

AN OVERVIEW OF ONLINE ADDICTIONS

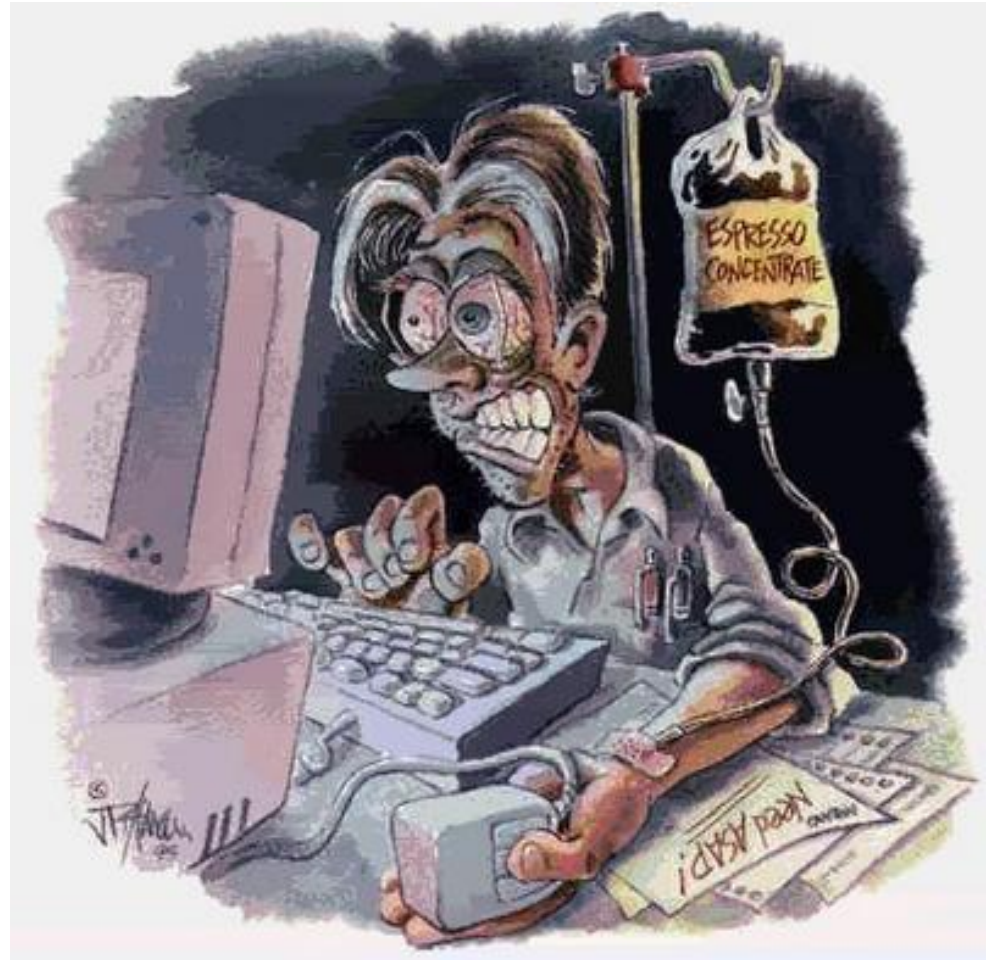
**Dr Mark Griffiths
Professor of Gambling Studies
International Gaming Research Unit
Nottingham Trent University**

mark.griffiths@ntu.ac.uk

KEY QUESTIONS

(Griffiths, 1998)

- What is addiction?
- Do online addictions exist?
- If online addiction exists what are people actually addicted to?



OVERVIEW OF PRESENTATION

- Addiction
 - Technological addictions
 - Online gaming addiction
 - Internet addiction
 - Online gambling addictions
 - Online sex addiction
 - Conclusions

ADDICTION COMPONENTS

(Griffiths, 1995; 1996; 2005; 2009)

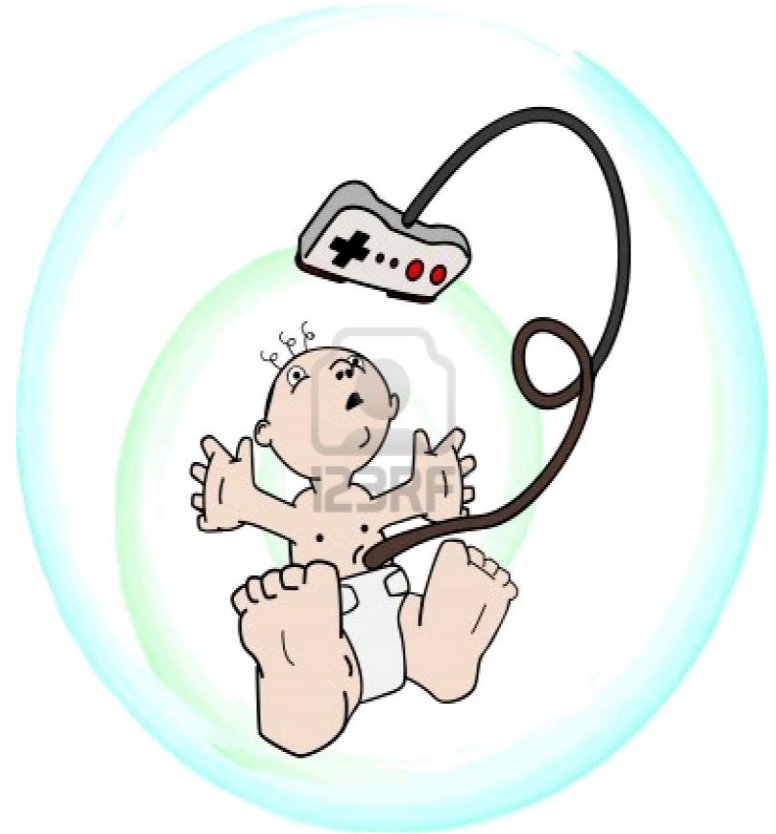
- **Saliency**
- **Mood modification**
- **Tolerance**
- **Withdrawal**
- **Conflict**
- **Relapse**



TECHNOLOGICAL ADDICTIONS

(Griffiths, 1995; 2008)

- Technological addictions are operationally defined as non-chemical (behavioural) addictions that 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



GENERIC FACTORS THAT MAKE INTERNET ATTRACTIVE TO USERS

(Griffiths, 2003)

- Access
- Affordability
- Anonymity
- Convenience
- Disinhibition
- Escape
- Social acceptability
- Long working hours



GAMING ADDICTION? (Griffiths, 2007; 2008)



Mark Griffiths

- Studies have shown **gaming increases arousal** (e.g., Segal & Dietz, 1991; Griffiths & Dancaster, 1993; Lim & Lee, 2008)
- Early adolescent studies indicate that gaming addiction may exist and that **5-7% of children play games for over 30 hours a week** (Fisher, 1994; Griffiths & Hunt, 1995; 1998; Phillips et al, 1995; Griffiths, 1997)
- More recently, studies on **MMORPGs also suggest gaming addiction exists** (Tejeiro-Delguero & Moran, 2002; Salguero et al, 2002; Chui, et al, 2004; Leung, 2004; Wan & Chiou, 2006; Grusser et al, 2007; Hart et al, 2008; Brody, 2008; Hart et al, 2008; Rehbein et al, 2010; Mehroof & Griffiths, 2010)

BEHAVIOURAL INDICATORS OF EXCESSIVE PLAY

- **Stealing money to play arcade games** (*Klein, 1984; Keepers, 1990*)
- **Stealing money to buy new games** (*Griffiths & Hunt, 1995;1998*)
- **Truanting from school/college or sacrificing work to play** (*Keepers, 1990; Griffiths & Hunt, 1995; 1998; Grusser et al, 2007; Rehbein et al, 2010*)
- **Not doing academic work/getting poor grades** (*Griffiths & Hunt, 1993; Phillips et al, 1995; Chiu et al, 2004; Ng & Weimar-Hastings, 2005; Smyth, 2007; Hart et al, 2008; Rehbein et al, 2010*)





HERE, IT'S A NEW GAME, CALLED
"MARITAL IMPLOSION." JUST ONE PLAYER.

- **Sacrificing of social activities to play** (Egli & Meyers, 1984; Griffiths & Hunt, 1995; 1998; Smyth, 2007; Grusser et al, 2007; Hart et al, 2008; Rehbein et al, 2008)
- **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)
- **Increased social anxiety** (Lo et al, 2005; Hart et al, 2008)
- **Decreased interpersonal relationships** (Lo et al, 2005; Ng & Weimar-Hastings, 2005; Smyth, 2007)
- **Poor sleep** (Smyth, 2007; Grusser et al, 2007; Rehbein et al, 2010)

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)



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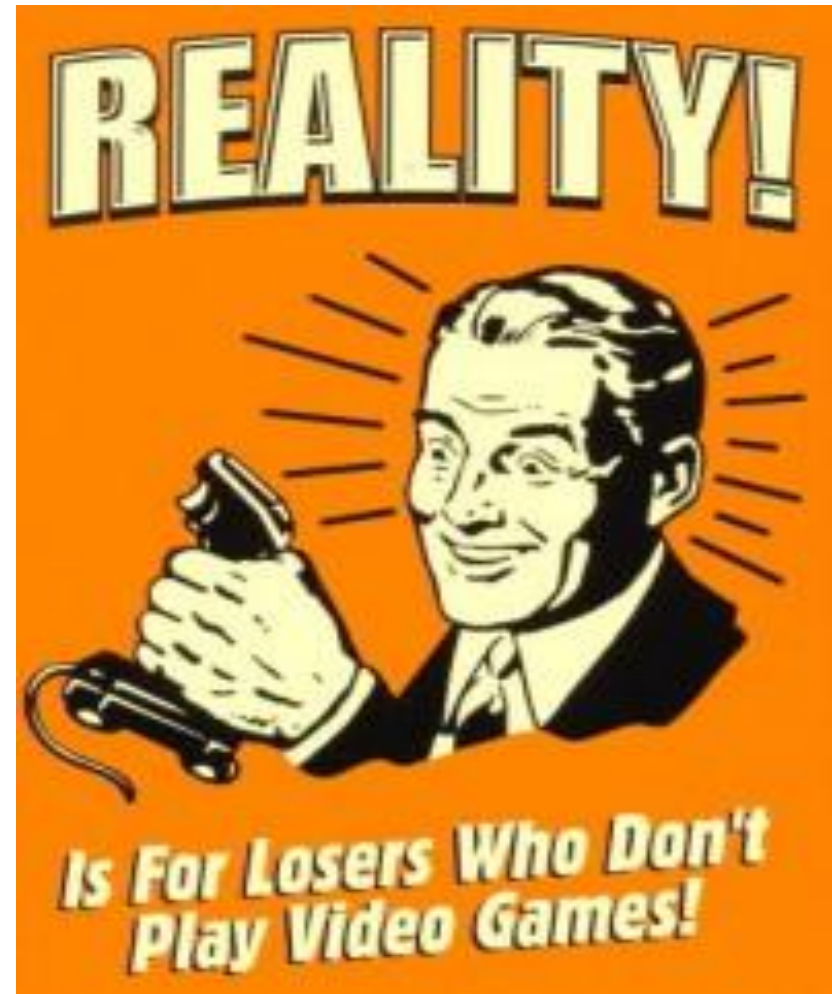


Sign # 23 that you've spent too much time at a game: your nails are longer than your fingers and your hair touches your ankles.

- **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*)

ADDICTION STUDIES ON ONLINE GAMING

- Some authors have conformed these findings although these are typically uncritical (*e.g., Leung, 2004; Ng, & Wiemer-Hastings, 2005; Young, 2008; Smahel et al, 2008*)
- Others have found empirical support across different ages (*e.g., Hart et al, 2008*)
- Some studies question the difference between 'addiction' and 'high engagement' (*Charlton, 2002; Charlton & Danforth, 2007*)
- Other authors question its existence at all (*e.g., Wood, 2007*)



ONLINE GAMING ADDICTION

(Kuss & Griffiths, 2012a; 2012b)

- Reviewed over 60 empirical studies on internet gaming addiction
- Argued that gaming addiction follows a continuum
- Antecedents in etiology and risk factors, through to the development of a “full-blown” addiction
- Gaming addiction associated with various personality traits (e.g., introversion, sensation-seeking, neuroticism, state/trait anxiety, low emotional intelligence, social inhibition)
- Terminologies and assessment of addiction was variable (e.g., problem video game playing, problematic online game use, video game addiction, online gaming addiction)
- Excessive (problematic) engagement found in approx 8-12% of young persons, whereas addiction seems to be present in 2-5% of children, teenagers and students.

ONLINE GAMING STUDIES: THE PROBLEM

(Grüsser, Thaleman & Griffiths, 2007)

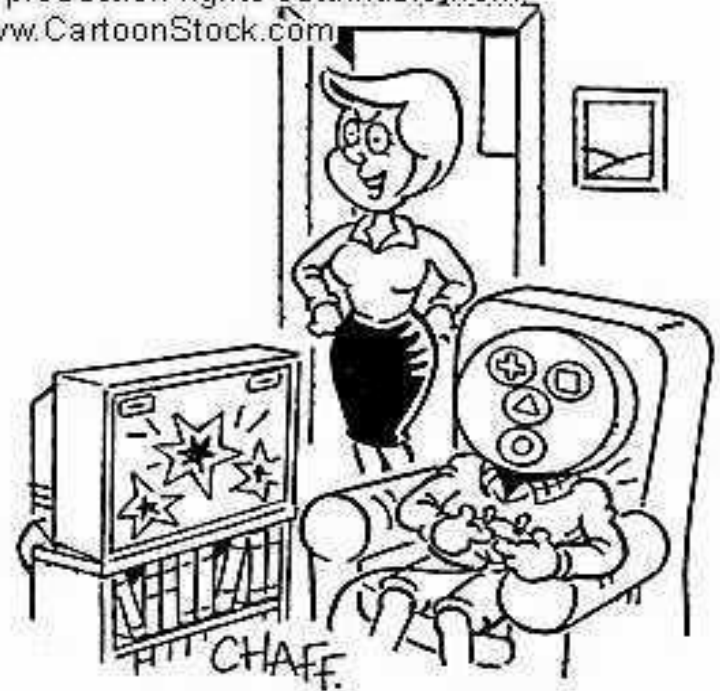
- A self-selected sample comprising of 7,069 gamers; mostly male (94%); average age of 21 years
 - 1 in 9 (840 gamers) fulfilled at least three diagnostic criteria of addiction concerning gaming behaviour.
 - Addictive signs modelled on key symptoms of dependence syndrome outlined by the *World Health 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.

VIDEOGAME TAXONOMIES

- There is also a need for a general **taxonomy of video games**
- It could be the case that particular types of games have very positive effects while other types are not so positive.
- *Griffiths (1993; 1997)* outlined the nine different types of game in which only the final three types are essentially violent

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"I think you spend far too much time in front of those video games!"

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- **Sport Simulations**
 - Racers
 - Adventures
 - Puzzlers
- **Weird Games**
 - Platformers
- **Platform blasters**
 - Beat 'Em Ups
 - Shoot 'Em Ups

(Griffiths, 1997)

VIDEO GAME TAXONOMIES: STRUCTURAL CHARACTERISTICS

(King, Delfabbro & Griffiths, 2010)

- **Social Features:** Social utility features; Social formation/institutional features; Leader board features; Support network features
- **Manipulation and Control Features:** User input features; Save features; Player management features; Non-controllable features
- **Narrative and Identity Features:** Avatar creation features; Storytelling device features; Theme and genre features
- **Reward and Punishment Features:** General reward type features; Punishment features; Meta-game reward features; Intermittent reward features; Near miss features; Event frequency features; Payout interval features
- **Presentation Features:** Graphics and sound features; Franchise features; Explicit content features; In-game advertising features

- King, Delfabbro and Griffiths (2011) reported certain SCs were stronger predictors of problematic VG involvement than factors such as gender, age, and time spent playing.
 - Problem video game players reported significantly higher enjoyment of features such as:
 - adult content in video games
 - earning points
 - getting 100% in the game
 - mastering the game
 - Westwood and Griffiths (2010) identified six distinct types of gamers based on SCs: (a) story-driven solo gamers; (b) social gamers; (c) solo limited gamers; (d) hardcore online gamers; (e) solo control/identity gamers; and (f) casual gamers.
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GAMING ADDICTION TREATMENT

(Orzack et al, 2006; Young, 2008; Griffiths & Meredith, 2009;
King, Delfabbro & Griffiths, 2010; 2012)



"I'm going to Internets Anonymous...
we meet in a Yahoo chatroom!"

- 'Gaming addiction' clinics
- Online support forums
- On-Line Gamers Anonymous
- Various CBT treatments
- Multi-modal treatment (*CBT, Skills training, Interpersonal Therapy, Couples Therapy/Family Therapy*)

INTERNET ADDICTION

- **Prevalence (general)** (*Young, 1996; Thompson, 1996; Egger, 1996; Brenner, 1997; Greenburg, 1999*) (**US** - *Morahan-Martin, 1997; Scherer & Bost, 1997* **UK** - *Neimz, Griffiths & Banyard, 2005; Greece* - *Simios et al, 2008; South Africa* - *Thatcher et al, 2008; Iran* - *Ghassemzadeh et al, 2008; Taiwan* - *Chou, 2001; China* - *Zang et al, 2008*)
- **Case studies** (*Young, 1996; Catalano et al, 1999; Black et al, 1999; Griffiths 2000; Leon & Rotunda, 2002; Griffiths, 2010*)
- **Psychometric properties** (*Pratarelli et al, 1999; Armstrong et al, 2000; Beard & Wolfe, 2001; Charlton, 2002; Shapira et al, 2003; Widyanto & McMurrin, 2004; Khazaal et al, 2008; Meerkirk et al, 2009*)
- **Co-morbidity relationships** (*Black, 2000; Armstrong et al, 2000; Shapira et al, 2000; Nie & Ebring, 2000; Kubey et al, 2001; Yuen & Lavin, 2004; Caplan, 2006; van den Eijnden et al, 2008; Mitchell et al, 2009; Milani et al, 2009 - psychiatric problems, depression, shyness, loneliness, self-esteem, interpersonal relationships*)
- **Relationship with other behaviours** (*Kubey et al, 2001; Simcova & Cincera, 2004; academic performance; online chatting*)

PROBLEMS WITH ONLINE ADDICTION SURVEYS

(Griffiths, 2000; Widyanto & Griffiths, 2006)

- They tend to have no measure of severity
- They tend to have no temporal dimension
- They have a tendency to overestimate the prevalence of problems
- They tend to take no account of the context of playing
- They tend to use non-validated screening instruments



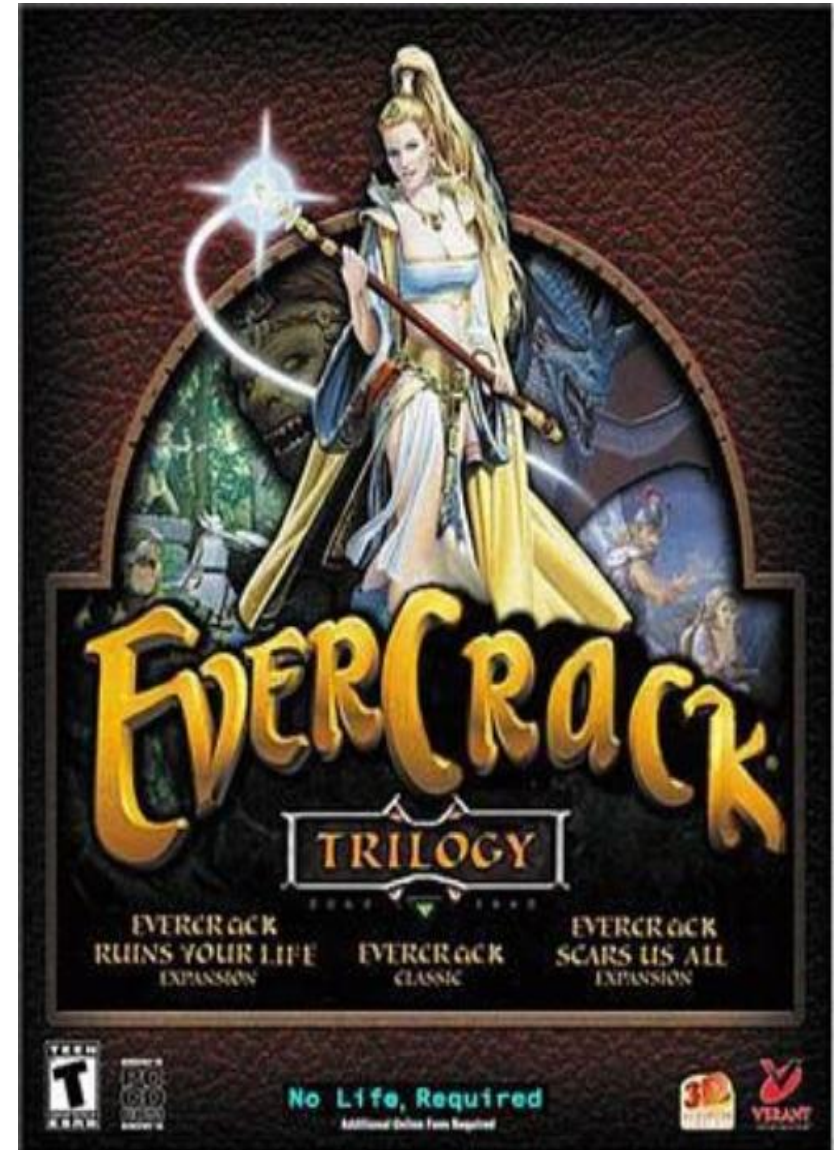
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INTERNET ADDICTION TYPOLOGY

(Young 1999)

- ***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, etc.
 - ***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**

INTERNET GAMBLING: KEY EMPIRICAL FINDINGS

- Internet gamblers were more likely to be male, relatively young adults, single, well educated, and in professional/managerial employment (*Griffiths et al, 2009; Wardle et al, 2011*).
 - Problem gambling prevalence rate is significantly higher among Internet gamblers than non-Internet gamblers (*Griffiths et al, 2009; 2010; Wood, Griffiths & Parke, 2007; Griffiths & Barnes, 2008*).
 - Adolescents are gambling on the Internet (*Wood, Griffiths, et al, 2007; Ipsos MORI, 2009; Griffiths & Parke, 2010*).
 - Increasing numbers of women gambling remotely and gender swapping is common (*IGRU, 2007; Griffiths et al, 2007*).
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BGPS 2010 SECONDARY DATA ANALYSIS

(Wardle, Moody, Griffiths, Orford & Volberg, 2011)

- One of the aims was to explore whether there were any differences in profile between people who choose to gamble in certain modes and consider, briefly, whether gambling behaviour varied between these groups (n=7756)
- Offline gambling only (80.5%; 0.9%/0.4%)
- Online gambling only (2.1%; 0%)
- Mixed mode gambling - different activities (6.8%; 4.3%/3.4%)
- Mixed mode gambling – same activities (10.6%; 2.4%/0.8%)

ONLINE SEX ADDICTION

(Griffiths, 2012)

- Overview of the empirical studies that have investigated Internet sex addiction in adults.
- 14 empirical studies of Internet sex addiction in adults were identified (9 quantitative, 5 qualitative)
- Comorbidity included affective disorders, substance-related addictions, behavioral addictions, PTSD, and eating disorders
- Internet appeals to marginalized groups who may feel liberated from real life constraints with regards to exploring their sexuality and finding real life sex partners online
- Specificity required with regards to demarcating Internet sex addiction from sex addiction and Internet addiction
- Specific Internet applications utilized for sexual purposes also require closer scrutiny.

TREATMENT OF ONLINE ADDICTION

(King, Delfabbro, Griffiths & Gradisar, 2011;
King, Delfabbro & Griffiths, 2012)

- **Cognitive Behaviour Therapy/Motivational Interviewing**
(Orzack et al, 2006; Young, 2007; Du et al, 2010)
- **Pharmacotherapy (Methylphenidate [S] /Bupropion [D])**
(Han et al, 2009; 2010)
 - **Counselling (Group/Multimodal)**
(Kim, 2008; Skek et al, 2009)
 - **Online self-help centre**
(Su et al, 2011)

Total of 435 participants (302 non-pharmacological treatment)
CONSORT (Consolidating Standards of Reporting Trials) Analysis

TREATMENT CONCLUSIONS

(King, Delfabbro, Griffiths & Gradisar, 2011; King, Delfabbro & Griffiths, 2012)

- Inconsistencies in definition and diagnosis of problematic online use
- Lack of randomization and blinding techniques
- Lack of adequate controls or other comparison groups
- Insufficient information regarding recruitment, sample characteristics, and treatment effect sizes
- Only one study (i.e., Du et al, 2010) employed randomized control trial design – showed decrease in problematic online use among adolescents

CONCLUSIONS

- Online addictions appear to exist (depending upon addiction criteria used)
- Adverse effects are relatively minor and temporary, resolving spontaneously with decreased frequency of play, or to affect only a small subgroup of players.



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"You're right, it is too nice outside to play inside. Could you help me carry the TV and PlayStation out to the deck?"

- Excessive users most at risk from developing problems although more research needed
- Despite positive consequences for many, online activities can be negative to a minority. In this case, the medium may be more harmful for susceptible individuals