

Virtual Mentor

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A Disorder by Any Other Name: Excessive Computer Game Playing

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Grusser SM, Thalemann R, Griffiths MD. Excessive computer game playing: evidence for addiction and aggression? *Cyberpsychol Behav.* 2007;10(2):290-292.

The image is not an unfamiliar one: an adolescent boy, awake at some odd hour of the night, hunched over a keyboard in a dark room lit only by the glow of a computer monitor, across which elves, bards, and Orcs trample. Though this stereotype usually describes the avid computer user as awkward, socially maladjusted, and introverted, the majority of the participants in the Internet and video game revolution view computer use as either a practical necessity or as a recreational activity similar to watching television or listening to music. In fact, even the demographics of video gamers are misconstrued, as the most devoted players are not teenagers, but males above the age of 19, and an increasing proportion of players are female [1].

Nevertheless, in view of the fact that many stereotypes contain an element of truth, that of the withdrawn adolescent spending endless hours in front of the computer in spite of the personal consequences suggests to some that this phenomenon may have more serious social and psychological underpinnings. Although gamers and those who spend excessive amounts of time on the Internet form relationships online, social networks established in this way may come at the expense of face-to-face interpersonal skills and the ability to socialize in the real world. Overuse may also be linked to obsessive-compulsive disorders or undiagnosed cases of anxiety.

This concern has led some psychologists to relate excessive Internet and game playing to the dependency characteristics of compulsive gambling and drug abuse and to coin the phrases “Internet addiction” and “video game addiction.” Although “Internet addiction disorder” is not yet a viable diagnosis according to the *Diagnostic and Statistical Manual-Fourth Edition* (DSM-IV), many would argue that the Internet elicits the same euphoric and withdrawal symptoms as substance and behavioral addictions. There is little consensus among the medical community about the legitimacy of these new addictions, the American Medical Association has not recommended accepting Internet addiction disorder as a diagnosis, and it is unclear whether the American Psychiatric Association will include criteria for diagnosing Internet and video game addiction in the new edition of the DSM. Much of the uncertainty is related to the general reluctance to accept behavioral addictions such as compulsive gambling and sex and television addictions as clinically diagnosable disorders.

It is not surprising that Asian researchers are the most active in this field, since China, Korea, and Japan are the largest Internet and video game markets in the world outside of the U.S. Since the heavily publicized deaths of several Asian men within the last decade after marathon gaming sessions, and because of the increasing prevalence of excessive game play among Asian youths, addressing Internet and video game overuse has become a serious policy concern at both the scientific and governmental levels. Massive counseling efforts, boot camps, and other rehabilitation services are being directed toward addicted adolescents in these countries [2].

The Addiction Argument

Mark Griffiths, a true pioneer in the field of internet addiction and coauthor of the article under review here, continues to contribute to the study of the psychological effects of the Internet and computer games, writing in the journal *Cyberpsychology and Behavior* about the prevalence of addiction among gamers and the possibility of increased aggression [3]. Griffiths' past work highlights the possibility that excessive computer game and Internet consumption have psychological causes and consequences and that the phenomenon—though it only affects a minority of users and has no official status as a disorder—is very real [4]. Considering addiction a potentially increasing possibility in the long run, Griffiths and his coauthors also point out the obligation of psychologists and clinicians to spot behavioral problems, especially in adolescents as their game-playing time reaches abnormal levels [5, 6].

While it is publicly and scientifically accepted opinion that the Internet and video games can be useful and entertaining additions to most people's lives with little disruption, in the article *Excessive Computer Game Playing: Evidence for Addiction and Aggression?* Grusser, Thalemann, and Griffiths continue the argument that, to a minority of users (a proportion that they attempt to define), video games can prove to be addictive. They also address the popular concern that the violent nature of some video games may increase these tendencies in adolescents.

Methods. As in most studies of computer use, self-reported data provide the basis for the article's conclusions. Subjects, recruited from readers of a gaming magazine, responded to two questionnaires, one regarding gaming behavior and frequency, and the other exploring possible aggressive tendencies. Using both correlation and regression analyses, differences in attitudes toward gaming, compulsive feelings, and aggressive inclinations between pathologic and nonpathologic gamers were compared.

The World Health Organization's (WHO) diagnostic classifications for mental and behavioral disorders—the ICD-10—were employed by the researchers as a measure of addictive tendencies. This system of classification has six criteria for "dependence syndrome," of which three must be present for a diagnosis [7]. Though the WHO's criteria for addiction are intended for the evaluation of substance abuse, they can easily be applied to behavioral addiction assessment.

Results and the Author's Conclusions. Of the more than 7,000 subjects, 11.9 percent were found to meet three or more of the ICD-10 criteria [8]. The regression analyses showed that gaming defined as “excessive” had little explanatory power over aggressive tendencies, suggesting that since even overuse of video games leads to such small increases in aggression, average levels of game playing would put an adolescent at almost no risk for increased aggression. The authors claim that, even if one takes into account that the results were drawn from self-reported data and that subjects were recruited from a computer gaming magazine readership, the percentage of addicts is still *remarkably* high.

In addition to justifying the opinion that video games have addictive potential, Grusser et al conclude that the differences between the responses to each of the six criteria by members of two groups (pathologic gamers and nonpathologic gamers) also shows cognitive differences that may either result from excessive gaming or be a contributing cause of it. These cognitive components can be extracted from variations in responses to each of the criteria, and the authors propose that these cognitive differences can be targets for therapeutic interventions [8].

So Where Is the Controversy?

While these results seem to support Griffiths' previously published arguments that video games have a significant addictive potential, debate regarding whether pathologic Internet or video gaming constitutes a true addiction continues in full force. Disputes such as those associated with the qualification of gambling as an addiction continue, in part, because these behavior compulsions have no discernable physiological sources. Opponents of the diagnosis therefore contend that those who engage excessively in this activity would rather spend social energy in games than in the real world and that overuse is merely a result of preference. Further, these “addicts” are very much emotionally and cognitively capable of functioning appropriately outside of video games but are simply drawn to the social environment offered by gaming communities [9].

Engagement versus Addiction

The most significant challenge to the diagnostic classification of Grusser et al is the charge that the WHO addiction criteria—and other widely recognized tools, such as Brown's [10]—do not adequately discriminate between high levels of engagement and addiction. This argument has been used to criticize all classes of behavioral addictions, including gambling.

John P. Charlton voices this concern most thoroughly in his investigation of the applicability of Brown's criteria [10]. His work compares the degree to which Brown's factors apply to computing behavior by comparing supposedly computer-dependent subjects' responses to those of “normal” subjects. The results show that, of the six criteria studied (tolerance, euphoria, salience, conflict, withdrawal, and relapse), three could also be construed as indicative of high levels of engagement (tolerance, euphoria, cognitive salience), rather than harmful dependence. This is

understandable when one considers how a desire to devote ever longer periods of time to an activity, a state of bliss while gaming, or a mental preoccupation with gaming can all be acceptable responses to an enjoyable hobby. In this view, any estimations of the prevalence of Internet or gaming addiction derived from these criteria, including those described above, would be exaggerated [10].

Although defining and redefining addiction may be a necessary anxiety for the sake of analyzing the literature on the topic, the fact remains that observable impairments are found when Internet and video games are used in excess, regardless of how this disorder is classified. In fact, the enormity of the problem in Asia and the subsequent attempts at comprehensive remedy should be a warning and a lesson. The true task is to understand what these conditions are and how to mitigate their effects.

A wide range of psychological disorders— social anxiety, obsessive-compulsive disorders, and attention deficit disorders—has been identified as contributing to excessive gaming, with the strongest correlations being between depressive symptoms and addiction [11]. Seay and Kraut suggest, for example, that depression's inhibiting effect on self-regulation could result in an inability to monitor and correct one's time spent gaming [12]. Though paths of causation have not yet been demonstrated, it is significant that a similar range of disorders emerges when one reviews the psychological backgrounds of addicts.

Ultimately, clinicians are responsible for recognizing those who become dangerously absorbed in computer activity and treating the very real symptoms. The evidence that excessive gaming is often indicative of mental and emotional conditions is particularly important and reason for clinicians to be aware of unusual manifestations of anxiety, depression, and obsessive tendencies in the form of pathologic Internet use.

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