# I Am a Digital Addict.
## NOW WHAT?

BARBARA GOTTFRIED HOLLANDER

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**Rosen**
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*This book is dedicated to Ruthie, the light of my life*

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*Manufactured in Malaysia*

# Contents

Technology is all around us. The medical world relies on machines to treat patients, find new cures, and make medical care globally available. The business world depends on technology for activities, like recording inventories and sales, establishing communication between employees, and advertising their products. Your daily world is also dependent on technology, from using the internet to complete homework assignments to making weekend plans with friends.

As technology becomes increasingly intertwined in our work and personal lives, digital addiction—currently viewed as a mental health disorder—poses a real health risk. This risk particularly affects teens and adults younger than twenty-five, who are known as digital natives. Digital addiction, also known as internet addiction disorder (IAD), disrupts daily life and social interactions. It is a compulsive behavior involving the use of technology, such as laptops, cell phones, and social media sites.

While the Diagnostic and Statistical Manual of Mental Disorders (DSM) does not officially recognize IAD as an addiction, those affected are growing in number. According to the *Huffington Post*, American children and adolescents between the ages of eight and eighteen "spend more than seven hours a day with mobile or online media….are exposed to an average of four hours of TV a day…and between two and ten percent who play video games are addicted to them." Digital

Most Americans own a kind of cellphone called a smartphone. These phones connect us to the world of family, friends, school, work, shopping, and travel.

addiction becomes an even larger problem when viewing people of all ages. It is estimated that one in eight Americans has significant issues with internet use.

How many hours do you use technology each day? Do you check your phone first thing in the morning and right before you go to bed? Do you lose track of time when using the internet? How much time each

day do you spend on social media sites, like Facebook or Twitter? Do you text while driving or see others doing it? In 2014, forty percent of American teens stated that they have been in a car with a driver who was using a cell phone. The Virginia Tech Transportation Institute added that text messaging increases the chance of an accident by twenty-three times. In 2012, the average person engaged in about 400 texts each month. This monthly amount jumped to 3,700 texts for the average teen.

Addiction affects addicts and those around them. It presents safety concerns for everyone involved with the addict. Addiction "becomes a vicious cycle. The behavior damages the brain. The brain then reinforces the behavior. And soon, it spins out of control," says physician Deepak Chopra. Do you know people who lose control when playing online games, watching videos, or checking social media sites? Is the time spent on these activities affecting their sleep habits, schoolwork, or friendships? Do these people have a digital addiction? Do you?

# What Is Digital Addiction?

Addiction is a treatable condition that involves a compulsive dependence on a substance or behavior. When people suffer from addictions, they engage in activities, like taking drugs, to induce a sense of pleasure. As time progresses, it takes more of the activity to reach the same levels of pleasure. Addicts, or people with addictions, continue their destructive behaviors despite negative consequences, like problems with health, personal relationships, and jobs. Addicts can lie, steal, and use people to continue engaging in addictive behaviors.

## Digital Addiction

Digital addiction, also known as internet addiction (IA), is not officially classified as an addiction. But it meets many characteristics of the American Society of Addiction Medicine's definition, including "loss of control, mood modifications and the alleviation of distress, tolerance, and withdrawal, and the continuation despite negative consequences." Digital addicts often spend hours online or with their devices, experiencing a loss of control and time.

They might turn to technology as an emotional escape from feeling bored, sad, or lonely. Digital addicts often spend increasingly more time online to reach the same level of engagement. They even continue when it disrupts their sleep, eating, and personal relationships. If a digital addict limits or stops his or her behavior, the addict would feel the effects of withdrawal, like mood swings.

Imagine a teen addicted to video games. He plans to play one hour of video games on his computer after school. But he loses track of time and keeps playing for hours. The addict's mom asks him to stop several

Many video games actively engage participants in car racing, gambling, and shopping. Addicts often do these activities more online than in their real lives.

times, but he doesn't listen. He keeps playing. She reminds him to do his homework and eat dinner. But the addict keeps playing. It's extremely late. The addict is tired, has unfinished homework, and forgot to eat dinner. But he continues to play, craving the rush of adrenaline from reaching the next level of the game. Like many video games, there is a lot of violent content. To play the game, the addict engages in this online violence and begins feeling angry inside.

Finally, the addict's mom tells him that it is late and he must stop the game. He tells her that the game is already turned off, but in actuality the addict still plays for several more hours. He lies to engage in digital addiction. When he eventually stops the next morning, the addict feels angry and sad that he cannot play anymore. This cycle will continue tomorrow and the day after that…until the addict gets help for his digital addiction.

How common is playing video games? According to Dr. Delaney Ruston, "on any given day, 70 percent of boys are playing videos [games]… for close to 2.5 hours a day, seven days a week." How many of these situations are addictions? How many will become addictions? Playing video games is only one potentially digitally addictive behavior. Others include the use of smartphones or online social sites, like Facebook and Twitter.

Addiction is more than an emotional response to an activity. It is a condition that affects the brain and how it functions. Three-fourths of the brain consists of the cerebral cortex, which has four lobes. The parietal, occipital, and temporal lobes help you to see,

## GAMING ADDICTIONS

Researchers of digital addictions often study people's excessive use of gaming, or playing of electronic games. These games are developed with elements to keep people engaged, such as providing rewards for going to the next level. People feel increased confidence and pride from advancing in the video games. There is also an element of competition as people are ranked according to score and seek to outscore their opponents. These game characteristics create a desire to keep gaming. Hours spent on gaming also easily add up, as does money spent to participate in the different games and sites.

Gamers with digital addictions may also suffer from physical problems. Those who use controllers can develop carpal tunnel syndrome, which is associated with wrist swelling and pain. They may also develop vision problems from screen use, back pain from prolonged bad posture, and migraines. Eventually, researchers may also note poor habits of digital addicts that are related to daily functioning, like improper eating habits and lack of sleep. These habits develop as a result of the time spent on addictive behaviors.

feel, hear, taste, and smell by interpreting information from your senses. The frontal lobe of the cerebral cortex is responsible for the ability to problem-solve, plan, make decisions, and control impulses. The frontal part grows slowly during the teenage years and reaches full development for people in once they are in their twenties.

The cerebral cortex is part of the gray matter that covers the left and right parts of the brain. Gray matter consists of tightly packed neurons (nerve cells) that work together to form networks. There are between eighty and one hundred billion neurons in the human brain. Neurons process and interpret information and then communicate this information to other nerve cells, muscles, or gland cells. For example, if a person is touching a hot pot, neurons will process this harmful action and stimulate the hand to move away from the pot.
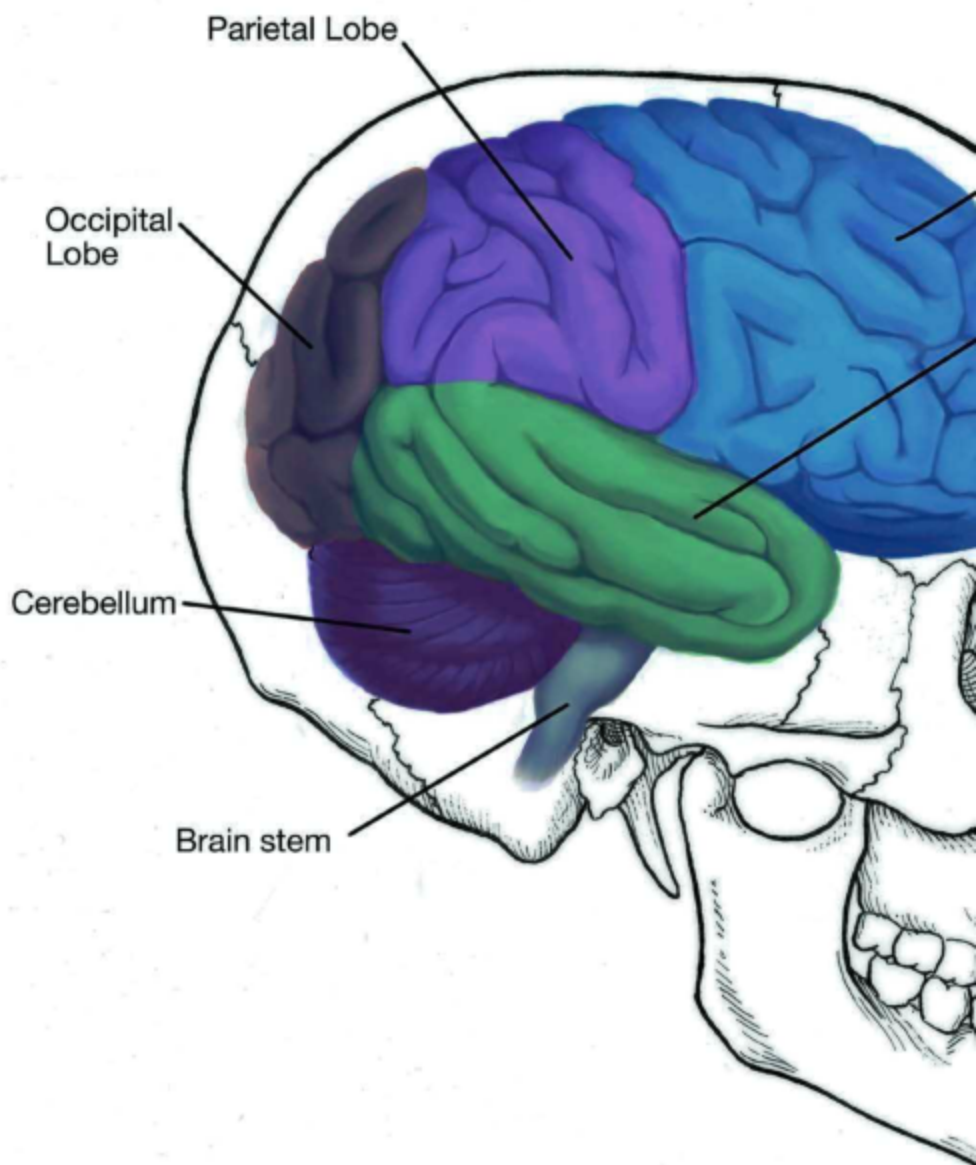
Your brain's gray matter is essential for processing important information throughout your daily life. Addiction
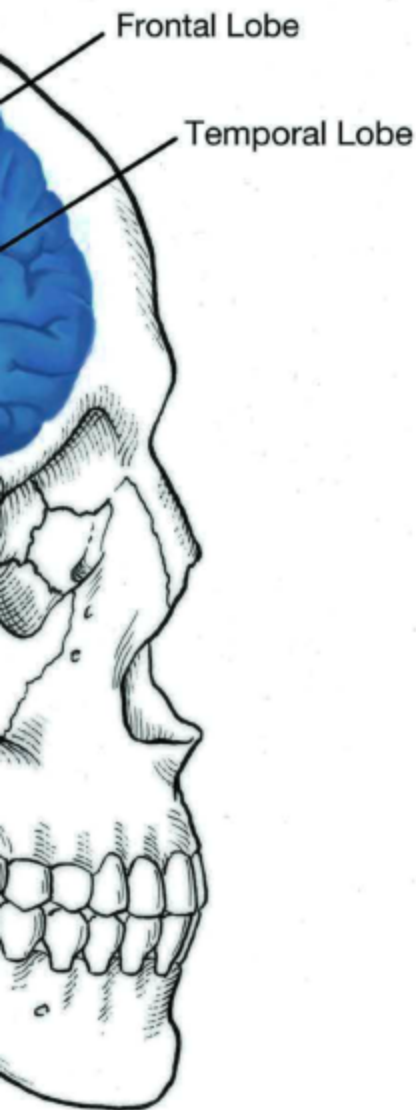
When that fun video game you play becomes more than a pastime and results in an addiction, the size of your brain's gray matter can actually shrink.

## Sections of the Brain

Parietal Lobe

Occipital Lobe

Cerebellum

Brain stem
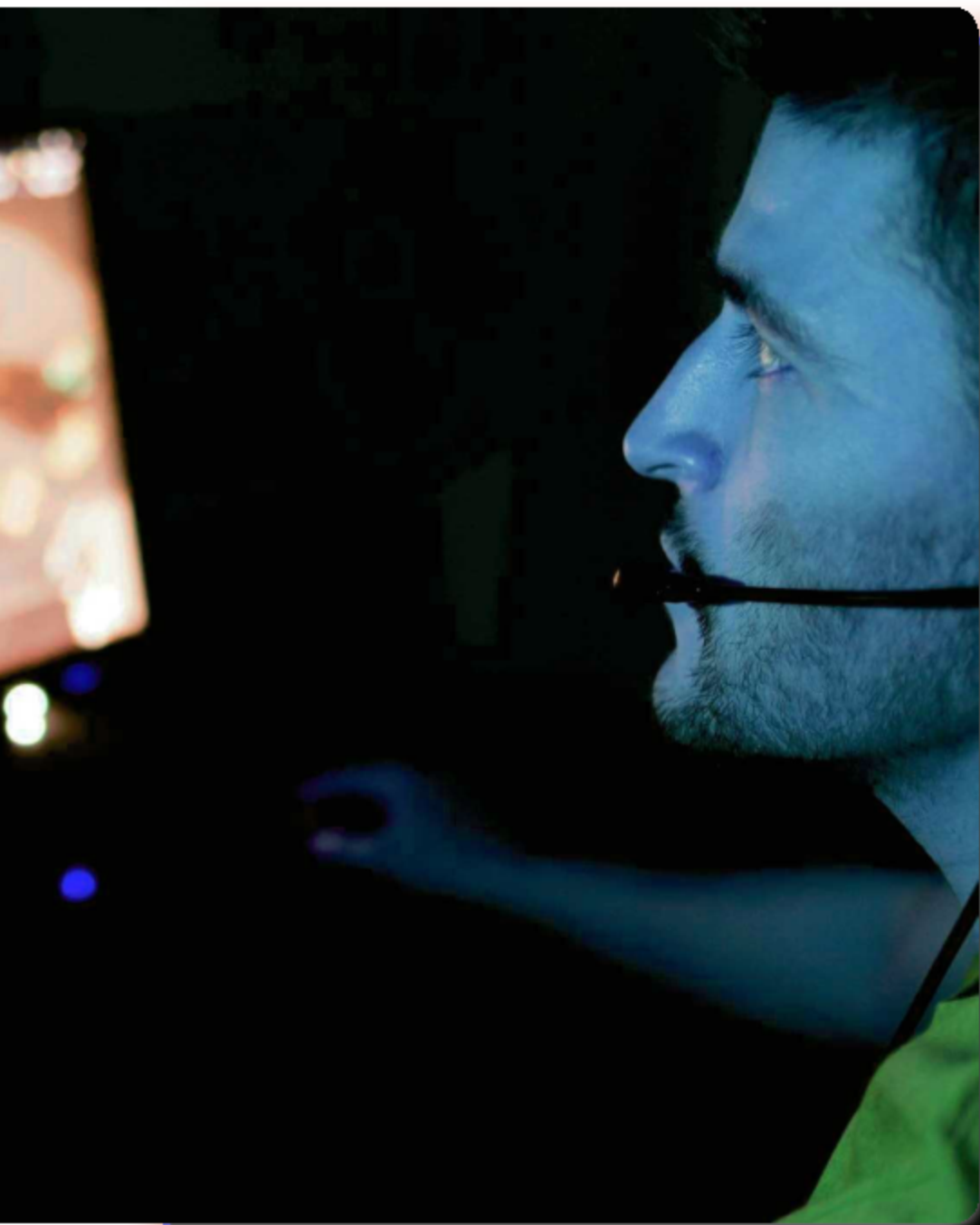
Digital addiction can affect brain development. Negatively impacting the frontal lobe hurts your abilities to make good decisions and control your reactions.

Frontal Lobe

Temporal Lobe

negatively affects the gray matter. In imaging tests, doctors can see the harmful effects of addiction on the brain. Several studies have shown that the gray matter actually shrinks or loses tissue volume from internet or gaming addiction. This damage affects several areas of functioning, including planning, making decisions, controlling impulses, engaging in socially acceptable behavior, and feeling empathy and compassion. Reduced functioning in these areas has also been tied to violent behavior.

The brain's white matter can likewise be affected by internet or gaming addiction. Half of the brain consists of white matter, which has nerve fibers that connect neurons (nerve cells) in different parts of the brain. This

function allows for communication between brain regions. A 2012 study conducted in China compared eighteen healthy teens to eighteen teenage digital addicts. The study showed that the digital addicts had abnormal white matter density in more than twenty parts of the brain. The study concluded that brain functioning for processing of emotions, attention, and decision making were all negatively affected by white matter damage.

## PATHWAYS

The hypothalamus is the part of the brain that releases a neurotransmitter

Violent video games in which users kill characters are linked to increases in aggressive behavior. Every day, many gamers view and participate in violent scenes online.
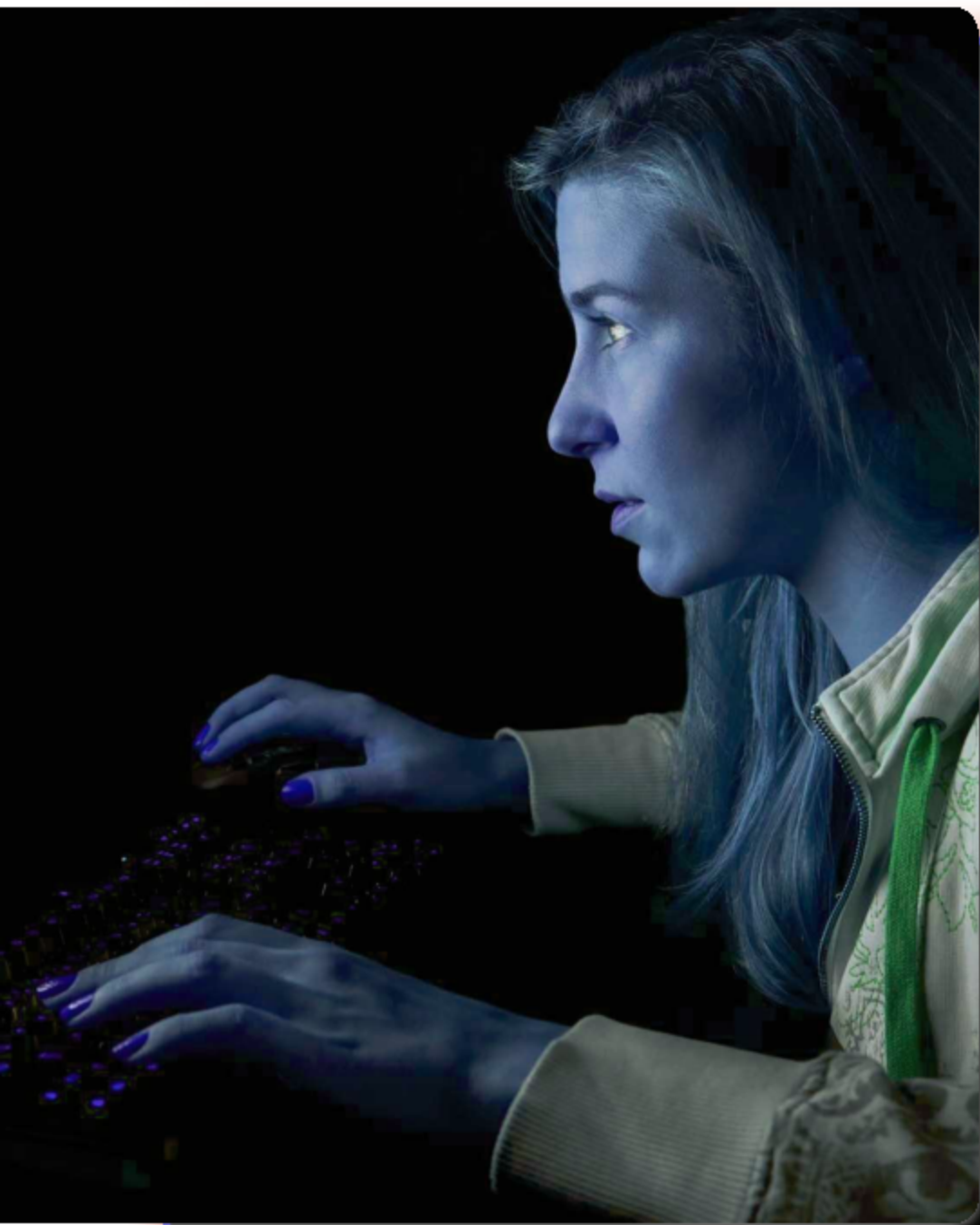
known as dopamine. This chemical messenger is responsible for the brain's pleasure center. Dopamine determines emotional responses, recognizes the rewards for those responses, and encourages people to pursue those rewards. Part of the reward for some gaming addicts is the exciting unpredictability of games. Gamers never know for certain when they will make it to the next level or win the game.

Addictive behavior causes dopamine to be released into the body. For example, digital addicts experience a release of dopamine when gaming. Then they continue their addictive behaviors to feel more pleasure. The dopamine release associated with gaming produces cravings similar to those for drugs and alcohol. The intensity, speed, and reliability of the dopamine release are connected to how likely it will be that an activity becomes an addiction. People are most susceptible to the effects of dopamine during adolescence, or between the ages of ten and nineteen.

Neuroplasticity is the ability of the brain to make new neural connections. It refers to the brain's nerve cells that produce electrical activity. Neuroplasticity also entails how the brain can compensate and adapt to new situations. Certain plasticity occurs during development. Other plasticity happens when there is a trauma to the body, like loss of sight or hearing. But neuroplasticity can also result in changes in the brain caused by external stimuli, like internet use.

## IS ADDICTION IN YOUR GENES?

According to the National Institute on Drug Abuse, "it is estimated that 40–60 percent of an individual's vulnerability to addiction is attributable to genetics." A gene has information that decides what characteristics you receive from your parents, like the color of your hair and eyes. There are about 25,000 to 35,000 genes in each of your cells. The likelihood that someone will become an addict depends on both inherited and environmental factors.

Medical experts who study addiction look for genes that make a person more likely to engage in addictive behaviors. Researchers at the University of Bonn found that a variation of the gene known as CHRNA4 increases the likelihood of developing digital addiction, especially in women. Internet use causes this receptor to activate pleasure pathways in the brain. A person will then crave internet use, because it brings him or her satisfaction. Dopamine, the neurotransmitter associated with feeling pleasure, is affected by addictive behaviors. Serotonin, another neurotransmitter, affects people's moods.

Low levels of serotonin are associated with depression and medications that focus on increasing these levels are used to treat clinically depressed people. Depression can make people more prone to developing addictions to substances and certain behaviors. People battling depression may turn to addictive behaviors to cope or escape from their feelings and life circumstances. In a recent study on serotonin and drug addiction, researcher Sarah Bradbury commented, "The higher the serotonin levels someone has, the less likely [he or she] will become addicted."

# Can You Recognize Digital Addiction?

**W**hat is the difference between digital addiction and excessive internet use? Many people use the internet. It is a way of staying connected and finding opportunities. It is a tool that you can use to meet people, find work, and help others. Everyone needs some downtime. What's wrong with playing some online games to unwind after a long day at school? And isn't it fun to share prom pictures online and tag your friends? So when does using the internet become a problem? When does it become an addiction?

## Excessive Use

A person's behavior is something that he or she does, like talking or sleeping. Behaviors can be observed, studied, and measured. Using the internet is a behavior. The amount of use can be observed and studied. Using the internet too much is referred to as excessive use. Researchers try to define how many hours of internet use is too much. A study conducted in Switzerland by Dr. Pierre-Andre Michaud characterized more than two hours a day for children between the

ages of sixteen and twenty as excessive; while teens who were online several times each week for up to two hours each day were termed "regular" users.

A US study reported by iKeepSafe reported that people between the ages of eight and eighteen are in front of a screen for an average of 44.5 hours each week, or 8.9 hours each day. While this figure includes time to socialize and complete schoolwork, the amount constitutes excessive use in Dr. Michaud's study. Excessive use is often defined in terms of the number of hours spent engaging in internet-related activities. This kind of use is associated with repetitive, uncontrolled, and compulsive actions. But studies also examine other things besides time spent online to determine addiction. How are people who spend excessive amount of time online being affected? Are there actions connected to other things?

## CAUSE FOR CONCERN

Along with amount of time spent online, researchers examine the negative consequences of internet-related behavior. These consequences make up part of the definition of digital addiction. Mark Griffiths uses six factors to determine digital addiction: (1) salience (amount of time spent thinking about digital activities), (2) mood change, (3) tolerance (increased time needed to feel the same rewards), (4) withdrawal symptoms (negative reaction to limiting or stopping digital activity), (5) interpersonal conflict (interference with personal relationships), and (6) relapse (failure to reduce or stop

behavior). Griffiths defines a digital addict as someone who meets all six criteria.

A 2012 study of twenty-five countries in the European Union (EU) used these factors to determine how prevalent excessive internet use and digital addiction were among children ages eleven to sixteen. Children were asked to respond from "never "to "very often" on statements like, "I have tried unsuccessfully to spend less time on the internet." The study's results demonstrated that 29 percent of children in the EU engaged in excessive use (meeting one or more factors), but only about 1 percent could be defined as addicts. Differences in the countries also ranged in meeting one or more factors from 17 percent of children in Italy to 49 percent of children in Estonia. But children in Cyprus tested the highest, because 5 percent of those surveyed met all five factors.

The study also looked at how other factors correlated to excessive internet use and digital addiction. Correlation is how two things are connected. A positive correlation means two things increase together, like the total sales of bathing suits increasing as the temperatures increase. A negative correlation means one thing decreases as another thing increases, like the total sales of sweaters decreasing as the temperatures increase. Correlation does not mean that one thing causes the other to happen, as other factors can influence this relationship.

Mealtime usually consists of eating, drinking, and interacting with others at the table. But addicts are continuously connected to their electronic devices—even during meals.

Using the internet too much is a behavior associated with digital addiction. The feelings aroused during internet viewing often perpetuate continued use.

So what kind of correlations did the study on internet use examine? The study looked at levels of education of the parents. Education was not a significant influencer of internet use. The study then examined the level of internet access. The Pew Research Center reported that eight in ten houses had internet in 2014. The study also looked at the amount of online materials available in each language, age, and cultural attitudes toward internet use. Age seemed to be one of the most significant factors. Only 22 percent of eleven-year-olds had experience with excessive use versus 37 percent of sixteen-year-olds. Older children often have more access to the internet and available online activities.

## Symptoms of Addiction

The National Institutes of Health (NIH) notes the criteria to diagnose someone with digital addiction. In addition to excessive use, the NIH includes Griffiths's salience factor, or how much time a person thinks about online activities. In the case of a digitally addicted gamer, this would include thoughts about video games already played and future games to play. The NIH's criteria also include the tolerance factor, such as needing to play more hours to achieve the same amount of satisfaction as time progresses. Like Griffiths, the NIH also lists

Today's children are digital natives. Many are growing up in a world surrounded by electronic devices and internet access. This might mean more end up as digital addicts.

## Internet Cafés

What began as coffee shops with internet access grew into places where people illegally download music, foster video game addictions, and even live. In the United States, these cafés began in San Francisco in the 1990s. They were just places that offered internet access on the side. In the United Kingdom, designer Ivan Pope eventually made internet access the main focus of a new kind of café. By 1999, the first chain of this type of internet cafés launched in the United Kingdom. New York's Times Square quickly followed this trend. People pay money to use the café services. In 2011, 350,000 internet cafés could be found across Asia, including China and South Korea. That same year, $19 billion in revenue was generated in five Asian countries just from gaming in internet cafés!

In China, the internet cafés took off because young men wanted a place to play online games. Despite attempts by the Chinese government to monitor these cafés, 14,000 illegally operated internet cafés existed in 2014. There were also 156,000 legally operated ones in China, but some became magnets for crime. For example, in 2002, a few teenage boys burned down an internet café in Beijing with people inside. In October 2015, three children between the ages of eleven and thirteen committed murder and were later found inside an internet café. There have also been incidents of violence resulting in serious physical harm between gamers within the internet cafés.

Throughout Asia, some people live in internet cafés. In Japan, cafés began offering private booths, showers, and laundry services in the mid-2000s. They also provide packages for overnight guests, which many people choose, rather than being homeless. By 2007, 5,400 Japanese people lived in internet cafés according to the country's Ministry of Health, Labor, and Welfare. People can pay as

little as $25 per day, which can be much less expensive than renting an apartment. In China, a girl named Xiao Yun ran away from home at the age of fourteen. She was found ten years later in an internet café, where she had been living and playing all that time.

In the United States, internet cafés are not as popular and do not offer the extensive services of their Asian counterparts. Many US cafés are still just coffee shops, which sell internet access or phone cards. They do not offer personal computers, laptops, or video consoles. US lawmakers and police forces also closely monitor these cafés because they may have the potential to turn into illegal gambling places. In Ohio, internet cafés were banned in 2013 after six police raids discovered that some cafés were engaged in illegal activities, like money laundering and drug trafficking.

mood changes, particularly when trying to withdraw from digital-related activities. These moods can include becoming depressed or easily annoyed.

Studies at Swansea and Milan Universities did a study with a pool of sixty male and female volunteers with an average age of twenty-five. After surfing the internet for fifteen minutes, the digital addicts in the group suffered from negative moods, similar to those experienced by drug addicts. Another study done in England asked one thousand college students to give up the use of technology for the day. The students were between the ages of seventeen and twenty-three and from ten different countries, including America, Britain, and China. The study reported that, "four in five students had significant mental and physical
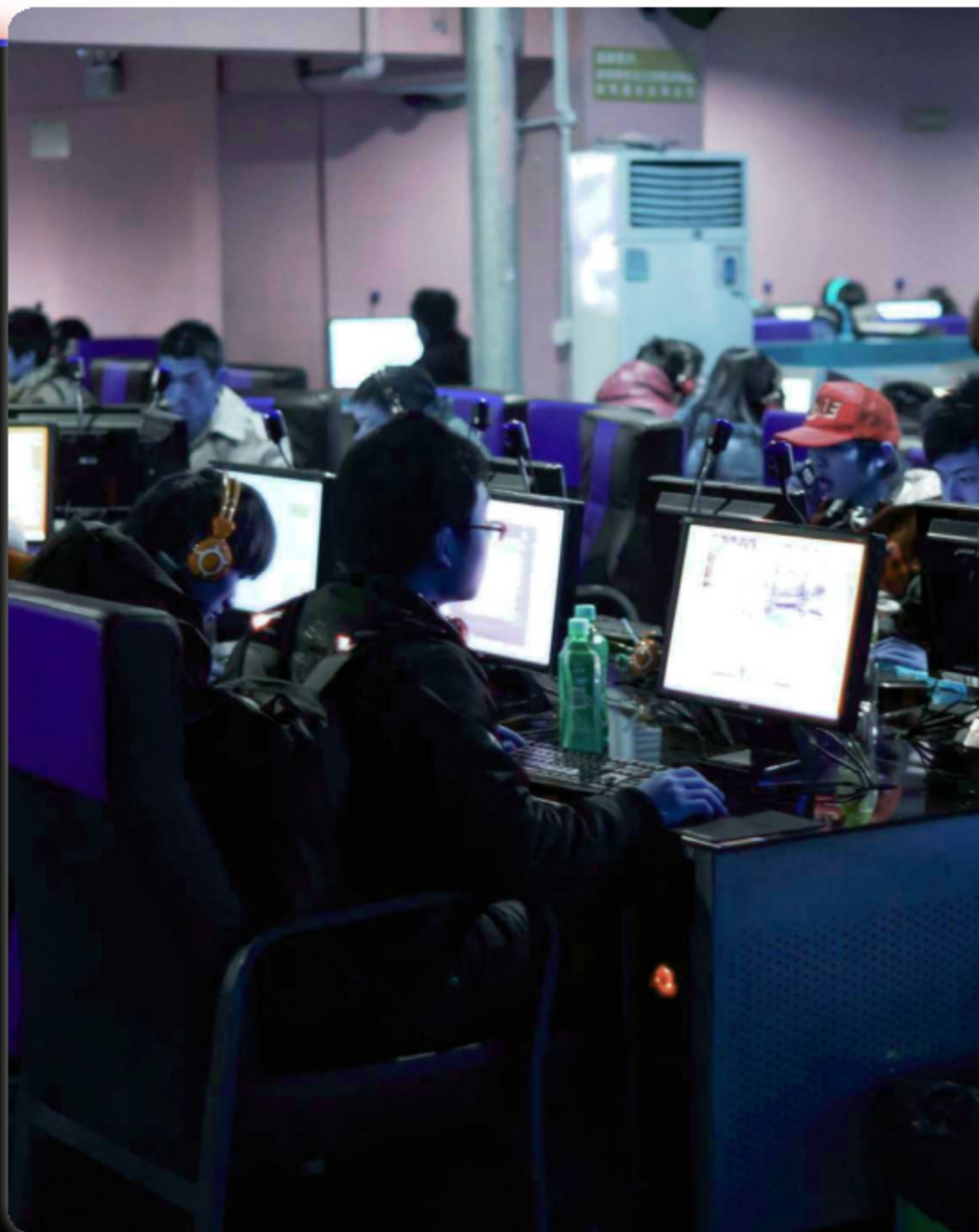
Internet cafés are convenient for accessing the web on the go. But if you're unable to last one day without technology, this may be a sign of digital addiction.

distress, panic, confusion, and extreme isolation when forced to unplug." Physical symptoms even included heart palpitations. In the end, most students were unable to complete the day without technology—even though students were allowed to use telephone landlines as a form of communication.

A relapse, or return to an addictive behavior after attempts at reducing or stopping it, is another sign of addiction. The negative feelings of withdrawal can prompt an addict to relapse. Relapses can also occur when people remember only the good derived from an addictive behavior, believe they can use without repeating old habits, reconnect with people who support the

addiction, or become defensive about their addictive behaviors. Although all of the given factors may be present in digital addicts, the NIH believes that digital addicts must also exhibit at least one other factor, like risking personal relationships, lying to cover up the extent of internet use, or using the internet as an escape from negative emotions. These kinds of behaviors often enable addicts to continue with their activities at the expense of developing more severe addictions, ruining personal and work relationships, losing credibility with others, and failing to receive help for emotional problems.

Addiction can be associated with mental challenges. Withdrawing from an addictive behavior stimulates negative emotions, and many addicts also suffer from mental disorders.

Digital addicts' behaviors affect different aspects of their lives, including personal, school, and work. Digital addicts often choose to engage in addictive behaviors rather than sleep. This loss of sleep negatively affects their performances at school and work. They may slip in their grades as a result of not completing homework assignments or having the effective decision-making and problem-solving skills to do well on exams. At work, digital addicts may also not have the energy to do the job or possess critical-thinking skills to make effective decisions.

Digital addicts also harm their personal relationships. As they spend more time online, addicts neglect bonds formed and strengthened by face-to-face communication. When addicts lie and steal to continue their behaviors, they often ruin their relationships with people who once trusted and respected them. Addicts often use close contacts to support their addictions, like "borrowing" money from them to pay for things, such as online gambling. As David Greenfield, founder of the Center for Internet and Technology Addiction, noted, "Marriages are being disrupted, kids are getting into trouble, people are committing illegal acts, people are spending too much money—and all because of internet addiction."

Engaging in addictive behaviors can keep addicts from satisfying basic needs, like eating properly, bathing, and getting enough sleep. This negatively impacts physical and emotional health.

# Myths and Facts

**MYTH:**

The only factor that defines digital addiction is excessive internet use.

**FACT:**

Several criteria are used to diagnose digital addiction. In addition to excessive use, factors such as withdrawal symptoms, tolerance, and relapse are also considered.

**MYTH:**

Digital addiction does not affect the brain like other kinds of addictions.

**FACT:**

Like drug addiction, medical research shows that digital addiction does affect brain functioning.

**MYTH:**

Digital addicts can just stop using the internet whenever they choose.

**FACT:**

Digital addicts suffer withdrawal symptoms when limiting or completely stopping online activities that often cause them to relapse.

## PSYCHOLOGICAL CAUSES AND EFFECTS

What motivates people to use the internet and their electronic devices excessively? Why do people play video games for hours, use social media sites too much, and constantly check for new emails or texts? One reason that people spend a lot of time online or with their devices is to escape the real world and all its challenges and stressors. Would you rather do homework or chat with your friends online? Would you rather sit home alone and be bored or join a multiplayer online game? Would you rather be angry about sharing a bedroom with your sibling or design your own luxury room in your online mansion?

### ESCAPISM

The internet offers a fantasy world where people can control their environments. To many, these environments may be preferable to the real world. The opportunity to become anonymous or become someone else is another draw. For example, many online games and social media sites encourage people to create identities. Suppose someone is shy, with few friends

in real life. This same person goes online, joins a gaming site, and creates a whole new identity—a character that is popular and outgoing. As this gamer delves deeper into the world of online gaming, she increasingly identifies with her online character. After winning a few games, she receives positive feedback from other gamers and begins to achieve what was difficult for her in the real world— form a positive peer group. Soon, this gamer is continually online, choosing her fantasy life over reality.

People with the highest risk for leading online

Online games come with incentives to keep playing, like rewards for progressing to the next level. These games also provide a context for engaging in fantasies and assuming other identities.
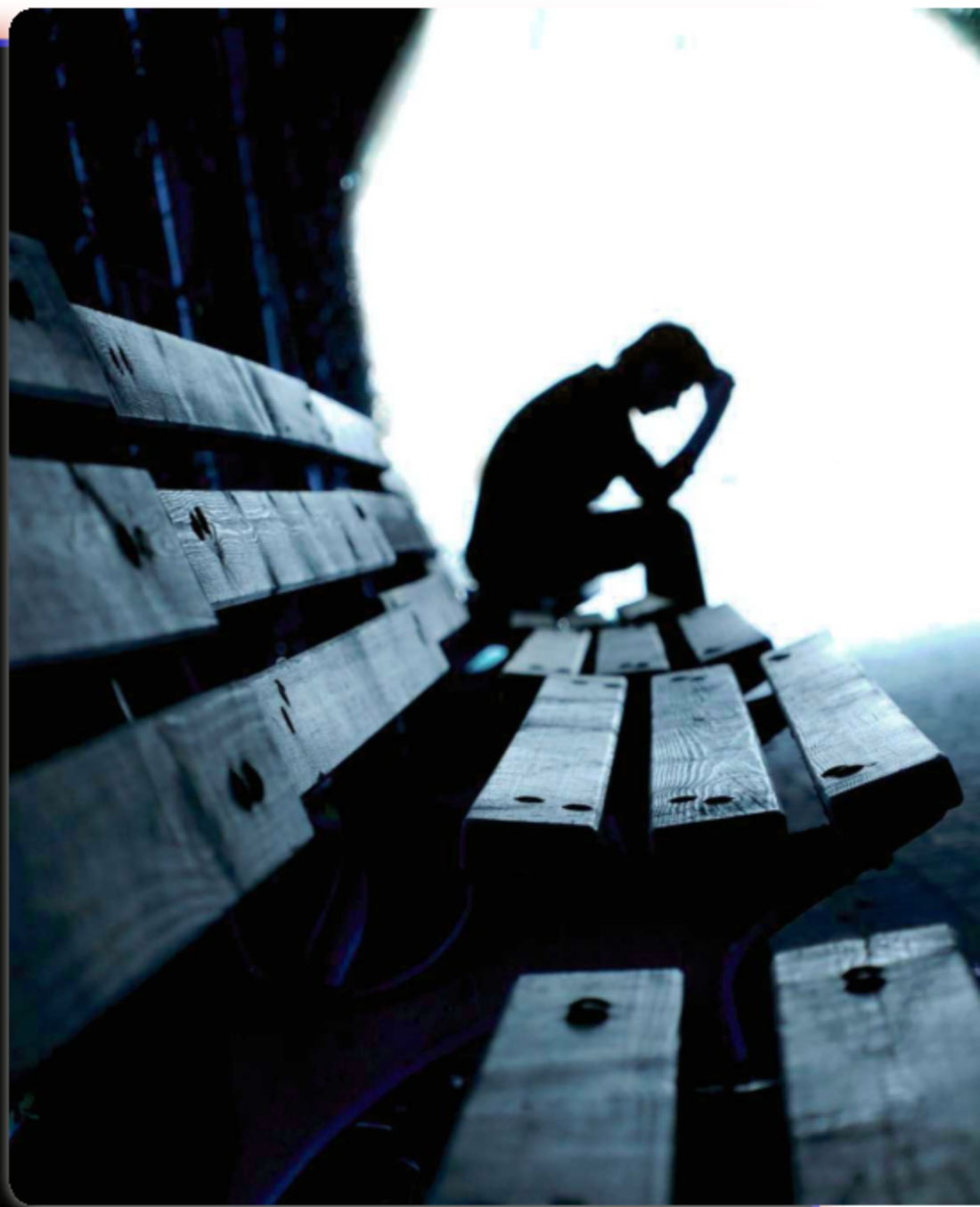
Being online can be isolating because it keeps you from the real world. It prevents you from interacting with your environment and engaging in face-to-face conversations.

fantasy lives are those with little confidence and low self-esteem. They are more likely to want to escape reality and reinvent themselves. Receiving peer attention and approval online reinforces their enjoyment of their fantasy lives. This group of people can also be more prone to mental challenges, such as depression, because they suffer from negative perceptions of themselves. The opportunity to remain anonymous or become someone else draws another group of people. Consider someone who is shy and has difficulty approaching, engaging, and responding to others in real life. Online, this person can reinvent him or herself and engage people with less risk of rejection or disapproval. But reinventing yourself online does not address real-life challenges, such as

learning to feel more comfortable around people and developing social skills. Addressing these challenges promotes emotional well-being; while going online to avoid confronting these challenges is a form of escapism.

There are different levels of escapism. Many people engage in healthy escapism, like drawing themselves away from work to do leisurely activities such as reading a book. Some people use escapism to avoid doing things—like opting to spend hours online instead of doing homework or cleaning. They may also want to avoid dealing with issues such as financial problems or a difficult home life. Eventually, escapism may lead to neglect, where people fail to meet personal and work responsibilities because they are so engaged online. A person who routinely spends hours gaming instead of finishing work, running errands such as grocery shopping, or making dinner for the family is becoming neglectful. Finally, escapism can encompass obsessive behavior, where a person's life becomes primarily about escaping. This level is seriously harmful for personal and work relationships and requires professional help.

## GOT TOO MUCH GAME?

Many people with digital addictions are gamers. One out of every five people with digital addiction is addicted to massively multiplayer online role playing games (MMORPGs). These games involve role-playing and multiple players. Thousands of people can join from around the world and enter these games' virtual worlds

Digital Peer Pressure

Peer pressure happens when you are influenced by some-one of the same age or ability, like a friend. In today's world, many teens face digital peer pressure. They feel pressured to join online communities to stay connected to their peer groups and even to document their lives. Routinely being on social sites and constantly posting statuses, uploading pictures, commenting on friends' posts, and browsing friends' pages becomes part of daily life.

This behavior can be accompanied by a fear—the "fear of missing out," or FOMO. People are afraid that they are missing something important by not being online, or they are being left out, or that others are having more fun. This can increase feelings of anxiety and sadness and feed the need to be online all the time. Dr. David Greenfield, founder of the Center for Internet and Technology Addiction, writes, "The truth is that we are only imagining missing out if we leave our smartphone home or even turn it off. Most things will keep until we have the time and attention to check them, otherwise FOMO will rule our lives and we will become slaves to our digital devices instead of being served by them."

with internet access. Gamers often create avatars, or graphical representations of themselves or an alter ego (alternative personality). These avatars become the computer users in the games and are usually shown in 3D. Gamers customize their avatars, choosing physical characteristics such as hair color or clothes, and move them using the keyboard or mouse. Avatars can also have an inventory of objects to use, from virtual currency to

weapons. Many gamers, particularly those with addictions, become attached to their avatars' identities and environments. They may even prefer them to reality.

Massively multiplayer online role playing games are designed with incentives for continual play, which can perpetuate the cycle of addiction. As more people enter and play, virtual worlds grow. Gamers' avatars become stronger or more intelligent over time. Gamers accumulate higher scores the more they play. Scoring also encourages competition, as gamers try to beat someone else's high score or their own. This competition increases computer use as gamers spend more time online honing their skills. Gamers seek the thrill of advancing in the game and discovering new rewards and challenges along the way. A draw of MMORPGs is also the social component. People play these games together, often forming relationships, as mentors or team players. They reach new levels, achieve higher scores, and navigate the adventures together.

In 2016, popular MMORPGs included *World of Warcraft*, *EverQuest*, *Asheron Call*, and *City of Heroes*. Equipment for MMORPGs and their monthly subscriptions can be expensive. Subscriptions are a continual cost, for example. In 2016, the annual fee for *World of Warcraft* was about $180. Many games also have the added costs of buying equipment that helps you advance to new levels even faster and more efficiently. A digital addiction that involves massively multiplayer online role playing games affects people younger and older than eighteen roughly equally, but men comprise about 75 percent of gaming addicts.

# HOW DOES IT MAKE YOU FEEL?

Some people may turn to the internet or mobile devices because they think it makes them feel better. Glancing at an email from a girlfriend or a Facebook comment from a boyfriend spurs a fleeting moment of happiness. Assuming a gaming identity that mirrors your ideal self can give you a temporary sense of confidence. Uploading a video that you secretly expect will make you famous can give you hope. Becoming the high scorer in a video game can boost your self-esteem. These actions in moderation can induce positive feelings.

But how does having a digital addiction that keeps you excessively hooked to devices affect your moods? In a study from the University of Illinois published in *Computers in Human Behavior*, three hundred students were part of an analysis that looked at mental health, use of internet and devices, and incentives for their use. The study showed that people with digital addiction had much higher scores related to depression and anxiety than their nonaddictive counterparts. But the study also noted that people who use technology as a form of escapism were not receiving these high scores—just the people with actual digital addictions.

Every day, you have choices in your life. For example, you can choose to sit in front of a computer screen and play video games all day in the summer. You can also choose to spend that same summer day outdoors with your friends. The first choice is socially isolating. While addicts may derive pleasure from being on the internet

*World of Warcraft: Mists of Pandaria* was the fourth expansion pack of *World of Warcraft*. This massive multiplayer online role-playing game released an all-new expansion in 2016, called *Legion*.

and their devices, studies indicate that internet addiction is associated with higher rates of depression. In his book *iDisorder*, Larry Rosen wrote about the links "between internet use, instant messaging, emailing, chatting, and depression among adolescents" (ages ten to nineteen), as well as the link between video gaming and depression.

Depression may make a person more prone to addiction. But addiction can also lead to people feeling depressed. It can keep you from spending more time in the physical world, which offers fresh air, sunlight, real social interaction, and other factors essential for your health. Looking at a screen indoors on a sunny day even deprives you of absorbing vitamin D from the sun. Lack of

this vitamin can increase your chances of developing some physical and mental illnesses, including depression. Another negative cycle of internet addiction involves social isolation. Sitting at a computer all day keeps you from talking to others in person, as well as reaping all the benefits of in-person interaction, such as physically expressing yourself and reading social cues. Some digital addicts already felt socially isolated before developing their addictions. These feelings may have even been catalysts for establishing alter egos on gaming or social networking sites and increased computer use.

## DOES IT GO TOGETHER?

Comorbidity is when two or more chronic conditions or diseases exist in a person together, like depression and digital addiction. It does not mean that one condition definitely caused the other, but being aware of a patient's complete mental and physical profile is helpful when addressing and treating disorders. Many digital addicts do have other mental health concerns, such as depression, anxiety, attention deficit hyperactivity disorder (ADHD), hostility, social isolation, impulse control challenges, obsessive compulsive disorder (OCD), and other kinds of addictions.

Many people turn to electronic devices and the internet to fill a need for stimulation, and then they have difficulty using this technology in moderation.

• In many cases, the same regions of the brain or the same neurotransmitters, like dopamine and serotonin, are involved in these disorders.

• One disorder may increase the chances of another one emerging, like a digital addiction with excessive use of violent gaming and hostility.

• According to a study from the *Archives of Pediatrics & Adolescent Medicine*, boys with hostility or ADHD are more prone to developing digital addiction.

• In this same study, girls suffering from social phobias or depression are more prone to developing digital addiction.

• According to the Center of Internet Addiction, more than 70 percent of digital addicts also have other kinds of addictions.

Consider a teen with ADHD. He is easily bored. Excessive internet use offers constant stimulation. He craves quick activity. The internet offers fast options and responses. People with ADHD have poor impulse control, which makes it more difficult to moderate their use of the internet and electronic devices. This can increase the chances of developing an addiction. Next consider someone who has hostility issues. Many games involve violence and therefore ways to express hostile tendencies. This can also make a person more prone to excessive internet use and at higher risk for developing a digital addiction.

Finally, consider a teen with OCD. This condition involves recurring irrational anxiety and fear. The teen often engages in repetitive actions that temporary

alleviate these negative feelings. But once the actions are done, the teen feels overwhelming anxiety and fear once again.

Addiction also involves repetition. It is the repetitive use of a harmful substance or behavior, despite negative consequences. A person who becomes obsessed with gaming is more likely to develop an addiction than a person who plays in moderation. According to the *Journal of Anxiety Disorders*, more than 25 percent of people who receive help for OCD also satisfy the criteria for substance addiction.

# TYPES OF ADDICTIONS

People often use their smartphones to access the internet and visit social media sites. According to Small Business Trends, the top ten social media sites for 2015 included Facebook, Twitter, LinkedIn, Google+, YouTube, Pinterest, Instagram, Tumblr, Flickr, and Reddit. Facebook is the social networking site with the most users. LinkedIn is a professional networking site. People view one billion videos every day on YouTube via mobile devices. Instagram allows you to present your life visually; while Reddit is an entertainment and news-oriented social networking site. Does having so many choices at our fingertips increase the risk of developing digital addictions? Is it too much of a good thing?

## HOW SMART IS OVERUSING A SMARTPHONE?

One focus for digital addicts is the electronic device itself. According to a poll by Common Sense Media and another survey reported by Washington News Wire:

• 50 percent of teens believe they are addicted to their mobile devices.

• Parents of these teens believe 59 percent of their children were addicted to mobile devices.

• 80 percent of teens look at their phones every hour.

• 72 percent respond to texts and other forms of social messages right away.

A texting addiction includes excessive use of texts, the urge to text more, and thoughts of texting even when not engaged in the activity. Moods are also tied to this behavior, like feeling anxious when not texting. Addicts may also lie about how much time they spend texting. Girls are much more prone to texting than boys. The *New York Times* reported that compulsive texting among girls has now been linked to lower academic performance. It can affect their studies in several ways, from lower test scores and notes with fewer details.

Digital addicts may obsessively use their phones for virtual relationships. Many people use dating apps and sites to find partners. These apps and sites can cause people to spend too much time on their electronic devices, rather than engaged in physical interaction, like having a dinner or coffee date. Some people use these sites to present alter egos with deceiving profiles and pictures, rather than their true selves. These virtual relationships can result in excessive use of apps and sites, a preoccupation with checking for messages, cravings to engage in more online dating activities, and even mood

## ELECTRONICS FIRST

Before learning to talk, one in three children are already using phones and tablets. Dr. Jay Watts noted that "the modern day playground is virtual." Parents often give electronic devices to children to keep them occupied. According to the *Telegraph*, "children as young as four are becoming addicted to smartphones." The *Telegraph* also reported that "one in seven of more than 1,000 parents questioned by babies.co.uk admitted that they let them use the gadgets for four or more hours a day." Babies under one year are usually awake for about ten hours or fewer a day. These babies are plugged in for at least 40 percent of their waking hours.

Signs of addiction in both younger and older children include reluctance to engage in activities other than using electronics, preoccupation with technology, argumentative nature, noticeable withdrawal, and dishonest behavior. Parents often notice that the internet keeps children from normal daily activities, like sleeping and eating. Children may suffer from stomachaches, headaches, nail biting, and other symptoms associated with anxiety. Digital addiction can also lower both focus levels and academic performance. Dr. Richard Graham, creator of the United Kingdom's first technology addiction program, stated that young digital addicts "can't cope…reacting with tantrums and uncontrollable behavior when they [the devices] are taken away. Then as they grow older, the problem only gets worse."

Texting is common, even between people in the same room. This form of communication lacks personal, one-on-one interaction and often causes misunderstandings.

swings that correlate to the number and kind of responses from these sites.

Smartphones are also used both to find out information and to shop. People can spend hours reading online news, watching videos, and just surfing the internet. They can also use the internet for shopping, comparing products, finding the best prices, and placing orders. Moderate use of the internet for these purposes can have many benefits. But some addicts excessively use the internet for these activities. Over time, addicts require more hours online to derive the same amount of pleasure. This behavior often leads to interpersonal conflicts, as addicts withdraw from the real world to be online. As addicts neglect those around them and lie about their actions, both work and personal relationships suffer. Compulsive shopping can also result in serious financial issues, as people spend way beyond their means.

Digital addictions, like smartphones addictions, have other negative consequences. These addictions are associated with loneliness and sadness because they are often correlated to social isolation and poorer self-images. Smartphone addictions can increase both anxiety and stress levels, as people feel the urge to check their phones and respond constantly. These addictions can also worsen attention levels because it causes people to focus on too many things at once. Using the smartphone too much can also produce harmful sleep patterns, which affect thinking and memory.

Many parents give electronic devices to their children at young ages to pacify them. For example, parents may opt to let children watch videos while they prepare dinner. Or parents may give their children phones to play with in the grocery store lines or on car rides. These kinds of actions encourage children to engage in electronic activities. They can also send a message to turn to electronics when bored or anxious.

Parents can also model behavior associated with digital addiction. Many parents use electronics excessively or are digital addicts themselves. Children watch their parents spend hours online, particularly on social media sites. These children may even grow up with their youth being documented by their parents on sites like Facebook. As a result, children may repeat the actions they see from their parents and be more prone to using electronics.

**ARE PARENTS ENCOURAGING DIGITAL ADDICTION?**

## ONLINE GAMBLING

People can gamble in places called casinos or online. Both sources offer opportunities to win or lose money with games like poker, blackjack, roulette, and slot machines. Online gambling addicts meet the same criteria as other addicts. They spend excessive amounts of time engaging or thinking about online gambling. They need to spend more time and money gambling to feel the

same rewards as earlier in their addictions. Addicts have difficulty reducing or stopping online gambling and lie to cover up their addictive behaviors. Online gambling can also lead to serious debt, as people gamble away more money than they have and often borrow to feed their addictions. Some gambling addicts commit crimes, like robbery or fraud, to obtain money to gamble. Lying, neglectful behavior, and illegal activity harm addicts' relationships with others.

In some ways, online gambling makes it easier to develop an addiction than gambling at places like casinos. People have more access to online gambling sites and their actions are not as closely monitored by others. Many sites present themselves as "free-to-play," which encourages people to gamble online. These "free-to-play" versions often allow people to win "play money" easily, creating the perception that they can win real money easily, too. Some sites also engage in other deceptive practices by failing to provide full disclosure of information. Gamblers may also find it is easier to spend money online, especially when accounts are linked to credit cards, than when using physical cash. This ease can promote compulsive gambling. Other factors that can make a person more prone to this addiction include depression, other kinds of addiction, and anxiety disorders. Most online gambling addicts are men.

Online gambling sites encourage people to begin and continue gambling by offering convenience, bonuses for new players, and promotions for regular players.
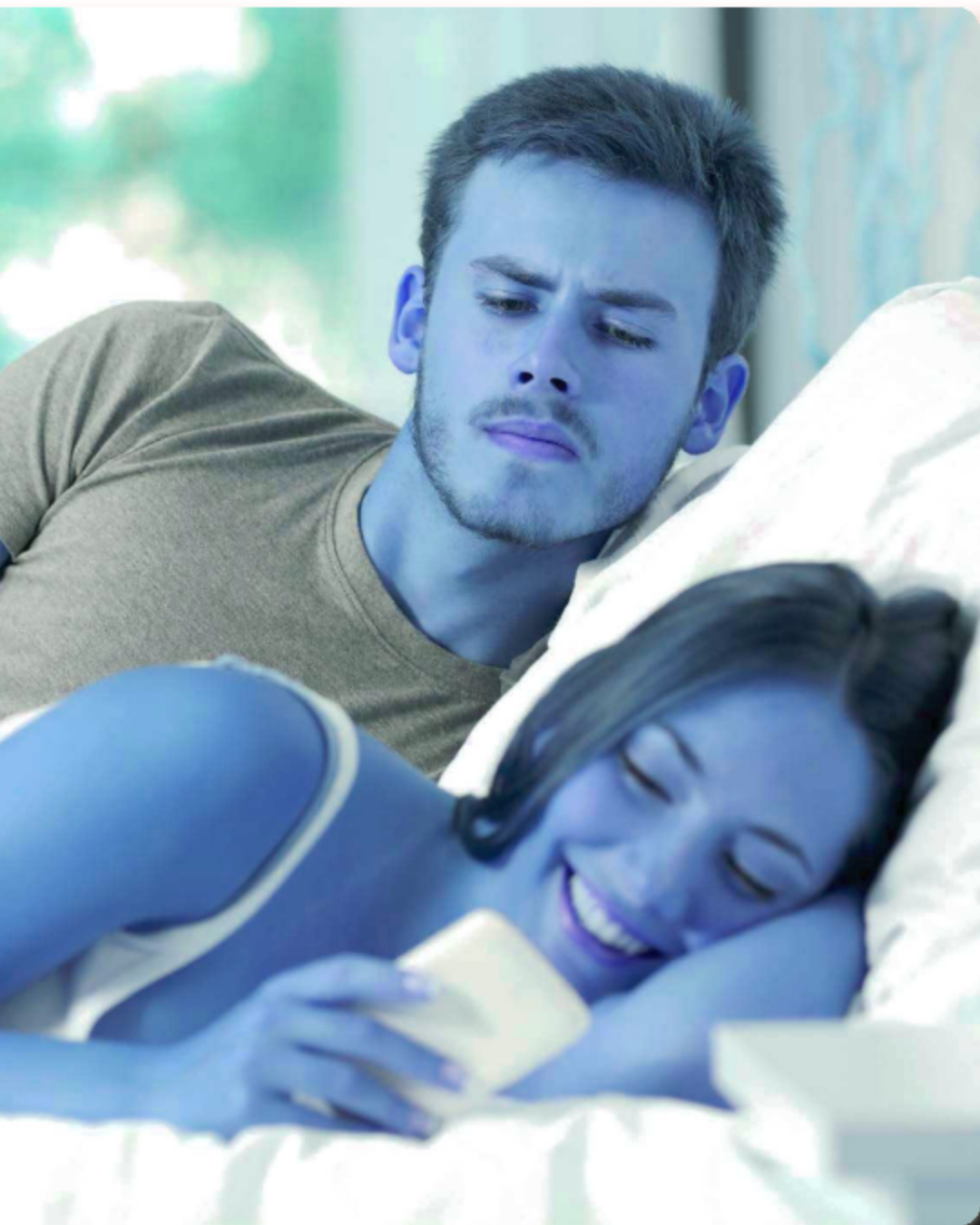
# CYBERSEXUAL ADDICTION

Like gambling addictions, sex addictions are also more prevalent because of the presence of the internet. Cybersexual addiction involves some kind of online sexual activity. Men are more likely to view cyberporn, or sexually explicit material available on the internet; while women are more involved in sexual chatting. Cybersex is when computer users plan and act out their sexual fantasies via the internet. Some men and women become addicted to this kind of sexual behavior.

Many cybersexual addicts have low self-esteem and poor body images. They spend a lot

Some married men and women use the internet to find, flirt, and sexually engage with people other than their partners. This can lead to marital challenges and even divorce.

of time looking for online sexual partners or engaging in sexual acts via the internet. These actions can cause dopamine releases and feelings of pleasure. Cybersexual addicts crave the next time they will derive these feelings of pleasure from an act of cybersex. Cybersexual addicts often lie to hide their actions, especially from spouses who may be unaware of their partners' behaviors. When known, these online activities can lead to marital issues, such as trust problems, separation, or divorce.

The internet encourages excessive use of cybersex in a number of different ways:

1. The internet allows people to engage in cybersex while remaining anonymous. Many people do not know the true identity of their online sexual partners. This makes people more likely to engage in cybersex because it is less risky.

2. The internet makes cybersex more accessible, with immediate access to cyberporn sites and adult chat rooms. This ease also makes people more apt to pursue cybersex. Internet Porn Statistics reported 4.2 million pornographic sites.

3. Many sex addicts are at high risk for contracting sexually transmitted diseases through physical contact with their sexual partners. But the internet takes away this risk, as it presents a way to satisfy sexual urges without actual contact.

American teens and adults use their smartphones to communicate in a variety of ways in their social and work lives.

# Too Plugged In

A 2015 report released by the Pew Research Center studied the behavior of teens, ages thirteen to seventeen, regarding their use of electronic devices and social media. The study found the following:

- Seventy-one percent of teens use Facebook. The average teen has 145 Facebook friends.
- Fifty-two percent of teens use Instagram. More girls than boys share videos and pictures on this site.
- Forty-one percent of teens use Snapchat. More girls than boys also use this video and photo site.
- Thirty-three percent of teens use Twitter. Older teens use Twitter more than younger ones.
- Higher percentages of girls than boys visit social media sites, with Instagram and Snapchat being the most popular.
- Higher percentages of boys than girls play video games, with 91 percent of boys having access to game consoles.
- Eighty-eight percent of teens have access to cell phones.
- Seventy-three percent of teens have access to smartphones.
- Ninety percent of those with cell phones engage in texting.
- Eighty-seven percent of teens have access to desktop or laptop computers.
- Fifty-eight percent of teens have access to tablet computers.

# Are You a Digital Addict?

Knowing the symptoms of digital addiction is an important step in assessing where you may be on the spectrum. If you are a digital addict, you are not alone. Teens around the world are struggling with being addicted to the internet and their electronic devices. In Japan, almost 10 percent of high school girls spend at least fifteen hours each day on their phones. China reports twenty-four million digital-addicted teens. The United States reports 24 percent of teens identifying themselves as video game addicts. Solving any problem, including addiction, begins with admitting there is an issue. People must take responsibility for their actions and the consequences of their actions. Only then can they create and engage in solution processes. With digital addiction, this process includes recovery plans that help addicts manage their use of the internet and electronic devices. Are you or someone you know digitally addicted? Take a closer look to find out. Then you can determine if you need help.

# STEP 1: AWARENESS

Getting help for an addiction begins with awareness. An addict must take ownership for his or her addictive behaviors. Addicts commonly lie and deny as a means to continue with their addictions. To begin recovery, addicts must be honest with themselves and others about their behaviors. An addict may tell his parent that he played video games for an hour when he really skipped school to play video games all day. Someone who wants to stop a video game addiction eventually needs to admit the real number of hours spent gaming.

Do you have an addiction or do you just use your devices a lot? Keeping a daily log may help you decide. Record how many times you check your phone, text, and send emails. Write down the number of hours spent on video games or online over one month. Be honest. The only way to effectively determine if you have excessive use of devices is to record your actions accurately. Do not be surprised if you use technology more than you thought. The percentages of teens using cell phones and social media sites are high!

Addicts experience withdrawal symptoms when limiting or completely stopping the use of the focus of their addictions. Do you frequently use a cell phone, computer, or other type of electronic device? What would

Admitting you have a digital addiction is the first step to getting help. Unlike other addictions, treatment may not require abstinence. But it does require moderate use.

## Seven Stages of Addiction

Are you or someone you know a digital addict? If so, where do you fall on the addiction model? This model consists of seven progressively worsening stages of addiction. Stage one is acceptable use of the internet and devices, while stage two is excessive use of this technology. Stage three occurs when someone increasingly substitutes online activities for offline ones. Stage four progresses to using the internet to fill almost all needs. For example, almost always turning to social networking sites to fill emotional or social needs. Stage five encompasses a completely unbalanced life, with online activities dominating daily functioning. Stage six introduces denial of the characteristics of digital addiction. By stage seven, the digital addiction has become harmful to the addict.

happen if you limited your use of this device? How would you feel if you reduced the number of times you used social networking sites or the number of hours you spent gaming each month? Try to decrease the time you spend plugged in. Continue to keep an accurate log of your actions to confirm that you are spending less time with technology.

As you limit your time, pay close attention to how you feel. Let others—such as parents, siblings, and friends—know that you are spending less time plugged in. This will explain why you might be less reachable or responsive via technology. Sharing this information will also allow others to help you identify and cope with any withdrawal symptoms that you may experience, such as

moodiness. People who suffer withdrawal symptoms may require professional assistance. Another criterion to note when assessing a possible addiction are relapses. Record any times you returned to your prior behaviors, like excessively using your phone again.

If you think you may have a digital addiction, remember to assess your individual situation. Comparing yourself to others takes the focus away from the real issue. Many of your friends may use their electronics as much or even more than you. But this does not mean that you do not have an addiction. You could still be one of thousands of teens who have digital addictions. As technology becomes a way of life in the twenty-first century, digital addiction is a health concern for many people.

## STOP ADDICTION? PARENT SAYS YES. TEEN SAYS NO.

Suppose your parent thinks you have a digital addiction. You do. But you don't want to stop your digitally addictive behavior and even rationalize it. Rationalization is inventing reasons for things that actually have other causes. A digital addict who is sleep deprived from gaming all night may rationalize being tired by saying, "Of course, I'm tired. All teens are tired." In reality, his tiredness is not from being a teen; it is from his excessive use of gaming associated with his digital addiction. People who suffer from some mental disorders and diseases frequently use rationalizations to cover up the

Many parents struggle with how to help their digi-tally addicted teens. Often teens rationalize their behaviors, rather than engage in direct and hon-est discussions.

real reasons for their actions. Rationalizing is a tool used to divert people's attention away from the real issues.

Many parents struggle with children who have digital addic-tions. They notice their children spending too much time plugged in. They watch their children choosing to be online rather than doing other things, like hanging out with friends. They see their children routinely tired from excessive internet use. They hear about their children losing focus in school and see their children's poor grades. They experience that their children's screen time takes precedence over showers and changing clothes. And they want to help their children recover from their digital addictions.

Addressing digital addiction is a difficult undertaking for parents. It can often result in fights because many parents express anger and frustration, and many addicts feel anger, sadness, and hostility. Parents may react by punishing children by taking away electronic time or trying to enforce no computer time at all. These approaches often increase the negative feelings within their teen addicts. A more effective solution may be moderation and clear, enforced schedules. Parents and teens (even those not addicted) can work together to create a schedule for computer use, like one hour each day.

This schedule is not a punishment. It is a plan for managing computer time. It also does not require teens to become completely unplugged, but rather

Parents seek to understand the motivations behind their children's excessive use of digital devices and the internet. Then they can offer help and healthier alternatives.
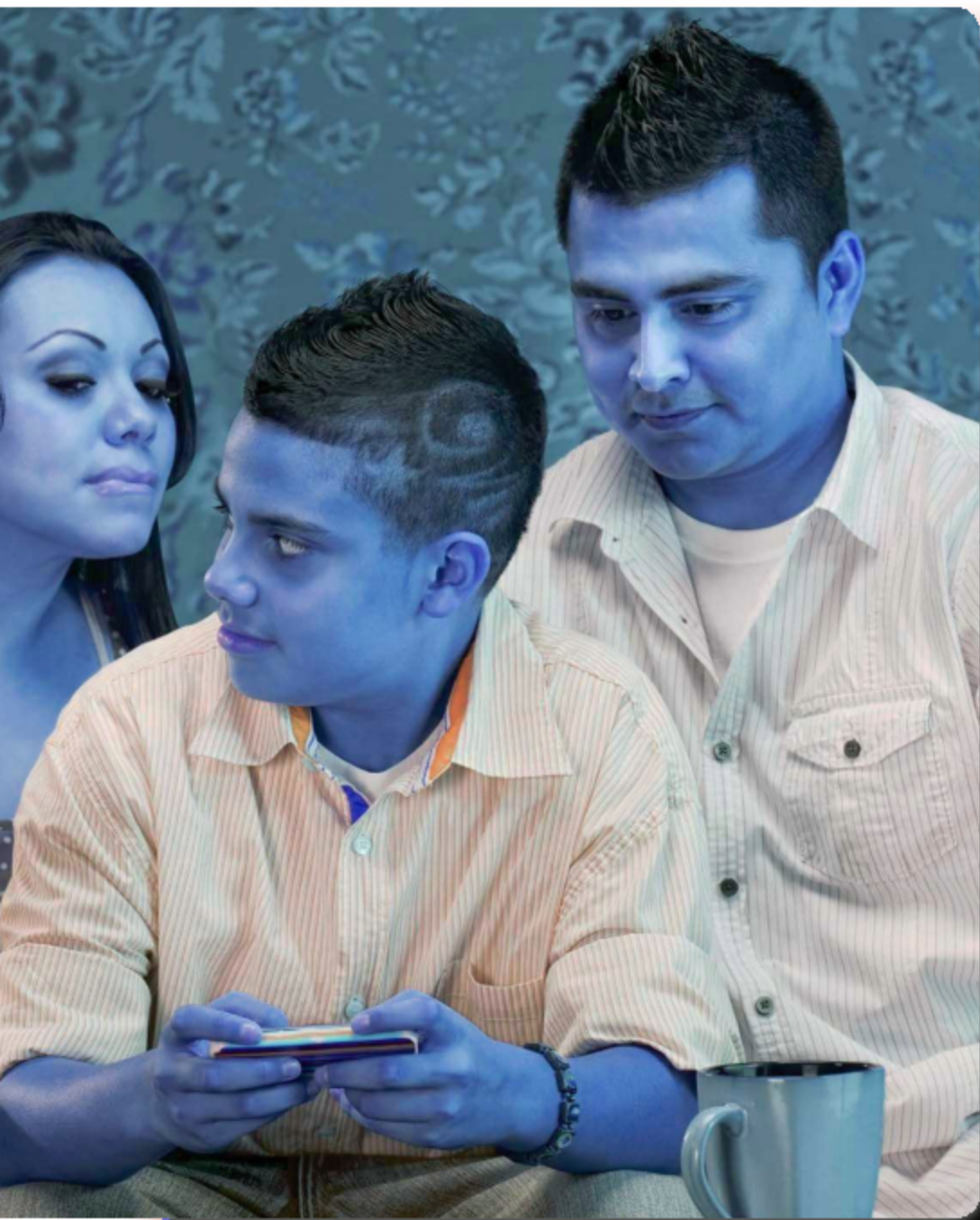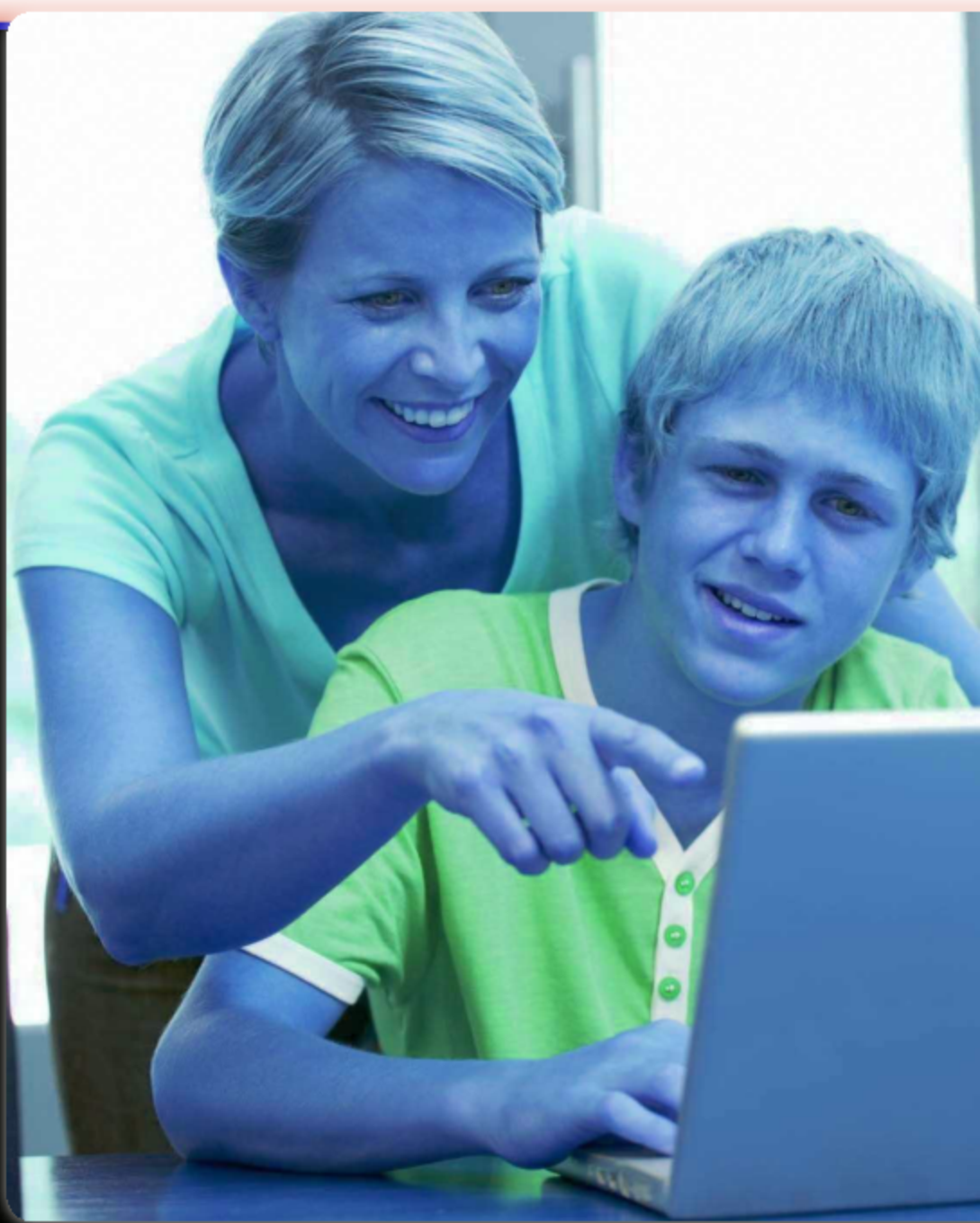
Your parents can help you manage your time on the internet so that you learn how to use it in a healthy, beneficial way.

encourages them to use computer time in a productive and healthy way. After establishing the schedule, keep a log of time spent plugged in. This can help the recovery process in two ways. First, it involves the child or teen in the process and creates an awareness of his or her actions. Secondly, it shows if the schedule is being followed, requires modification, or the teen needs additional help to reduce computer time.

Parents can also seek to understand why their children are spending so much time online. Does it fill social needs, like belonging? Are the children trying to avoid something, like problems in school or at home? Are the children using their gaming successes to increase their self-esteem? Do children think it is easier to have online friends, rather than to

engage people in school or the community? By becoming aware of the needs met by internet and device time, parents may be able to help their children fill those needs in healthier, offline ways.

## Can Technology Help Digital Addicts?

Technology may help you to reduce the time spent on the internet or devices. Some apps, such as RescueTime, track time spent on sites or applications. My Mobile Day allows users to set time intervals for engaging in certain apps. These time recording apps provide an accurate picture of how much time an addict is spending online. Other apps, like My Minutes, remind you when your time spent on an activity (like surfing the internet) is done. These apps also promote using the internet and devices in moderation.

Some parents seek apps to monitor or reduce computer time. For example, Dinner Time Plus gives parents the ability to lock and unlock their children's Android devices. If parents wish to have a technology-free dinner, they can lock the

When people unplug, they find new ways to interact with others and experience their surroundings. This supports good physical, emotional, and social health.

devices until the meal is finished. Parents can choose between the Dinner Time function, which locks a device for up to two hours, Take a Break, which extends this time to twenty-four hours, and Bed Time, which provides start and stop times. Another app called Net Nanny provides internet filters, time management options, and social media monitoring. MobSafety Ranger Browser also offers filter settings for certain websites and time limit options.

Some apps are particularly useful for people struggling with being addicted to their cell phones. The app Moment automatically tracks time spent on an iPhone, with an option to set a daily limit. Menthal is a free Android app that tracks the apps most often used and for how long, amount of time spent on the phone, and number of times the phone was unlocked. BreakFree also tracks apps most frequently used and time spent online, and then it gives you an addiction score. Using apps to track your online behavior and to set time limits is an effective use of technology.

## Test It

There are both online and offline tests to determine how plugged in people are to technology. For example, the Center for Internet and Technology Addiction has a Digital Distraction Test that assesses how much time is spent online and with devices, the effects of reducing this time, a person's preoccupation with using technology, preferences for being online, and negative effects on productivity. Positive responses to three or more questions may indicate an issue. The center also offers a Virtual Addiction Test that

1. How can I tell the difference between excessive use and addiction?

2. How do I know if my form of escapism is the healthy kind?

3. What can I do to resist the urge to immediately respond to texts?

4. Why do I feel a need to document my life online?

5. How can I moderate my use of electronic devices?

6. Am I at risk for developing a digital addiction?

7. If I have a disorder like depression or ADHD, am I more likely to develop a digital addiction?

8. Are all people who game for hours every day considered addicts?

9. What are the treatment plans for digital addiction?

10. Can people fully recover from digital addictions?

examines the criteria for digital addiction more directly, including salience (preoccupation with digitally related activities), tolerance (needing more time online to achieve the same high), withdrawal symptoms and tendencies to relapse, and interpersonal conflicts (such as those arising from lying or illegal acts). Scores below fifty are associated with none to mild impairment, but scores between eighty and one hundred indicate significant issues with internet use.

# Digital Addiction Treatment

Suppose someone is addicted to alcohol and wants to stop his addiction-related behaviors. The addict has several options, such as inpatient and outpatient programs. These options may involve a lifelong relationship with a sponsor who helps prevent relapses. They may also offer weekly meetings during the addict's lifetime to manage the recovery. These are all ways for a recovering alcoholic to make a lifetime commitment to staying sober. What about someone who wants to stop being a digital addict? Do these addicts have options to support their recovery? What about people who have relatives or friends who are digital addicts and want them to lead lives free from the behaviors of digital addiction? Are there resources to help them?

A recovering alcoholic makes a choice not to drink. The recovering addict chooses to lead an alcohol-free life. But what about a digital addict? Is it realistic to expect people to live completely digital-free lives? So much of our personal, academic, and work lives take place online. Is it fair to limit a person from technological opportunities because of a digital

Comedian Mark Malkoff locked himself in his bathroom for 120 hours to unplug. He read books, ate, used the toilet, and slept in a sleeping bag in the bathtub.

addiction? Many of the treatment plans for digital addicts stress moderate use of the internet and electronic devices, instead of abstinence. Although a relatively new diagnosis, those suffering from digital addiction, and those around them, can find help.

## Treatment Programs

Suppose someone is aware that he or she has a digital addiction. The addict has also made the decision not to fully remove himself or herself from the internet and electronic devices. He or she has tried to reduce the use of technology but experienced withdrawal symptoms, including increased anxiety and restlessness. These symptoms further resulted in a relapse of using the internet and electronic devices more frequently. How does this addict manage digital addiction and learn to use technology in a more balanced way? What kinds of treatment plans are most

effective in helping an addict to implement a balanced life—free from relapses?

In 2009, the Heavensfield Retreat Center reSTART Internet Addiction Recovery Program launched the first recovery program to help digitally addicted youth and adults. Initially, it was a forty-five-day program with only two to six people being treated simultaneously. In 2009, the program still treated an average of five or six patients, which consisted mainly of young men ages eighteen to twenty-eight, offering forty-five to ninety-day programs. The program requires complete abstinence from gaming and the internet. Rather than spend their time online, recovering addicts engage in activities such as nature hikes, chores, volleyball, board games, career

Playing active outdoor games like volleyball can help digital addicts deal with complete abstinence from the internet while they are in treatment.

development, and therapy, while working with staff that includes recreation coaches, therapists, and yoga instructors. Located about thirty miles (forty-eight kilometers) from Seattle, Washington, this program combines several approaches, such as total detoxification, cognitive behavioral therapy, experiential adventure-based therapy, mindfulness relapse prevention, and animal-assisted therapy.

An alternative to a digital detox is a recovery program that encourages moderate use of the internet and electronic devices. Many professionals advocate inpatient treatment programs for moderate to severe digital addicts. While living at these facilities, patients are fully monitored in their use of the internet and electronic devices. They also receive medical services, such as therapy, to assess the causes and effects of their addiction-related behaviors. Patients learn about digital addiction and how to manage it in the real world. If suffering from other disorders, such as depression or ADHD, the patient may receive treatment from professionals for these issues as well. Inpatient treatment centers assist people with different kinds of digital addictions, including gaming, gambling, and cyber-sex addictions.

In 2013, an inpatient treatment program to treat severe digital addicts in the United States opened its doors. The voluntary program at Bradford Regional Medical Center in Pennsylvania originally offered a seventy-two–hour digital detox and a ten-day extended-stay option.

The Digital Device Detoxification Program at Bradford Regional Medical Center provides individual,

group, and family therapy. The medical staff includes psychiatrists, psychologists, counselors, social workers, nurses, and case managers. Each day, patients can receive individual therapy sessions and reintegration into life with technology. Over the course of their ten-day stay, patients also benefit from evaluations, programming, and discharge plans. The cost of such a program is about $14,000. As long as the American Psychiatric Association does not classify digital addiction as a mental illness, insurance companies will not cover the cost of inpatient treatment programs.

## COGNITIVE BEHAVIORAL THERAPY

Digital addiction is viewed as an impulse control disorder because people are unable to fight the urge to carry out an action that is harmful either to themselves or to others. Since cognitive behavioral therapy (CBT) has been effective in treating other kinds of impulse control disorders, it is highly recommended for the treatment of digital addiction. CBT is built on the premise that thoughts cause feelings. This kind of therapy focuses on developing new patterns by monitoring thoughts, identifying triggers, and implementing new coping mechanisms to prevent relapses. The goal is to replace thought patterns related to unhealthy digital use with healthier, balanced thought patterns. Digital addicts may have three months of CBT treatment. Therapists in both inpatient and outpatient programs can use cognitive behavioral therapy to treat digital addicts, with some hourly outpatient sessions costing $120.

The first stages of therapy focus on areas that are most challenging for the patient trying to control his or her impulses. Later stages of therapy examine assumptions and distorted thoughts that result from addiction-related behaviors and their consequences. These stages can be divided into three treatment phases. In the first phase, patients analyze their computer and noncomputer behaviors. In the second phase, patients address denial and rationalizations used to engage in addiction-related behaviors, including triggers like trying to fulfill emotional needs. Finally, in the third phase, patients focus on how to proceed with recovery in ways that prevent relapses, including addressing other disorders. This final phase incorporates harm reduction therapy. Dr. Kimberly Young created the first therapy model to treat digital addiction.

## Boot Camps

A boot camp is a place where people are sent involuntarily (without their consent) to engage in behavioral modification that uses military-style discipline (strict rules, few explanations, and complete obedience). In Asia, some parents are sending their digitally addicted children (as young as eight years old) and teens to boot camps for treatment. Worried that their children's grades are correlated to their excessive gaming or internet use, parents admit their children to these camps, even by force. In China, young patients, mostly gamers, then face severe reprogramming for three to six months. In

So what's it really like in the Daxing Internet Addiction Treatment Centre? Award-winning Israeli filmmakers Shosh Shlam and Hilla Medalia take you inside Daxing's metal bars in their PBS documentary *Web Junkie*. Spending three months inside the facility, the filmmakers were introduced to addicts so severe they wore diapers to avoid bathroom breaks that would keep them from gaming. Preferring virtual worlds, one addict confided, "Reality is too fake." Some addicts were mislead into entering the facility (even drugged with sleeping pills) and do not remember how they arrived in their cell-like rooms.

As the film documents the lives of three gaming addicts, the filmmakers examine the motives of gamers. In China, families are encouraged to have only one child, on whom many parents put a lot of pressure to succeed, especially academically. Many children battling these pressures turn to gaming to escape. They may also turn to the internet to alleviate loneliness. As part of the treatment program, these incentives are explained to parents seeking to understand the motivations behind their children's addiction-related behaviors.

ADDICTED TO ELECTRIC HEROIN

2015, China had more than four hundred boot camps, which require patients to take medication and perform physically challenging exercises. Internet-addiction boot camps are prevalent in Korea and Japan now, too. In Japan, they are also known as Internet fasting camps.

In 2006, the Daxing Internet Addiction Treatment Centre (IATC) opened in Beijing founded by a colonel

Part of the digital addiction treatment program at China's Baiyun Mental Health Hospital consists of engaging in daily nondigital activities, such as gardening.

and doctor in China's People's Liberation Army. Having treated six thousand patients by 2015, this program consists of exercise (like holding difficult positions for half an hour on hard floors), medication, brain scans, and solitary confinement. During this time, Chinese youth completely abstain from technology. Most patients are young men addicted to massively multiplayer online role playing games (MMORPGs). The goal of the six-month program is that patients will not use the internet for more than six hours each day. The program has a monthly cost of $1,440.

Several boot camps have been accused of abuse and causing deaths among their patients. One incident involved fifteen-year-old Deng Senshan. His parents admitted him to a boot camp in the southern Chinese province of

## Plug In Moderation

Many successful recovery treatment programs emphasize a way of life that works for people on every part of the internet and device use spectrum, from occasional internet surfers to gaming addicts—use the internet and your electronic devices in moderation. Overusing anything is usually not a good idea, and technology (even with all of its benefits) is no exception. Set boundaries for yourself. Choose a certain amount of time or selected times during the day to plug in.

Consider routine times to unplug, like dinnertime or an hour before bed (to promote better sleep). Think about unplugging when with family and friends to be fully present together, rather than being only physically present. A nonprofit organization called Reboot launched an annual National Day of Unplugging to encourage people to take a technology break for one whole day. Religious Jewish people engage in this kind of break every week when observing a day of rest known as Shabbat. During this time, people do not engage in anything involving technology, such as phones, televisions, and computers. For about twenty-five hours, there is a complete break from the internet and all electronic devices.

Guangxi. Xinhua News Agency reported that some boot camp students saw Deng being beaten and marks were found on his body. At one point, China's Ministry of Health had to ban a hospital from using electric shock therapy to treat digital addicts. Many addicts suffer from other disorders, such as attention deficit hyperactivity disorder, which can make following directions difficult. At military-style boot camps, there may be little tolerance for addicts suffering from other disorders.

# MEDICATIONS

Treatment plans can encompass psychotherapy, family counseling, and pharmacology (medication). Some medical researchers have studied the effects of different antidepressant medications in treating digital addiction. A study done at Mount Sinai School of Medicine in New York analyzed the effects of Lexapro (escitalopram) on patients with digital addition. This antidepressant was viewed as effective in addressing the impulse control disorder associated with the internet, allowing patients to decrease the number of online hours from thirty-six to sixteen hours. Other antidepressants used to treat digital addiction include Celexa (citalopram), Seroquel (quetiapine), Vivitrol (naltrexone), and Wellbutrin (bupropion).

Digital addiction is viewed as an impulse control disorder. People suffering from this disorder experience feelings of anxiety and tension, engage in impulsive acts, and then feel satisfaction followed by guilt or regret. The neurotransmitter serotonin has been linked to impulse control and depression. Some antidepressants, called selective serotonin reuptake inhibitors (SSRIs), have been commonly used to treat both of these kinds of disorders. These medications seek to change serotonin levels, thereby uplifting people's moods. SSRIs are also used to treat anxiety.

Gamma-aminobutyric (GABA) is another neurotransmitter associated with impulsive behavior. It is a calming inhibitory neurotransmitter. Like with serotonin, proper levels of GABA help people to stay calm. People who have too little of these neurotransmitters can feel

anxious, panicked, unable to relax, consumed by worry, headaches, and physical pains. Raising GABA levels in the brain can encourage people to act less impulsively.

## Growing Global Need

Digital addiction is on the rise around the world. Countries, including the United States and Australia, offer inpatient treatment programs. Italy has treatment centers for digital addicts. Countries like Sweden, Pakistan, Israel, and Germany all report many cases of digital addiction. Japan and Taiwan officially classify internet and smartphone addiction as medical disorders,
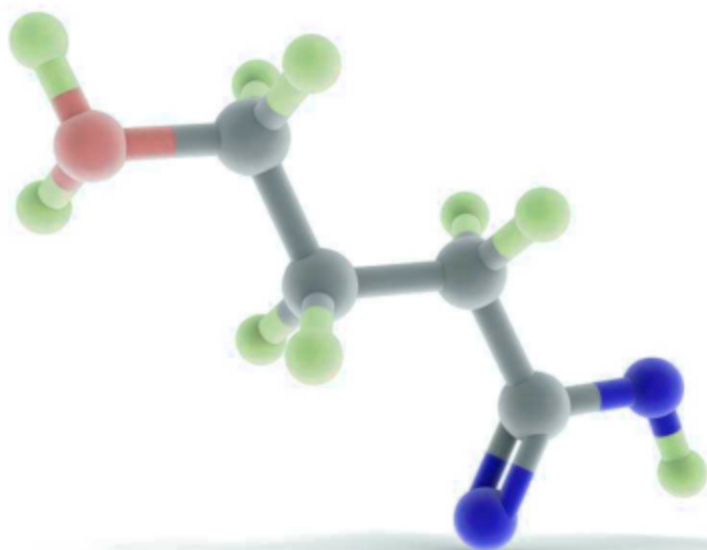


Humans need certain levels of the amma-aminobutyric acid (GABA) neurotransmitter, shown here, to keep calm. Increased levels may help otherwise anxious people less likely to act on their impulses.

Digital addiction is a growing concern. People are becoming more attached to the internet and their electronic devices, including apps like Pokemon GO.

with patients eligible for inpatient care. China and Korea have boot camps for digital addicts.

In 2014, medical experts gathered in Milan, Italy, for the first Internet Congress on Internet Addiction Disorders. While the need to address digital addiction is becoming a worldwide problem, the approach to treating this addiction varies by country. China favors military-style boot camps. Japan and Germany identify at-risk children and use camps that stress complete abstinence from technology. Korea also identifies at-risk children and teens. The country then provides both reeducation programs and inpatient treatment centers. Treatment in Japan, Germany, and Korea all receive government support. Italy uses

theater therapy and avatar therapy to explore the emotional aspect of addicts. France prefers to address digital addiction through early education.

Dr. Kimberly Young attended the Internet Congress. Founder of the Center for Internet Addiction, Young is also the director of the Internet Addiction Treatment Clinic at the Bradford Regional Medical Center in Pennsylvania. She attended the congress partly to learn about treatment ideas implemented in other countries. "In America, we've done very little to combat the problem compared to other countries," she said. "I came back thinking that I really need to begin raising awareness of this. It's not necessarily about internet addiction, but the use of technology in our lives. We're so consumed by it." One of the things Young would like to see in the United States is screening of young children and educational programs for those at-risk for digital addictions.

In the future, the Internet Congress on Internet Addiction Disorders will further explore the definition of internet addiction, the existence of other mental disorders and illnesses that exist simultaneously, the role of age in the onset of addiction, the most effective treatment programs for different kinds of digital addicts, and how culture and government policies affect outcomes. One thing that's for certain is that digital addiction is here to stay. As technology becomes an essential part of so many people's lives worldwide, the threat of this new addiction increases. People who do not meet the digital addiction criteria and those who do can both use the same approach to achieving a balanced life—use the internet and electronic devices in moderation.

# GLOSSARY

**addiction** A treatable condition involving a compulsive dependence on a substance or behavior.

**antidepressant** A medication used to treat mood disorders.

**boot camp** A place where people are sent involuntarily to engage in behavioral modification that uses military-style discipline.

**cognitive behavioral therapy (CBT)** Therapy that focuses on developing new thought patterns, used to prevent relapses.

**comorbidity** The existence of two or more chronic conditions or diseases in a person together.

**digital addiction (internet addiction disorder)** An addiction that includes excessive use of, preoccupation with, and inability to control use of the internet and digital devices.

**digital detox** A period of time when a person stops using electronic devices.

**dopamine** A neurotransmitter (a chemical substance at the end of the nerve fiber) in the central nervous system associated with feeling pleasure.

**excessive** Beyond the usual normal limit.

**gamma-aminobutyric (GABA)** An preventative neurotransmitter associated with impulsive behavior.

**gene** A unit of heredity given from parent to child.

**impulse control disorder** A psychiatric disorder that involves lack of control that could result in harm.

**moderation** Doing something within practical limits.

**multiplayer online role playing games (MMORPGs)** Online games that involve role playing and multiple players.

**neuroplasticity** An ability of the brain to make new neural connections.

**online gaming** Using specialized applications, like electronic games or video games, on consoles.

**relapse** A return to an addictive behavior after attempts at reducing or stopping it.

**serotonin** A neurotransmitter that affects neurological processes, such as sleep or depression.

**technology** Use of practical scientific knowledge.

**withdrawal** The act of discontinuing use of an addictive substance or behavior.

# FOR MORE INFORMATION

**American Psychological Association**

750 First Street NE

Washington, DC 20002

(202) 336-5500

Website: http://www.apa.org

*The American Psychological Association seeks to create, communicate, and apply psychological knowledge, including providing resources on addiction, its effects, and treatments.*

**Bradford Regional Medical Center**

Internet Addiction Treatment and Recovery Program

116 Interstate Parkway

Bradford, PA 16701

(800) 446-2583

Website: www.brmc.com/internetaddiction

*The Bradford Regional Medical Center offers information on its inpatient digital treatment and stabilization program for individuals older than eighteen years old. Its resources include individual, family, and group therapy, treatment plans, and treatment by a multidisciplinary team.*

**Canadian Mental Health Association**

700 Lawrence Avenue West, Suite 480

Toronto, ON M6A 3B4

Canada

(416) 789-7957

Website: http://toronto.cmha.ca

*The Canadian Mental Health Association offers services, workshops, and health initiatives to encourage proper mental health and to help those recovering from different disorders.*

## Center for Internet and Technology Addiction

8 Lowell Road

West Hartford, CT 06119

(860) 561-8727

Website: http://virtual-addiction.com

*The Center for Internet and Technology Addiction provides resources, including both intensive outpatient programs and individualized therapies for digital addicts, workshops on using and abusing technology, and consulting on using and excessively using technology.*

## Centre for Addiction and Mental Health

250 College Street (College and Spadina)

Toronto, ON M5T 1R8

Canada

(800) 463-6273

Website: http://www.camh.ca/en/hospital/Pages/home.aspx

*The Centre for Addiction and Mental Health is one of the leading research centers for addiction and mental health. It offers care for those suffering from mental illnesses and addictions.*

## National Alliance on Mental Illnesses (NAMI)

3803 North Fairfax Drive, Suite 100

Arlington, VA 22314

(800) 950-6264 (HelpLine)

Website: http://www.mentalhealthamerica.net

*This mental health organization promotes good mental health through educational programs on disorders, including ADHD, anxiety disorders, depression, and obsessive-compulsive disorder (OCD).*

*NAMI also offers a toll-free HelpLine that provides information and support about mental disorders.*

### National Institute of Mental Health (NIMH)

6001 Executive Boulevard

Bethesda, MD 20892

(866) 615-6464

Website: https://www.nimh.nih.gov

*The NIMH encourages the understanding and treatment of mental illnesses. It is the leading federal agency that conducts research on mental disorders, such as those associated with a lack of impulse control.*

### reSTART Center for Technology Sustainability

1001 290th Avenue SE

Fall City, WA 98024

(800) 682-6934

Website: http://www.netaddictionrecovery.com

*The reSTART Center offers the Internet Addiction Recovery Program, with a seven to ten week abstinence program to treat digital addiction and underlying issues contributing to the addiction.*

## WEBSITES

Because of the changing nature of internet links, Rosen Publishing has developed an online list of websites related to the subject of this book. This site is updated regularly. Please use this link to access this list:

http://www.rosenlinks.com/411/digital

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## About the Author

Barbara Gottfried Hollander has authored more than twenty books, including *Addiction*, *Conduct Disorder*, and *Wants and Needs*. She has participated in several textbook projects with Pearson Education, in the areas of interpersonal studies and life skills. Barbara has a BA from the University of Michigan and an MA from New York University, specializing in statistics and econometrics.

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# Book Index

I Am a Digital Addict. Now What?

# I Am a Digital Addict. Now What? *Barbara Gottfried Hollander.*
*Teen Life 411 New York, NY: Rosen Publishing, 2017. 112 pp.*

This educational resource defines the various issues that can arise for teens with access to smartphones, tablets, and other handy computerized devices. It provides ample resources for those who have a problem or know someone who needs their help.

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