

# How Do High-Risk Youth Use the Internet? Characteristics and Implications for Prevention

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*Using data from the Second Youth Internet Safety Survey, a nationally representative telephone survey of 1,500 youth Internet users (ages 10 to 17), this study explores differences in Internet use characteristics between high risk youth and other Internet users. Those youth who engaged in aggressive behavior online and those who used the Internet on a cell phone were about twice as likely to be classified as high risk (having experienced high parent conflict or child maltreatment) as compared to other Internet users. Those youth who talked with known friends online were significantly less likely to be included in the high risk group. Controlling for demographic and Internet use characteristics, youth who received an aggressive sexual solicitation were almost 2.5 times as likely to report experiencing physical abuse, sexual abuse or high parent conflict. Implications for prevention are discussed, including avenues for reaching high risk populations of youth.*

**Keywords:** *sexual solicitation; Internet; child maltreatment; child welfare; high-risk youth*

The majority of youth use the Internet to communicate, with approximately 9 out of 10 adolescents reporting Internet use (Lenhart, Madden, & Hitlin, 2005). Although the Internet can be a valuable resource, there are also challenges related to protecting youth from online victimization, including aggressive online sexual solicitations (i.e., those that threaten or actually do move beyond the Internet). Increasingly, mental health professionals have begun to direct attention toward avenues of preventing and treating issues related to online victimization (Dombrowski,

LeMasney, Ahia, & Dickson, 2004). However, little emphasis has been placed on assessing Internet safety among high-risk youth who are potentially vulnerable to online victimization because of life circumstances or prior or concurrent victimizations.

Emerging research suggests that high-risk youth using the Internet deserve additional attention (Mitchell, Finkelhor, & Wolak, 2001; Mitchell, Finkelhor, & Wolak, 2007). A study of 1,501 youth conducted between 1999 and 2000 found that the likelihood of Internet solicitation was higher among youth who were troubled (experiencing negative life events, offline victimization, or depression) as compared to other Internet users (Mitchell et al., 2001). Analyses of that sample of youth also found that alienation from parents, either because of parental conflict or communication problems, was associated with an increased likelihood of forming close relationships with people met online (Wolak, Mitchell, & Finkelhor, 2003). These findings suggest that high-risk youth, defined here as youth who have experienced offline victimization or high levels of parental conflict, may have unique patterns of Internet use and an increased likelihood of being sexually solicited on the Internet.

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Although the direct pathways from offline experiences to online sexual solicitations are still under investigation, there are at least three possible factors that may be associated with this trend. First, existing research finds that youth who experience high levels of conflict with parents are at risk for some negative outcomes offline (Chang, Chen, & Brownson, 2003) and the same may be true on the Internet. Youth who have experienced high levels of conflict within their families may be vulnerable to Internet related-problems, perhaps because of supervision issues, communication challenges within families, or other manifestations of parent-child conflict. Among youth Internet users, for instance, Ybarra and Mitchell (2005) found an association between viewing pornography online and poor emotional bonds with caregivers. These authors also found that youth involved in Internet harassment were more likely to report poor emotional bonds with parents than other Internet users (Ybarra & Mitchell, 2004).

Second, youth who have experienced offline victimization, such as sexual assault or physical abuse, may be particularly vulnerable to sexual exploitation online. Youth who have experienced prior victimization may exhibit posttraumatic stress, depression, and other trauma symptomatology (Boney-McCoy & Finkelhor, 1996), which may be associated with unique patterns of Internet use. Sexual abuse victims, for instance, may exhibit more sexualized behaviors and poorer self-esteem than youth who have not experience victimization (Kendall-Tackett, Williams, & Finkelhor, 1993), which may impact vulnerability to Internet risks. Although existing research on polyvictimization does not directly address Internet experiences, emerging research suggests that youth who experience multiple forms of victimization may be at increased risk for increased trauma symptomatology and other negative life events (Finkelhor, Ormond, Turner, & Hamby, 2005; Holt, Finkelhor, & Kantor, 2007; Mitchell, Ybarra, & Finkelhor, 2007).

Third, high-risk Internet users who have experienced parental conflict, sexual assault, or physical abuse may have preexisting mental health or other challenges that are associated with increased vulnerability. Data collected in one cross-sectional study found that victims of online sexual solicitation share characteristics of traditional sexual abuse victims, including post-traumatic stress symptomatology (Wells & Mitchell, 2007). Mental health practitioners treating youth victims of online sexual exploitation report that this group of clients is different from youth experiencing overuse of the Internet or other online problems (Wells & Mitchell).

This vulnerable group of youth is likely involved with a variety of child welfare staff, school personnel, and mental health professionals. Not all of these professionals may routinely ask about problematic Internet experiences in their work with clients (Wells, Mitchell, Finkelhor, & Becker-Blease, 2006). Additionally, these professionals may feel unprepared to address issues of Internet safety (Finn & Kerman, 2004). The current study adds to the emerging literature attempting to assess linkages between conventional victimization and risk and online sexual solicitation. The present analysis examines demographic and Internet use characteristics of high-risk and other youth Internet users, with an emphasis on aggressive sexual solicitations. This analysis uses data collected in the Second Youth Internet Safety Survey (YISS-2) study to develop a profile of demographic characteristics and Internet use patterns of youth who had experienced physical or sexual abuse or high family conflict (high risk) as compared to other Internet users.

The First Youth Internet Safety Survey (YISS-1) was conducted in 2000 to estimate the prevalence of youth receiving unwanted sexual solicitations, harassment, and exposure to pornography on the Internet. That study found that 19% of youth surveyed had received an online request to engage in sexual activities or sexual talk or to give personal sexual information to an adult (sexual solicitation). YISS-1 identified primarily mild sexual solicitations, with a subgroup of more problematic situations that were likely to involve criminal activity because the solicitor had attempted or made offline contact with the youth such as through the telephone or regular mail (aggressive sexual solicitations). YISS-2, conducted in 2005, found that overall, online sexual solicitations had decreased to 13%, but that the prevalence of aggressive sexual solicitations was consistent over the 5-year timeframe between studies.

## METHODS

YISS-2 is a telephone survey of a national sample of 1,500 youth Internet users in the United States, ages 10 to 17, and a caregiver. The goal of the survey was to quantify and detail youth experiences with harassment, unwanted sexual solicitation, and unwanted exposure to sexual material on the Internet. Use of human subjects was approved by the University of New Hampshire Institutional Review Board and conformed to the rules mandated for research projects funded by the U.S. Department of Justice.

### *Sampling Method*

The sample for YISS-2 was drawn from a national sample of households with telephones, which was developed by random digit dialing. Schulman, Ronca, and Bucuvalas, Inc., a national survey research firm, conducted the interviews. Interviewers dialed a total of 54,842 telephone numbers to identify households with children aged 10 through 17 who had used the Internet at least once a month for the past 6 months. Using standardized definitions developed by the American Association for Public Opinion Research (2004), the response rate for YISS-2 was 45%. This rate is reflective of a general decline in response rates for national telephone surveys (Curtin, Presser, & Singer, 2005). However, this decline in participation has not influenced the validity of most surveys conducted by reputable surveying organizations (Pew Research Center, 2004).

Families with eligible children in 1,500 households completed the survey. The sample size of 1,500 was predetermined based on a maximum expected sampling error of +/- 2.5% at the 5% significance level. More details about the sampling can be found in other publications (Mitchell, Wolak, & Finkelhor, 2007; Wolak, Mitchell, & Finkelhor, 2006).

### *Data Collection Methods*

On reaching a household, interviewers asked to speak with an adult and then determined whether there was a child in the household who met the inclusion criteria (age 10 to 17 and used the Internet at least once a month for the past 6 months). Interviewers then asked to speak with the adult who was most familiar with the youth's Internet use and after providing informed consent, asked a series of questions about Internet use. At the close of the caregiver survey, the interviewer asked for permission to interview the child also. Interviewers told caregivers the youth interview would be confidential, would include questions about "sexual material your child may have seen," and that youth would receive \$10 checks for participating. In households with more than one eligible youth, the one who used the Internet the most often was chosen to participate in the interview. After receiving caregiver permission, interviewers spoke with the youth and asked for permission to conduct an interview. Interviewers assured youth that their answers would be confidential and that they could skip any question they did not want to answer and end the interview at any time.

The youth interview was scheduled at the convenience of the youth and at a time when he or she was able to talk freely and confidentially. Youth participants

were mailed \$10 checks on completion of the survey. The average youth interview lasted 30 minutes and the average caregiver interview lasted 10 minutes. Interviewing for YISS-2 took place between March 4, 2005 and June 12, 2005.

### *Sample*

Participants were youth ages 10 to 17 who had used the Internet at least once a month for the past 6 months from a computer at their home, school, a library, or any other place along with one caregiver in the household self-identified as the one most knowledgeable about the youth's Internet practices (71% female). This broad definition of Internet use was used to ensure the inclusion of youth respondents who had a range of Internet use, from relatively low to high use. Participants were ages 10 through 17 ( $M = 14.2$ ,  $SD = 2.1$ ). Half (51%) were female and three quarters (76%) self-identified as White. Almost 1 in 10 (9%,  $n = 133$ ) self-identified as Hispanic. Consistent with similar national surveys of the Internet using population (USC Annenberg School Center for the Digital Future, 2004), well educated and high-income households were over-represented in the YISS-2 sample compared to the national average (U.S. Census Bureau, 2006).

### *Measures*

*High-risk youth.* Youth were identified as high risk if they reported experiencing sexual abuse, physical abuse, or high parent conflict in the past year. Those youth who were considered victims of physical or sexual abuse answered affirmatively to one of the following questions: (a) In the last year, did a grown-up taking care of you hit, beat, kick, or physically abuse you in some other way or (b) In the last year, have you been forced or made to do sexual things by someone else, including someone you didn't know or even someone you know well. High parent conflict was derived from a composite score of three questions regarding the "adult in the household where you're living who knows the most about you." Once that person was identified, the youth was asked how often does that person "nag you," "take away your privileges," and "yell at you." These three items were used to create a composite score of parent conflict and youth with scores at least one standard deviation above the mean were identified as "high parent conflict."

*Demographic characteristics.* Demographic characteristics were collected from caregivers, including child age, gender, highest level of household education, household income, and living arrangement. Youth self-reported race and ethnicity.

*Internet use characteristics.* Youth reported on their Internet use, including the amount, type and location of use. High Internet use was operationalized using a summation score derived from a factor analysis of the following four items: high experience with the Internet, high importance of the Internet, typically spending 4 or more days per week online and spending 2 or more hours per day online. The factor analysis indicated one latent variable (Eigenvalue: 1.71, % of variance: 42.9) and a summation score ( $M: 0.41, SD: 0.31$ ) was dichotomized at 1  $SD$  above the mean to reflect a high level of Internet use.

Youth reported on whether they used the Internet for instant messaging, chat rooms, and online journaling or blogging. In addition, they were asked whether they used the Internet at home, school, a friend's home, a cell phone, or some other place. Youth were asked whether they communicated online with friends they knew in person and with people they met online but did not know in person and whether or not they had disclosed personal information (i.e., posting and/or sending real last name, telephone number, school name, home address, age or year of birth, or a picture).

Youth reported on whether or not they had engaged in sexually risky behavior online, which included sending or posting "a sexual picture of yourself," using a sexual screen name, or talking about sex online "with someone you never met in person." Youth were asked about downloading pornography and engaging in online aggressive behavior (i.e., making rude, nasty, harassing, or embarrassing comments on the Internet).

*Sexual solicitation.* Sexual solicitation was indicated if youth endorsed at least one of the following three screener questions, pertaining to the past year: (a) Did anyone on the Internet ever try to get you to talk online about sex when you did not want to? (b) Did anyone on the Internet ask you for sexual information about yourself when you did not want to answer such questions? I mean very personal questions, like what your body looks like or sexual things you have done? and (c) Did anyone on the Internet ever ask you to *do* something sexual that you did not want to do? In addition, youth who said they had an online sexual relationship with an adult were included to capture possible statutory sex crimes ( $n = 8$ ). Online relationships were considered sexual if the youth said the relationship was "sexual in any way." Aggressive solicitations were defined as sexual solicitations involving attempts or requests for offline contact, as well as offline contact by the perpetrator through regular mail, by telephone, or in person.

## Analyses

SPSS 14.0 was used for all analyses (SPSS, 2006). First, demographic and Internet use characteristics were compared for high-risk youth (those who had experienced sexual or physical abuse or experienced high parent conflict in the past year) and other youth using chi-square analyses. Second, a logistic regression model was used to develop a profile of demographic characteristics and Internet use patterns of youth who had experienced physical or sexual abuse or high family conflict (high risk) as compared to other Internet users (dependent variable = *classification of high risk versus not high risk*). Initially, a saturated model was identified using all demographic (gender, age, family structure, race and ethnicity, household education, and household income), basic Internet use (types and location of Internet use), and more problematic Internet use (high Internet use, risky behaviors online, aggressive behaviors online, and aggressive sexual solicitation) characteristics. Next, backward stepwise modeling allowed for an assessment of variables' individual contribution and nonsignificant variables were dropped. This final model provides a profile of how high-risk youth are using the Internet.

## RESULTS

### Descriptive Results

*Demographic characteristics.* Fifteen percent of youth Internet users ( $n = 233$ ) reported concurrent high family conflict or physical or sexual abuse in the past year (Table 1). Of those 233 high-risk Internet users, 87% reported high family conflict and 21% reported either physical or sexual abuse (8% sexual abuse and 13% physical abuse). These high-risk youth were older in age than other Internet users, with 87% being 13 to 17 years old as compared to 75% ( $\chi^2 = 15.996; p = .001$ ). About half were living with biological parents versus 63% of other youth ( $\chi^2 = 7.633; p = .006$ ). Twenty-three percent of those youth identified as high risk were Black as compared to 11% of other youth ( $\chi^2 = 23.591; p < .001$ ).

*Internet use characteristics.* High-risk youth differed significantly from other Internet users on several measures of Internet use and problematic Internet experiences. About one third of high-risk youth reported high levels of Internet use ( $\chi^2 = 7.236; p = .007$ ) and use of chat rooms ( $\chi^2 = 6.763; p = .009$ ) and one fifth reported blog use ( $\chi^2 = 4.925; p = .026$ ). High-risk youth were more likely to report use of the Internet at friends homes ( $\chi^2 = 6.011; p = .014$ ) and on their cell phones ( $\chi^2 = 33.744; p \leq .001$ ).

**TABLE 1: Demographic and Internet Use Characteristics of High-Risk and Other Youth**

<i>Characteristics</i>	<i>All Youth Clients (N = 1,500)</i>	<i>High-Risk Youth 15.5 % (n = 233)</i>	<i>Other Youth 84.5 % (n = 1,267)</i>
<b>Youth characteristics</b>			
Gender			
Male	49.2	45.9	49.9
Female	50.7	54.1	50.1
Age***			
10-12 years old	23	12.9	24.9
13-17 years old	77	87.1	75.1
Living with biological parents**	61.7	53.6	63.2
Race / ethnicity			
White***	76.1	67.8	77.6
Black***	12.9	22.7	11.1
Hispanic or Latino (any race)	8.9	11.6	8.4
Caregiver has college degree or higher	54.3	57.2	54.0
Household income for 2004 less than \$20,000	8.2	11.2	7.7
<b>Internet use characteristics</b>			
High Internet use**	27.1	34.3	25.8
Instant messaging use	67.8	72.1	67.5
Chat room use**	30.1	37.3	28.8
Blog use*	16.2	21.3	15.4
Use Internet at home	90.9	88.8	91.2
Use Internet at school	90.4	91.0	90.3
Use Internet at friends*	68.6	75.5	67.4
Use Internet on cell phone***	16.6	29.6	14.2
Talk with known friends	79.5	80.7	79.4
Talk with people met online***	33.9	49.4	31.1
Posted personal information online**	56.1	64.8	54.5
Sent personal information online***	26	39.5	23.5
Engaged in sexually risky behavior***	5.7	12.0	4.6
Intentionally downloaded pornography***	13.5	21.5	12.1
Engaged in online aggressive behavior***	29.6	46.8	26.4
Received aggressive sexual solicitation***	13.3	28.3	10.6

NOTE: Differences are based on chi-square tests between high-risk youth and other respondents.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

In considering problematic Internet behaviors and experiences, high-risk youth were also significantly different from other youth. Close to half of the high-risk youth talked with people they had met online as compared to 31% of other youth ( $\chi^2 = 29.268$ ;  $p \leq .001$ ). Sixty-five percent of high-risk youth posted personal information online ( $\chi^2 = 8.428$ ;  $p = .004$ ), 40% sent personal information online ( $\chi^2 = 26.071$ ;  $p \leq .001$ ), and 12% engaged in sexually risky behaviors ( $\chi^2 = 20.154$ ;  $p \leq .001$ ). About one fifth of high-risk youth had intentionally downloaded pornography ( $\chi^2 = 14.809$ ;  $p \leq .001$ ) and slightly less than half had engaged in aggressive behavior online ( $\chi^2 = 39.076$ ;  $p \leq .001$ ). Twenty-eight percent of the high-risk youth had received an aggressive sexual solicitation online as compared to 11% of other Internet users ( $\chi^2 = 53.660$ ;  $p \leq .001$ ).

#### ***How High-Risk Youth Use the Internet***

A cross-sectional profile of how high-risk youth use the Internet was identified using backward stepwise

logistic regression to estimate the odds of being high risk as compared to other Internet users. High-risk youth differed significantly from other Internet users in terms of age, race/ethnicity, use of the Internet on cell phones, talking with known friends online, engaging in aggressive online acts, and receiving aggressive sexual solicitations (Table 2). Youth between the ages of 13 and 17 were almost twice as likely (OR: 1.822) to be classified as high risk. African American youth were twice as likely to report high-risk experiences (OR 2.201). Compared with other youth Internet users, those who used the Internet on a cell phone were about twice as likely to be high risk (OR 1.830). Youth who talked with known friends online were less likely to also report concurrent high-risk experiences (OR .590). Engaging in aggressive online behaviors differentiated these two groups of youth, with those who engaged in aggressive acts being about 2 times as likely to also report high-risk experiences. Controlling for other demographic and Internet use characteristics, those youth who reported receiving an aggressive sexual

TABLE 2: Backwards Stepwise Logistic Regression Estimating Odds of Being High Risk (N = 1,500)

<i>Characteristics</i>	<i>Full Model OR (p value)</i>	<i>Reduced Model OR (p value) Step 18</i>
Youth characteristics		
Male	1.248 (.195)	
Age 13-17	1.658 (.034)	1.822 (.010)
Living with biological parents	.205 (.810)	
Race / ethnicity		
White	.758 (.223)	
Black	1.665 (.059)	2.101 (< .001)
Caregiver has college degree or higher	1.434 (.029)	1.352 (.054)
Household income for 2004 less than \$20,000	1.243 (.445)	
Internet use characteristics		
High Internet use	1.009 (.960)	
Instant messaging use	1.105 (.673)	
Chat room use	.810 (.259)	
Blog use	1.058 (.782)	
Use Internet at home	.876 (.631)	
Use Internet at school	.959 (.880)	
Use Internet at friends	1.203 (.343)	
Use Internet on cell	1.758 (.002)	1.830 (.001)
Talk with known friends	.559 (.030)	.590 (.014)
Talk with people met online	1.283 (.233)	1.380 (.057)
Posted personal information online	1.083 (.707)	
Sent personal information online	1.169 (.489)	
Engaged in online sexually risky behavior	1.086 (.781)	
Intentionally downloaded pornography	1.473 (.080)	
Engaged in online aggressive behavior	1.752 (.002)	1.854 (< .001)
Received aggressive sexual solicitation	2.242 (< .001)	2.401 (< .001)

solicitation were almost 2.5 times as likely to also indicate that they had experienced physical abuse, sexual abuse, or high parent conflict.

## DISCUSSION

Vulnerable youth tend to be at risk for victimization and life adversity offline (Finkelhor & Asdigian, 1996), and the current findings suggest this risk may carry over to the Internet as well. Such high-risk youth are almost 2.5 times more likely to report an aggressive online sexual solicitation after adjusting for other potentially confounding factors. Thus, youth who may be feeling isolated, misunderstood, depressed, or lack traditional support and guidance within the family may be more vulnerable to online solicitors. Some of the characteristics of victimized youth may influence their online safety by compromising their capacity to resist or deter victimization and thus make them more vulnerable targets for online exploiters. Because of the cross-sectional nature of these data, however, it is difficult to ascertain causality or direction. Yet, research does suggest that sexually abused children may exhibit more negative symptomology, including sexualized behaviors and poor self-esteem, than nonabused children (Kendall-Tackett et al., 1993), which may impact vulnerability to Internet risks.

Our findings indicate that adolescents are more likely classified as high risk. This may be related to features of victimization in adolescence (Finkelhor, 1995), such as more opportunity for exposure to such risks or other developmental vulnerabilities. The finding that Black Internet users were more likely to be classified as high risk is supported by literature suggesting that some groups of racial and ethnic minorities experience greater offline victimization (Turner, Finkelhor, & Ormond, 2006).

In terms of Internet use characteristics, it is notable that there were few methods of Internet use that were significantly associated with being classified as a high-risk youth. Two particular factors that emerge in this analysis, use of the Internet to talk with people met online and a decreased likelihood to communicate with friends online, may be symptoms of concurrent mental health issues or related factors. The decreased likelihood that these youth use the Internet to communicate with friends may open doors to inappropriate communications with people they do not know in person, particularly if high-risk youth have difficulty developing attachments with peers. Research suggests that secure attachment may moderate negative outcomes for youth who have experienced trauma such as child sexual abuse (Aspelmeier, Elliott, & Smith, 2007).

Further, high-risk youth are more likely to report talking to people they meet online. Talking to people met online may simply be a marker for a greater propensity to engage in interactive behaviors online and going to specific sites, like chat rooms, that place them at increased risk for solicitation. In other words, for some youth, the fact that they talk to people they meet online may be indicative of a more risky Internet use lifestyle. However, it is important to note that many of the relationships youth develop online are completely appropriate and not harmful. Many youth meet people their own age with similar interests—similar to an electronic pen-pal system. Health professionals should provide guidelines to help youth establish safe online relationships, if they are desired, but encourage parents to monitor them closely. Both parents and youth need to be aware of signs that a relationship is becoming exploitative, such as requests for pictures and requests to meet in person without a parent or guardian present.

Finally, high-risk youth were also more likely to report engaging in aggressive behavior online. Existing research suggests that youth who engage in online aggressive behavior likely encounter social, academic and other challenges (Ybarra & Mitchell, 2004). It is unclear whether vulnerable youth are more likely to engage in online aggressive acts, or if those online acts contribute to their vulnerability. It is likely that both scenarios hold some truth, with some youth engaging in aggressive acts that elicit solicitations, which in turn can result in more aggressive acts in response. Longitudinal data are crucial to understanding this interplay of actions and consequences.

### *Limitations*

Several limitations of this study deserve note. First, these data are cross-sectional so causal inferences cannot be made. Second, this analysis relies on youth self-report of physical abuse, sexual abuse, and online risks and some youth may have been hesitant to disclose such experiences in a telephone interview. Third, this study does not represent those youth who did not perceive sexualized messages or solicitations as “unwanted,” perhaps as a result of adult offenders grooming or desensitizing youth to such experiences. Many youth victims of online sex crimes report feeling in love with or having a close friendship with the offender (Wolak, Finkelhor, & Mitchell, 2004), characteristics that require different strategies for prevention, intervention, and treatment. Finally, the response rate for the study likely reflects a more general decline in respondents’ willingness to participate in telephone surveys (Curtin et al., 2005). However, national telephone surveys

continue to provide accurate data and representative samples (Pew Research Center, 2004).

### **IMPLICATIONS FOR PREVENTION**

These findings suggest an important group worth targeting for prevention, but one that may be particularly difficult to reach given the mental health concerns that are associated with physical and sexual abuse (Turner et al., 2006). Furthermore, given the likelihood of conflict in the home, creative avenues for reaching this population may be called for, such as education through peers, siblings, school personnel, or pediatric and adolescent health professionals. However, even though targeting prevention to vulnerable youth is important, not all youth who are solicited experienced offline victimization and conflict with parents, and not all youth who are troubled in these ways are sexually solicited online, so exclusively targeting high-risk youth is not sufficient. Perhaps more importantly, health professionals who hear about an unwanted sexual solicitation should be aware of this potential and probe for other victimizations and personal problems that youth may be experiencing.

Specifically, although this important group of youth may be difficult to reach through current prevention programming aimed at parents, child welfare practitioners and others working with high-risk populations may be in a unique position to bridge this gap. It is unclear whether high-risk segments of Internet using youth have received online-safety programming or if the messages that they hear are effectual. To address this issue, professionals could talk with all youth about the potential dangers associated with talking online about sex. They could stress the illegality of sexual solicitation by adults and suggest appropriate responses should such aggressive solicitations occur. Clearly, reporting aggressive solicitations to a trusted adult or law enforcement would be an ideal response, but these suggestions could also include changing e-mail accounts, ending communications which seem questionable, or other individual responses.

An additional implication is that child welfare professionals and others working with high-risk youth may be in a position to assess whether or not high-risk youth are indeed vulnerable to online sexual solicitations. In assessing risk for youth who have experienced maltreatment or high levels of conflict with parents, professionals should probe for online victimization, in addition to any offline experiences. At the same time, it is important to recognize that online sexual solicitations are, to a greater or lesser extent depending on the particular details, extensions of experiences in existence prior to the advent

of the Internet. Research suggests that for some youth, there may be no real distinction between the online and offline version of the problems, whereas for others the Internet may have introduced something qualitatively or quantitatively new in the form of increased severity, increased frequency, or some unique dynamic that requires new responses or interventions (Mitchell, Finkelhor, & Becker-Blease, 2007; Mitchell, Ybarra, et al., 2007). Regardless, the Internet is so integrated into the lives of today's youth that it is important to understand the relationship of this technology to the offline experiences and behavior we have been studying for decades so accurate and effective policy and prevention materials can be developed.

## REFERENCES

- American Association for Public Opinion Research. (2004). *Standard definitions: Final dispositions of case codes and outcome rates for surveys* (3rd ed.). Retrieved June 25, 2007, from [http://www.aapor.org/pdfs/standarddefs\\_3.1.pdf](http://www.aapor.org/pdfs/standarddefs_3.1.pdf)
- Aspelmeier, J. E., Elliott, A. N., & Smith, C. H. (2007). Childhood sexual abuse, attachment, and trauma symptoms in college females: The moderating role of attachment. *Child Abuse & Neglect, 31*, 549-566.
- Boney-McCoy, S., & Finkelhor, D. (1996). Is youth victimization related to trauma symptoms and depression after controlling for prior symptoms and family relationships? *Journal of Consulting and Clinical Psychology, 64*, 1406-1416.
- Chang, J. J., Chen, J. J., & Brownson, R. C. (2003). The role of repeat victimization in adolescent delinquent behaviors and recidivism. *Journal of Adolescent Health, 32*, 272-280.
- Curtin, R., Presser, S., & Singer, E. (2005). Changes in telephone survey nonresponse over the past quarter century. *Public Opinion Quarterly, 69*, 87-98.
- Dombrowski, S. C., LeMasney, J. W., Ahia, C. E., & Dickson, S. A. (2004). Protecting children from online sexual predators: Technological, psychoeducational, and legal considerations. *Professional Psychology: Research and Practice, 35*, 65-73.
- Finkelhor, D. (1995). The victimization of children: A developmental perspective. *American Journal of Orthopsychiatry, 65*, 177-193.
- Finkelhor, D., & Asdigian, N. L. (1996). Risk factors for youth victimization: Beyond a lifestyles/routine activities theory approach. *Violence and Victims, 11*, 3-20.
- Finkelhor, D., Ormond, R., Turner, H., & Hamby, S. L. (2005). Measuring poly-victimization using the juvenile victimization questionnaire. *Child Abuse & Neglect, 29*, 1297-1323.
- Finn, J., & Kerman, B. (2004). Internet risks for foster families online. *Journal of Technology in the Human Services, 22*(4), 21-38.
- Holt, M. K., Finkelhor, D., & Kantor, G. K. (2007). Multiple victimization experiences of urban elementary school students: Associations with psychosocial functioning and academic performance. *Child Abuse & Neglect, 31*, 503-515.
- Kendall-Tackett, K., Williams, L., & Finkelhor, D. (1993). Impact of sexual abuse on children: A review and synthesis of recent empirical studies. *Psychological Bulletin, 113*, 164-180.
- Lenhart, A., Madden, M., & Hitlin, P. (2005). *Teens and technology: Youth are leading the transition to a fully wired and mobile nation*. Retrieved May 21, 2007, from [http://www.pewinternet.org/pdfs/PIP\\_Teens\\_Tech\\_July2005web.pdf](http://www.pewinternet.org/pdfs/PIP_Teens_Tech_July2005web.pdf)
- Mitchell, K., Finkelhor, D., & Wolak, J. (2001). Risk factors for and impact of online sexual solicitation of youth. *The Journal of the American Medical Association, 285*, 3011-3014.
- Mitchell, K. J., Finkelhor, D., & Becker-Blease, K. (2007). Linking youth Internet and conventional problems: Findings from a clinical perspective. *Journal of Aggression, Maltreatment and Trauma, 15*(2), 39-58.
- Mitchell, K. J., Finkelhor, D., & Wolak, J. (2007). Youth Internet users at risk for the most serious online sexual solicitations. *American Journal of Preventive Medicine, 32*, 532-537.
- Mitchell, K. J., Wolak, J., & Finkelhor, D. (2007). Trends in youth reports of sexual solicitations, harassment, and unwanted exposure to pornography on the Internet. *Journal of Adolescent Health, 40*(2), 116-126.
- Mitchell, K. J., Ybarra, M., & Finkelhor, D. (2007). The relative importance of online victimization in understanding depression, delinquency and substance use. *Child Maltreatment, 12*, 314-324.
- Pew Research Center. (2004). *Survey experiment shows: Polls face growing resistance, but still representative*. Retrieved June 25, 2007, from <http://people-press.org/reports/pdf/211.pdf>
- SPSS. (2006). *Statistical Package for the Social Sciences*. Chicago, IL: SPSS, Inc.
- Turner, H., Finkelhor, D., & Ormond, R. (2006). The effect of lifetime victimization on the mental health of children and adolescents. *Social Science & Medicine, 62* 13-27.
- U.S. Census Bureau. (2006). *Table 3: Annual estimates of the population by sex, race and Hispanic or Latino origin for the United States: April 1, 2000 to July 1, 2005*. Retrieved August 1, 2006, from [www.census.gov/popest/national/asrh/NC-EST2005/NC-EST2005-03.xls](http://www.census.gov/popest/national/asrh/NC-EST2005/NC-EST2005-03.xls)
- USC Annenberg School Center for the Digital Future. (2004). *The digital future report. Surveying the digital future. Ten years, ten trends*. Retrieved December 17, 2007, from <http://www.digitalcenter.org/downloads/DigitalFutureReport-Year4-2004.pdf>
- Wells, M., & Mitchell, K. (2007). Youth sexual exploitation on the Internet: DSM-IV diagnosis and gender differences in co-occurring mental health issues. *Child and Adolescent Social Work Journal, 24*, 235-259.
- Wells, M., Mitchell, K., Finkelhor, D., & Becker-Blease, K. (2006). Mental health professionals' exposure to clients with problematic Internet experiences. *Journal of Technology in Human Services, 24*(4), 35-52.
- Wolak, J., Finkelhor, D., & Mitchell, K. J. (2004). Internet-initiated sex crimes against minors: Implications for prevention based on findings from a national study. *Journal of Adolescent Health, 35*, 424-433.
- Wolak, J., Mitchell, K., & Finkelhor, D. (2003). Escaping or connecting? Characteristics of youth who form close online relationships. *Journal of Adolescence, 26*, 105-119.
- Wolak, J., Mitchell, K. J., & Finkelhor, D. (2006). *Online victimization: 5 years later* (Publication No. 07-06-025). Alexandria, VA: National Center for Missing & Exploited Children.
- Ybarra, M. L., & Mitchell, K. (2005). Exposure to Internet pornography among children and adolescents: A national survey. *CyberPsychology & Behavior, 8*, 473-486.
- Ybarra, M. L., & Mitchell, K. J. (2004). Online aggressor/targets, aggressors, and targets: A comparison of associated youth characteristics. *Journal of Child Psychology and Psychiatry, 45*, 1308-1316.

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