptance, social connections, and functioning. Emerging research suggests that how young people play as well as whom they play with may be more important in terms of well-being than what they play. People who play many hours may socially isolated and have lower well-being to begin with, and are using



Psychological well-being can consist of many factors:

1. Self-acceptance
2. Personal growth
3. Purpose in life
4. Environmental mastery
5. Autonomy
6. Positive relations with others

gaming to escape from their problems. In Question 40, we discussed the use of video games to help people overcome psychological problems. In this question, we illustrate that video game playing can also be beneficial for children without psychological problems. You may notice that many of these benefits may seem contrary to the detrimental effects seen in players with addiction. These results indicate the importance of proper video gaming management.

Regarding positive emotional impact, playing video games can:

- Contribute to positive emotions
- Contribute to emotional stability
- Facilitate relaxation and stress reduction
- Reduce a depressed mood
- Reduce emotional disturbances
- Provide changes in mood in response to problems with friends or parents.

Regarding promoting healthy relationships and improved socialization, playing video games can:

- Promote higher levels of family closeness, less risky friendship networks, and better attachment to school than non-players
- Provide a healthy source of socialization, relaxation, and coping
- Create social networks through online gameplay with other MMORPG players to extend real-life relationships, meet new people, and form relationships
- Result in social interactions that occur within and outside of MMORPG play that are highly social, providing opportunities to create strong friendships and emotional relationships

Regarding self-esteem, playing video games can:

- Result in higher ratings of self-esteem and self-concept among players compared to non-players
- Allow players to express themselves in ways they may not feel comfortable doing in real life because of their appearance, gender, sexuality, and age
- Increase their feelings of self-confidence and self-worth, potentially impacting positively on psychological health

43. How can video games be used to develop mindfulness meditation?

The purpose of mindfulness meditation is to achieve a mental state in which a person has a calm mind. Through meditation techniques, the person concentrates on the present moment, while letting go of past or future thoughts. The practice of mindfulness has been shown to be closely related to greater well-being and perceived health. Mindfulness practice is being employed in psychiatry to reduce depression symptoms, to reduce stress, and anxiety. Mindfulness meditation consists of repeating mental exercises that lead to an experience of stillness and clarity achieved by these exercises.

Although video gaming might be perceived to be entirely contrary to mindfulness meditation, many games have been developed to improve the person's mindfulness practice. Video games have been notable for entirely directing the gamer's attention, so games designed for meditation can provide a calm focus. People playing video games as or practicing meditation have been described as entering a "flow" state. Flow, also known as the zone, is the mental state of operation in which a person performing an activity is fully immersed in a feeling of energized focus, full involvement, and enjoyment in the process of the activity. In essence, flow is characterized by complete absorption in what one does, losing a sense of space and time. Examples of video games specifically designed for meditation practice include *flow*, *1 Giant Mind*, *Pause*, and *Tenacity*.

CASE STUDY

Melissa is a 36-year-old copywriter in a media company. She lives in a condo in a suburban neighborhood and commutes into the city.

She has been working in the field since college, progressing rapidly at first, but in the tight employment market facing the news industry she has stopped getting annual raises and feels lucky to still have a job. Every time there is a company-wide meeting or a closed door in her office, her stomach drops and she worries if that day is the day she loses her job.

Since getting a smartphone a few years back, she plays games on her long commute back and forth to downtown. It helps to pass the time and keeps strangers from approaching her. At first, she would play stand-alone games like Solitaire or Tetris, but she quickly switched to social games. The social aspects of the games allowed her to play with her large circle of Facebook friends. Social media reconnected her with friends from her sorority days, from her year teaching English in Poland, from her church young singles group and friends from the city she left behind to pursue a career writing in New York.

Her core group of girlfriends used social media to schedule their busy lives when they were in their late 20s and new to the city. Now many of them had moved away to pursue new career opportunities, to start families, or just stopped ‘having the time.’ Pictures and news were still shared, but in-person socializing had become rare. Getting in a game of Words with Friends or helping out each other’s Farmville crops was the extent of many of her interactions.

At work, colleagues of her tenure were busy with their outside lives and the only new faces coming aboard were endless streams of interns. At first, she felt like she had a lot in common with these young, eager people and was happy to trade career insights and mentor them as they so hopefully started out on their own path. A few went on to other magazines or online media start-ups, using their experience at her company along with their connections made in school. She tried not to be jealous when they did land a position that she would have loved to have been considered for, but she had a mortgage and couldn’t take a chance on a lower salary to get in at the ground level of the “next new thing.”

She found herself becoming more cynical and snarky when she was around their optimism, sometimes making cutting remarks. She turned to playing games on her smartphone instead of joining others at lunch to avoid drawing attention to her own unhappiness with the state of her career.

The friends she played with online or even those who she was randomly matched were impressed by her ability to get

the high score that showcased her impressive vocabulary. She was also eager to help someone else with their virtual farms. She was popular in her circles and she received lots of warm praise.

Her work life frustrated her so she would often check in with her gaming and social media friends more frequently throughout the work day. This first was a matter of checking in during lunch breaks as she began to avoid the chatty lunches with her co-workers. It spilled over into more of her workday. As a mini-reward for completing tasks, she'd give herself ten minutes of game time. Then it became a reliable alternative to working on her assignments. Some of her colleagues that were "friends" on social media made comments about her game play. She found ways to adjust her settings so that only her gaming friends saw her statuses that reported game achievements.

Unfortunately, these same friends could see her list of game achievements if they visited her page. When the next round of belt-tightening occurred at work, she was given notice that her position was being eliminated. She was asked to train one of the less-experienced staffers to take on her responsibilities and given a termination date.

With losing her job, she found that gaming was a distraction from dealing with her new financial reality. She avoided her friends, not wanting them to know that she had lost her job. She retreated more and more from outside life. When nothing in her "real" world looked hopeful, she loved that online she was popular and that the games she played had simple rules where her time was rewarded with achievements.

Her sleep was affected by gaming in bed, the glow of her cellphone screen and the constant notifications keeping her brain waiting for the next update instead of calming down at the end of the day. Without work to get her out of bed, she got less and less exercise and always felt tired.

After receiving notice after notice from financial institutions that her accounts were delinquent, she finally reached out

to her family for help. They insisted that a condition of their help was that she would seek out help from a mental health professional. Her primary care physician screened her for depression and referred her to a psychiatrist.

After evaluation, Melissa started a program of anti-depressants and talk therapy. The gaming was seen as both an avoidance technique from her general dissatisfaction with the direction of her career and life in general and as a way to have many small pleasurable interactions that counteracted the physical symptoms of depression that had become more common in her everyday life.

Within six months of treatment, she found the energy to look for work again and to work on getting writing assignments. Melissa also got involved with a charity that tutored children after school. On her therapist's advice, she put herself on a gaming and social media diet, and developed techniques to divert her attention when the urge to turn to a game comes on. One especially useful technique was to take a walk around the block, do a load of laundry, or call a friend when she found herself mindlessly reaching for the cell phone.

Based on an actual case study of video game addiction.

44. How can video game playing provide benefits for older adults?

A *Nature* article titled: “Video Game Training Improves Cognitive Control in Older Adults.” was summarized by Carol Torgan in NIH Research Matters: (<https://www.nih.gov/news-events/nih-research-matters/video-game-training-improves-cognitive-control-older-adults>).

Researchers found that seniors who play a 3D video game improve their ability to sustain focus and multitask successfully. The results highlight the potential of the aging brain to improve specific skills.

As we age, changes in our brain can affect our cognitive abilities and memory. One function that may be altered is multitasking,

the ability to accomplish multiple goals simultaneously. Multitasking behavior is becoming more common because of new technologies and demands. For example, you may type an email or text message while talking on the phone. When driving a car, you simultaneously perform numerous tasks, such as scanning the road, steering, and using the brakes.

A team led by Drs. Joaquin A. Anguera and Adam Gazzaley from the University of California, San Francisco, examined the ability of seniors to multitask and improve their cognitive control — the ability to interact with a complex environment to accomplish a goal. The study, funded in part by NIH's National Institute on Aging (NIA), appeared on September 5, 2013, in *Nature*.

The researchers first assessed multitasking ability in 174 participants ranging in age from 20 to 79 years. Using a custom-designed 3-D driving game, they found that multitasking performance dropped linearly with increasing age.

To test whether older adults could improve multitasking ability, the researchers randomly assigned 46 healthy adults, ages 60 to 85, to 1 of 3 groups: multitask training using the 3-D videogame, single-task training using a similar videogame or no videogame training. During multitask training, participants used a joystick to maintain a moving car in the center of a winding road while also responding to road signs that popped up. As participants improved, the games got harder.

Seniors who played the multitasking game on a laptop at home for one hour a day, three times a week for four weeks (12 hours of total training) significantly improved their multitasking performance index at the end of the training period. The levels they achieved were superior to the levels achieved by a group of untrained 20-year-olds. When the seniors who completed the multitask training were tested six months later, the gains were still present.

The researchers found that the multitask training resulted in general improvements to cognitive abilities that are known to decline with age, particularly working memory and sustained attention. Using electroencephalography (EEG) to assess the neural basis of the cognitive changes, they found changes in the prefrontal cortex area of the brain, a region involved in cognitive control.

“The finding is a powerful example of how plastic the older brain is,” Gazzaley says, referring to the brain’s ability to adapt and change. Follow-up studies will be needed to better understand the neural basis for these performance changes.

Compared to traditional interventions, serious games may help older adults to improve their health by enhancing physical fitness and coordinative abilities by combining increased motivation, game experiences like fun and game flow and training.

A paper in the journal *European Review of Aging and Physical Activity* described a broad range of prevention and rehabilitation benefits of playing video games by elderly people.

<https://link.springer.com/article/10.1007/s11556-011-0093-x>



Serious games, especially adventure and shooter games, already play an important role in health education, prevention and rehabilitation, e.g., to enhance health-related physical activity, improve sensory-motor coordination, prevent asthma, change nutrition behavior and alleviate diabetes and prevent smoking or HIV.

45. How can virtual reality help in pain management?

The experience of pain is frequently related to physical causes, such as inflammation or injury. However, pain is entirely subjective, making management of pain difficult. Having patients play video games during normally painful medical procedures has been looked into as a non-pharmacological alternative to pain management.

Hunter Hoffman and David Patterson of the University of Washington School of Medicine teamed up to study the use of virtual reality headsets in reducing pain with burn patients. They understood that the sensation of pain has both physiological and psychological components. If attention can be re-directed from pain signals, pain can be significantly diminished. Diminished pain occurs when patients are immersed in a three-dimensional virtual world, thereby distracted from ordinarily painful procedures during rehabilitation and wound care.

Following up on Dr. Hoffman’s work, a randomized clinical trial was conducted with children who suffered severe burns. Children who played virtual reality games during painful dressing changes experienced less pain than children who received pain-killing drugs alone.

46. Can virtual reality be useful in stroke rehabilitation?

A large percentage of stroke survivors continue to experience motor deficits (problems with movement). Standard rehabilitation after stroke (physiotherapy and occupational therapy) usually provide only modest benefits. Scientific advances have shown the brain's remarkable ability to heal itself through the process of neuroplasticity. Recent studies have shown that for rehabilitation to be effective it must be challenging, repetitive, task-specific, motivating, prominent, and intensive. Conventional rehabilitation has many limitations in meeting these criteria, and there is often a shortage of rehabilitation providers and services in many regions.

Virtual reality has been studied as a unique method of stroke rehabilitation. The virtual reality method satisfies many of the criteria for effective rehabilitation. The patients become engaged in the games, costs can be reduced, and at times the games can even take place at home.

A meta-analysis (a compilation of the results of many studies) has shown that virtual reality methods resulted in improvements in arm movement speed, the range of joint motion, and force of movement. These results are promising but only preliminary as the studies did not compare the benefit of combining conventional therapy with virtual reality techniques. Also, most studies included patients with mild to moderate stroke and did not assess the more challenging severely affected patients.



DEFINITION

Neuroplasticity: The brain's ability to reorganize itself by forming new neural connections throughout life. Neuroplasticity allows the neurons (nerve cells) in the brain to compensate for injury and disease as well as to adjust their activities in response to new situations or to changes in their environment.

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RECOVERY FROM VIDEO GAME ADDICTION

Splitshare (Pixabay)

SOURCE: <https://pixabay.com/en/guitarist-acoustic-guitar-man-boy-407212/>

Part 3 discusses the various treatment strategies for video game addiction. After successful treatment, a crucial stage of the gamer has arrived – how to recover his or her life without falling back on addiction. Critical in this respect is the necessity to change your way of thinking. You need to find new activities (or revive old interests) that can fill in the gap provided by gaming.

PART THREE

CHAPTER 10

Treating video game addiction

CHAPTER 11

Life after video game addiction





Treating video game addiction

47. What are the strategies for treating video game addiction?

Treatment of video game addiction is similar to other types of addiction (even though it is not yet recognized as an addiction by the American Psychiatric Association). The overall approach is as follows:

- Individual and family counseling
- Behavior modification
 - Cognitive behavioral therapy
 - Dialectical behavioral therapy
 - Acceptance and commitment therapy

48. What is discussed during counseling sessions?

Counseling sessions are an essential first step in understanding the unique history of each addict, and to work out a treatment plan. Psychotherapists attempt to help the addict understand how gaming is related to their school or job, emotions and moods, and sense of life goals and rewards.

A family-based approach aims to improve family functioning while decreasing the behavioral problems of the addiction. A family-based prevention should include skills training for parents (or whoever is involved in the person's treatment). It should aim to improve communication skills related to the person's addiction. These communication skills include:

- Helping the addict develop social skills
- Helping family members reduce maladaptive family function
- Fostering skills for healthy family interactions
- Sustaining effective family monitoring
- Promoting discipline within the addict

The skills training would be introduced and practiced in family therapy sessions. Each member would work on strengthening their own skill set to improve the whole family unit's functioning.

49. Can co-existing disorders contribute to video game addiction?

Several mental disorders can contribute to video game addiction. Identifying any underlying causes of the addiction is essential. The following are principal co-existing disorders:

- Obsessive Compulsive Disorder: People with OCD feel the need to check things repeatedly, or have certain thoughts or perform routines and rituals over and over. The thoughts and rituals associated with OCD cause distress and get in the way of daily life. The frequent upsetting thoughts are called obsessions. To try to control them, a person will feel an overwhelming urge to repeat certain rituals or behaviors called compulsions.
- Generalized Anxiety Disorder: The person exhibits excessive anxiety and worries about some events or activities extending over a period of many months. The disorder leads to significant distress or impairment in social, occupational, or other daily activities.
- Attention-deficit/hyperactivity disorder (ADHD): ADHD often begins in childhood and can persist into adulthood. The symptoms of ADHD include attention difficulty, hyperactivity, and impulsiveness.

ADHD is thought to involve deficits in dopamine release in the prefrontal cortex, similar to video game addicts. A study (Chan 2006) found that adolescents who play more than one hour of console or Internet video games may have more or more intense symptoms of ADHD or inattention than those who do not.

However, these findings are just an association and do not show that playing video games leads to an increase in ADHD symptoms, or if adolescents with more ADHD symptoms tend to spend longer times playing video games. Methylphenidate is a stimulant used to treat ADHD. A study (Han 2009) was conducted to see if the drug could be used to treat gaming addicts who also have ADHD. The authors cautiously suggest that methylphenidate be evaluated to treat internet addictions.

50. Should you consider a support group for treatment and recovery from video game addiction?

A support group is a community of people who are suffering from or recovering from video game addiction. The websites of some major support groups are as follows:

- Computer Gaming Addicts Anonymous (CGAA) — cgaa.info

CGAA groups share their collective experience and the principles that helped them, but CGAA has no dogma, no teachings, no gurus, and no rules. Their members usually do not advise each

other. They share personal experience, strength, and hope, and are free to try out or disregard the suggestions of the program and other members. CGAA has a Twelve Traditions patterned after Alcoholics Anonymous that serve as guidelines for their activities.

To watch YouTube stories of gamers who have recovered through the CGAA programs, visit:

<https://www.youtube.com/channel/UCLjD3R2yJ5wriHFY7XdjDBg>



- OLG-Anon (Online Gamers Anonymous) — www.onganon.org

On-Line Gamers Anonymous®, founded in 2002, is a self-help fellowship. OLG-anon members share their experiences, strengths and hopes in order to help each other recover and heal from problems caused by excessive game playing, whether the playing takes place by computer, video, console, or online. The community includes Recovering gamers (OLGA members), Family members, loved ones, friends, concerned others (OLG-Anon members), and those who Educate and reach out to others (Outreach members).

After registering to the site, various programs such as forums, chat rooms, and meetings are available.

- Anxiety Gaming — <http://anxietygaming.com>

Anxiety Gaming focuses on providing affordable consultation services through its professional staff.

51. What are the barriers that prevent gamers from overcoming their addiction?

Gamers continue gaming due to emotional attachments that override decisions based on rationality or good judgement. Two

types of attachments are important causes for gamers to continue gaming:

1. Sunk Cost Fallacy: Sunk cost focuses on past cost rather than future utility. (Leahy 2014) This fallacy causes gamers being reluctant to give up gaming due to the commitments they have made in time, money, and effort in gaming. Even though the gamer may realize their future would be better without gaming, the gamer does not want to feel they have wasted all that effort.
2. Loss aversion: People are more sensitive to loss than the prospect of gain. This tendency causes gamers to continue gaming rather than to lose the characters they have developed or the money they spent on games.

52. What actions can you as a gamer take to overcome your addiction?

An essential action you can take as a gamer is to acknowledge that you have an addiction and must take steps to overcome the problem. To minimize the temptation to game, the following steps should be taken:

- Uninstall your games
- Delete your accounts and unsubscribe from gaming channels
- If you have gaming consoles, they should be sold or given away

53. Does video gaming lead to depression?

The New York Times reported on two studies that seem to indicate that excessive video gaming may lead to depression. However, noted video gaming expert Dr. Douglas Gentile stated that his research does not show this effect. Instead, he says that in young people video game addiction and a range of mental health problems may develop in tandem.

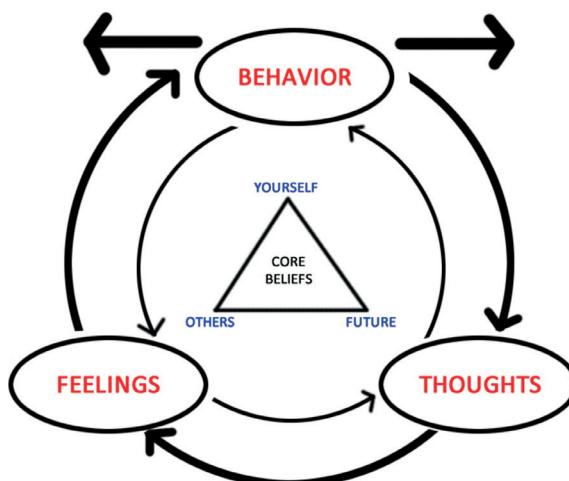
54. What is cognitive-behavioral therapy?

Cognitive behavioral therapy (CBT) focuses on the development of personal coping strategies that target solving current problems and changing unhelpful patterns in cognitions (e.g.

thoughts, beliefs, and attitudes), behaviors, and emotional regulation. It was initially designed to treat depression and is now used for some mental health conditions. A review article found that CBT is quite widely used to treat video game addiction. (Igor Lemos 2014) CBT is a psychosocial approach that looks at the combined influence of psychological factors and the surrounding social environment have on the individual's physical and mental wellness as well as their ability to function.

CBT model combines basic principles from behavioral and cognitive psychology. It is different from historical approaches to psychotherapy, such as the psychoanalytic approach where the therapist looks for the unconscious meaning behind behaviors and then formulates a diagnosis. Instead, CBT is “problem-focused” and “action-oriented,” meaning it is used to treat specific problems related to a diagnosed mental disorder. The therapist’s role is to assist the patient in finding and practicing effective strategies to address the identified goals and decrease symptoms of the disorder. CBT is based on the belief that thought distortions and maladaptive behaviors play a role in the development and maintenance of psychological disorders, and that symptoms and associated distress can be reduced by teaching new information-processing skills and coping mechanisms.

Modern forms of CBT include a variety of diverse but related techniques such as exposure therapy, stress inoculation, cognitive processing therapy, cognitive therapy, relaxation training,



◀ FIGURE 10.1

This diagram depicts how emotions, thoughts, and behaviors all influence each other. The triangle in the middle represents CBT's tenet that all humans' core beliefs can be summed up in three categories: self, others, future.

CREDIT: Urstadt
https://en.wikipedia.org/wiki/Cognitive_behavioral_therapy#/media/File:Depicting_basic_tenets_of_CBT.jpg

dialectical behavior therapy, and acceptance and commitment therapy. Some practitioners promote a form of mindful cognitive therapy which includes a greater emphasis on self-awareness as part of the therapeutic process.

55. What is dialectical behavioral therapy?

Dialectical behavior therapy (DBT) treatment is a cognitive-behavioral approach that emphasizes the psychosocial aspects of treatment. The theory behind the approach is that some people are prone to react in a more intense and out-of-the-ordinary manner toward certain emotional situations, primarily those found in romantic, family and friend relationships. DBT theory suggests that some people's arousal levels in such situations can increase far more quickly than the average person's, attain a higher level of emotional stimulation, and take a significant amount of time to return to baseline arousal levels.

DBT has the following characteristics:

- Support-oriented: It helps a person identify their strengths and builds on them so that the person can feel better about him/herself and their life.
- Cognitive-based: DBT helps identify thoughts, beliefs, and assumptions that make life harder: "I have to be perfect at everything." "If I get angry, I'm a terrible person." DBT helps people to learn different ways of thinking that will make life more bearable: "I don't need to be perfect at things for people to care about me." "Everyone gets angry; it's a normal emotion."
- Collaborative: It requires constant attention to relationships between clients and staff. In DBT people are encouraged to work out problems in their relationships with their therapist and the therapists to do the same with them. DBT asks people to complete homework assignments, to role-play new ways of interacting with others, and to practice skills such as soothing yourself when upset. These skills, a crucial part of DBT, are taught in weekly lectures, reviewed in weekly homework groups, and referred to in nearly every group. The individual therapist helps the person to learn, apply and master the DBT skills.

56. What is acceptance and commitment therapy?

The objective of ACT is not elimination of difficult feelings; instead, it is to be present with what life brings us and to “move toward valued behavior.” Acceptance and commitment therapy invites people to open up to unpleasant feelings, learn not to over-react to them, and not avoid situations where they are invoked. Its therapeutic effect is a positive spiral where feeling better leads to a better understanding of the truth. In ACT, “truth” is measured through the concept of “workability,” or what works to take another step toward what matters (e.g., values, meaning). For example, actively creating valued interactions with the kids would lead the parent to feel more satisfaction, which in turn, would help create more valued interactions.

ACT differs from traditional cognitive behavioral therapy (CBT) in that rather than trying to teach people to better control their thoughts, feelings, sensations, memories, and other private events, ACT teaches them to “just notice,” accept, and embrace their private events, especially previously unwanted ones. ACT helps the individual get in contact with a transcendent sense of self-known as “self-as-context” – the you that is always there observing and experiencing and yet distinct from one’s thoughts, feelings, sensations, and memories. ACT aims to help the individual clarify their values and to take action on them, bringing more vitality and meaning to their life in the process, increasing their psychological flexibility.

While Western psychology has typically operated under the “healthy normality” assumption which states that by their nature, humans are psychologically healthy, ACT assumes, rather, that psychological processes of a normal human mind are often destructive. The core conception of ACT is that psychological suffering is usually caused by experiential avoidance, cognitive entanglement, and resulting psychological rigidity that leads to a failure to take needed behavioral steps in accord with core values. As a simple way to summarize the model, ACT views the core of many problems to be due to the concepts represented in the acronym, FEAR:

- Fusion with your thoughts
- Evaluation of experience
- Avoidance of your experience
- Reason-giving for your behavior

The healthy alternative is to ACT:

- Accept your reactions and be present
- Choose a valued direction
- Take action

ACT commonly employs six core principles to help clients develop psychological flexibility:

- Learning methods to reduce the tendency to reify thoughts, images, emotions, and memories.
- Acceptance: Allowing thoughts to come and go without struggling with them.
- Contact with the present moment: Awareness of the here and now, experienced with openness, interest, and receptiveness.
- Observing the self: Accessing a transcendent sense of self, a continuity of consciousness which is unchanging.
- Values: Discovering what is most important to oneself.
- Committed action: Setting goals according to values and carrying them out responsibly.



Reify is to make (something abstract) more concrete or real.

57. Do medications have a place in treating video game addiction?

Medications have a place in controlling extreme behavior associated with video game addiction. It should be remembered, however, that medications treat outward symptoms, but do not overcome the underlying causes of the addiction.

The medications described in Questions 58–61 have been used to treat other types of addiction or psychological problems. Since medications to treat video game addiction have not been specifically studied, researchers and physicians have used medications that act on metabolic processes involved in other psychological conditions.

58. Is bupropion useful in treating video game addiction?

Bupropion is a medication primarily used as an antidepressant and smoking cessation aid. Bupropion has also been used as a treatment for attention deficit hyperactivity disorder (ADHD) with reports of positive results in both minors and adults.

Bupropion is thought to act as a dopamine reuptake inhibitor. Bupropion, therefore, increases the concentration of dopamine in the brain, stimulating the reward center.

Major depression is considered to be one of the more prevalent comorbid (occurring together) disorders in adolescents with problematic online gaming. Studies have shown that administration of bupropion during game playing reduced the time of game play as well as symptoms of depression. Additionally, problematic game play continued to be reduced for at least four weeks after bupropion was discontinued.

59. Is escitalopram useful in treating video game addiction?

Escitalopram is a selective serotonin reuptake inhibitor that is used to treat depression and generalized anxiety disorder (GAD). A study was conducted to see if administration of escitalopram during internet gaming would reduce time of gaming. The results indicated that escitalopram reduced time of gaming during treatment, but the difference was not maintained after treatment was discontinued.

60. Is naltrexone useful in treating video game addiction?

Naltrexone is usually used to treat opioid or alcohol addiction. It has found some application to treat video game addiction as it blocks the reward center of the brain.

61. Does combination therapy have a place in treating video game addiction?

In a study conducted in Brazil, patients with Internet addiction were treated with a combination of medications and psychotherapy. Patients received medications prescribed by physicians to treat panic disorder, generalized anxiety disorder, and Internet addiction. The patients also received cognitive-behavioral therapy. All the patients in this small study felt very positive about their treatments. The limitation of this study was that it could not determine additive effects since all patients received both medications and psychotherapy, not one type of treatment or the other.



Life after video game addiction

Overcoming addiction is only the first step in the gamer's life. He or she must develop a plan to reduce the real possibility of relapse. The plan must recognize the reasons for the gamer's addiction and provide replacement activities to satisfy these needs.

62. How do you change your way of thinking about gaming?

To start thinking as if you are not addicted, focus on the following:

- Separate yourself emotionally from gaming-no attachments to gaming.
- Reserve absolute terms like “must do” for real-life events only
- Be present in the moment. Do not think about gaming while doing daily activities.
- Dismiss all online social obligations related to gaming. After all, you are going to develop a new social life in the real world.

63. Should parents allow video gaming to be reintroduced to their child?

Access to the Internet is ubiquitous, so it is unrealistic to think that the child will not be exposed to video games. Every child is unique in their causes for video game addiction, and how they can control their impulses after treatment. It is best to proceed slowly, and see how the child adapts to his or her life after recovery. In the early stages after recovery, emphasis should be placed on adapting to a new lifestyle (or restoring the lifestyle that existed before addiction).

After one month, the recovering gamer may be allowed to play at an arcade or may use a hand-held or Console system. Online gaming involving MMORPG games and role-playing should be prohibited. Playing with friends should be encouraged, but no online friends should be permitted.

As time goes on, the recovering gamer can begin to control the amount of their gaming. Parents can monitor the situation to be sure the child's gaming does not begin to interfere with school, family relations, or social activities. Some recovering gamers may be able to control limited online gaming.

64. Why is developing new interests and passions important for the recovering gamer?

When gamers have overcome their addictions, a void in their life occurs. Gamers are drawn to video games to fill certain needs in their lives. An important need is the feeling that they are in control of their lives. These needs must be filled by new activities to avoid being drawn to gaming again.

The following are the needs that gaming fulfills:

- Temporary Escape: They help you escape from the stress in your life.
- Social: They give you a sense of community and most (if not all) your friends play.
- Constant Measurable Growth: You see progress and receive feedback and instant gratification.
- Challenge: You have a structured way to find your sense of purpose, a goal and mission to work towards.

For ideas on developing new interests to replace video gaming, visit gamequitters.com, and download the pdf file “60+New Hobby Ideas.” A list of activities categorized as active, resting, social, and achievement based are presented.



65. What type of activities should you pursue to replace video gaming?

- The activity should be mentally engaging — Gamers have been characterized as being “in the zone” (Question 43 and Note on page 59). Being mentally engaged has important advantages in academic achievement and other successes in life, but can be detrimental in gaming.
- The activity should be restful (but not mindless) when you are tired from the day.
- The activity should replace the social activities of gaming (particularly MMORPG games). You should seek to make new friends that are not involved in gaming.

Once gaming addiction is put aside, you have the opportunity to begin your life anew. Always question your sense of direction to see if it can be improved. Consider the following:

- What makes me happy and good about myself?
- Do I have friends that are supportive and rewarding?
- Does my work give me a sense of satisfaction?

66. Does video gaming have any place for the recovering addict?

With the ubiquitousness of the Internet and Internet gaming, it is unrealistic that the recovering gamer can entirely avoid exposure to video gaming. Initially, it will be necessary to self-impose (with the help of family and friends) strict limits on video gaming. After gamers begin to become confident in their recovery, they can begin to play games casually. The games should not require a strong emotional commitment (such as MMORPG games).

References and Endnotes



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Index

A

acceptance and commitment therapy, 98
addiction
 characteristics, 31
 gambling addiction, 30
 physiological basis, 30
 types of addiction, 35
avatar, 20

C

cognitive-behavioral therapy, 95
console game, 5

D

dialectical-behavioral therapy, 97

F

family environment, 67
 control video gaming, 67

H

handheld gaming device, 5

I

Internet Gaming Disorder
 symptoms, 32

P

platform, 4

V

video game
 action game, 9–10
 action-adventure game, 12–13
 adventure game, 11–12
 arcade game, 6–7
 definition, 4
 history, 18

massively multiplayer online game
 World of Warcraft, 16
massively multiplayer online game, 15–17
mobile game, 7
play session, 19
role-playing game, 13–14
virtual reality game, 7–8
video game addiction
anterior cingulate cortex, 58
co-existing disorders
 attention-deficit/
 hyperactivity disorder, 93
 generalized anxiety
 disorder, 93
 obsessive-compulsive
 disorder, 93
dopamine, 30
family counseling, 92
medications
 bupropion, 99–100
 combination therapy, 100
 escitalopram, 100
overcoming addiction, 101
personal strengths protect against, 66–67
physiological basis, 56–57
Proteus effect, 66
psychological basis, 72–73
questions to assess addiction, 33–34
recovery
 developing new interests, 102
 replacement activities, 101
related to real-life violence?, 40–41
signs and symptoms, 35–40
support groups, 94
Tetris effect, 65
visual effect, 64–65
withdrawal symptoms, 35–36

- Video game addiction
 - APA position, 31–32
- video gamer
 - human needs satisfied, 61–62
- video gamers
 - classification, 22
 - statistics, 22–23
- video gaming
 - benefits, 82–84
 - cognitive control, 83
- develop mindfulness
 - meditation, 79
- patient education, 75–77
- promote well-being, 77–78
- psychological problems, 72–75
- virtual reality
 - pain management, 84
 - stroke rehabilitation, 85