Online video gaming: what should educational psychologists know?

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Based on a significant increase in correspondence to the author from parents, teachers and psychologists concerning “addiction” to online video games like World of Warcraft, this paper provides a brief overview of the main issues surrounding excessive video game playing among adolescents. As an aid to educational psychologists, and based on two decades of the author’s own research in this area, this paper briefly overviews: (i) online gaming addictions, (ii) the differences between online and offline video gaming, and (iii) video gaming benefits. The paper ends with some practical advice that educational psychologists can give to parents about the safe playing of video games.

Keywords: online video gaming; educational psychologists; addiction; adolescents

Introduction

Over the past year, this author received a noticeable increase in the number of emails and telephone calls from parents, teachers and (educational and clinical) psychologists concerning children and adolescents excessively playing online games like World of Warcraft and Everquest. The most typical emails this author receives are along the lines of “Can children become addicted to an online game?”, “Are online video games more addictive than offline games?” and “What advice can I give to a parent who appears to have a child who is addicted to online gaming?” In this article an attempt is made to answer these questions based on this author’s two decades of research in the area ranging from research examining offline video games (Chumbley & Griffiths, 2006; Griffiths, 1991, 1993, 1997; Griffiths & Dancaster, 1995; Griffiths & Hunt, 1995, 1998; Phillips, Rolls, Rouse, & Griffiths, 1995; Wood & Griffiths, 2007) to more recent research examining online video games (Chappell, Eatough, Davies, & Griffiths, 2006; Cole & Griffiths, 2007; Griffiths, Davies, & Chappell, 2003, 2004a, 2004b; Hussain & Griffiths, 2008; Wood, Griffiths, & Parke, 2007).

Online gaming addiction

All addictions (whether chemical or behavioural) are essentially about constant rewards and reinforcement (Griffiths, 2005a, 2005b, 2005c). For many years, this author has operationally defined addictive behaviour as any behaviour that features all

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the core components of addiction (salience, mood modification, tolerance, withdrawal, conflict and relapse) (Griffiths, 1996, 2002, 2005a, 2005b, 2005c, 2008a). Furthermore, it is this author’s contention that any behaviour (for example, video game playing) that fulfils the six criteria below can be operationally defined as an addiction. In the case of video game addiction this would be:

(1) **Salience** – This occurs when video game play becomes the most important activity in the person’s life and dominates their thinking (pre-occupations and cognitive distortions), feelings (cravings) and behaviour (deterioration of socialized behaviour). For instance, even if the person is not actually playing on a video game they will be thinking about the next time that they will be.

(2) **Mood modification** – This refers to the subjective experiences that people report as a consequence of engaging in video game play and can be seen as a coping strategy (i.e. they experience an arousing “buzz” or a “high” or, paradoxically, a tranquillizing feel of “escape” or “numbing”).

(3) **Tolerance** – This is the process whereby increasing amounts of video game play are required to achieve the former mood modifying effects. This basically means that for someone engaged in video game playing, they gradually build up the amount of time they spend online engaged in the behaviour.

(4) **Withdrawal symptoms** – These are the unpleasant feeling states and/or physical effects that occur when video game play is discontinued or suddenly reduced, for example, the shakes, moodiness, and irritability.

(5) **Conflict** – This refers to the conflicts between the video game player and those around them (interpersonal conflict), conflicts with other activities (job, school-work, social life, hobbies and interests) or from within the individual themselves (intrapsychic conflict and/or subjective feelings of loss of control) which are concerned with spending too much time engaged in video game play.

(6) **Relapse** – This is the tendency for repeated reversions to earlier patterns of video game play to recur and for even the most extreme patterns typical at the height of excessive video game play to be quickly restored after periods of abstinence or control.

An adolescent cannot become addicted to something unless they are constantly rewarded for the behaviour they are engaged in. Online gaming is potentially addictive although the number of people who are truly addicted, by the criteria outlined earlier, may be small in number (Griffiths, 2008a, 2008b). However, such individuals may play over 80 hours a week on games like *World of Warcraft* and *Everquest*, although playing excessively does not necessarily mean someone is addicted. If there are no negative detrimental effects as a result of excessive playing, the behaviour cannot really be classed as a genuine addiction (Griffiths, 2008a, 2008b).

Online gaming addiction is partly explained by the partial reinforcement effect (PRE) (Griffiths, 2008a). This is a critical psychological ingredient of gaming addiction whereby the reinforcement is intermittent (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 (such as high points score for doing something in-game) is also important. Large rewards lead to fast responding and greater resistance to extinction – in short to increased “addiction” (Griffiths, 2008a). Instant reinforcement is also satisfying.
As with all addictions, there is a potential for long-term damage but the good news is that very few people appear to have developed such problems, although there is research suggesting that, in extreme cases, online gamers can experience all the core signs and symptoms of more traditional addictions such as withdrawal symptoms, conflict with other activities, mood modifying effects, and relapse (Chappell et al., 2006; Grüsser, Thalemann, & Griffiths, 2007). 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 it having any negative impact on their life at all although many players experience some signs of addiction without necessarily being addicted (Grüsser et al., 2007).

Online versus offline gaming

Online gaming involves multiple reinforcements in that different features might be differently rewarding to different people (what could be called “the kitchen sink approach” where designers include a diverse range of gaming rewards in the hope that at least some of them will appeal to players). In video games more generally, the rewards might be intrinsic (for example, improving your highest score, beating your friend’s high score, getting your name on the “hall of fame”, mastering the machine) or extrinsic (such as peer admiration) (Griffiths, 2008a). In online gaming, there is no end to the game and there is the potential for teenagers to play endlessly against (and with) other real people. This can be immensely rewarding and psychologically engrossing. For a small minority of people, this may lead to an addiction where online gaming becomes the single most important thing in that person’s life and which compromises all other activities. Currently there is little research indicating how the addiction establishes itself and what people are actually addicted to (Griffiths, 2008b).

Gaming benefits

Despite this rather negative side of video games, there is much evidence suggesting that gaming can have very positive effects on people’s lives. Online gaming can make people feel psychologically better and help raise their self-esteem (Griffiths, 2005b, 2005c). The immersive and disassociative experience of gaming may also be very therapeutic and help people deal with everyday stresses and strains. Research has shown that many gamers love the fact that playing games leads to time loss (Wood & Griffiths, 2007; Wood et al., 2007). Many would argue that this is more positive than drug use, drinking alcohol or other activities like gambling. Simulated environments also allow players to experiment with other parts of their personality, for example, gender swapping, that would be difficult to do offline (Hussain & Griffiths, 2008).

Accusations of “pointlessness” can be levelled at almost any leisure activity in life, not just online gaming. As more people engage in some kind of video gaming so the number of people negatively commenting on such activities is likely to decrease over time. People are also becoming more digitally literate. The demographics of online gaming are also expanding (Griffiths et al., 2004a). The average age of a gamer is steadily getting older and more females are starting to play (Cole & Griffiths, 2007). People only usually engage in leisure activities that are psychologically and socially rewarding for them. Recent research has also shown that around a third of online gamers make good friends in the game (Cole & Griffiths, 2007).
Practical advice to help parents

Finally, based on research evidence outlined, practical advice that educational psychologists can give to parents in relation to child and adolescent video gaming (Griffiths, 2003) includes:

- Advise parents to check the content of the gaming activity. Encourage parents to 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.
- Advise parents to encourage their children to play video games as part of a group rather than as a solitary activity. This will lead to children and adolescents talking and working together. Also, remind parents that many online games are based on social activity and working together. Research has consistently shown that the main reason for playing online games is for the social element (Griffiths et al., 2003, 2004b; Cole & Griffiths, 2007).
- Advise parents to set time limits on their child’s playing time. It is fine for children and adolescents to play for a couple of hours after they have done their homework or their chores. Early research showed that those children who played video games for a couple of hours a day were more likely than those children who did not play video games at all to (a) have a wider circle of friends, (b) engage in physical activities, and (c) do their homework (Phillips et al., 1995).
- Advise parents to follow the recommendations by the game manufacturers and/or the service providers (for example, 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, advise parents to 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 playing video games can have positive health and educational benefits for a large range of different sub-groups, such as those with autism and impulsive disorders (Griffiths, 2005a, 2008b). There are also recent reviews showing that online gaming can be used in an educationally beneficial context such as teaching topics like history and economics (de Freitas & 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 (such as driving a car and flying a plane).

Countries such as China have introduced laws to limit the amount of time that adolescents and adults can spend playing online games, and other countries such as Holland and South Korea have seen the opening of dedicated treatment clinics for gaming addiction (Griffiths, 2008b). Whether such activity needs to be legislated for is arguable. Any activity when taken to excess can cause problems in a person’s life but it is unlikely that there would be legislation against, for example, people excessively reading or exercising. There is no argument that online gaming should be
treated any differently. This author has only come across a handful of genuine gaming addicts in over two decades. However, it is evident that online gaming can be problematic to some individuals. As mentioned earlier, one of the main reasons why online gaming may be more problematic than “stand alone” (offline) gaming is that online games are potentially never ending and can be played all day every day (unlike “stand alone” games which can be paused and returned to some time later). In some cases, the Internet may be providing a potentially ever-present addictive medium for those with a predisposition for excessive game playing.

To date, the empirical evidence appears to indicate that, for the vast majority of individuals, online gaming is an enjoyable and harmless activity. It is possible that future empirical research may show increasing online gaming addiction and/or will show cultural differences (suggesting different policies in different countries). Real life problems need applied solutions and alternatives, and until there is an established body of literature on the psychological, sociological and physiological effects of online gaming and online gaming addiction, then directions for education, prevention, intervention, treatment, and legislative policy will remain limited in scope. Evidently, more research is needed to help and inform educational psychologists, educators and other stakeholders to give practical help to those who need it and for policy-makers to make evidence-based policy decisions.

References


