

# Prevalence Underestimated in Problematic Internet Use Study

To the Editor:

November 17, 2006

Aboujaoude and colleagues<sup>1</sup> telephone survey measuring the self-report of "problematic Internet use" is a useful start in determining the prevalence of this compulsive behavior in the United States. However, the results surely underestimate the extent of the problem.

The study design introduces two issues that deserve comment. First, I would argue that clinicians are not particularly concerned whether individuals are compulsively using the Internet. Rather, we worry about computer use more generally. When you study the prevalence of alcoholism, do you count just the people who drink vodka? There are a whole set of other, non-productive, things people do on their computers. At present, we want to know prevalence of pathological computer and gaming console use, not the frequency the Internet is abused.

Thus, "problematic Internet use" differs dramatically from "compulsive computer use" or "computer addiction." The terms are not interchangeable, as the authors suggest; Internet issues are a subset of the larger problem.

The distinction is not trivial. To cite just one example, most console games do not involve the Internet and, yet, can occupy people for thousands of hours. Indeed, most patients I see for pathological computer use are transfixed by the computer, in and of itself—not the Internet. Although distressed when their Internet connection fails, they are devastated when their computer goes down. Thus, the prevalence we are interested in, that of "compulsive computer use," captures those that abuse the Web but also includes many people who overuse, offline. It might be illuminating to consider that Shotton<sup>2</sup> wrote a book about compulsive computer users in 1989, long before the modern Internet was available.

The second issue of note is that many people play online games. Recently, one such game reported having 7 million regular users.<sup>3</sup> When people play these games, many do not think

of themselves as being on the Internet. Most games have their own interface and the experience is completely different than that of using a web browser. Many people might not even know a game is accessing the Internet. Thus, questions like, "Do you feel preoccupied by the Internet when offline?" are confusing and may elicit incorrect answers. The person is preoccupied by the game, not the network it uses to communicate. Here again, the results will be biased towards measuring a lower prevalence.

The study by Aboujaoude and colleagues<sup>1</sup> is not the first to be hampered by such issues. In large part, the popular research instrument the authors used is to blame. Unfortunately, the tool, and others like it, suffer from both the problems I have described. Future studies may want to update the testing instrument to correct these issues. Finally, I would also suggest we use inclusive titles when discussing the potential disorder—perhaps "Compulsive Computer Use" or "Pathological Computer Use."

Despite these issues, the study presents valuable new data that gives us a baseline with which we can begin to estimate the extent of the societal problem. Thank you for publishing this important study.

Sincerely,  
Jerald J. Block, MD

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*Dr. Block does not have an affiliation with or financial interest in any organization that might pose a conflict of interest.*

## THE AUTHORS RESPOND

To the Editor:

December 12, 2006

We appreciate Dr. Block's comments about our study<sup>1</sup> and agree that it is just a "useful start." We also agree with Dr. Block that problematic computer use is not limited to inappropriately accessing the Internet. While problematic Internet use may involve gambling, pornography, chat rooms, the blogosphere, online auction houses, compulsive shopping, and online gaming, problematic computer use may also involve other maladaptive activities not captured in our survey. Indeed, problematic Internet use may well be "a subset of the larger problem" of pathological computer use behaviors (ie, those associated with substantial distress and dysfunction).

However, given the little scientific—as opposed to economic or media—attention that problematic Internet use has received, we wanted to try to understand it separately from its larger context. We were interested in features that appear specific to the Internet, including the lure of online anonymity and virtual community-building. These features do not necessarily apply to other "abusable" computer activities like game consoles. However, we also realize that these distinctions are gradually becoming less meaningful as technology erases the boundaries between such previously independent entities as the computer Internet browser, the television set, or the digital video recorder.

Dr. Block's comments are a good opportunity to discuss a larger issue. The difficulty in classifying this putative disorder, whether we refer to it as "problematic Internet use" or the more inclusive "pathological computer use," extends to many of the so-called "behavioral addictions." Similar questions arise when discussing impulse-control disorders that seem to be motivated by pleasure-seeking, such as pathological gambling, compulsive masturbation, and kleptomania. How should we distinguish them from other pleasure-seeking disorders, such as alcohol abuse and binge eating? Also, are they not in part *compulsive*? Until we move from observing human behavior to

having measures of biological factors underlying pathological behaviors, diagnostic classification will unfortunately be mostly determined by the fallible criteria of phenomenological similarity.

We hope that our study, suggesting that problematic Internet use is not rare, will stimulate research into a full range of questions that must be addressed to place this behavior within a reliable diagnostic system that usefully predicts treatment response. The full range of biological, psychological, and social explanatory frameworks should guide hypothesis generation and testing. Work along these lines has begun.<sup>2-5</sup> Understanding genetic, neurophysiological, temperamental, experiential, motivational, and social variables that help explain why one individual falls victim to a behavioral addiction and another escapes this suffering will allow us to better fulfill the aim of medicine: to cure, or, at least, to relieve suffering.

Sincerely,

Elias Aboujaoude, MD, MA, and Lorrin M. Koran, MD

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