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Factors Influencing Adolescents Engagement in Risky Internet Behavior

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ABSTRACT

The present study used data from the SAFT (Safety, Awareness, Facts and Tools) Singapore survey, a national survey of 1,124 youths aged 12–17, to explore the issue of risk on the Internet. We investigated factors that influence adolescents' engagement in risky Internet behavior, in particular, meeting face-to-face someone they first encountered online. The adolescents ranged from ages 12 to 17, with a mean of 14.32 (SD = 1.37); 49.6% of the adolescents were girls. The study utilized a 93-item survey that was part of the SAFT Project. Results indicated that 16% of adolescent Internet users in Singapore have had a face-to-face meeting with someone first encountered online. The following factors were found to be predictors of adolescents engagement in such face-to-face meetings: age, frequency of Internet use, frequency of chatting and gaming behavior, parental rules, type of personal information given out, amount of inappropriate messages received, whether inappropriate websites have been visited, and type of internet advice heard. Implications of the results are discussed.

INTRODUCTION

SURVEYS INDICATE that large numbers of adolescents use the Internet on a regular basis.[1–5] Given adolescents' increasing use of the Internet, there has been much concern about its impact on adolescent development. For instance, on the one hand, parents tend to be supportive of the educational potentials of the Internet,[6,7] and in fact, state education as their primary reason for investing in the Internet.[7,8] On the other hand, parents are also concerned about the risks of the Internet, which include issues relating to commercialism, privacy, security, sexual material, and social relationships.[3,8–10] Little empirical data, however, is available to address the issue of whether such risks are actually experienced as problematic for adolescents and their families.

In this paper, we begin with a brief review of issues relating to risks of the Internet, focusing on risks relating to contact as a result of online relationships. Then, we present a survey on adolescent Internet use, drawn from data collected from secondary schools in Singapore. After discussing the results of the study, we conclude with recommendations to address the problem of adolescents' engagement is such behavior.

Sociologists have argued that modern society has become extremely risk conscious.[11–13] Constant changes in politics, economy and culture, globalization, as well as the collapse of traditional authority and sources of identity tend to reduce any sense of stability.[14] As a result, "high levels of anxiety and insecurity" have become a characteristic of modern society.[13]

Surveys of parents on their attitudes towards the Internet suggest that parents are anxious and insecure about their adolescents' use of the Internet. Turow[9] found that while 68% of parents state that children who do not have the Internet are disadvantaged compared to their peers who do, 75% of parents were concerned that their children might

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give out personal information and view sexually explicit images on the Internet. The Pew Internet and American Life Project[4] found that 57% of parents were concerned that strangers would contact their children online. In fact, 60% of adolescents surveyed in that project indicated that they had received messages (of any kind) from strangers. In the Singapore study conducted by the Parents' Advisory Group for the Internet (PAGi), 77.6% of parents surveyed indicated that their children receiving pornographic and violent material from the Internet is a cause for concern.[8] In the Youth Internet Safety Survey, 19% of a U.S. sample of 1,501 youths aged 10–17 stated that they had received an unwanted sexual solicitation in the past year. Girls, older adolescents, troubled youth, frequent Internet users, chat room participants, and those who communicated online with strangers were found to be at greater risk for receiving online sexual solicitation.[15] This survey also indicated that 25% of youth have had unwanted exposures to sexual material on the Internet.[16] Livingston[7] states that by far, most public concern has focused on the "growing incidence of unwanted or inappropriate sexual contact" made with adolescents by adult strangers. The present study focuses on the risk of such contact in the Internet. Reviews on other risks on the Internet such as commercialism and exposure to inappropriate websites (e.g., sites containing violent images or hate messages) can be found in Carter and Weaver,[17] as well as Montgomery.[18]

While parents may be anxious and insecure about the risks of the Internet, adolescents seem to be less concerned. In the Pew study,[4] adolescents were not particularly worried about meeting strangers online; 52% of adolescent Internet users expressed no worry at all about being contacted online, and only 23% expressed some level of concern. Turow and Nir[19] found that North American youth, aged 10–17, were much more likely than parents to say that it is alright to give sensitive personal information to commercial Web sites in exchange for a free gift. Similarly, in the SAFT (Safety Awareness, Facts and Tools) project, a large-scale survey of 10,000 youngsters aged nine to 16 in Denmark, Iceland, Ireland, Norway, and Sweden, researchers stated that while 14% of children had indicated that they have had a face-to-face meeting with someone first encountered online, only 4% of parents think their children have had such a meeting.[20] In Singapore, Khoo et al.[8] also found that parents have higher levels of concern about the risks of the Internet compared to adolescents aged 13–15.

This discrepancy between adolescents and parents in their attitudes towards risk in the Internet could explain why parents and their adolescents often do not agree about the place of the Internet at home. While parents state that they sometimes look up Web sites their children have visited, most adolescents do not think that happens.[4] Similarly, while parents state that they spend time sitting with their children while they were online, adolescents do not report that. There is also disagreement between adolescents and parents on whether the Internet leads youth to do dangerous or harmful things.[4] In addition, Turow and Nir[19] reported that parents and their youngsters have experienced incidents of disagreement, worry, or anger in their family over the youngsters' release of information to the Web; 41% of U.S. parents and 36% of youngsters recall tensions at home over youngsters' release of information online.[21] In Singapore, while 81% of parents indicated that they believe children could behave responsibly on the Internet, only 46% of children themselves responded that they could be trusted to do so.[8]

Given parents' concern about risks on the Internet, one would expect that parents practice high levels of supervision on their children's Internet use. Parental surveys tend to indicate that most parents do set rules regarding their children's Internet use as well as monitor Internet use by checking bookmarks or browser history.[3] However, as mentioned above, adolescent self-reports do not seem to corroborate parental reports of supervision. In the Pew study,[4] while 61% of parents of online adolescents state that they enforce time limits on how long their children can stay online, only 37% of adolescents say such limits are imposed on them. Based on their parent and youth surveys, Turow[21] suggests that parent–child interactions about Web-privacy issues are fleeting at best, "perhaps in the form of 'don't give out your name' or 'don't talk to strangers.'" Similarly, results from the SAFT project indicated that children and parents seldom talk about the positive or negative experiences on the Internet.[20] In Singapore, Liau et al.[22] also suggested that parents tend to overestimate the amount of parental supervision and communication regarding Internet safety that occurs at home. Hence, more research needs to be done to examine the nature and extent of parental Internet supervision, and whether higher levels of parental supervision is related to lower levels of adolescent engagement in risky Internet behaviors.

Adolescents' lack of concern about the risks of the Internet is disconcerting given that interpersonal communication is one of the primary reasons adolescents use the Internet,[23] and that many youths use chat rooms, instant messages, e-mail or

other forms of online communication to converse with people they did not know face-to-face.[5] In fact, Wolak et al.[5] found that 7% (n = 101) of their U.S. sample of youths aged 10–17 have had a face-to-face meeting with someone encountered online. The survey also indicated that, while most of these youths followed safety basic rules such as informing parents and bringing friends or family members to the meetings, a number of youths did not take such precautions. In particular, 10% of these youths told no one, and 23% were alone when they met their online friend. Two youths (2%) reported discomfort after the face-to-face meeting. In one of the cases, a 16-year-old girl was asked to spend the night in the hotel room with the 30-year-old man whom she met.[5]

The present study used data from the SAFT Singapore survey, a national survey of youths aged 12–17, to explore the issue of risk on the Internet. Singapore, with a population of 4 million inhabitants, has one of the highest rates of Internet penetration, with 59% of the population owning a computer at home, and 48% being connected to the Internet. A national survey of Singaporean youths aged 12–13 indicated that the Internet penetration rate was 71%.[2] Hence, Singaporean adolescents can be considered highly wired, and very much part of the "Net-Generation," as described by Tapscott.[24]

We investigated factors that influence adolescents engagement in risky Internet behavior, in particular, meeting face-to-face someone they first encountered online. As this was an exploratory study, the following factors were examined as predictors of the risky behavior: frequency of chatting and gaming behavior, parental supervision, communication with parents, type of personal information given out, amount of inappropriate messages received, whether inappropriate websites have been visited, and type of internet advice heard.

METHODS

Sample

Participants comprised of 1124 adolescents ranging from ages 12 to 17 (mean age = 14.32, SD = 1.37). 49.6% of the adolescents were girls. The adolescents were from nine secondary schools in Singapore. Of these nine schools, two were all-girls, two all-boys, and five were of mixed gender. Four of these schools were independent and government-aided with a history of Catholic and Methodist missions, and four were government schools located in public housing estates, and one was a government-aided Junior College (equivalent to grades 11 and 12).

Procedure

The students participated in the online survey during school when they were having classes in the computer rooms. The survey project was given approval by the Ministry of Education, and students had to give their consent in participating before they could proceed with the survey. Adolescents were given an ID code to log in to the online survey so that they could respond anonymously. The survey took 30–45 min to complete. Most of these adolescents were mainly from secondary one to three (equivalent to grades seven to nine) classes, which had relatively more time in the school timetable than their secondary four (equivalent to grade 10) counterparts. In the Junior College, only one class of first year students participated in the study.

Instrument

The study utilized a 93-item survey that was part of the SAFT Project.[20] SAFT is an international collaboration of five countries: Denmark, Iceland, Ireland, Norway, and Sweden, and seeks to raise awareness of the positive potential and dangers of the Internet for youth and children. Singapore was invited as a partner in this cross-cultural collaborative study. The survey was administered in all six countries.

The present study focused on factors predicting adolescents' engagement in risky Internet behavior, in particular, meeting someone encountered online. Hence, the following sections of the survey were relevant:

Risky internet behavior. Participants were asked whether they had ever met anyone face-to-face that they first met on the Internet.

Frequency of use. Participants were queried about their frequency of use of (1) the Internet at home or other places, (2) video games on the internet, and (3) Instant Messaging (like ICQ or AOL Instant Messaging).

Parental supervision. Participants were queried about whether their parents (1) sit with them when they are on the Internet, (2) check in on them while they are on the Internet, (3) use filters, and (4) check

web sites they had visited. Participants were asked whether anyone was at home when they arrived from school. Participants were also asked if there were rules for Internet use in their homes (e.g., "I am not allowed to give out any personal information," and "I am not allowed to meet in person someone I only know from the Internet").

Communication with parents. Participants were queried whether parents talk to them about what they do on the Internet, and whether they would tell their parents about receiving pornographic junk mail.

Giving out personal information. Participants were queried whether they have given out personal information, such as their postal address or phone number, over the Internet to win a prize in a contest. Participants were also asked whether they have met someone on the Internet who asked for personal information like their photograph, phone number, street address, or school they attend.

Receiving inappropriate messages. Participants were queried whether they have ever been sent pornography on the Internet from someone they have met only on the internet, whether they have ever received sexual comments on the Internet, and whether they have ever received pornographic junk mail in their e-mail or Instant messaging.

Visiting inappropriate websites. Participants were asked whether they have ever accidentally or purposely ended up in the following types of websites: sites containing pornography, sites containing violent or gruesome pictures, and sites containing hateful messages towards a person or group of people.

Internet advice. Participants were queried whether they have heard Internet safety advice such as: "Never give out your address," or "Never arrange to meet anyone."

Statistical analysis

Given the large sample size, and the number of significance tests to be carried out, the significance level was set at 0.01. (Although the survey consisted of primarily single-item measures, reliability was assessed for a number of the measures with multiple items such as internet use, and amount of communication with parents. The alpha coefficients were 0.79 and 0.87, respectively.)

RESULTS

1045 (93.0% of the total sample) adolescents reported having used the Internet, and 827 (73.6%) adolescents reported having chatted on the Internet. The study focused on this group of 827 adolescents who have experienced chatting on the Internet. These adolescents have a mean age = 14.42 (SD = 1.33) and are 51.4% girls. Adolescents who have chatted were significantly older than adolescents who have not chatted ($F(1,1123) = 16.87$, $p < 0.0001$). Adolescents who have chatted have mothers whose educational background was marginally higher than those who have not chatted ($F(1,1123) = 4.47$, $p = 0.035$), and there are a marginally greater number of girls among adolescents who have chatted compared to those who have not ($\chi^2(1) = 4.22$, $p = 0.04$).

A total of 169 adolescents (16.2% of Internet users, or 20.4% of those who chat) reported having met someone in real life that they first encountered online. Fifty-seven adolescents have met one person, 112 adolescents have met more than one person, and 45 adolescents have met more than six persons. Fifteen adolescents (8.9% of 169) had the experience of meeting someone who introduced himself/herself as a child on the Internet but turned out to be an adult. Table 1 describes who the adolescents brought along during their first face-to-face meeting, as well as their experience of what happened during the meeting. Sixty-one (36.1%) adolescents reported that they told their parents or teachers if something bad happened to them, while 62 (36.7%) adolescents reported that they did not tell their parents or teachers, and 46 reported not knowing or not remembering what happened (27.2%).

A series of multiple logistic regression analyses was used to examine the factors that influence adolescents' engagement in risky internet behavior, in particular, meeting in person with someone encountered online. Odds ratios (OR) were calculated to approximate relative risk and are presented with 99% confidence intervals. Age was a significant predictor of the risky behavior (OR = 1.26, 99% CI (1.06, 1.48), $p < 0.0001$) but gender was not a significant predictor; 80 out of the 169 (47.3%) adolescents were girls. For ease of interpretation, the frequency of use of the Internet variable was dichotomized so that 1 = "at least once a day" and 0 = "less than once a day." Controlling for age, frequency of use of the Internet was a significant predictor of the risky behavior (OR = 1.68, 99% CI (1.07, 2.65), $p < 0.01$). Parents' educational background and

TABLE 1. CHARACTERISTICS OF ADOLESCENTS FIRST FACE-TO-FACE MEETING

	n	%
People brought along to the first face-to-face meeting		
Mother	6	3.6
Father	5	3.0
Other adult	4	2.4
Brother or sister	9	5.3
Friends (similar age)	99	58.6
Someone else	19	11.2
Went alone	37	21.9
Do not remember	29	17.2
How the adolescent described the meeting		
I had a really good time	59	34.9
Nothing, it was just a meeting	74	43.8
Nothing, it was boring/no success	27	16.0
The other person said nasty things to me	2	1.2
The other person tried to physically hurt me	2	1.2
Do not know/do not remember	37	21.9

whether parents lived together were not significant predictors of the risky behavior. All subsequent analyses include age and frequency of use as covariates in order to control for the influence of these factors. The following factors were examined as predictors of the risky behavior: frequency of chatting and gaming behavior, parental supervision, communication with parents, type of personal information given out, amount of inappropriate messages received, whether inappropriate websites have been visited, and type of internet advice heard. Significant and marginally significant predictors of the risky behavior are reported in Table 2.

DISCUSSION

This study indicated that there is reason to be concerned about risk in adolescents' Internet use as 16% of adolescent Internet users in Singapore have had a face-to-face meeting with someone first encountered online. Out of these adolescents, 22% of them went alone for the meeting, 27% have met more than six persons, and 9% met someone who introduced himself/herself as a child on the Internet but turned out to be an adult. In comparison, a national survey of U.S. youth indicated only 7% have had such a face-to-face meeting, and 23% of these youths went alone to the meeting.[5] Older adolescents were more likely to go for such a meeting, but there were equal number of boys and girls going for face-to-face meetings. Of particular concern is that two boys reported that the person they met tried to physically hurt them, one of those boys and another girl also reported that the person they met said nasty things to them. It is not certain why a number of the adolescents reported not remembering (or not knowing) who they brought along during the first face-to-face meeting (17% of the 169), and how they would describe the meeting (22% of the 169). Only 35% reported that they had a good time at the meeting.

We found that parental supervision techniques such as sitting with or checking in on the adolescent while they were online, using filters, and checking sites visited were not related to the risk of attending a face-to-face meeting. Similarly, Mitchell et al.[15] found that a variety of parental supervision techniques such as having rules about the number of hours spend online, asking what youth do online, checking the history function, and using filters were not related to the risk of receiving sexual solicitations. However, two particular Internet rules relating specifically to not having face-to-face meetings, and not meeting strangers online lowered the risk of such a meeting. Also, adolescents who had heard the Internet safety advice never to arrange to meet anyone were less likely to have had a face-to-face meeting.

Hence, parental supervision techniques do not seem to be effective in lowering the risk involved with adolescent Internet use. Perhaps our findings are consistent with Kerr and Statin's[25] reconceptualization of parental monitoring. They argue that

TABLE 2. SIGNIFICANT AND MARGINALLY SIGNIFICANT PREDICTORS OF THE RISKY INTERNET BEHAVIOR—MEETING IN PERSON SOMEONE ENCOUNTERED ONLINE

Predictor	*OR*	*99% CI*
Frequency of Internet activities	3.13**	1.75, 5.55
Frequency of chatting	1.77*	1.07, 2.91
Frequency of gaming		
Parental supervision		
Rules for Internet use		
Not allowed to meet in person someone encountered online	0.49**	0.30, 0.81
Not allowed to talk to strangers in chatrooms	0.46*	0.23, 0.93
Not allowed to give out personal information	0.62†	0.39, 1.01
People usually at home when arrive from school	1.56†	1.06, 1.48
Communication with parents		
Tell parents about receiving pornographic junk mail	0.49†	0.22, 1.06
Giving out personal information		
Phone number	2.17*	1.15, 4.09
Photograph	2.68*	1.16, 6.18
Favorite band, music	1.67*	1.03, 2.90
Receiving inappropriate message		
Met someone on the Internet who asked for personal information	4.16**	2.42, 6.67
Sent pornography from someone met only on the Internet	1.80†	0.97, 3.34
Received unwanted sexual comments on the Internet	2.59**	1.58, 4.23
Received pornographic junk mail in e-mail or Instant Messaging	1.90**	1.19, 3.04
Visiting Inappropriate websites		
Accidentally ended up in a pornographic website	1.68*	1.04, 2.73
Purposely visited a pornographic website	2.39**	1.33, 4.28
Accidentally ended up in a website with violent/gruesome images	1.60*	1.01, 2.54
Accidentally ended up in a hate website	1.44†	0.90, 2.33
Heard of the following Internet safety advice		
Never arrange to meet anyone	0.55*	0.33, 0.90
Do not download anything	1.88*	1.06, 3.17

**$p < 0.0001$.
*$p < 0.01$.
†$p < 0.05$.

even though many studies have shown that "parental monitoring" is related to measures of adolescents' adjustment, these studies are actually measuring parental knowledge of adolescents' activities and not the parents' efforts in tracking and surveillance. In fact, Kerr and Statin[24] found that parents' tracking and surveillance provide no explanation for the links between parental monitoring and adjustment. Instead, child disclosure of information provided a better explanation of the relationship. In other words, child disclosure provided a better explanation than tracking and surveillance of why parental knowledge is linked to adolescents' level of adjustment.[25,26] Consistent with this argument is our finding that adolescents who tell parents that they have received pornographic junk mail are marginally less likely to have had a face-to-face meeting with someone encountered online. Hence, instead of trying to monitor what youngsters are doing discreetly (e.g., checking websites visited), perhaps parents should encourage open communication with their children regarding their Internet use, and use participative decision making to set specific rules about the limits of their Internet behavior.

Controlling for age, adolescents who use the Internet at least once a day were 1.7 times more likely to have had a face-to-face meeting with someone first encountered online compared to those who used the Internet less frequently. Controlling for age and frequency of Internet use, frequency of chatting and gaming were still significant predictors. Similarly, Mitchell et al.[15] found that frequent Internet users were at greater risk for sexual solici-

tation. High internet use was also associated with a greater likelihood of having a close or romantic online relationship with someone encountered online, and there were a disproportionate number of troubled youth (youth with high levels of depression and peer victimization) who have had such online relationships.[5] Wolak et al.[27] also speculated that online relationships may "amplify alienation among troubled youth by encouraging racism, fascination with violence, and other antisocial attitudes." In fact, we found that adolescents who had visited pornographic websites, sites with violent images, and hate sites were more likely to have had a face-to-face meeting with someone encountered online. Nevertheless, while our study and others indicate that frequent use of the Internet is a factor that may increase the level of risk in adolescents' Internet use, it is not clear whether an excessive use of the Internet is symptomatic of other deficiencies in adolescents' lives.[28,29] More research needs to be done regarding the etiology and consequences of frequent Internet use.

Turow[21] in presenting his information-boundaries perspective on the family and the Internet argue that the Internet has made the boundaries between the family and the world outside permeable. As a result, there is an increasing spiral of family tension and fractionalization regarding incoming and outgoing information as parents attempt to set norms in terms of information disclosure practices. Children, in turn, may develop their own rules of self-disclosure. As mentioned earlier, parents seem to be more concerned than children about the risks of this flow of information. In our sample, we found that 35% of the adolescents were willing to give out their full name, and 18% their postal address in order to win a prize in a contest. Park and Floyd[30] also found high levels of self-disclosure in online relationships. We found that adolescents who gave out phone numbers, photographs, and information about their favorite band or music were more likely to have had face-to-face meetings than those who did not. Having met someone who asked for personal information, and receiving inappropriate messages like unwanted sexual comments and pornographic junk messages were also significant predictors. Hence, information flow into and out of the home is associated with greater risk for adolescents on the Internet.

This study has its strength in being one of the first to survey a large national sample of adolescents in Singapore, and one of the first to focus on adolescents' engagement in risky Internet behavior. However, there are a number of limitations to the findings. First, as the data are cross-sectional, any direction of causality cannot be inferred. It is possible that adolescents engagement in risky behaviors such as face-to-face meetings leads to greater frequency of Internet use, rather than the converse. Second, the survey consists of many single-item constructs that may not be reliable. Nevertheless, research about youth Internet use is a new undertaking, and the procedures for inquiry in this area have not been standardized or validated.[5] In addition, our study utilized an international survey that has been administered in five European countries.[20]

While some research has indicated that most online relationships remained in the electronic domain and do not result in face-to-face meetings,[23] our research strongly suggests that there is reason to be concerned about adolescents' Internet use. The 16% of Internet-using adolescents in Singapore who have participated in face-to-face meetings could translate to millions of adolescents engaging in such meetings during their adolescent years. In addition, in raising awareness regarding the risks of adolescents' Internet use, we hope to encourage more open communication between parents and adolescents. Parents should allow children to share their experiences online and give them opportunities to teach parents what they know, hence creating opportunities for mutual sharing. It is important to note that although not discussed in this paper, the positive impact of adolescents' Internet use is tremendous, and that the concerns about risks are not so alarming that parents should discourage their youngsters from using the Internet.

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REFERENCES

1. A preliminary version of this paper was presented at the New Zealand Association for Research in Education (NZARE)/Australian Association for Research in Education (AARE) Joint Conference, December 2003, Auckland, New Zealand.
2. Kuo, E.C.Y., Choi, A. Mahizhnan, A., et al. (2002). *Internet in Singapore: a study on usage and impact*. Singapore: Times Academic Press.

3. Media-Awareness. (2000). Canada's children in a wired world: the parents' view. A survey of internet use in Canadian families. *Media Awareness* 20:17–18.
4. Pew. (2001). Teenage life online. [On-line]. Available: <www.pewinternet.org>.
5. Wolak, J., Mitchell, K.J., & Finkelhor, D. (2002). Close online relationships in a national sample of adolescents. *Adolescence* 37:441–455.
6. Buckingham, D.M., Scanlon, & Sefton-Green, J. (2001). Selling the digital dream: marketing educational technology to teachers and parents. In: Loveless, A., Ellis V. (eds.), *Subject to change: literacy and digital technology.* London: Routledge, pp. 20–40.
7. Livingston, S. (2003). Children's use of the Internet: reflections on the emerging research agenda. *New Media & Society* 5:147–166.
8. Khoo, C.E. A., Lim, C.P., & Williams, M. (2001). Uses and perceptions of the Internet: children and parents' perspective [Unpublished manuscript]. Singapore: Nanyang Technological University.
9. Turow, J. (1999). *The family and the Internet: the view from parents/the view from the press*. Philadelphia: Annenberg Public Policy Center, University of Pennsylvania.
10. UCLA. (2001). Surveying the digital future: year two [On-line]. Available: <www.ccp.ucla.edu>.
11. Beck, U. (1992). *Risk society: towards a new modernity*. Trans. M. Ritter. London: Sage.
12. Giddens, A. (1991). *Modernity and identity: self and society in the late modern age*. Cambridge: Polity.
13. Lupton, D. (1999). *Risk*. London: Routledge.
14. Critcher, C. (2003). *Moral panics and the media*. Philadephia: Open University Press.
15. Mitchell, K.J., Finkelhor, D., & Wolak, J. (2001). Risk factors for and impact of online sexual solicitation of youth. *JAMA* 285:3011–3014.
16. Mitchell, K.J., Finkerhor, D., & Wolak, J. (2003). The exposure of youth to unwanted sexual material on the Internet: a national survey of risk, impact, and prevention. *Youth and Society* 34:330–358.
17. Carter, C., & Weaver, C.K. (2003). *Violence and the media*. Philadelphia: Open University Press.
18. Montgomery, K. (2001). The new on-line children's consumer culture. In: Singer D., & Singer, J. (eds.), *Handbook of children and the media.* London: Sage, pp. 635–650.
19. Turow, J., & Nir, L. (2000). *The Internet and the family 2000: the view from parents/the view from kids*. Philadelphia: Annenberg Public Policy Center, University of Pennsylvania. Available: <www.appcpenn.org/finalrepor_famlpdf>.
20. Staksrud, E. (2003). *Parents believe, kids act*. Presented at the 2003 SAFT Conference—Future Kids Online: How to Promote Safety, Awareness, Facts and Tools, Sweden. Available: <www.saftonline.org>.
21. Turow, J. (2001). Family boundaries, commercialism, and the Internet: a framework for research. *Journal of Applied Developmental Psychology* 22:73–86.
22. Liau, A.K., Khoo, A., & Ang, P.H. (2004). Singaporean parents' awareness of their adolescents' Internet use. Presented at the European South-East Asian Studies Conference, Paris.
23. Subrahmanyam, K., Greenfield, P., Kraut, R., et al. (2001). The impact of computer use on children's and adolescents' development. *Journal of Applied Developmental Psychology* 22:7–30.
24. Tapscott, D. (1998). *Growing up digital: the rise of the net generation*. New York: McGraw-Hill.
25. Kerr, M., & Statin, H. (2000). What parents know, how they know it, and several forms of adolescent adjustment: further support for a reinterpretation of monitoring. *Developmental Psychology* 36:366–380.
26. Statin, H., & Kerr, M. (2000). Parental monitoring: a reinterpretation. *Child Development* 71:1072–1085.
27. Wolak, J., Mitchell, K. J., & Finkelhor, D. (2003). Escaping or connecting? Characteristics of youth who form close online relationships. *Journal of Adolescence* 26:105–119.
28. Griffiths, M. (1998). Internet addiction: does it really exist? In: Gackenbach, J. (ed.), *Psychology and the Internet: intrapersonal, interpersonal, and transpersonal implications.* San Diego: Academic Press, pp. 61–75.
29. Young, K.S., Pistner, M., O'Mara, J., et al. (1999). Cyber disorders: the mental health concern of the new millennium. *CyberPsychology & Behavior* 2:475–479.
30. Parks, M.R., & Floyd, K. (1996). Making friends in cyberspace. *Journal of Computer-Mediated Communication* 46:80–97.

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