

# Excessive online computer use and learning disabilities

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## Abstract

Online gaming has become a very popular leisure activity among adolescents. Research suggests that a small minority of adolescents may display problematic gaming behaviour and that some of these individuals may be addicted to online games, including those who have learning disabilities. This article begins by examining a case study of a 15-year old adolescent with a learning disability who appeared to be addicted to various computer and internet applications. Despite the potential negative effects of excessive internet and gaming, the article then briefly reviews the therapeutic benefits of gaming for the learning disabled before examining some of the potential factors in gaming addiction. The article concludes with some advice for parents about what issues to consider in relation to making child and adolescent gaming as safe and enjoyable as possible.

## Introduction

For more than 20 years I have been researching into the area of 'technological addictions' including video game addiction and (more recently) internet addiction. I get a lot of emails from parents claiming their children (almost always teenage boys) are 'addicted' to video games and/or the internet. Interestingly, about half of the emails I get are from parents who have children with some kind of learning disability. Here is one such account I received about a teenager I will call 'Gary'.

### **Computer addiction in the learning disabled: A case study**

Gary is a 15-year old British male who suffers from neurofibromatosis (NF) and has a severe associated

learning disability (in fact, about 50% of NF sufferers have learning disabilities of some type). Gary is an only child and spends many hours on his home computer, averaging at least 3–4 hours a day in school term, with up to 5 or 6 hours or more a day at weekends. During the school holidays it increases even more as he is on his own in the house whilst his parents are at work. Gary's mother describes him as 'extremely good technically, very bright and very good at computer programming'. His mother claims, 'He is computer mad, but not for computer games, rather for serious computing – programming etc'. His homework has been increasingly suffering because of the time he spends on his computer. When he is not working on his computer, he watches television.

According to his mother, Gary has always had problems socially. He has had difficulty in making friends, difficulty in coping with teasing and minor bullying (usually of a verbal nature). His parents feel he views his computer as a 'friend' and, therefore, tends to spend much of his time on it. Gary also suffers from an inferiority complex and lack of confidence when dealing with his peers. As a consequence, he gets very depressed. This condition worsened when he got his own computer. At the same time, his general behaviour worsened. He refused to do his normal household chores when requested, was generally awkward and difficult, and provoked confrontational situations between other members of the family and himself.

He spends time with the computer to the exclusion of family and friends. His parents had his General Practitioner refer him to a psychiatrist for counselling

and help. Whilst Gary viewed this as a possible 'quick fix' for his problems, it was very slow progress. He is still getting the help of the local psychological services. His mother felt that much of his lack of confidence stemmed from the fact that he was content to spend his time in his room to the exclusion of his peers. She sees the problem as 'a self-induced Catch 22 situation' in that he will never make friends whilst he spends time alone, but the action of spending time alone reduces his ability to deal with other people. Gary's own view is that he does not have a problem with his computer use and that he does not spend too much time on the computer. There is no doubt that this appears to be an unusual case and that Gary's excessive time spent on the computer appears to be symptomatic of other underlying problems.

Gary appears to fit the stereotype of a computer addict in that he is a male teenager who appears to have little or no social life and little or no self-confidence. He appears to use the computer as an 'electronic friend' something that has been reported with other technological products such as video games and slot machines (Griffiths, 2002a). He appears to display all the core components of addiction (salience, mood modification, withdrawal symptoms, conflict, tolerance, and relapse). Like many addicts, he denies he has any kind of problem. His primary motivation for excessive use of his computer appears to be some sort of escapism into his own world where he can counteract his depression and forget about his social isolation and his medical condition (NF).

Although this case concerned more general excessive use of computers, the vast majority of emails I receive concern excessive use of video games with a large increase over the last two years concerning online games like World of Warcraft. Before providing some advice on this topic for parents, it is also worth noting that there is lots of evidence (empirical and anecdotal) that video games can be used very positively in the lives of learning disabled children. This is briefly reviewed in the next section.

## **The therapeutic value of video games for the learning disabled**

Video games can be used both educationally and therapeutically (see Griffiths, 2002b; 2005a; 2005b; 2008). For instance, video games have been used in comprehensive programmes to help develop social skills in children and adolescents who are severely retarded or who have severe developmental problems like autism. Case studies are persuasive (see, for instance Kandie Demarest's account: (<http://www.lesstontutor.com/kd3.html>)).

Demarest's account of her own autistic 7-year-old son noted that although he had serious deficiencies in language and understanding, and social and emotional difficulties, video game playing was one activity in which he was able to excel. This was ego-boosting for him and also had a self-calming effect. Video games provide the visual patterns, speed and storyline that help children's basic skills development. Some of the therapeutic benefits outlined included language skills, mathematics and reading skills, and social skills. I have also outlined empirical studies showing how video games have been used to train children with multiple handicaps. Other researchers have used video games to help learning disabled children in their development of spatial abilities, problem-solving exercises and mathematical ability (Griffiths, 2005a). Despite the positives of interactive gaming technology far outweighing the disadvantages, there does appear to be a small minority of learning disabled children who develop an over-reliance on video games. In the next sections I provide some practical advice to parents on this topic.

## **Factors contributing to addictive behaviours**

At a simplistic level, addiction basically boils down to constant reinforcement (i.e., rewards). An adolescent cannot become addicted unless they are constantly rewarded for the activity in which they are engaged. In the case study outlined earlier, Gary's computer use was highly rewarding for him and his continued (excessive) use was determined by the constant reinforcement he got from engaging in online activity (e.g., the social, physiological and psychological rewards). Online gaming appears to be potentially addictive although the number of people who are truly addicted appears to be small in number. In my research, I have only come across a handful of people who I would genuinely call addicts. Such individuals may play over 80 hours a week on games like World of Warcraft and Everquest. However, playing excessively does not mean someone is addicted as some of my case study research has shown (Griffiths, 2009).

There are many explanations for addiction although I have always taken a biopsychosocial perspective arguing that addiction relies on a person's biological/genetic disposition, their psychological constitution (personality, attitudes, expectations, beliefs, etc.) and the social environment in which they were raised (Griffiths, 2005c). Some aspects of online gaming addiction could perhaps be explained by the partial reinforcement effect (PRE) (Griffiths, 2008), although

there are many other contributing factors. The PRE appears to be a critical psychological ingredient of gaming addiction whereby the reinforcement is intermittent (i.e., people keep responding in the absence of reinforcement hoping that another reward is just around the corner). Knowledge about the PRE gives the game designer an edge in designing appealing games. Magnitude of reinforcement (e.g., a high point score for doing something in-game) is also important. Large rewards lead to fast responding and greater resistance to extinction – in short to more 'addiction'. Instant reinforcement also contributes to addiction.

### **Is online video gaming more addictive than offline video gaming?**

Online gaming involves multiple reinforcements in that different features might be differently rewarding to different people. In video games more generally, the rewards might be intrinsic (e.g., improving your highest score, beating your friend's high score, getting your name on/in the 'hall of fame', mastering the machine) or extrinsic (e.g., peer admiration) (Griffiths, 2008). In online gaming, there is no end to the game and there is the potential for teenagers (including the learning disabled) to play endlessly against (and with) other real people. This can be immensely rewarding and psychologically engrossing. In extreme cases and for a small minority of people, this may lead to addiction where online gaming is the single most important thing and that person's life.

### **Is there potential for long-term damage to an adolescent's mental health through playing online games?**

Research appears to indicate that online games may be addictive to a small minority. It is often the case that the gamers' significant others realise there may be a problem before the gamer acknowledges any negative detriment. However, as I argued above, playing excessively does not necessarily mean the activity is addictive. My general 'rule of thumb' is that healthy enthusiasms add to life, addictions take away from them. The vast majority of excessive gamers will say their activity has positive effects for them. There are many people who play excessively without having any negative impact on their life at all. Most of the cases I have come across involving learning disabled children appear to be healthy enthusiasms rather than addictions (although parents don't always see it like that).

### **The 'golden rules' of gaming**

Finally, just to reiterate some 'golden rules' that I have

made before in relation to children and adolescent gaming (Griffiths, 2003). These were devised for parents but can also be used by other practitioners and psychologists as part of their professional practice.

- Check the content of the gaming activity. Try and give children and adolescents games that are educational rather than violent. Parents usually have control over what their child watches on television – gaming should not be any different.
- Try to encourage gaming in groups rather than as a solitary activity (although for learning disabled children this may be easier said than done). This will lead to children and adolescents talking and working together. Also remember that many online games are based on social activity and working together. Our research has consistently shown that the main reason for playing online games is for the social benefits and for social networking.
- Set time limits on playing time. Tell children and adolescents that they can play for a couple of hours after they have done their homework or their chores – not before.
- Parents and guardians should always get their children to follow the recommendations by the game manufacturers and/or the service providers (e.g., sit at least two feet from the screen, play games in a well-lit room, never have the screen at maximum brightness, and never engage in gaming when feeling tired).
- Finally, if all else fails, temporarily prohibit gaming and then allow them to play again on a part-time basis when appropriate.

### **Conclusions**

In over two decades of examining both the possible dangers and the potential benefits of video game playing, evidence suggests that in the right context video games can have positive health and educational benefits to a large range of different sub-groups (including the learning disabled). There are also recent overviews showing that online gaming can be used in an educationally beneficial context (Defreitas & Griffiths, 2007; 2008). If care is taken in the design, and if they are put into the right context, video games (both online and offline) have the potential to be used as training aids in classrooms and therapeutic settings, and to provide skills in psychomotor coordination, and in simulations of real life events (e.g., training recruits for the armed forces). For the vast majority of individuals, video gaming is an enjoyable and harmless activity – at least that is what the empirical evidence says at present.

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