

Internet Addiction: Diagnosis and Treatment Considerations

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Abstract Internet addiction is a new and often unrecognized clinical disorder that can cause relational, occupational, and social problems. Pathological gambling is compared to problematic internet use because of overlapping diagnostic criteria. As computers are used with great frequency, detection and diagnosis of internet addiction is often difficult. Symptoms of a possible problem may be masked by legitimate use of the internet. Clinicians may overlook asking questions about computer use. To help clinicians identify internet addiction in practice, this paper provides an overview of the problem and the various subtypes that have been identified. The paper reviews conceptualizations of internet addiction, various forms that the disorder takes, and treatment considerations for working with this emergent client population.

Keywords Internet addiction · Pathological computer use · Online relationships · Diagnosis · Treatment

Introduction

Some people are becoming preoccupied with the internet, are unable to control their use, and are jeopardizing employment and relationships. The concept of “Internet addiction” has been proposed as an explanation for

uncontrollable, damaging use of this technology. Internet addiction is viewed as an impulse control disorder comparable to pathological gambling because of overlapping criteria.

Researchers have suggested various diagnostic criteria to differentiate normal from compulsive internet use. Researchers have also suggested various subtypes of internet addiction ranging from online sexual preoccupations, internet gambling, to compulsive use of chat rooms, online games, and instant messaging. It has been estimated that nearly one in eight Americans exhibit at least one sign of problematic internet use (Aboujaoude et al. 2006).

Conceptualization

Internet addicts demonstrate a loss of impulse control where life has become unmanageable for the online user. Despite these problems, the addict cannot give up the internet. The computer becomes the primary relationship in the addict’s life (Orzack 1999).

Those classified as dependent or addicted online users are generally excessive about their online usage, spending anywhere from 40 to 80 h per week, with sessions that could last up to 20 h (Young 1998; Greenfield 1999). Sleep patterns are disrupted due to late night log-ins and addicts generally stayed up surfing until late in the morning. In extreme cases, caffeine pills are used to facilitate longer internet sessions. Such sleep deprivation causes excessive fatigue impairing academic or occupational performance.

Given the popularity of the internet, detecting and diagnosing internet addiction is often difficult, as its legitimate business and personal use often mask addictive behavior. The best method to clinically detect compulsive use of the internet is to compare it against criteria for other

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established addictions. Researchers have likened internet addiction to addictive syndromes similar to impulse-control disorders or pathological gambling. The Internet Addiction Diagnostic Questionnaire (IADQ) was developed as an initial screening instrument utilized for diagnosis (Young 1998). The following questionnaire conceptualizes patterns associated with the disorder:

1. Do you feel preoccupied with the internet (think about previous online activity or anticipate next online session)?
2. Do you feel the need to use the internet with increasing amounts of time in order to achieve satisfaction?
3. Have you repeatedly made unsuccessful efforts to control, cut back, or stop internet use?
4. Do you feel restless, moody, depressed, or irritable when attempting to cut down or stop internet use?
5. Do you stay online longer than originally intended?
6. Have you jeopardized or risked the loss of significant relationship, job, educational or career opportunity because of the internet?
7. Have you lied to family members, therapist, or others to conceal the extent of involvement with the internet?
8. Do you use the internet as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression)?

Answers evaluate non-essential computer/internet usage such as for non-business or academic use. Subjects are considered 'dependent' when endorsing five or more of the questions over a 6-months period. Associated features also include ordinarily excessive internet use, neglect of routine duties or life responsibilities, social isolation, and being secretive about online activities or a sudden demand for privacy when online. While the IADQ provides a means to conceptualize pathological or addictive use of the internet, these warning signs can often be masked by cultural norms that encourage and reinforce online use. Even if a client meets all the criteria, signs of abuse can be rationalized as, "I need this for my job" or "It's just a machine" when in reality the internet is causing significant problems in a user's life.

Beard and Wolf (2001) modified Young's diagnostic criteria, recommending that all of the first five criteria be required for diagnosis of internet addiction, since these criteria could be met without any impairment in the person's daily functioning. It was also recommended that at least one of the last three criteria (e.g., criteria 6, 7, and 8) be required in diagnosing internet addiction. Shapira et al. (2003) put forth a more comprehensive approach to diagnosing internet addiction under the general style of impulse control disorders per the DSM-IV-TR that further broadened the diagnostic criteria for problematic internet use.

- A. Maladaptive preoccupation with internet use, as indicated by at least one of the following: (1) Preoccupations with use of the internet that are experienced as irresistible. (2) Excessive use of the internet for periods of time longer than planned.
- B. The use of the internet or the preoccupation with its use causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- C. The excessive internet use does not occur exclusively during periods of hypomania or mania and is not better accounted for by other Axis I disorders.

The American Psychiatric Association has considered including the diagnosis of Pathological Computer Use in the upcoming revision of the DSM-V (Block 2008). The diagnosis is a compulsive-impulsive spectrum disorder that involves online and/or offline computer usage (Dell'Osso et al. 2006; Hollander and Stein 2006) and consists of at least three subtypes: excessive gaming, sexual preoccupations, and e-mail/text messaging (Block 2007). All of the variants share the following four components: (1) *excessive use*, often associated with a loss of sense of time or a neglect of basic drives, (2) *withdrawal*, including feelings of anger, tension, and/or depression when the computer is inaccessible, (3) *tolerance*, including the need for better computer equipment, more software, or more hours of use, and (4) *negative repercussions*, including arguments, lying, poor achievement, social isolation, and fatigue (Block 2007; Beard and Wolf 2001). This later criteria seems to pull together all the previous forms of classification of internet addiction defining it in a comprehensive manner to include the major components associated with the compulsive behavior.

Subtypes

Internet addicts can become addicted to different aspects of online use. Based upon the proposed criteria for Pathological Computer Use, the behavior consists of at least one of three subtypes: excessive gaming, online sexual preoccupations, and e-mail/text messaging.

Excessive Gaming

Internet gambling has become an increasingly popular form of gaming. Through online web sites, users can gamble through interactive television and mobile phones. The convenience of 24-h access, the ease of setting up an online account and the variety of sites from traditional betting, to casino gambling, to lotteries—makes internet gambling very appealing (Petry 2006).

Individuals who start experiencing a problem with internet gambling become preoccupied with gambling, creating a disruption in personal, familial, and social aspects of their lives. Petry (2006) found that teen-aged internet gamblers were more likely to have a serious gambling problem than other gamblers. She found that teen-aged internet gamblers were more likely to suffer from health and emotional problems such as substance abuse, circulatory disease, depression, and risky sexual behaviors.

Massive multi-user online role-playing games are one of the fastest growing forms of internet addiction, especially among children and teenagers. Like an addiction to alcohol or drugs, gamers show several classic signs of addiction (Griffiths 2006). They become preoccupied with gaming, lie about their gaming use, lose interest in other activities just to game, withdraw from family and friends to game, and use gaming as means of psychological escape (Leung 2004). Yee (2007) suggested that hardcore players show a tendency toward neuroticism or may suffer from emotional problems or low self worth and esteem. He suggested that individuals who have other emotional problems may be more at risk to develop an addiction to interactive gaming. In the game, these interactive environments allow individuals to experiment with parts of their personality, they can be more vocal, try out leadership roles, and new identities. The problem becomes when players rely upon these new online personas and the distinction between what is real and what is a fantasy becomes blurred.

Gamers can join groups, guilds, lead battles, or win wars in a virtual fantasy world. A large part of gaming is about making social relationships. Gamers make friends with other gamers who help them learn the 'ropes' of playing the game (Kolo and Baur 2004). Multi-user role-playing games often include interactive features and options such as chat rooms and places to virtually hang-out with other gamers. The social aspect is a primary factor in many game addictions (Leung 2007). Many adolescents have trouble with social relationships and feel lonely as if they have never truly belonged. This feeling can be especially powerful among children and adolescents who haven't felt a sense of belonging in their real lives and often their only other friends are fellow gamers. Parents who try to put time limits on the game may find a child becomes angry, irrational, and even violent. Gamers who can't access the game experience a loss. They want to be on the game and they miss playing the game. This feeling can become so intense that they become irritable, anxious, or depressed when they are forced to go without the game (Leung 2004). As their feelings intensify, they stop thinking rationally and begin to act out towards others, especially a parent or anyone who threatens taking the game away.

Online Sexual Preoccupations

Adult web sites comprise the largest segment of online development and electronic commerce catering to a wide variety of sexual interests. Given the extensive availability of sexually explicit material online, individuals in this category typically engage in viewing, downloading, and trading online pornography or are involved in adult fantasy role-play rooms. Online sex chat rooms allow multiple users to discuss various sexual fantasies. Due to the anonymity of online interactions, the user may secretly begin to explore and experiment with his or her sexuality online without the fear of being caught. Users may feel encouraged and validated by the acceptance of the cyberspace culture, especially when cloaked behind the anonymity of the computer screen, and they may feel less accountable for their actions over the internet (Cooper 1998). Cooper (1998) suggested that anonymity, accessibility, and affordability are three primary factors associated with compulsive online sexual behavior.

Young (2008) stated that "computer-enabled fantasies are highly reinforcing and the addict's preoccupation with sexual arousal stems from his own imagination and fantasy history." Titles such as the "Hot Sex Room", the "Fetish Room", or the "Bisexual Room" may intrigue a casual browser who is initially shocked, but at the same time titillated by the permissiveness of others engaged in virtual sex. Such virtual environments may be more seductive than most users anticipate, providing short-term comfort, distraction, and/or excitement. Users may begin to dabble in darker or more deviant sexual material or themes. Online experiences occur in the privacy of one's home, office, or bedroom, facilitating the perception of personal anonymity.

For those in recovery from a prior sexual addiction, the internet becomes another way to engage in sexually compulsive behavior. Recovering addicts who feel overwhelmed, experience personal problems or experience life-changing events, such as a recent divorce, relocation, or a death can absorb themselves in a virtual world full of fantasy and intrigue, as the internet serves as a new outlet to engage in sexual behavior (Young 2008). The internet allows them a way to continue in the sexual behavior without the physical need of visiting strip clubs or prostitutes.

Emailing/Texting

In cases of impulse-control disorder, an individual's compulsive behavior is often associated with increasingly painful states of tension and agitation that is relieved through the completion of the act. For example, an alcoholic is driven to drink or an overeater is driven to binge on food during moments of tension and stress. The compulsive

behavior serves to reduce the underlying emotional tension and serves as a reward for future behavior. Similarly, interactive online features such as chat rooms, instant messaging, or texting can be less about using the internet as a communication tool and more about finding a psychological escape (Young 2004).

Internet addicts feel a difference between online and offline emotions (Young 1998). They may feel frustrated, worried, angry, anxious, and depressed when offline. When online, they feel excited, thrilled, uninhibited, attractive, supported, and more desirable. These strong positive emotions reinforce the compulsive behavior (Orzack 1999). The behavior acts as a way to temporarily avoid negative or unpleasant feelings. Under the influence, the alcoholic feels as if all other problems disappear. When eating, the overeater experiences a sense of peace and relaxation, lessening any overwhelming stress and frustration. In the same manner, internet addicts can use the virtual world to temporarily run away from life's problems, absorbing themselves deeper into virtual relationships carried on by chat, text, or email. Over time, this coping mechanism can prove unproductive and potentially harmful as the issues hidden by the compulsive behavior culminate into larger problems.

As demand has increased for mobile devices, PDAs, and cell phone with internet access, problem mobile phone use has occurred, especially among younger generations (Bianchi and Phillips 2005). Time spent emailing and texting can impair important and purposeful relationships. The more time spent in checking email or chatting online, the less time is spent with one's family and friends. Ultimately, these new ways to communicate have created a new type of "technostress".

Individuals who suffer from low self-esteem, and who feel lonely, restless, or withdrawn can use online connections to feel better about themselves and their circumstances (Morahan-Martin and Schumacher 2003). Socially awkward or emotionally troubled individuals may find it easier to engage in internet relationships than risk the face-to-face rejection of a real person (Ferris 2001). The anonymity associated with electronic communication can also increase the online user's feeling of comfort since there is a decreased ability to look for, and thus detect signs of insincerity, disapproval, or judgment in facial expression, as would be typical in face-to-face interactions (Morahan-Martin and Schumacher 2003). Among married couples, this can lead to online affairs (Whitty 2005). Electronic communication allows individuals to feel less inhibited, which accelerates perceived intimacy. Online, people are more likely to be open, honest, and forthright in a matter of days or weeks, revealing personal truths and intimacy that might take months or years to develop in an offline relationship (Cooper and Sportolari 1997). Online, people can

seem more glamorous than they are in day-to-day life (Whitty 2005). Married users can utilize email and texting to seek out support, comfort, and acceptance from a romantic online partner that provides to them a sense of belonging in a non-threatening manner. Online affairs not only present a troubling new clinical problem for couples dealing with internet infidelity (Whitty 2005), but according to the American Academy of Matrimonial Lawyers, 63% of attorneys found online affairs accounted for a growing number of divorce cases (Dedmon 2002).

Treatment Considerations

Cognitive behavioral therapy (CBT) has been shown to be an effective treatment for compulsive disorders, such as intermittent explosive disorder, pathological gambling, and trichotillomania (Hucker 2004). CBT has also been effective in treating substance abuse, emotional disorders, and eating disorders as well (e.g., Beck 1979; Beck et al. 1993).

Patients are taught to monitor their thoughts and identify those that trigger addictive feelings and actions while they learn new coping skills and ways to prevent a relapse. CBT usually requires 3–4 months of treatment or ~12 weekly sessions. The early stage of therapy is behavioral, focusing on specific behaviors and situations where the impulse control disorder causes the greatest difficulty. As therapy progresses, there is more of a focus on the cognitive assumptions and distortions that have developed and the effects of the compulsive behavior.

Moderated and controlled use of the internet is most appropriate to treat internet addiction (Orzack 1999; Greenfield 1999). Behavior therapy is the initial focus of recovery examining both computer behavior and non-computer behavior (Hall and Parsons 2001). Computer behavior deals with actual online usage with a primary goal of abstinence from problematic applications, while retaining controlled use of the computer for legitimate purposes. For example, a lawyer addicted to internet pornography would need to learn to abstain from adult web sites, while still being able to access the internet to conduct legal research and to email clients. Non-computer behavior focuses on helping clients develop positive lifestyle changes for life without the internet. Life activities that do not involve the computer, such as offline hobbies, social gatherings, and family activities, are encouraged. Similar to food addiction, recovery can be objectively measured through caloric intake and weight loss, as online addicts can objectively measure success through maintaining abstinence from problematic online applications and increasing meaningful offline activities.

Young (2007) suggests using a Daily Internet Log to evaluate computer behavior and establish a baseline for

clinical treatment. Once a baseline has been established, behavior therapy is used to relearn how to use the internet to achieve specific outcomes, such as moderated online usage and, more specifically, abstinence from problematic online applications and controlled use for legitimate purposes. Behavior management for both computer usage and adaptive non-computer behavior focuses on current online behavior. Assertion training, behavioral rehearsal, coaching, modeling, and relaxation training are effective methods.

Young (1998) first suggested that catastrophic thinking might contribute to compulsive internet use in providing a psychological escape mechanism to avoid real or perceived problems. Subsequent studies hypothesized that other maladaptive cognitions such as overgeneralizing or catastrophizing, negative core beliefs, and cognitive distortions also contribute to compulsive use of the internet (Caplan 2002; Davis 2001; LaRose et al. 2001). Those who suffer from negative core beliefs may be drawn to the anonymous interactive capabilities of the internet in order to overcome their perceived inadequacies. CBT can be used to address these negative core beliefs, cognitive distortions, and rationalizations (i.e., “Just a few more minutes won’t hurt”) that sustain problematic or compulsive use of the internet (Young 2007).

Future Practice

Over the last decade, the acceptance of Internet addiction has grown in the mental health field with a new emphasis on assessment and treatment of the disorder. It is difficult to predict the results of these early endeavors. However, it is feasible that with years of collective effort, Internet addiction may be recognized as a legitimate impulse control disorder worthy of its own classification in future revisions of the Diagnostic and Statistical Manual of Mental Disorders.

With the growing popularity of the Internet, increased awareness among the mental health field will help clinicians provide knowledgeable care and intervention for the Internet addicted client. Since this is a new and often laughed about addiction, individuals may be reluctant to seek out treatment fearing that clinicians may not take their complaints seriously. Drug and alcohol rehabilitation centers, community mental health clinics, and clinicians in private practice should be aware of the negative ramifications of compulsive use of the Internet and recognize the signs, which may easily be masked by other co-morbid conditions or legitimate use of the Internet.

To pursue such effective recovery programs, continued research is needed to better understand the underlying motivations of Internet addiction. Future research should

focus on how psychiatric illness such as depression or obsessive-compulsive disorder plays a role in the development of compulsive Internet use. Longitudinal studies may reveal how personality traits, family dynamics, or interpersonal skills influence the way people utilize the Internet. Lastly, further outcome studies are needed to determine the efficacy of specialized therapy approaches to treat Internet addiction and compare these outcomes against traditional recovery modalities.

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