

VIDEOGAME ADDICTION: Does it really exist?

Professor Mark Griffiths

International Gaming Research Unit

Psychology Division

Nottingham Trent University

mark.griffiths@ntu.ac.uk



DEMOGRAPHICS



Mark Griffiths

- Video game playing is a popular activity (particularly among adolescents) (*Griffiths, 2008*).
- Surveys suggest that around a quarter to a third of adolescents play every day (*e.g., Griffiths, 2008*)
- Males play video games significantly more than females and has been reported many times (*Griffiths, 2008*)
- However, most recent reports show the ‘average’ player is a 30 year old male (ATE, 2005)

WHY DO MALES PLAY MORE THAN FEMALES?

- **(1) content of the games** - They are designed by males for other males (*Gutman, 1982*) although there have been "female" forms of game hardware and software introduced e.g. *Ms. Pac-man, Game Girl*
- **(2) socialization** - It could be that male domination by males of video games is due more to its social rules and socialization factors than the games themselves
- **(3) sex differences** - Males on average perform better in visual and spatial skills (particularly depth perception (*Maccoby & Jacklin, 1974*) which are essential to good game playing e.g. hand-eye co-ordination (*Keisler et al, 1983*)

VIDEOGAMES: POSITIVE BENEFITS

(Griffiths, 2003; 2004; 2005a; 2005b)

- Educational benefits (*deFreitas & Griffiths, 2007; 2008*)
- Perceptual-motor skills/hand-eye co-ordination
- Pain management /physiotherapy/ mental distraction (burns victims, skin disorders, chemotherapy, Erb's palsy) (*Krichevets et al, 1994; Kolko & Rickard-Figueroa, 1985; Vasterling et al, 1993; Redd et al 1987; Griffiths, 2005*)
- Cognitive rehabilitation (strokes / attentional difficulties) (*Lynch, 1983; Larose, Gagnon, Ferland & Pepin, 1989; Skilbeck, 1991*)
- Psychotherapy / behaviour management in children (*e.g. Spence, 1988; Gardner, 1991; Griffiths, 2008*)

VIDEO GAME ADDICTION

- According to *Soper and Miller (1983)* "video game addiction" is like any other behavioural addiction and consists of:
 - (1) a compulsive behavioural involvement
 - (2) a lack of interest in other activities
 - (3) association mainly with other addicts
 - (4) physical and mental symptoms when attempting to stop the behaviour (e.g. the shakes)
- Way of determining whether video game addiction is addictive in a non metaphorical sense - compare it against clinical criteria for other addictions.

ADDICTION COMPONENTS

(Griffiths, 1995a; 1996; 2005)

- **Saliency**
- **Mood modification**
 - **Tolerance**
 - **Withdrawal**
 - **Conflict**
 - **Relapse**

- Videogames rely on multiple reinforcements - different features might be differently rewarding to different people.

- Videogame reinforcement can be:
 - **intrinsic** (e.g., improving highscore, beating friend's high score, getting your name on the "hall of fame", mastering the machine)
 - **extrinsic** (e.g., peer admiration).

- Malone (1981) has also reported that videogame playing intensity is positively correlated to:
 - a presence or absence of goals
 - the availability of automatic computer scores
 - the presence of audio effects
 - the random quality of the games
 - the degree to which rapid reaction times enhance game scores

VIDEOGAME ADDICTION?

- Studies (*e.g., Segal & Dietz, 1991; Griffiths & Dancaster, 1993; Lim & Lee, 2009*) have shown playing computer games increases arousal levels.
- Further studies by *Griffiths and Hunt (1995; 1998)* and *Griffiths (1997)* indicate that computer game addiction does exist and that 5-7% of children play games for over 30 hours a week.
- Other studies (*Fisher, 1994; Parsons, 1995; Tejeiro-Delguero & Moran, 2002; Chui & Huang, 2004; Grusser et al, 2007; Hart et al, 2008; Brody, 2008; Hussain & Griffiths, 2009*) also suggest videogame addiction exists

- stealing money to play arcade games (*Klein, 1984; Keepers, 1990*)
- stealing money to buy new games cartridges (*Griffiths & Hunt, 1995; 1998*)
- engaging in minor delinquent acts (*Kestenbaum & Weinstein, 1985*)
- truanting from school to play/sacrificing work to play (*Keepers, 1990; Griffiths & Hunt, 1995; 1998; Grusser et al, 2007*)
- sacrificing social activities to play (*Egli & Meyers, 1984; Griffiths & Hunt, 1995; 1998*)
- increased social anxiety (*Lo et al, 2005*)
- irritability and annoyance if unable to play (*Griffiths & Hunt, 1995; 1998; Rutkowska & Carlton, 1994; Grusser et al, 2007*)
- playing longer than intended (*Griffiths & Hunt, 1995; 1998; Phillips et al, 1995*)
- decreased interpersonal relationships (*Lo et al, 2005; Ng & Weimar-Hastings, 2005; Smyth, 2007*)
- poor sleep (*Smyth, 2007; Grusser et al, 2007*)

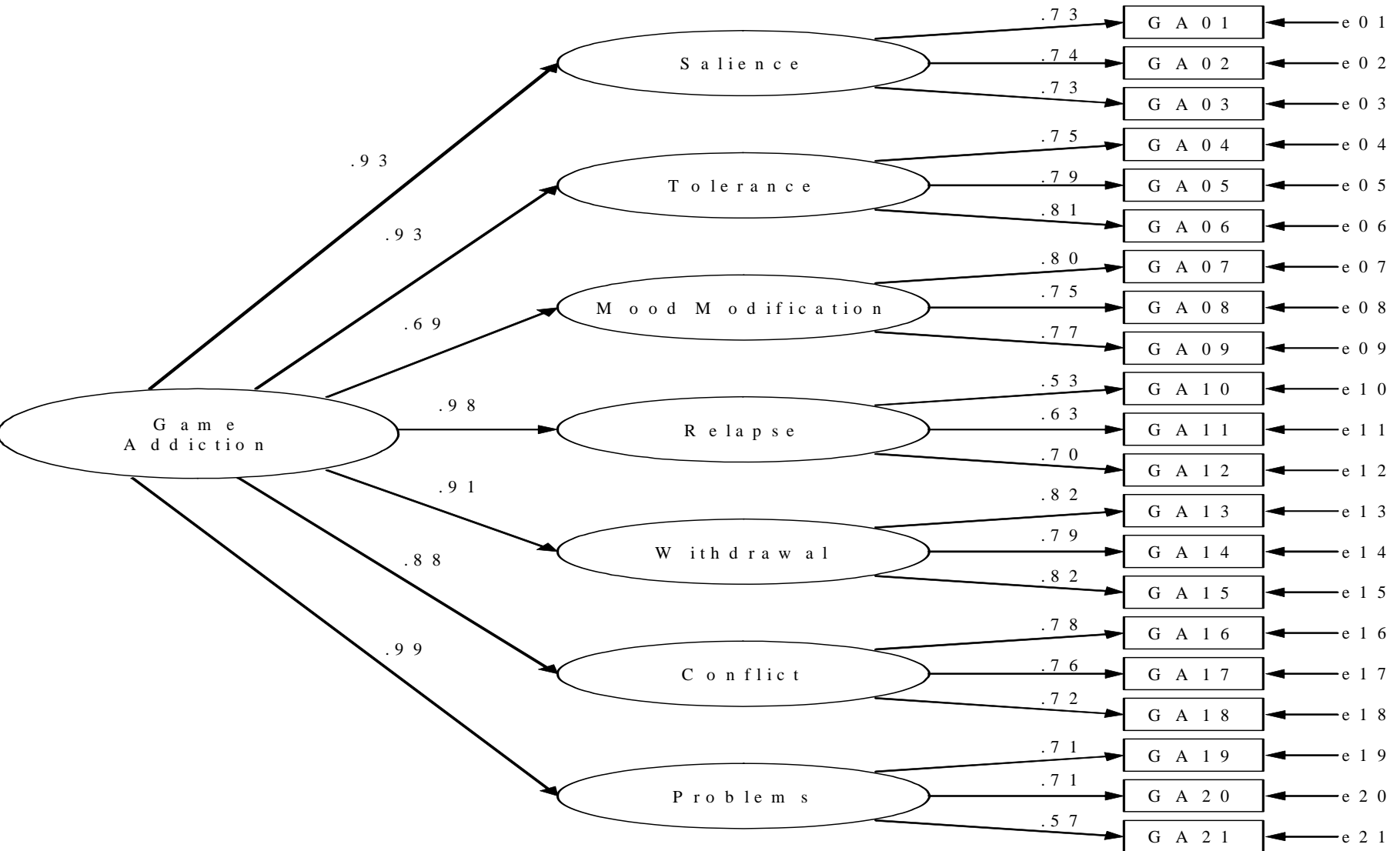
VIDEO GAMES: PHYSICAL AND SOCIAL CONSEQUENCES OF EXCESSIVE PLAY

- Photosensitive epilepsy (*e.g. Maeda et al, 1990; Graf et al, 1994; Harding & Jeavons, 1994; Quirk et al, 1995; Millett et al, 1997*).
- Auditory hallucinations (*Spence, 1993*)
- Enuresis (*Schink, 1991*)
- Encoprisis (*Corkery, 1990*)
- Skin, joint and muscle problems, blisters, calluses, hand and finger numbness (*Loftus & Loftus, 1983*)
- RSI (“Nintendonitis”) (*Reinstein, 1983; Brasington, 1990; Casanova & Casanova, 1991; Siegal, 1991*)
- Wrist, neck and elbow pain (*McCowan, 1981; Miller, 1991*)
- Hand-arm vibration syndrome (*Cleary, McKendrick & Sills, 2002*)
- Obesity (*Shimai et al, 1993; Deheger et al, 1997 Johnson & Hackett, 1997; Vandewater et al, 2004; although some have not: Wack & Tantleff-Dunn, 2008*)
- Increased aggression (*e.g., Griffiths, 1999; Anderson, 2006*)

Some of these adverse effects are quite rare and "treatment" simply involved non-playing of the games in question

VIDEOGAME ADDICTION SCALE

Lemmens (2009, in press)



VIDEOGAME ADDICTION TREATMENT

(Griffiths, 2008; 2009)

- ‘Gaming addiction’ clinics (*SJC, Holland*)
- Online support forums
- On-Line Gamers Anonymous
- Various CBT treatments (*Kuczmierczyk, Walley and Calhoun, 1987; Keepers, 1990; Orzack et al, 2006; Young, 2007*)
- Multi-modal treatment (CBT, Skills training, Interpersonal therapy, Couples Therapy/Family Therapy) (*Young, 2008*)

TECHNOLOGICAL ADDICTIONS

(Griffiths, 1995, 2008)

- Technological addictions are operationally defined as non-chemical (behavioural) addictions which involve excessive human-machine interaction
- Usually contain inducing and reinforcing features which may contribute to the promotion of addictive tendencies
- Feature all the core components of addiction
(Griffiths, 1995a; b; 1996b)

ONLINE GAMING ADDICTION

- Electronic games can be delivered via a number of general hardware systems :
 - handheld
 - personal computer
 - home video console
 - arcade machines
 - Internet

Could the medium make a difference in terms of excessive play?

INTERNET ADDICTION?

- Factors that make Internet activity potentially seductive and/or addictive
 - *Access*
 - *Affordability*
 - *Anonymity*
 - *Convenience*
 - *Disinhibition*
 - *Escape*
 - *Social acceptability*
 - *Long working hours*

(Griffiths, 2000; 2003)

INTERNET ADDICTION

- *Young (1999)* claims Internet addiction covers a wide variety of behaviours and impulse control problems.
- ***Cybersexual addiction:*** Compulsive use of adult websites for cybersex and cyberporn
- ***Cyber-relationship addiction:*** over-involvement in online relationships
- ***Net compulsions:*** obsessive online gambling, shopping or day-trading
- ***Information overload:*** compulsive web surfing or database searches
- ***Computer addiction:*** obsessive computer game playing (e.g. *Doom, Myst, Solitaire* etc.)

- Many of these excessive users are not "Internet addicts"
- Just use the Internet excessively as a **medium to fuel other addictions** (*Griffiths, 1999, 2000*)
- The Internet is just the place where they engage in the behaviour
- There are case study reports of individuals who appear to be addicted to the Internet itself (*Griffiths, 2000b; Young, 1998*)

- These are usually people who use Internet chat rooms or play fantasy role playing games
- (activities that they would not engage in except on the Internet itself)
- Engaged in **text-based virtual realities** and take on other personas and social identities as a way of raising self-esteem
- Internet may provide an **alternative reality** to the user and allow them feelings of **immersion** and **anonymity**

ONLINE GAMING (1)

(Griffiths, Davies & Chappell, 2003; 2004; 2004)

- Number of studies on online gamers
- 85% males 60% are over 20 years old
- Social elements of the game are most important
- Adolescents prefer violent features
- Some players playing over 80 hours a week (addiction??)

ONLINE GAMING (2)

(Chappell, Eatough, Davies & Griffiths, 2006)

- Data for this study taken from online gaming forums where individuals share experiences of playing *EverQuest*.
- Data were analyzed using IPA.
- Aim was to examine how individuals perceived and made sense of *EverQuest* in the context of their lives.
- Accounts presented by players and ex-players appear to be ‘addicted’ to *EverQuest* in the same way that other people become addicted to alcohol or gambling.
- Most of the individuals appeared to display (or allude to) the core components of addiction

ONLINE GAMING (3)

(Grüsser, Thaleman & Griffiths, 2007)

- A self-selected sample comprising of 7,069 gamers; mostly male (94%); average age of 21 years
- 1 in 9 (840 gamers) fulfilled at least three diagnostic criteria of addiction concerning gaming behaviour.
- Addictive signs modelled on key symptoms of dependence syndrome outlined by the *World Health Organisation*.
- Included craving, tolerance, withdrawal symptoms, loss of control, neglect of other activities, etc.
- Gamers who displayed at least three addictive signs were then compared with the remaining gamers.

- “Addicted” gamers predictably played for significantly longer daily periods of time.
- Also significantly more likely to report withdrawal symptoms and craving.
- Although these gamers showed signs of addiction the results did not conclusively show that the gamers are genuinely addicted.
- Many gamers play excessively and display few negative consequences.
- However, 24/7 online games may be potentially addictive for those with a predisposition for playing.

ONLINE GAMING: OTHER IGRU STUDIES

- Online gaming and time loss - not necessarily bad (Wood & Griffiths, 2007a; 2007b)
- Online gaming can be used for socializing and meeting friends and future partners (Cole & Griffiths, 2007)
- Online gaming can be a way of exploring other personas such as gender swapping (Hussain & Griffiths, 2008)
- Online gaming is converging with online gambling (Griffiths, 2008)

ONLINE GAMING: POSITIVE OBSERVATIONS

- Lots of evidence suggesting that gaming can have very positive effects in peoples' lives.
- Online gaming can make people feel psychologically better about themselves and help raise their self-esteem.
- The immersive and dissociative experience of gaming can also be very therapeutic and help people deal with every day stresses and strains.
- Many would argue that this is more positive than drug use, drinking alcohol or other potential behavioural addictions like pathological gambling.

ONLINE GAMING: NEGATIVE OBSERVATIONS

- Online gaming shares many similarities to online gambling (e.g. online poker).
- Online gaming may be more problematic than ‘stand alone’ gaming is that 24/7 online games are never ending.
- Internet may provide a potentially ever-present addictive medium to those with predisposition for excessive gaming.
- Likely to be a growing problem as gaming can be immensely rewarding and psychologically engrossing

CONCLUSIONS

- The positives of videogames outweigh the negatives
- Adverse effects are relatively minor and temporary, resolving spontaneously with decreased frequency of play, or to affect only a small subgroup of players.
- Excessive players most at-risk from developing problems although more research needed
- Despite positive consequences for many, online gaming can be negative to a minority. In this case, the medium may be more harmful for susceptible individuals