

# Troubling Perspectives on Computer Game Addiction

Rune Kristian Lundedal Nielsen  
IT University of Copenhagen  
Rued Langgaardsvej 7  
Copenhagen, Denmark  
+45 3117 5655  
rkl@itu.dk

Arne Poulsen  
Roskilde University  
Universitetsvej 1  
Roskilde, Denmark  
+45 4674 2286  
apoulsen@ruc.dk

## ABSTRACT

This paper discusses two conventions pertaining to the study of computer game addiction that are rarely discussed. Traditionally when addictions are assessed, it is not customary for the researcher to be concerned with whether or not the addiction causes harm; or in other words: whether the addiction adds more to the overall life quality than it subtracts. Similarly, it is not customary to ask the addict if they believe that the way that their addiction is measured makes sense to them (i.e. whether it has face validity). This makes sense in cases where individuals seek treatment for substance abuse or disordered gambling, where the detrimental effects are obvious. This paper will argue that for game addiction (and behavioral addictions in general) these conventions need to be abandoned. To argue its point this paper will trace the history of computer game addiction and thereby illustrate how criteria for gambling and substance use disorder were applied to video games without qualitative data on the existence of the resulting disorder. The argument of this paper is that research into the prevalence (i.e., percentage of a population that meet the defined criteria) of computer game addiction should not be satisfied with the types of validity that can be measured quantitatively, but should also be concerned about those that need to be qualitatively measured. External validity abounds, as more and more studies demonstrate the prevalence of video game addiction, but internal validity (whether a test measures what it is supposed to test) is assumed rather than demonstrated. Since game studies is arguably the academic discipline that concerns itself the most with understanding digital games, this would be an ideal place to look for inspiration into the kinds of qualitative methods that could support quantitative ones.

## 1. INTRODUCTION

In most of the world concerns related to computer game addiction are found in mainstream news media, academia and the population at large. These concerns are as old as digital games themselves, but have only recently gained enough momentum for a diagnosis to be suggested by official handbooks.

That high frequency (or even excessive) gaming is most adequately described and understood as an addiction has remained relatively unquestioned within psychology. The most recent official diagnostic handbook includes the proposal of a new

diagnosis: Internet gaming disorder, which will be inducted into the next version of the manual as a non-substance related addiction (pending further research)[1]. The criteria for the proposed diagnosis are adapted versions of the criteria that have previously been developed to diagnose substance abuse and gambling disorder.

This paper argues that several points should be considered before such a diagnosis is inducted: (1) the existing and growing body of research produced by the game studies community; (2) the lack of qualitative descriptions; (3) the (over-) reliance on quantitative data; (4) the changing role of games in our culture.

We defy the conventional wisdom that the experience of those labeled as video game addicts do not bear any weight on the issue of the validity of the tools used to measure its prevalence.

## 2. DEVIANCE AND ADDICTION

Any behavior, including playing video games, can be taken to unhealthy extremes. However, it is interesting to ask if the concept of addiction is the best explanation for what is at stake when people play computer games excessively. Addiction is commonly understood as the presence of the following components (though not all are typically required to be present): “*salience* (the activity dominates the person’s life, either cognitively or behaviorally), *euphoria or relief* (the activity provides a “high” or the relief of unpleasant feelings), *tolerance* (over time, a greater amount of activity is needed to achieve the same “high”), *withdrawal symptoms* (the person experiences unpleasant physical effects or negative emotions when unable to engage in the activity), *conflict* (the activity leads to conflict with other people, work, obligations, or the self), and *relapse and reinstatement* (the person continues the activity despite attempts to abstain from it)” [emphasis original][2, p. 595].

However, by this definition any behavior that is considered deviant by societal norms can be framed as an addiction. Juvenile delinquency can, and has been, described in terms of an addiction [3]. Young offenders may start out with petty crimes just for the sake of the rush that it gives (euphoria), or as a way to break the monotony of daily life (relief). As they grow accustomed to petty theft they may soon feel the need to advance to more hardcore crime (tolerance). They may be preoccupied with thoughts of criminal activity (salience). They may experience significant conflict with their surroundings due to their criminal acts (conflict). Finally, they may find themselves unable to put a stop to their criminal behavior even in the face of severe negative consequences (relapse and reinstatement). This does not mean, however, that addiction is the best frame for understanding, explaining or preventing juvenile delinquency.

The notion of behavioral addiction is most commonly traced back to R. Iain F. Brown [4], who proposed that 'gaming and simulation' might have a place among a list of 40 other potentially addictive activities. These include 22 substance-oriented activities, some obvious ones e.g.: cocaine, heroin, and amphetamine; as well as some less obvious ones e.g.: highly seasoned foods, sugar based foods, fatty foods, salt from the shaker and/or salty foods. The list also comprised 18 non-substance behaviors, several of which might be argued to be readily available in computer games, e.g.: spending just for the sake of spending; work for the sake of being busy; anger, fights and arguments; trying to manipulate and/or control others; trying to get attention for attention's sake; trying to get others to take care of me and do things for me; seeking and having sex with another person; exercise, jogging, playing sports or working out; watching television; talking for the sake of talking; lying (for no good reason), fast and/or reckless driving (not to include driving under the influence). These behaviors are certainly all available in computer games (at least in a virtual form) and it is, perhaps then, no wonder then that so many studies find high prevalence rates of game addiction.

Mark Griffiths and colleagues [5] provide a list of the 23 largest questionnaire studies of computer game addiction between 1994 and 2012 and their estimated prevalence rates. Even though 15 of these studies are based on various editions of the Diagnostic and Statistical Manual (The DSM, which is currently in its fifth edition[1]) the prevalence rates range from 0.6 percent [6] to 44.5 percent [7]. These rates suggest that there are still significant problems with how researchers craft tools based on abstract concepts and how these are scored. It also highlights the need for more qualitative research into the experiences of those who score highly enough to be labeled as addicts. Such descriptions are arguably needed in a field that seems to have adopted addiction as a framework to understand deviant behavior with very little theory or data to support that idea and has since relied mainly on quantitative research to provide evidence.

### 3. COMPUTER AND GAME ADDICTION

The notion that computers, and by extension computer games, are addictive goes back at least as far as the mid-70s when 'compulsive programmers' were described (and condemned) [8]. In the early 80s 'computer catatonia' was described [9] and it was argued that there were many more 'compulsive programmers' than there are 'compulsive program consumers' because there were too few software products available. However, the 'Dungeon and Dragons type of simulation games' were argued to be the foremost among addictive programs; thus 'hackers' are the most common addict who, even though they may start successful businesses, are deviants because: "All of their creative urges are deformed into this monomaniacal outlet"[9, p. 181]. This should raise questions about whether excelling within any field, be it sports, business, art, or academia is best understood as addictions or whether something inherent to computers and games set them apart.

The notion that the aforementioned addicts were acting irrationally was questioned by qualitative research, which found that they were in fact rationally coping with life-circumstances by engaging in intellectually stimulating pursuits that offered not just fascinating hobbies but also means to make a living [10], [11]. These qualitative findings were, however, preceded by quantitative studies of the new phenomenon of game addiction. The speculations on the addictiveness of computers and software

had already paved the way for quantifying the extent of the problems.

To the best of our knowledge the first published study on video game addiction was R. Iain F. Brown and Seonaid Robertson's "Home Computer and Video Game Addictions in Relation to Adolescent Gambling: Conceptual and developmental Aspects" [4]. The study used the following five questions, which were inspired by the twenty questions used by Gamblers Anonymous, to assess pathological gambling in 134 schoolchildren aged 12-16 years in Scotland in 1986: 1) Can you pass a Space Invaders machine without wanting to play? 2) When you have played a game do you always want to play another? 3) Do you sometimes spend more money than you were going to? 4) Do you often leave only when all of your money has run out? 5) Do you often borrow money in order to play the machine?

In the sample, less than half of the children played video games (45%). 4.4% scored the highest possible on the addiction scale (five points) and 6.7% scored just one point shy of the maximum points. 40% of the sample scored three points out of the maximum five, which was also the modal score. To the authors, this suggests that: "*a sizeable percentage of the general population of schoolchildren may have a significant addiction to video gaming alone.*" [12, p. 453]. But is that a fair assessment to make? For an adult it would certainly imply serious problems to spend the rent money on video games, keep borrowing in order to play more, and not being able to leave before all of the money is gone. But can we assume that it is the same for 12-year-olds without asking them if this behavior has serious consequences and conversely what they might get out of it? A rare case study of 'pathological preoccupation with video games' showed that what the child got out of his addiction was to escape from beatings from his abusive father and a deeply dysfunctional home environment [13]. This is arguably better described as a rational coping mechanism than an addiction.

In 1994 the first study of video game addiction based on DSM criteria was published [14]. And the field has since matured enough that the American Psychiatric Association (APA) has encouraged research into 'Internet gaming disorder'. One of the things that the APA is calling for is an understanding of the natural histories of cases, with or without treatment. In other words case descriptions.

Game studies already provide insights into what, how and why some people play intensely (and perhaps excessively), as well as the context of the play [15]–[19]. Research on computer game addiction might benefit from such qualitative descriptions of play in the context of a world where games are increasingly cultural artifacts, which enable professional sport, serious leisure, social activity and work. Combining the quantitative prevalence studies of game addiction research with qualitative follow-up studies would either add face validity, or encourage researchers to find a better suited framework than addiction.

### 4. OLD AND IRONIC GAMBLING DEBT

Gambling is currently the only behavior that is considered to be addictive according to the DSM-5 [1], gaming would be the only other one. Other activities such as work, sports, TV-watching or reading are not currently categorized as having addictive potential. This raises the question of the relevance of a separate diagnosis for Internet gaming disorder. Specifically why non-Internet video games are not considered addictive. If the addictive part of video games lies in the Internet mediated interaction with

other people would it not be better understood as a social addiction? And if so, what is the evidence that ...

Pathological gambling was added to the DSM-III in 1980, largely as a result of the efforts of Dr. Robert Custer and the criteria for the diagnosis was based on his, and others', clinical experience with treating the disorder[20]. In other words, it was based on a subset of gamblers, who were (presumably adults and) seeking treatment. The criteria were therefore clinically valid and the detrimental effects were demonstrated by the active treatment seeking. However, when the same criteria are applied to gamers who are not seeking treatment in large-scale prevalence studies we cannot assume the same detrimental effects. If something is to be considered an addiction (with all of the medical connotations of the word) it needs to have an overall negative impact on the individual. This might entail a weighing of costs and benefits of the 'addiction', which is not conventionally thought to be necessary in relation to drug taking. It is, however, needed when the label of addiction is applied to everyday activities such as games, work, sports etc., all of which can have negative effects, but don't necessarily do so. A topical example is the differential diagnosis associated with gambling. The DSM [1] states that social and professional gambling must be differentiated from disordered gambling. A significant challenge for prevalence studies is therefore to differentiate between professional, social and disordered gamers and gamblers alike. And this is perhaps the best argument for the cost/benefit approach to prevalence studies.

When Robert Custer and others developed the diagnostic criteria for pathological gambling, they did so in order to move from a perspective of gamblers as sinners and criminals [21] and replace it with a medical model. In other words: a move away from moral judgment. It would be ironic to use those same criteria in a moral judgment that singles out one kind of activity and not others as pathological.

## 5. ACKNOWLEDGMENTS

We would like to acknowledge the feedback of the anonymous reviewers of our original submission, both the ones who voted to accept; but also (and especially) those who voted to reject because they found our reasoning troubling. We hope to have provided some more background to our troubled reasoning.

## 6. REFERENCES

- [1] American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition: DSM-5*, 5 edition. Washington, D.C: American Psychiatric Publishing, 2013.
- [2] D. Gentile, "Pathological video-game use among youth ages 8 to 18: a national study," *Psychol. Sci. J. Am. Psychol. Soc. APS*, vol. 20, no. 5, pp. 594–602, 2009.
- [3] J. E. Hodge, M. McMurrin, and C. R. Hollin, *Addicted to Crime*. Wiley, 1997.
- [4] R. I. F. Brown, "Gaming, Gambling and other Addictive Play," in *Adult Play: A Reversal Theory Approach*, M. J. Apter and J. H. Kerr, Eds. Amsterdam; Berwyn, Pa: Garland Science, 1991.
- [5] M. Griffiths, D. Kuss, and D. King, "Video game addiction: Past, present and future," *Curr. Psychiatry Rev.*, vol. 8, no. 4, pp. 308–318, 2012.
- [6] R. A. Mentzoni, G. S. Brunborg, H. Molde, H. Myrseth, K. J. M. Skouveroe, J. Hetland, and S. Pallesen, "Problematic Video Game Use: Estimated Prevalence and Associations with Mental and Physical Health," *Cyberpsychology Behav. Soc. Netw.*, vol. 14, no. 10, pp. 591–596, Oct. 2011.
- [7] Z. Hussain, M. Griffiths, and T. Baguley, "Online gaming addiction: Classification, prediction and associated risk factors," *Addict. Res. Theory*, vol. 20, no. 5, pp. 359–371, Oct. 2012.
- [8] J. Weizenbaum, *Computer Power and Human Reason: From Judgment to Calculation*. W. H. Freeman, 1976.
- [9] J. M. Nilles, *Exploring the World of the Personal Computer*. Englewood Cliffs, N.J.: Prentice Hall Trade, 1982.
- [10] M. A. Shotton, "The costs and benefits of 'computer addiction,'" *Behav. Inf. Technol.*, 1991.
- [11] M. A. Shotton, *Computer Addiction? A Study Of Computer Dependency*. London: Taylor & Francis, 1989.
- [12] R. I. F. Brown and S. Robertson, "Home computer and video game addictions in relation to adolescent gambling: Conceptual and developmental aspects," in *Gambling behavior and problem gambling*, W. R. Eadington and J. A. Cornelius, Eds. Institute for the Study of Gambling and Commercial Gaming, College of Business Administration, University of Nevada, Reno, 1993.
- [13] G. A. Keepers, "Pathological Preoccupation with Video Games," *J. Am. Acad. Child Adolesc. Psychiatry*, vol. 29, no. 1, pp. 49–50, Jan. 1990.
- [14] S. Fisher, "Identifying video game addiction in children and adolescents," *Addict. Behav.*, vol. 19, no. 5, pp. 545–553, Sep. 1994.
- [15] T. L. Taylor, *Play Between Worlds*. MIT Press, 2009.
- [16] F. Karlsen, *A World of Excesses: Online Games and Excessive Playing*. Surrey, England: Ashgate Publishing, Ltd., 2013.
- [17] Ø. Flaaten, S. Torp, and E. Aarseth, "Ungdommers opplevelser med overdreven bruk av online-rollespillet World of Warcraft," *Tidsskr. Ungdomsforskning*, vol. 10, no. 2, pp. 57–78, 2010.
- [18] J. Linderöth and U. Bennerstedt, *Living in World of Warcraft: The thoughts and experiences of ten young people*. The Swedish Media Council, 2007.
- [19] T. L. Taylor, *Raising the Stakes: E-sports and the Professionalization of Computer Gaming*. MIT Press, 2012.
- [20] C. Reilly and N. Smith, "The evolving definition of pathological gambling in the DSM-5," *Natl. Cent. Responsible Gaming*, 2013.
- [21] H. R. Lesieur and R. L. Custer, "Pathological gambling: Roots, phases, and treatment," *Ann. Am. Acad. Pol. Soc. Sci.*, pp. 146–156, 1984.