

## Editorial

# The Science of Internet Behavior

MARK D. WIEDERHOLD, M.D., Ph.D., FACP

A RECENT STUDY BY Nielsen Media Research and CommerceNet estimated that 70.2 million Americans now have access to the internet.<sup>1</sup> Over 40 million do comparison shopping or make product purchases.<sup>1</sup> That number continues to grow, with internet access available to an increasing number of people at home and at work. A number of new behaviors are manifesting on the internet that have caused both alarm and excitement. Some students use the internet to change grades, send threatening email, or access restricted web sites.<sup>2</sup> The National Center for Education Statistics estimates that over 75% of public schools have linkage to the internet.<sup>2</sup> Suspension of computer access may replace taking away the car keys as a form of serious punishment in the future. Significant internet use has been linked to clinical depression, in a study out of Carnegie Mellon University. The authors found a relationship between the number of internet hours logged and the degree of social isolation.<sup>3</sup> A similar finding is seen with extended viewing of television, and may be a function of physical inactivity and loss of interpersonal interaction.<sup>4</sup>

Some large corporations are concerned that use of chat rooms is affecting worker productivity, and have taken steps to monitor such activity.<sup>5</sup> This raises issues of personal privacy, and intellectual property. Others are concerned about the proliferation of junk email, and suggest ways of avoiding this on-line plague, (namely stay off of list servers, and keep quiet).<sup>6</sup> The Federal Trade Commission raised concerns about how much information is being collected about children over the internet.<sup>7</sup> The survey revealed that 9 out of 10 sites geared toward chil-

dren collected personal information, which raised concerns about self-regulation, and the purpose of the data collection. In other privacy related matters, the Council of Better Business Bureaus Inc., and the Alliance for Privacy are preparing guidelines that will notify consumers when information is gathered about them, and who the information is shared with.<sup>8</sup>

Issues of internet security were highlighted earlier last year, when a group of "hackers" testified before the Senate Governmental Affairs Committee, under conditions of anonymity, and claimed to be able to bring down the internet, as well as paralyze the Public Switched Network.<sup>9</sup> The FBI's International Crime Squad and the Computer Security Institute released a study in which 64% of 500 companies and organizations suffered some type of computer break-in during the last year.<sup>9</sup> Many of these computer crimes are committed by insiders.<sup>10</sup>

Cyberdating sites have proliferated, with Love at AOL and Match.Com estimating over 100,000 "member profiles" available for subscribers.<sup>11</sup> Following the introduction of "netcam pioneer" Jennifer Ringley's personal web site ([www.jennicam.org](http://www.jennicam.org)) numerous other sites have appeared allowing those interested to view the personal daily activities of both celebrities and society members.<sup>12</sup>

A murder confession on-line last year touched off a storm of controversy with involvement of the FBI, and raised many difficult and complicated questions for law enforcement, network administrators, as well as chat room and bulletin board members.<sup>13</sup>

On a lighter note, researchers at University of Texas, Arlington, studied sentence syntax, grammar and sentence complexity, and al-

though less formal, found no degradation of the English language based upon discussion lists beginning with the early ARPAnet and traced to today's web sites.<sup>14</sup>

Better educated patients are appearing at their doctors offices armed with the latest medical information now available on-line.<sup>15</sup> This enabling technology was recently supported by former Surgeon General, Dr. C. Everett Koop during a speech at Internet Health Day in San Francisco on October 27, 1998. One major concern with medical information however, concerns the accuracy and reliability of this information. The lack of regulation on the internet, has led to multiple organizations reviewing and certifying web sites so that consumers have some measure of quality for on-line information. Groups such as The American College of Physicians and The American Medical Association are active in exploring ways to monitor quality and accuracy of data. The trend towards disclosure however has led to some patients being overwhelmed with information, or unable to translate complicated statistics about group practices.<sup>16</sup>

The growth of internet sites that highlight educational activities may help students learn at their own speed.<sup>17</sup> Some schools have adopted a "learner-centered notion" which allows directed learning by participants, and encourages skills such as exploration, question and hypothesis development, and internal motivation. Internet mentoring appears to offer many advantages to graduate students in psychology, who have used listserv links for advice on dissertation topics and where to find information.<sup>18</sup>

The rise of on-line trading may revolutionize investing, and has evoked strong responses from both established brokerage houses and the Federal Trade Commission. The National Association of Securities Dealers is investigating popular internet stock forums for possible transmission of insider information.<sup>19</sup> An executive at Merrill Lynch was quoted as saying, "The do-it-yourself model of investing, centered on Internet trading, should be regarded as a serious threat to Americans' financial lives", clearly voicing an interesting concern.<sup>20</sup>

Finally several very exciting web sites have appeared which specialize in the needs of the deaf and hard-of-hearing community, as well

as efforts by Microsoft to incorporate disability friendly features into web software.<sup>21</sup>

CyberPsychology and Behavior is intended as a forum to explore these and other aspects of human behavior on the internet, and provide a forum for continued exploration of future topics of interest. We are soliciting manuscripts on internet topics from a diverse audience, and plan to feature a "mini-symposium" on selected topics. These collections of papers will focus on an interesting topic, and will present multiple sides of an issue, with commentary and discussion aimed at facilitating scientific investigation. Please contact me directly with ideas and any comments.

## REFERENCES

1. *San Diego Daily Transcript*, p. 12A Wednesday, August 26, 1998.
2. *San Diego Daily Transcript*, p. B1 Tuesday, September 1, 1998.
3. *The American Psychologist*, 29(9)1 September, 1998.
4. Kraut et al, Internet Paradox, *American Psychologist*, 53(9)1017-1031, 1998.
5. *The Wall Street Journal*, p. B1 Friday, May 29, 1998.
6. *The Wall Street Journal*, p. B7, Thursday, May 28, 1998.
7. *San Diego Daily Transcript*, p. B1, Tuesday, June 9, 1998.
8. *The Wall Street Journal*, p. B1, Monday, June 22, 1998.
9. *San Diego Daily Transcript*, p. B1, Wednesday, July 1, 1998.
10. Gudaitis et al The Insider Threat, *SecureComm 98*, Washington, DC November 8-12, 1998.
11. *USA Today*, p. D1, Thursday, August 14, 1997.
12. *USA Today*, p. D5, Wednesday, April 8, 1998.
13. *The New York Times*, p. A30, Thursday, April 30, 1998.
14. *San Diego Daily Transcript*, p. B3, Tuesday, January 5, 1999.
15. *American Medical News*, p. 43, November 16, 1998.
16. *Physicians Financial News*, vol. 16 no. 6, p. 1, 1998.
17. *American Psychological Association Monitor*, p. 6, October, 1998.
18. *American Psychological Association Monitor*, p. 34, November, 1998.
19. *The Wall Street Journal*, p. C1, Thursday, May 28, 1998.
20. *The Wall Street Journal*, p. C1, Wednesday, September 23, 1998.
21. *The Wall Street Journal*, p. B1, Wednesday, September 9, 1998.

—Mark D. Wiederhold, M.D., Ph.D., FACP  
Editor-in-Chief

Email: mark.d.wiederhold@cpmx.saic.com