

Modification in the Proposed Diagnostic Criteria for Internet Addiction

KEITH W. BEARD, Psy.D., and EVE M. WOLF, Ph.D.

ABSTRACT

The Internet is a new technology that has impacted the world and provided many benefits to its users. At the same time the Internet has had negative ramifications. 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. Symptoms of excessive Internet use are compared to the criteria used to diagnose other addictions. In particular, pathological gambling is compared to problematic Internet use because of overlapping criteria. This article suggests some modifications to the diagnostic criteria that has been commonly proposed for Internet addiction.

INTRODUCTION

Sources of information issues

THE PURPOSE of this paper is to modify the diagnostic criteria that is often used for what is commonly referred to as "Internet addiction." At the onset, it needs to be made clear that the literature on Internet addiction is quite limited. Many of the published articles contain information that has not been empirically researched. Many published articles review findings in the current literature but provide no independent empirical support about Internet addiction or possible addictive aspects of the Internet.¹⁻²⁵

In reviewing the literature on Internet addiction, there will be a particular focus on the work of a psychologist named Kimberly Young. Young's research has focused on factors related to Internet addiction.^{20-23,25} Of the empirically validated studies, Young's studies

are the most methodologically sound. Despite the methodological limitations of Young's research, she has made a greater effort than others to obtain a large, representative sample. Moreover, her investigation into Internet addiction has been peer-reviewed through published articles and in papers presented at the 104th and 105th annual meetings of the American Psychological Association.^{22,23,25} Her research has the most application to this article because she has proposed a way to diagnose Internet addiction.

Young^{20,22-24} developed a questionnaire that assessed Internet addiction. She initially developed a short eight-item questionnaire that was a modification of the criteria for compulsive gambling. Those who answered "yes" to five or more of her items were classified as being addicted to the Internet. The significant findings from this questionnaire prompted the development of a larger and more comprehensive

instrument. Young²⁵ also created a 20-question questionnaire, called the Internet Addiction Test, based on the criteria used to diagnose compulsive gambling and alcoholism.

PROBLEMATIC USE OF THE INTERNET

The following section will explore characteristics of problematic Internet users. This term will be broadly defined as use of the Internet that creates psychological, social, school, and/or work difficulties in a person's life. The term "Internet addiction" has been used to describe problematic use. Grohol²⁶ explained how Internet addiction became a term as a result of a parody written by a psychiatrist named Ivan Goldberg. It was based on the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (DSM-IV) criteria for pathological gambling. Some mental health professionals, those in the media, and people in the general public took this parody seriously, which prompted the examination of whether or not there was an addictive phenomenon occurring with the Internet.¹³

Clinicians, media, and lay persons have utilized a variety of terms in referring to excessive Internet use. Excessive Internet users have been called Internet addicts, pathological Internet users, computer addicts, computer mediated communication addicts, and computer junkies.^{25,27} Each of these terms reflects a different understanding of the nature of excessive Internet use. It is our opinion that the use of these various terms create different connotations for how these users are viewed by others. While the most popular term utilized is "Internet addiction," it is our position that this term does not accurately reflect the phenomenon of excessive Internet use. While there are commonalities between excessive Internet use and an addiction, excessive Internet use does not result in all of the symptoms and behaviors associated with a chemical addiction, such as physical withdrawal.

Moreover, Young's²⁵ comparison of excessive Internet use with pathological gambling suggests that this behavior may be better classified as an impulse control disorder rather

than an addiction. Given the issues outlined above, we believe that terms such as "excessive," "problematic," or "maladaptive" Internet use are most optimal for describing this behavior as they involve fewer theoretical overtones than terms such as "Internet addiction."

Characteristics of problematic Internet use

Problematic Internet use can be found in any age, social, educational, or economic range.²⁵ Subjects who met Young's^{20,22,24,25} proposed criteria for problematic Internet use described their personalities as bold, outgoing, open-minded, and assertive. Many of the Internet users reported being depressed, lonely, having low self-esteem, and anxiety. The Internet may provide pathological users with a way to express themselves that is considered more satisfying than previous methods of self-expression. Applications that allow for two-way communication, such as Interactive character games like MUDS, news groups, and E-mail are the applications most likely to be abused.^{7,22,23,25} Other common personality characteristics included having pride in their intellect, and the use of the defense mechanism called intellectualization.²⁷⁻²⁹

Twenty-five percent of those who completed Young's^{22,25} survey on the Internet reported becoming addicted to the Internet within the first 6 months online. Young went on to report that 58% of the respondents met her criteria for Internet addiction within 1 year. This could mean that new users are more vulnerable for pathological Internet use. Most felt intimidated by the computer initially, but began to feel a sense of competency and exhilaration from mastering the technology and learning to navigate the applications quickly.^{9,22-25,27,30}

The survey administered by Young^{22,23,25} also found that her addicted respondents used the Internet an average of 38 hours a week. Respondents admitted to trying to cut down on their Internet use and failing despite significant problems it was causing. Nearly 80% of Internet addicts engaged in two-way communication forums such as chat rooms and interactive games.

DIAGNOSIS

Effective treatment is based on an accurate diagnosis.³¹ The diagnosis should be based on the extensive clinical interview and the results of any testing that was completed. The clinician should be able to see whether the information obtained fits the suggested criteria to diagnose Internet addiction.

Griffiths³² reviewed how he adapted DSM-IV criteria to diagnose Internet addiction. There are seven areas to review in order to diagnose Internet addiction. If a person fit three or more of these areas then he or she was identified as Internet-dependent. The first area involves assessing for tolerance. The second area requires determining whether the person spends more time on the Internet than planned. The third area revolves around determining whether the person spends a great deal of time in activities that allow for longer online time. Fourth, social, occupational, or recreational activities are assessed to see whether they have been given up to spend time on the Internet. The fifth area

assesses whether use of the Internet has persisted even though usage has caused or exacerbated problems with work, schooling, finances, or the family. The sixth area determines whether the person has made unsuccessful attempts to cut down on the time using the Internet or whether there is a lack of desire to cut down. Finally, withdrawal can be assessed.

Young^{20,22,23,25} has modified the DSM-IV pathological gambling criteria to make them applicable to the diagnosis of Internet addiction. Endorsement of a minimum of five out of the eight modified criteria results in a positive diagnosis of Internet addiction. This is a more stringent standard than what is needed to diagnose pathological gambling. The comparison between pathological gambling and Internet addiction can be seen in Table 1.

Critique of this approach to diagnosing Internet addiction

Since problems have been noticed with Internet use, it has been beneficial for researchers

TABLE 1. DSM-IV CRITERIA FOR PATHOLOGICAL GAMBLING VS. INTERNET ADDICTION DIAGNOSTIC CRITERIA

Pathological Gambling Diagnostic Criteria

Five (or more) of the following:

1. Is preoccupied with gambling (e.g., preoccupation with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble).
 2. Needs to gamble with increasing amounts of money in order to achieve the desired excitement.
 3. Has repeated unsuccessful efforts to control, cut back, or stop gambling.
 4. Is restless or irritable when attempting to cut down or stop gambling.
 5. Gambles as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression).
 6. After losing money gambling, often returns another day to get even ("chasing" one's losses).
 7. Lies to family members, therapist, or others to conceal the extent of involvement with gambling.
 8. Has committed illegal acts such as forgery, fraud, theft, or embezzlement to finance gambling.
 9. Has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling.
 10. Relies on others to provide money to relieve a desperate financial situation caused by gambling.
- The gambling behavior is not better accounted for by a Manic Episode.

Internet Addiction Diagnostic Criteria

Five (or more) of the following:

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

to try and establish some form of diagnostic criteria. Young's^{20,22,23,25} criteria are a significant contribution in providing a concrete basis for establishing problematic Internet use. This beginning step has to be done so some definition of what is being examined can be established. From here, research can be done to explore how accurate the criteria is and whether other criteria need to be included. It has also been a positive step in trying to link difficulty with the Internet with an already established diagnostic category such as impulse control disorders. Research has been done on pathological gambling and this can provide a basis for research on Internet addiction. Many of the criteria are objective, operational, and able to be examined through research. Finally, Young's^{20,22,23,25} criteria are also more rigid than those needed to diagnose pathological gambling. Five out of eight criteria are needed to diagnose Internet addiction, whereas five out of ten criteria are needed to diagnose pathological gambling.

There are some problems with Young's^{20,22,23,25} criteria. One concern is how objective the criteria are and how much of the criteria is based on self report. Some of the criteria (i.e., preoccupied with the Internet or feeling restless, moody, depressed, or irritable) can be reported or denied by a client and could influence the accuracy of the diagnosis. Likewise, the client's judgment may be impaired and self-reported information may not be accurate. In addition, the criteria may need to be more specific; for example, what is meant by "preoccupation" under criteria one.

Another issue appears to be whether pathological gambling, which is an impulse control disorder in DSM-IV, is the most accurate diagnostic criteria to use as a basis for diagnosing Internet addiction. The term "addiction" is used but the diagnostic criteria for Internet addiction are not compared to substance-related disorders. This raises the question of whether it might be more appropriate to diagnose Internet addiction as an Impulse Control Disorder NOS and to specify that Internet use is the behavior that is difficult to control.

Also, while Young^{20,22,23,25} has based her criteria on pathological gambling, she excludes two of the diagnostic areas on her criteria for diagnosing Internet addiction (i.e., criteria six,

after losing money gambling, often returned another day to get even, and criteria eight, has committed illegal acts such as forgery, fraud, theft, or embezzlement to finance gambling). There is no explanation of why these criteria were not modified to coincide with her other Internet addiction diagnostic criteria.

Minkoff and Drake³³ commented that it is rare for a client to come to therapy and only have an addiction problem. Usually there is some preexisting psychiatric illness as well as an addiction problem. As a result it is not unusual for an excessive Internet user to already be following a 12-step program.²⁵ This finding raises another question with the diagnostic criteria. There is no way to account for whether or not excessive Internet use may be the result of an underlying addictive process. Likewise, there is no way to establish whether Internet addiction is a discrete problem as opposed to a manifestation of another disorder (e.g., depression, anxiety, sexual disorders). Finally, there is limited research on Internet addiction including a representative sample to use as a comparison for those being diagnosed. As a result, no reliable and valid diagnostic criteria have been determined.

Proposed modification of the diagnostic criteria for Internet addiction

One observation with Young's^{20,22,23,25} criteria is that the first five criteria could account for numerous behaviors that we would not necessarily classify as an addiction. For example, a new mother may be preoccupied with thoughts of her new baby (criteria 1). She may desire increased amount of time with her child (criteria 2). She has unsuccessfully been able to control, cut back, or stop her interactions with her child (criteria 3). She may feel restless, moody, depressed, or irritable when she leaves the child with a family member or at a day-care center (criteria 4). Finally, she may interact with the child for longer periods of time than originally intended, such as planning on rocking the child until the child sleeps, but the mother continues to rock (criteria 5). Would we say that this new mother is addicted to her newborn child?

Therefore, as can be seen in Table 2, it is rec-

TABLE 2. PROPOSED INTERNET ADDICTION DIAGNOSTIC CRITERIA

All the following (1–5) must be present:

1. Is preoccupied with the Internet (think about previous online activity or anticipate next online session).
2. Needs to use the Internet with increased amounts of time in order to achieve satisfaction.
3. Has made unsuccessful efforts to control, cut back, or stop Internet use.
4. Is restless, moody, depressed, or irritable when attempting to cut down or stop Internet use.
5. Has stayed online longer than originally intended.

At least one of the following:

1. Has jeopardized or risked the loss of a significant relationship, job, educational or career opportunity because of the Internet.
 2. Has lied to family members, therapist, or others to conceal the extent of involvement with the Internet.
 3. Uses the Internet as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression).
-

ommended that all of the first five criteria be required for a diagnosis of Internet addiction, since these criteria could be met without any impairment in the person's daily functioning. Even though the mother is preoccupied with her newborn, has difficulty cutting back on her interactions, desires more time, feels moody, and interacts for longer periods of time, she may still be able to complete the daily demands placed on her.

It is recommended that at least one of the last three criteria (e.g., criterias 6, 7, and 8) be required in diagnosing Internet addiction. The reason these last three criteria are separated from the others is the fact that these criteria impact the pathological Internet user's ability to cope and function (e.g., depressed, anxious, escaping problems), and also impact interactions with other people in his or her life (e.g., significant relationship, job, being dishonest with others). Although the following modifications of the diagnostic standards do not solve all of the previously mentioned problems, it may help strengthen Young's^{20,22,23,25} proposed criteria.

FUTURE RESEARCH

Further exploration into the characteristics of those who are currently addicted is needed. Shotton²⁷ states that those addicted to the computer are a heterogeneous group. As a result, there may be different types of computer dependence. Future research needs to explore various demographic criteria to enhance the comparative ability of the results.^{10,25,29,34,35} By

exploring these areas, a uniform set of criteria can be established for Internet addiction. This criteria can then be used as a basis for further research.²³

Research that includes retesting subjects and replication of studies is needed.¹⁹ Young^{20,23,25} suggests that longitudinal studies of the Internet and its users be done. This may reveal certain personality traits, family dynamics, social support, or communication skills that promote Internet addictive behaviors. There may be undiscovered differences between new and old users. Since the Internet is readily available and user-friendly, the characteristics of those who may become a computer addict could be shifting.

Future research also needs to focus on what it actually is that people are addicted to.^{11,19,23,25,32} Is it the computer? Is it the typing? Is it the information gained? Is it the anonymity? Is it the types of activities in which the individual is engaged? All of these factors may play a role in making the Internet reinforcing. Likewise, it is assumed that offline activities are healthier than online behavior, but this hasn't been examined.¹⁹ It is also unknown how important individual characteristics are in determining whether applications are addictive.^{19,29}

Likewise, there should be an exploration into the various types of defense mechanisms that foster and perpetuate Internet addictive behaviors.²² Young^{20,23,25} states that this could include exploring how other psychological disorders such as obsessive-compulsive disorder, depression, and bipolar disorders play a role in the development of Internet addiction.

CONCLUSIONS

There are millions of people on the Internet and another 11.7 million are expected to go online within the next year.¹² Goolkasian³⁶ and Young^{20,22} recommend that clinicians be aware of this growing phenomenon and the role that psychology can take in addressing Internet use and abuse. These difficulties should be examined in a proactive manner rather than waiting for the crisis to occur and then "picking up the pieces."

The continuing debate over the existence of Internet addiction will probably continue for some time. Regardless of whether or not the term "Internet addiction" is used, there are people developing a harmful dependence on the Internet.

There may be more problems related to the Internet on the horizon. The article "Here comes Internet2"³⁷ discusses a new version of the Internet that is being established. Internet2 is supposed to make the Internet more like a video-telephone. One hundred and twenty universities are already using the Internet2 and it is believed that most universities will have this capability within 3 to 5 years. Perhaps this evolution will push the technology of computer-mediated communication back toward being more community friendly rather than isolating.³⁸ The changes that are going to occur will be immense. Those who are young today will be the first generation to witness a dramatic change in the collective humanity within their life span. Hopefully psychologists will help people effectively prepare for and integrate these changes in their lives.

REFERENCES

- Belsare, T.J., Gaffney, G.R., & Black, D.W. (1997). Compulsive computer use. *American Journal of Psychiatry*, 154:289.
- Davidson, R.S., & Walley, P.B. (1984). Computer fear and addiction: Analysis, prevention and possible modification. *Journal of Organizational Behavior*, 6:37-51.
- Friess, S. (1998). A place where no one knows your name. *The Advocate*. February 3, pp. 24-31.
- Gackenbach, J., & Ellerman, E. (1998). Introductions to psychological aspects of Internet use. In: Gackenbach, J., (ed.) *Psychology and the Internet*. San Diego, CA: Academic Press, pp. 1-26.
- Goertzel, B. (1998). World wide brain. In: Gackenbach, J., (ed.) *Psychology and the Internet*. San Diego, CA: Academic Press, pp. 293-319.
- Griffiths, M. (1995). Technological addictions. *Clinical Psychology Forum*, 71:14-19.
- Griffiths, M. (1997). Psychology of computer use: XLIII. Some comments on 'Addictive use of the Internet' by Young. *Psychological Reports*, 80:81-82.
- Hubbard, B.G. (1998). Internet abuse: What is it doing to our families and what do professionals need to know? *The Ohio Psychologist*, 44:25-28.
- Kandell, J.J. (1998). Internet addiction on campus: The vulnerability of college students. *CyberPsychology & Behavior*, 1:11-17.
- Kiesler, S., Siegel, J., & McGuire, T.W. (1984). Social psychological aspects of computer-mediated communication. *American Psychologist*, 39:1123-1134.
- King, S.A. (1996). Is the Internet addictive, or are addicts using the Internet? Online document: <http://rdz.stjohns.edu/~storm/iad.html>. Accessed July 18, 1999.
- Koerner, B. (1999). So that's why they call them "users." *U.S. News & World Report*. March 22:62.
- Lorek, L.A. (1998). Are you an Internet addict? Test will help you tell. *Dayton Daily News*. July 27:12.
- Morahan-Martin, J. (1998). Gender and the Internet. In: Gackenbach, J., (ed.) *Psychology and the Internet*. San Diego, CA: Academic Press, pp. 169-197.
- Parks, M.R., & Floyd, K. (1996). Making friends in cyberspace. *Journal of Communication*, 46:80-97.
- Pike, R. (1999). Log on, tune in, drop out. Online document: <http://abcnews.go.com/sections/living/DailyNews/netaddicton032699.html>. Accessed July 18, 1999.
- Soper, W.B., & Miller, M.J. (1983). Junk-time junkies: An emerging addiction among students. *The School Counselor*, 31:40-43.
- Suler, J. (1996). Why is this thing eating my life? Computer and cyberspace addiction at the "Palace." Online document: <http://www1.rider.edu/~suler/psyber/cybaddict.html>. Accessed June 14, 1999.
- Walther, J.B., & Reid, L.D. (2000). Understanding the allure of the Internet. *Chronicle of Higher Education*, February 4:B4-B5.
- Young, K.S. (1995). Internet addiction: Symptoms, evaluation, and treatment. Center for On-Line Addictions. Online document: <http://www.netaddiction.com/articles/symptoms.html>. Accessed December 15, 1998.
- Young, K.S. (1996). Psychology of computer use: XL. Addictive use of the Internet: A case that breaks the stereotype. *Psychological Reports*, 79:899-902.
- Young, K.S. (1996). Internet addiction: The emergence of a new clinical disorder. Center for On-Line Addictions. 1996. Online document: <http://www.netaddiction.com/articles/newdisorder.html>. Accessed March 12, 1999.

23. Young, K.S. (1997). What makes the Internet addictive: Potential explanations for pathological Internet use. Center for On-Line Addictions. Online document: <http://www.netaddiction.com/articles/habitforming.html> Accessed March 12, 1999.
24. Young, K.S. (1998). The center for on-line addiction—Frequently asked questions. Center for On-Line Addictions. Online document: <http://www.netaddiction.com/resources/faq.html> Accessed July 18, 1999.
25. Young, K.S. (1998). *Caught in the Net*. New York, NY: John Wiley & Sons, Inc.
26. Grohol, J.M. (1998). Professional development, pathology, and on-line therapy. In: Gackenbach, J. (ed.) *Psychology and the Internet*. San Diego, CA: Academic Press, pp. 111–140.
27. Shotton, M. (1989). *Computer addiction?* New York, NY: Taylor & Francis, Inc.
28. Correll, S. (1995). The ethnography of an electronic bar. *Journal of Contemporary Ethnography*, 24:270–298.
29. Pocius, K.E. (1991). Personality factors in human-computer interaction: A review of the literature. *Computers in Human Behavior*, 7:103–135.
30. Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukopadhyay, T., & Scherlis, W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist*, 53:1017–1031.
31. Goodman, A. (1993). Diagnosis and treatment of sexual addiction. *Journal of Sex & Marital Therapy*, 19:225–246.
32. Griffiths, M. (1998). Internet addiction: Does it really exist? In: Gackenbach, J., (ed.) *Psychology and the Internet*. San Diego, CA: Academic Press, pp. 61–75.
33. Minkoff, K. & Drake, R.E. (1992). *Dual diagnosis of major mental illness and substance disorder*. San Francisco CA: Jossey-Bass, Inc.
34. McCormick, N.B., & McCormick, J.W. (1992). Computer friends and foes: Content of undergraduates' electronic mail. *Computers in Human Behavior*, 8:379–405.
35. Scherer, K. (1997). College life on-line: Healthy and unhealthy Internet use. *Journal of College Student Development*, 38:655–665.
36. Goolkasian, P. (1995). Psychology and its role in information technology. *Behavior Research Methods, Instruments, & Computers*, 27:109–115.
37. Murray, B. (1998). No fuzz, no breakup: Here comes Internet2. *The American Psychological Association Monitor*, March 1998:38.
38. Harmon, A. (1998). Researchers find sad, lonely, world in cyberspace. Online document: <http://www.nytimes.com/library/tech/98/08/biztech/articles/30depression.html> Accessed August 31, 1999.

Address reprint requests to:

Dr. Keith Beard
Psychology Dept.

Marshall University
400 Hal Greer Blvd.

Huntington, WV 25755

E-mail: beard@marshall.edu

Copyright of CyberPsychology & Behavior is the property of Mary Ann Liebert, Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.