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Abstract

Four types of online dangers for children and adolescents are examined in this Article: (1) sexual solicitation and pornography; (2) identity formation and protection; (3) cyber-bullying; and (4) internet addiction.

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I. Online Dangers—Keeping Children and Adolescents Safe

The past decade has witnessed an explosion of the use of online media. Some forms of online media are more text-based and less technologically

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advanced than others, but they have been in existence for a longer period of time; examples include email, forum boards, instant messaging, and blogging. As technology has improved, more sophisticated types of online communication have emerged, such as online videos, podcasting, social networking sites, and massively multiplayer online games.

By 2005, 91% of children had regular access to the Internet and online material,[1] and the online world has brought forth a slew of new opportunities for social interactions for children and adolescents. The line between video games and online content has blurred in the past few years due to many games' inclusion of online content, including options to share personal data, interact with other players in online competitions, and immerse oneself in the worlds of Massively Multiplayer Online Role Playing Games (MMORPG).

Many of the effects of violent video games can also apply to these more advanced forms of online media, sometimes referred to as "new media." For example, websites such as YouTube and Hulu contain both user-generated videos and professionally developed film and television shows, respectively. The studied effects of violent film and television can apply to videos viewed online. To a large extent, the effects of playing violent video games can also apply to games played online; however, these socially interactive games as well as other kinds of online media present new dangers to children and adolescents that "old media" did not.

With such high levels of exposure to online content, it is imperative to understand the impact that such content can have on children and adolescents. Four common topics emerge in psychological literature on the dangers of online media for children: (1) exposure to sexually explicit material; (2) concerns about identity formation and protection; (3) cyber-bullying; and (4) internet addiction. Each of these topics will be examined below.

II. Exposure to Sexually Explicit Material

The two most common ways in which children can be exposed online to sexually explicit material are through personal sexual solicitation or through viewing pornographic material. Both kinds of exposure can have detrimental effects.

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1. JANIS WOLAK, KIMBERLY MITCHELL & DAVID FINKELHOR, NAT'L CTR. FOR MISSING AND EXPLOITED CHILD., ONLINE VICTIMIZATION OF YOUTH: FIVE YEARS LATER 9 (2006), http://www.unh.edu/ccrc/pdf/CV138.pdf (last visited Sept. 29, 2009) (on file with the Washington and Lee Law Review).

A. Sexual Solicitation

One of the chief new media concerns among parents is the risk of sexual solicitation of underage children online.[2] Online sexual solicitation typically is defined as online communication wherein one person attempts to persuade another person to talk about sex or engage in a sexual activity.[3] This activity can potentially take place on various websites on the Internet as well as through communicating with other players in online video games. An estimated 13%–19% of internet-using youth have experienced some form of sexual solicitation while online;[4] these youth are usually older adolescents, typically of high school age.[5] Usually, adolescents dismiss most online sexual solicitations as flirting or mild harassment.[6] Very few online sexual solicitations lead to offline encounters;[7] those that do tend to follow the model of statutory rape wherein an underage minor engages in sexual activity with an older adult.[8] To protect adolescents from sexual predators online, policies should focus on teaching

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2. *See* Alice E. Marwick, *To Catch a Predator? The MySpace Moral Panic*, 13 FIRST MONDAY (2008), http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2152/1966 (last visited Sept. 29, 2009) (examining a legislative response to concerns about the risk of sexual solicitation of underage children through social networking websites) (on file with the Washington and Lee Law Review).

3. *See* Kimberly Mitchell, David Finkelhor & Janis Wolak, *Online Requests for Sexual Pictures from Youth: Risk Factors and Incident Characteristics*, 41 J. ADOL. HEALTH 196, 197 (2007) (defining sexual solicitations and approaches as "[r]equests to engage in sexual activities or sexual talk or give personal sexual information that were unwanted or, whether unwanted or not, made by an adult").

4. *See* Kimberly Mitchell, Janis Wolak & David Finkelhor, *Trends in Youth Reports of Sexual Solicitations, Harassment, and Unwanted Exposure to Pornography on the Internet*, 40 J. ADOL. HEALTH 116, 117 (2007) (examining two studies that found 19% of youth were subject to online sexual solicitations in 2000, a number which dropped to 13% in 2005).

5. *Id.* at 120.

6. *See* Michele Ybarra, Kimberly Mitchell, Janis Wolak & David Finkelhor, *Examining Characteristics and Associated Distress Related to Internet Harassment: Findings from the Second Youth Internet Safety Survey*, 118 PEDIATRICS e1169, e1174 (2006) (stating that the majority of harassed internet users were not emotionally distressed by the event).

7. *See* Janis Wolak, David Finkelhor & Kimberly Mitchell, *Internet-Initiated Sex Crimes Against Minors: Implications for Prevention Based on Findings from a National Study*, 35 J. ADOL. HEALTH 424.e11, 424.e12 (2004) (noting that the incidence of completed internet-related sex crimes is too small to use moderate-sized general population surveys).

8. *See* Denise A. Hines & David Finkelhor, *Statutory Sex Crime Relationships Between Juveniles and Adults: A Review of the Social Scientific Research*, 12 AGGRESSIVE & VIOLENT BEHAV. 300, 302 (2007) (defining "statutory relationship" as one "between a juvenile and an adult that is illegal under age of consent statutes, but that does not involve the degree of coercion or manipulation sufficient to qualify under criminal statutes as a forcible sex crime").

older adolescents about the kinds of online interactions that can lead to sexual solicitation.[9]

B. Pornographic Material

Pornographic material is abundant online, with more than 100,000 websites containing some form of pornography.[10] Contact with pornography online can be attributed to either deliberately seeking out such material or to accidental exposure,[11] such as mistyping website addresses or receiving illicit "spam" emails.[12]

Exposure to pornography can produce unwanted effects, such as increased rates of sexual deviancy, sexual perpetration, and acceptance of rape myths.[13] Rape myths are attitudes and beliefs that justify male sexual aggression against women, such as the belief that when a woman says "no" to sex she really means "yes."[14] A recent study also reports that teens with internet access engage in sexual activity at an earlier age than teens without internet access.[15] Taken together, the evidence indicates that exposure to online pornography can affect attitudes and behaviors concerning sexual activity and can also produce negative emotional changes for those who did not wish to view such material.

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9. *See* Janis Wolak, David Finkelhor, Kimberly Mitchell & Michele Ybarra, *Online 'Predators' and Their Victims: Myths, Realities, and Implications for Prevention and Treatment*, 63 AM. PSYCHOL. 111, 123 (2008) (stating that prevention should focus on the types of interactions that lead to sexual victimization, such as talking online about sex to unknown people, instead of focusing on types of online sites or interactive pursuits such as posting personal information).

10. Andreas G. Philaretou, Ahmed Y. Mahfouz & Katherine R. Allen, *Use of Internet Pornography and Men's Well-Being*, 4 INTER. J. MEN'S HEALTH 149, 150 (2005).

11. *See* Mitchell et al., *supra* note 4, at 117 (2007) (finding 34% of youth report unwanted exposure to such material).

12. *See* WOLAK ET AL., *supra* note 1, at 10 (citing aggressive and unethical marketing by online pornographers as a cause of unwanted exposure to sexual materials online).

13. *See* Elizabeth Oddone-Paolucci, Mark Genius & Claudio Violato, *A Meta-Analysis of the Published Research on the Effects of Pornography*, *in* THE CHANGING FAMILY AND CHILD DEVELOPMENT 48–59 (Elizabeth Oddone-Paolucci & Mark Genius eds., 2000) (stating that the magnitude of the effect of pornography on sexual deviancy, sexual perpetration, and acceptance of rape myths is "large").

14. *See id.* at 49 (noting that the rape myth includes beliefs that "women cause rape, should resist or prevent it, and rapists are normal").

15. *See* Shane W. Kraus & Brenda Russell, *Early Sexual Experiences: The Role of Internet Access and Sexually Explicit Material*, 11 CYBERPSYCHOL. & BEHAV. 162, 166 (2008) (finding that both male and female adolescents with internet access report significantly lower ages of first sexual intercourse than those without internet access).

These are obvious concerns for parents who wish to monitor their children's exposure to sexual material.

III. Identity Formation and Protection

Many internet websites and applications allow users to socially interact with other people. This can occur via textual messages on social networking sites such as Facebook and MySpace, or via more "face-to-face" interactions in avatar-based chat-rooms and online games such as *Second Life* and *World of Warcraft*. The implications of sharing one's real identity or constructing an avatar to represent oneself online present issues with identity formation and protection in children and adolescents.

A. Social Networking Websites

Social networking sites are websites on which individuals with a common interest can meet, share ideas, and engage in discussion with like-minded others.[16] One of the most popular kinds of social networking website is the friend networking site.[17] Friend networking sites, such as Facebook and MySpace, allow users to connect with other people who are typically known off-line, i.e., family members and friends.[18] About 55% of youth have created a profile of themselves on a friend networking site, the most popular of which is MySpace.[19] The most common reason reported for using friend-networking sites is to keep in touch with old and current friends.[20] Users on these sites are able to post information about themselves, upload personal photographs, and write messages to one another.[21]

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16. John Raacke & Jennifer Bonds-Raacke, *MySpace and Facebook: Applying the Uses and Gratifications Theory to Exploring Friend-Networking Sites*, 11 CYBERPSYCHOL. & BEHAV. 169, 169 (2008).

17. *See id.* at 169–70 ("It has been estimated that MySpace has over 20 million registered users, with a sign-up rate of over 230,000 users per day, and Facebook was estimated to have approximately 9.5 million users as of September 2006.").

18. *See id.* at 171 (reporting that 96% of users surveyed use friend networking sites "to keep in touch with old friends" and 91.1% use them "to keep in touch with current friends").

19. AMANDA LENHART & MARY MADDEN, PEW INTERNET AND AM. LIFE PROJECT, SOCIAL NETWORKING WEBSITES AND TEENS: AN OVERVIEW, 2 (2007), http://www.pewinternet.org/~/media//Files/Reports/2007/PIP_SNS_Data_Memo_Jan_2007.pdf.pdf (last visited Sept. 29, 2009) (on file with the Washington and Lee Law Review).

20. *Supra* note 18 and accompanying text.

21. *Id.* at 170.

Many friend networking sites are plagued with false information and profiles.[22] Most users on friend networking sites try to present themselves as realistically as possible, including posting factual information.[23] Full names were listed on almost 9% of profiles, over 50% included a profile picture, more than 25% listed which schools the user had attended or were currently attending, and 0.3% even included a telephone number.[24] Although the rate of posting factual information that can be used to locate or contact a specific individual is low, parents should make sure their children avoid posting such material in their profiles.[25] Sharing more personal information, such as feelings about other people or activities performed during the day, can also potentially be used by others to locate or hurt users.

Creating a profile in a friend networking site necessarily entails some degree of impression management. Impression formation conducted online resembles its offline counterpart. Certainly users of social networking sites gather information about and form opinions of others from the posted profiles,[26] which can create pressure on teens and children to present themselves in the best light possible. The need to belong to groups[27] and pressure to conform to stereotypes[28] can play a part in forming one's identity both online and offline. Adolescents' self-esteem is also affected by the type of feedback received on their profiles, with positive feedback increasing self-esteem and negative feedback decreasing self-esteem.[29] As social networking sites continue to

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22. *See* Danah M. Boyd, *Friendster and Publicly Articulated Social Networking*, *in* CONFERENCE ON HUMAN FACTORS AND COMPUTING SYSTEMS (The Ass'n for Computing Machinery, Vienna, Austria), April 2004, at 1281–82 (discussing the proliferation of fake profiles and false information on the social networking site Friendster).

23. *See* Sameer Hinduja & Justin Patchin, *Personal Information of Adolescents on the Internet: A Quantitative Content Analysis of MySpace*, 31 J. ADOL. 125, 137–38 (2008) (providing statistical information on the posting of factual information on friend networking sites).

24. *Id.*

25. *See id.* at 140 (warning that adolescents should "take care not to expose themselves in an online environment" even when they limit access to their profiles to members of their friend network).

26. Nina Hafkamp & Nicole C. Krämer, *Creating a Digital Self: Impression Management and Impression Formation on Social Network Sites*, at 2 (2008), *available at* http://www.dreamconference.dk/nyheder/Haferkamp,%20Nina.pdf.

27. *See* Angela Thomas, *Textual Constructions of Children's Online Identities*, 3 CYBERPSYCHOL. & BEHAV. 665, 671 (2000) (exploring how children shape their online identities in online graphical chat environments known as "Palaces").

28. *See* Melissa J. Magnuson & Lauren Dundes, *Gender Differences in 'Social Portraits' Reflected in MySpace Profiles*, 11 CYBERPSYCHOL. & BEHAV. 239, 240 (2008) (exploring the role of gender in self-identification in MySpace profiles).

29. Patti Valkenburg, Jochen Peter & Alexander P. Schouten, *Friend Networking Sites*

increase in popularity, more children and adolescents may derive a greater portion of their identity from comments and interactions online.

B. Avatars

An avatar is a graphical representation of the user in a particular online environment.[30] Avatars are typically designed by the users and can be as simple as a two-dimensional picture used in a chat-room or a three-dimensional character played in an online video game. Users can develop a psychological connection to their avatar as it is the vehicle through which they interact with others.[31]

The use of an avatar plays an important part of online identity and identity formation. Users prefer avatars that are human and are of the same gender as themselves,[32] and users with lower self-esteem tend to create idealized versions of themselves as their avatars.[33] The ability to create fantastic creatures or even pose as the opposite gender allow for ample opportunity to explore different roles and identities, which can influence the user's self-image and offline identity.[34]

Because avatars usually allow for a high degree of personal customization, other users are apt to make generalizations and evaluations of the person based on the appearance of the avatar, with the reasoning that the appearance the user decides for her avatar reveals insights into her personality.[35] These evaluations can influence interactions between users. Avatars that are perceived as human-like, highly gendered, and attractive are perceived more positively.[36] Indeed, the

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and Their Relationship to Adolescents' Well-Being and Social Self-Esteem, 9 CYBERPSYCHOL. & BEHAV. 584, 589 (2006).

30. Kristine L. Nowak & Christian Rauh, *The Influences of the Avatar on Online Perceptions of Anthropomorphism, Androgyny, Credibility, Homophily, and Attraction*, 11 J. COM.-MED. COMM. 153, 153 (2006).

31. *See id.* at 154 (noting that perception of avatars influences the way users perceive themselves and each other).

32. *Id.* at 172.

33. Katherine Bessière, A. Fleming Seay & Sara Kiesler, *The Ideal Elf: Identity Exploration in* World of Warcraft, 10 CYBERPSYCHOL. & BEHAV. 530, 533–34 (2007) (suggesting that through the use of idealized avatars, virtual world users can be the people they wish they were offline).

34. *See* T.L. Taylor, *Living Digitally: Embodiment in Virtual Worlds*, *in* THE SOCIAL LIFE OF AVATARS: PRESENCE AND INTERACTION IN SHARED VIRTUAL ENVIRONMENTS 54–55 (Ralph Schroeder ed., 2002) (exploring the role of gender and species-swapping in the online world known as *The Dreamscape*).

35. *See id.* at 54–55 (discussing the tendency of virtual world users to identify avatars as visual representations of users' personalities).

36. *See* Nowak & Rauh, *supra* note 30, at 172 ("The avatars that participants perceived to be more attractive were also found to be more credible and homophilous.").

physical qualities of the avatar can affect the user's own behaviors.[37] This is called the "Proteus Effect," wherein a user's behaviors conform to the physical representation of the avatar.[38] For example, users with more attractive avatars tend to be more talkative and friendly with others, and those with taller avatars behave more confidently.[39] It is reasonable to assume that users who choose less attractive or deviant avatars may experience poor interactions and in turn behave in a less socially acceptable manner.

Both social networking websites and the employment of avatars allow children and adolescents to explore their identity and share it with the world. Negative feedback about information shared or about the physical attributes of their chosen avatar can be a detriment to healthy identity formation.

IV. Cyber-Bullying

A more recent concern about online interactions involves a new form of bullying—cyber-bullying. Cyber-bullying is defined as "an aggressive, intentional [repetitive] act carried out by a group or individual, using electronic forms of contact" against a specific individual.[40] Usually carried out over the Internet, cyber-bullying includes harassment via instant messaging and emailing, posting false rumors on forum boards or on social networking sites, creating insulting websites, and hurtful behaviors in online games such as repeatedly killing a player's avatar.[41]

The occurrence of cyber-bullying peaks during eighth grade,[42] and can persist even into high school and college years.[43] Rates of online bullying vary

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37. *See* Nick Yee & Jeremy Bailenson, *The Proteus Effect: The Effect of Transformed Self-Representation on Behavior*, 33 HUM. COMM. RES. 271, 274 (2007) (defining the "Proteus Effect" as the phenomenon in which virtual world users conform their behavior to that they believe other users would expect of them based on their avatars' visual appearances).

38. *Id.*

39. *See id.* at 280 (finding that users represented by attractive avatars were more likely to approach opposite-gendered users within one minute and that users represented by tall avatars were more likely to "make unfair splits in negotiation tasks" than those represented by shorter avatars).

40. Peter K. Smith et al., *Cyberbullying: Its Nature and Impact in Secondary School Pupils*, 49 J. CHILD PSYCHOL. & PSYCHIATRY 376, 376 (2008) (emphasis omitted).

41. *Id.*

42. Kirk R. Williams & Nancy G. Guerra, *Prevalence and Predictors of Internet Bullying*, 41 J. ADOL. HEALTH S14, S18 (2007).

43. *See* Jerry Finn, *A Survey of Online Harassment at a University Campus*, 19 J. INTERPERSONAL VIOL. 468, 477 (2004) (finding that approximately 10% of students at the University of New Hampshire experienced repeated online harassment).

widely; however, a recent study estimates that up to 43% of middle school students had experienced some type of cyber-bullying.[44] The identities of cyber-bullies usually remain anonymous to their victims, though cyber-bullies are likely to be in the same age group as their victims.[45] About half of youths who experience cyber-bullying try to remove themselves from the situation (e.g., leave the website, block the perpetrator, etc.).[46]

Although cyber-bullying shares many characteristics with traditional forms of bullying, certain features of cyber-bullying are unique. The ease of anonymity and lack of face-to-face social cues of online cyber-bullying can encourage persistence and escalation of harassment;[47] and cyber-bullying can potentially reach a greater audience than traditional forms of bullying.[48] Reaction to cyber-bullying is also similar to traditional bullying. About 60% of victims of online harassment report being negatively affected, such as feeling frustrated, angry, or sad.[49] Victims of cyber-bullying also report avoiding use of the Internet, ruminating on their harassment, having lower self-esteem, feeling anxious and irritable, and losing interest in activities.[50] Additionally, cyber-bulling victims are more likely to engage in alcohol and drug use, experience problems at school, carry weapons, and commit crimes such as damaging property.[51]

As with traditional forms of bullying, cyber-bullying can have negative emotional and behavioral consequences for its victims. Parents and school administrators should take care to educate children about how to manage bullies both offline and online.

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44. SAMEER HINDUJA & JUSTIN PATCHIN, BULLYING BEYOND THE SCHOOLYARD: PREVENTING AND RESPONDING TO CYBERBULLYING 48 (2009).

45. Williams & Guerra, *supra* note 42, at 515, 520.

46. WOLAK ET AL., *supra* note 1, at 41.

47. *See* Francine Dehue, Catherine Bolman & Trijntje Völlink, *Cyberbullying: Youngsters' Experiences and Parental Perception*, 11 CYBERPSYCHOL. & BEHAV. 217, 217 (2008) (discussing the issues presented by the anonymity of cyber-bullying not present in conventional, offline bullying); Justin Patchin & Sameer Hinduja, *Bullies Move Beyond the Schoolyard: A Preliminary Look at Cyberbullying*, 4 YOUTH VIOL. AND JUV. JUSTICE 148, 154 (2006) (same).

48. *See* Robert Slonje & Peter K. Smith, *Cyberbullying: Another Main Type of Bullying?*, 49 SCAND. J. PSYCH. 147, 148 (2008) (discussing the ease with which a cyber-bully can abuse a victim in view of a larger peer group than is typical of offline bullying).

49. Patchin & Hinduja, *supra* note 47, at 161.

50. WOLAK ET AL., *supra* note 1, at 41.

51. Sameer Hinduja & Justin Patchin, *Offline Consequences of Online Victimization: School Violence and Delinquency*, 6 J. SCH. VIOL. 89, 100 (2007).

V. Internet Addiction

Finally, one last issue that has garnered attention in recent years is the concept of internet addiction. Several definitions of internet addiction exist, all with common symptoms: a psychological dependence on being online, interference with other responsibilities, disruption of offline social relationships, and withdrawal when internet use is limited.[52] Internet addiction resembles other types of behavioral addictions, such as addiction to gambling.[53] Internet addiction can manifest as an addiction simply to being online, or more typically an addiction to one particular part of being online, such as viewing online pornography, gambling online, or compulsively playing a massively multiplayer online game.[54] While the American Psychiatric Association (APA) has not classified addiction to the Internet or to video games as an official clinical disorder,[55] other countries (notably China and South Korea) have officially recognized addiction to the Internet as a disorder.[56]

Rates of addiction to the Internet and online games are co-morbid with other psychological disorders, such as depression.[57] Internet addiction can put

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52. *See* Jonathan J. Kandell, *Internet Addiction on Campus: The Vulnerability of College Students*, 1 CYBERPSYCHOL. & BEHAV. 11, 12 (1998) (defining internet addiction as "a psychological dependence on the Internet, regardless of type of activity once logged on"); Peter Mitchell, *Internet Addiction: Genuine Diagnosis or Not?*, 355 LANCET 632, 632 (2000) (defining internet addiction as "compulsive overuse of the internet and irritable or moody behaviour when deprived of it"); Martha Shaw & Donald W. Black, *Internet Addiction: Definition, Assessment, Epidemiology, and Clinical Management*, 22 CNS DRUGS 353, 354 (2008) (collecting definitions of internet addiction).

53. *See* Shaw & Black, *supra* note 52, at 355 (stating that some researchers have proposed patterning criteria for evaluating internet addiction after DSM-IV-TR criteria for pathological gambling).

54. *See id.* (outlining five distinct categories of internet addiction).

55. Press Release, Am. Psychiatric Ass'n, Statement of the American Psychiatric Association on "Video Game Addiction" (June 21, 2007), http://www.psych.org/MainMenu/Newsroom/NewsReleases/2007NewsReleases/07-47videogameaddiction_2_.aspx (last visited Sept. 29, 2009) (declining to recognize video game addiction as an official clinical disorder for inclusion in the *Diagnostic and Statistical Manual of Mental Disorders*) (on file with the Washington and Lee Law Review).

56. *See* Jerald J. Block, *Issues for DSM-V: Internet Addiction*, 165 AM. J. PSYCHOL. 306, 306 (2008) ("South Korea considers Internet addiction one of its most serious public health issues."); Alex Golub & Kate Lingley, *"Just Like the Qing Empire": Internet Addiction, MMOGs, and Moral Crisis in Contemporary China*, 3 GAMES & CULTURE 59, 61–64 (2008) (discussing the anxiety in China over internet use and abuse).

57. Janet Morahan-Martin, *Internet Abuse: Addiction? Disorder? Symptom? Alternative Explanations?* 23 SOC. SCI. COMP. REV. 39, 42 (2005) (discussing the difficulty in determining causality between co-morbid disorders, such as depression and internet addiction).

a youth at risk for poor academic performance;[58] declines in physical health, including decreased amount of sleep[59] and increased rate of seizures;[60] increased risk of suicide (especially in relation to massively multiplayer online games);[61] and offline social isolation.[62]

Parents should be aware of the symptoms of internet addiction and closely keep track of how long their children remain online. Multiple intervention strategies should be employed in cases where the parent suspects his or her child to be addicted. Several psychological clinics now offer treatment for internet addiction. People can also become addicted to video games offline, as shown in a recent study involving a nationally representative sample of youth eight to eighteen years old.[63]

VI. Conclusion

The online world offers many opportunities for information gathering, entertainment, and social interaction. Indeed, many positive effects can be experienced from time spent online.[64] Nonetheless, the dangers of sexual solicitation and exposure, identity threats, cyber-bullying, and online addiction are real and should not be ignored by parents. Precaution should be used to educate children and adolescents about the online world and how to manage and avoid its hazards.

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58. *See* Chien Chou, Linda Condron & John C. Belland, *A Review of the Research on Internet Addiction*, 17 EDUC. PSYCH. REV. 363, 364 (2005) (reporting the negative effects of Internet addiction on academic performance).

59. *See id.* at 369 (noting health risks associated with internet addiction, including missed sleep and missed meals).

60. *See* Yao-Chung Chuang, *Massively Multiplayer Online Role-Playing Game-Induced Seizures: A Neglected Health Problem in Internet Addiction*, 9 CYBERPSYCHOL. & BEHAV. 451, 451 (2006) (studying incidents of seizure induced by Massively Multiplayer Online Role-Playing Games and comparing them to television and video game-induced seizures).

61. *See* Golub & Lingley, *supra* note 56, at 59 (discussing internet addiction and video game-related suicides in China).

62. Chou et al., *supra* note 58, at 369.

63. *See* Douglas A. Gentile, *Pathological Video Game Use Among Youth 8 to 18: A National Study*, 20 PSYCH. SCI. 594, 601 (2009) (finding that about 10% of youth surveyed demonstrated real-world problems due to video games).

64. *See* Patti Valkenburg & Jochen Peter, *Social Consequences of the Internet for Adolescents: A Decade of Research*, 18 CURRENT DIRECTIONS PSYCH. SCI. 1, 2 (2009) (stating that internet use stimulates, rather than reduces, social connectedness and well-being among many adolescents).