Timothy began college with high expectations for his academic performance. Earning good grades in elementary through secondary school came easy to him, while he was living with his parents and had a structured schedule. During the summers, Timothy spent a great deal of time playing online role-playing games. Although his parents worried that he spent too much time indoors, they felt reassured when school resumed after summer vacation, and he continued to get good grades.

After graduation, Timothy looked forward to attending college in a different state where he could live in a dormitory and not have his life managed by his parents. He began spending more time playing online games, often staying up until 2:00 or 3:00 in the morning. On the rare occasions when he attended morning classes, he usually slept through them. Several times, he claimed to be ill in order to get his absences excused.

With nobody to “nag” him about his work, Timothy failed to complete his assignments or schedule time to study for exams. If he stopped playing games to study, he found he could not concentrate on his textbooks because he kept thinking about what he might be missing in the games. When his midterm progress reports indicated failing marks, Timothy claimed that the classes were “boring” and accused the teachers of having unrealistic expectations. When his parents called, Timothy would tell them that everything was fine. After failing most of his classes during his first two terms, Timothy was dismissed from school.

Although excessive game playing can be a problem at any age, the negative consequences for education can often be avoided when a child lives at home where parents can provide structure and rules that keep him or her engaged in school and other activities. The dire effects may not become evident until the student transfers to an environment

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http://jae.adventist.org
where his or her daily activities are not monitored. Parents and educators should be alert for warning signs throughout the elementary and secondary years, and help young people learn to manage their game-playing behavior before they are on their own.

**The Nature of Internet Gaming**

Although educators have long had to face a variety of addiction problems in students, Internet Gaming Disorder (IGD) is a relatively new concern for them. Over the past several years, students have gained easy access to thousands of games they can play on computers, game consoles, handheld devices, and cell phones. Children begin playing games as toddlers, and most continue playing games into adulthood. By one estimate, the typical “gamer” in the United States is a 34-year-old male who has been playing games for at least 12 years. Electronic games are typically played for fun, and the vast majority of players do not have serious problems with playing, other than perhaps feeling as though they have wasted time they could have used doing something more productive.

**Prevalence and Risk Factors**

Research on the prevalence of “addiction” to games is complicated by a variety of definitions and measurements. The diagnostic handbook used by mental-health professionals, the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), indicates that studies in Europe and North America vary too much to adequately estimate prevalence. However, more studies have been conducted in Asian countries, where estimates indicate that among adolescents, approximately 8.4 percent of males and 4.5 percent of females would meet the criteria for a proposed diagnosis of Internet Gaming Disorder. Other sources provide estimates that vary by country from less than 1 percent in Germany to approximately 50 percent in Korea. According to Kuss, Internet Gaming Disorder rates are especially high in Southeast Asian countries due to several factors, including the prevalence and social acceptance of playing online games. In the United States, although non-white players are less common than white players, they are more likely to report problems with video game playing. Those most at risk for IGD are males, people who begin playing at a younger age, and those who play more often and for longer periods of time.

**Development and Etiology**

Problems with video game playing may be a reflection of many factors, including a lack of time-management skills, poor coping mechanisms, or attempts to avoid family conflict or concerns. Research on brain mechanisms indicate that neurological activity in IGD is similar to that found in other types of addictions: For example, the process of dopamine release in the brain is similar to the activity of stimulants such as amphetamines.

Game developers have designed reward structures that ensure maximum engagement, and users who begin playing for fun often find themselves developing many of the characteristics of addiction. Most games have prizes (such as stars, points, or “money”) or promotions (such as levels or ranks) that a player can earn by playing more often and for winning. A particular game genre that lends itself especially well to “addiction” is Massive Multiplayer Online Role Playing Games, or MMORPGs. This category includes games such as World of Warcraft, Borderlands, Guild Wars, and Final Fantasy. Hagedorn and Young offer an overview of this type of game. Users create an avatar, or game character, and engage in a wide variety of tasks such as solving puzzles, fighting battles, collecting valuable gems or coins, and exploring different maps or worlds. Players can join others online and work together in these activities. In many cases, players can gain rewards or “level up” in some abilities easily at first, but as they continue to play, greater skill and time are required to advance. Players can become quite invested in the accomplishments of their avatars and often take great pride in reaching new levels or achieving higher status. Even players who do not show other signs of IGD may spend many hours a day playing these games.

A similar pathway exists for IGD as with other types of addictive behaviors. Most gamers begin playing casually or “just for fun,” and do not develop symptoms of IGD. A small group, however, begins to demonstrate behaviors that qualify as IGD, including the following:

- preoccupation with gaming,
- irritability or anxiety when not playing,
- the need to play longer and more often, and
- unsuccessful attempts to control playing behavior, and
- loss of interest in other activities.

These gamers continue to play despite negative consequences, and they may lie about their gaming to other people, such as parents or teachers who express concern about their behavior.

Some researchers have suggested that continued play can lead to changes in beliefs and attitudes related to game playing. For example, when a player spends more hours online, he or she may identify with others who spend a similar amount of time, so the increased time devoted to gaming becomes the new “normal” and may not appear to the player to be problematic.

**Consequences of IGD**

Consequences of IGD usually relate to the amount of time spent playing, and can include problems with work, school, and relationships. Players can also experience a feeling of being out of control, and some face health issues due to sleep loss, poor nutrition, and a lack of exercise. In rare cases, players have died while “binge-playing” games non-stop for several days. Cases of players engaging in criminal activity to obtain money to purchase games or other related products have been reported.

Another common concern with video games is the influence of violent content on the attitudes and behavior of those who play. Although that is not the focus of this article, a brief overview of concerns is listed in Box 1, along with some resources for further reading.

**Prevention**

Griffiths has suggested several ideas for parents and educators to reduce the chances of a child developing IGD. Many are “common sense” recommendations, such as limiting game time for children and encouraging more social and outdoor activities. [See Box 2.] Because addictive behaviors often co-occur with depression, anxiety disorders, or Attention Deficit/Hyperactivity Disorder (ADHD), mental-health concerns also need to be considered and addressed. Van Rooij and colleagues have suggested that the gaming industry needs to take some responsibility in reducing IGD. They encourage “warning labels” on games that explain IGD, time-out
limits on Internet games, in-game referrals to professionals, and/or self-help materials.

Suggestions for School Personnel

Awareness is always the first step in addressing any type of problem or concern. School personnel should be informed about the “red flags” for IGD.39 [See Box 3 on next page.] Schools can also offer information to parents and ask them to monitor their children at home for warning signs of problematic game playing. Finally, the students should learn about IGD so they can recognize symptoms in themselves and/or their friends. Students are often more impressed by hearing stories from other students than lectures from adults, so a good strategy would include having students talk to other students about their own experiences. For example, students who have struggled with gaming problems could be chosen as guest speakers in classes or for school assemblies. If multiple students have gaming problems, a support group could be formed with backing from the school’s counseling center, where students could discuss their struggles with others who have similar concerns.

Educators should routinely inquire about electronic game use when they encounter students experiencing academic failure. In elementary and secondary schools, the teachers typically have the most interaction with students, so they are the logical ones to bring up the topic. In college, those duties are more likely to be assigned to advisers, dormitory deans, and/or mentors. For example, when a college student receives a negative progress report from an instructor, his or her adviser(s) and/or freshman mentor also receive a copy of the report. The adviser or mentor should ask about game-playing habits as part of exploring paths to success.

Teachers in all grades can watch for signs of any addiction problems in their students. Students who show signs of other addictive disorders, such as substance abuse, should also be screened for IGD, as some studies have identified a relationship between IGD and other types of addictions.20 Students who suffer from depression, anxiety, or ADHD as well as those with poor social skills may be vulnerable to IGD.21

As with other behavior concerns, appropriate response by school personnel depends on the age of the student. At the elementary and secondary level, teachers can discuss their concerns with the student and parents, and/or refer the child to a school counselor. At the college level, advisers or mentors can discuss these issues with the student or refer to the school counseling office. It is not uncommon for course instructors to have conversations with students about reasons for their poor performance. A survey or checklist of addictive behaviors and substances could be part of the interview with students who are identified as having academic or mental-health issues, whether that interview is with a teacher, advisor, or school counselor. School administration, counseling, or advising offices should keep a list of community resources for mental-health and addiction issues, in order to refer students as needed.

Another relevant issue for educators is the use of technology in the classrooms. Schools may need to limit computer access to programs used for education. Every school computer or device used to access the Internet should have filtering software installed.

Box 1. Concerns Related to Violent Game Content

Some video games promote violent and other negative behaviors (such as killing people or animals, drug or alcohol abuse, disrespect for authority, criminal activities, and gender or racial stereotypes) that can have additional harmful effects on children beyond those mentioned in this article. Children who play violent video games have been shown to demonstrate higher levels of aggressive behavior and may become desensitized to violence. Younger children are especially vulnerable to these effects, as are children with learning disabilities or other types of emotional or behavioral concerns. * Many organizations that are concerned with the well-being of children and adolescents have information and recommendations about these types of games on their Websites.

- The American Academy of Pediatrics: http://pediatrics.aappublications.org/content/124/5/1495
- The American Academy of Family Physicians: http://www.aafp.org/about/policies/all/violence-media.html


Box 2. Advice Teachers Can Share With Parents

- Monitor game playing and check the content of the games your child plays. Encourage educational rather than violent games.
- Encourage your child to play video games with friends or in other small groups rather than alone.
- While not completely prohibiting video games, set time limits on game playing, just as you would with viewing television or videos.
- Follow game manufacturers’ recommendations regarding the physical configuration of the room, such as seating distance from the screen, lighting, etc.
- You may need to temporarily prohibit gaming for some period of time when appropriate, such as when the child neglects chores or homework.

that blocks access to gaming sites.\textsuperscript{22} When internet access is needed for some courses, usage should be monitored to ensure that students are using it for appropriate tasks. Teachers can have “no technology” policies in classrooms, forbidding students to use computers, cell phones, tablets, or other devices on which games can be played.\textsuperscript{23}

A note of caution is in order, however; it is important not to over-pathologize game playing. Even if a student spends more time playing games than his or her parents or teachers believe is appropriate, that does not necessarily prove he or she has IGD. It may simply indicate poor time-management skills or a lack of motivation. Research has indicated that addictive tendencies are more likely to be related to poor academic performance than the amount of time spent playing games.\textsuperscript{24} In the case of a student who simply spends excessive time on games, educators can provide guidance on time management and help the student prioritize his or her schedule in order to get schoolwork done. Students can be encouraged to consider time as a limited resource, similar to money, that they are responsible to spend in the most effective way.\textsuperscript{25}

**Strategies Used by Mental-health Professionals**

Although school personnel can identify risks and take a variety of actions to prevent IGD, some students will need to seek professional counseling for this problem. Cognitive Behavioral Therapy (CBT) is one of the most common treatments for many types of addictions, including IGD.\textsuperscript{26} CBT seeks to train the counselee to identify and restructure “automatic” thoughts and underlying beliefs that interfere with optimal functioning and lead to negative behaviors such as addictions. Family therapy may also be recommended for youth when it appears that family issues have contributed to the problem.\textsuperscript{27} The family therapist attempts to identify patterns of family interaction that lead to and maintain negative behaviors in its members, and to help them develop healthier alternatives.

In some cases, young people (typically boys) have been sent to video game “boot camps” where they are forbidden to use any type of media and must live in the wilderness for several days.\textsuperscript{28} Drugs such as Wellbutrin (an antidepressant) and some types of ADHD medications have been tried in a few studies, with positive effects,\textsuperscript{29} likely because they address the underlying mental-health issues that co-occur with addictive behaviors.

The role of educators in these cases depends on the age of the student. In some cases, educators may be consulted or even included in the treatment protocols; for example, monitoring the student’s computer use during school hours.

**Relevance for Christian Educators**

Teachers at religious institutions such as churches and schools should not expect any fewer problems with this issue than teachers at public institutions. Video games are an “acceptable” vice for many Christian students. Compared with alcohol, for example, for which students can be reprimanded or punished for simply having the item in their possession, video games are identified as problematic only when they interfere with other activities (as with the case of Timothy). Even when schools have installed filters in place to prevent students from accessing certain Websites, it can be difficult to limit access because games can be played on phones or other devices that do not rely on school networks. For this reason, schools may require students and teachers to sign computer-use contracts, agreeing to avoid certain activities and sites during school hours and while using school equipment.

Educators must find ways to meet the social and spiritual needs of students so that they do not seek fulfillment in undesirable activities. Gamers often believe they can find acceptance only within their gaming community, so educators should make sure they demonstrate acceptance and positive regard for these at-risk students. Religion may seem irrelevant to gamers who spend all of their time interacting in a fantasy world, so Christian values and beliefs need to be presented in a practical and attractive way to gain their attention and respect. As always, educators should endeavor to demonstrate the love of God through their interactions with all students, including those with addiction problems.

**Conclusion**

Electronic games by all indications will continue to concern educators and others working with young people. Students have easy access to all types of games that may interfere with success in school. The biggest concern is the time dedicated to games, which detracts from other activities such as studying, homework, devotional activities, exercise, and socializing. Students who play for fun may end up developing more serious symptoms of IGD and may require intervention.

School administrators and educators have a difficult challenge in identifying and addressing concerns with excessive video-game playing. Even when a student does not meet the criteria for a “disorder,” he or she...
may still struggle with setting priorities and accomplishing other important tasks. With careful observation and questioning, school personnel may be able to recognize potential problems and intervene appropriately. By considering the students’ mental, physical, emotional, and spiritual well-being, they can intervene at a variety of levels to help these young people gain an appropriate perspective of time, education, and relationships.

Although caring teachers may not achieve immediate “success” in dealing with these challenging problems, students will remember the care they experience as they struggle with personal issues. When we create supportive learning environments, equip students with skills to manage their own behavior, and keep them in our prayers, we can trust that God will intervene to free them from anything that interferes with their well-being and to help them develop a relationship with Him. We can believe that, like the Psalmist, they will one day be able to say “We escaped like a bird from the hunter’s trap. The trap broke, and we escaped. Our help comes from the Lord, who made heaven and earth” [Psalm 124:7, 8, NCV].30

### NOTES AND REFERENCES

1. A pseudonym.


4. Ibid.


6. Ibid.


12. Ibid.


23. Ibid.


30. Psalm 124:7, 8 (NCV).