Victimization of Youths on the Internet

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SUMMARY. The Youth Internet Safety Survey is a nationally representative study of 1501 youth, aged 10-17, who use the Internet regularly. In the past year, 19% of youth reported an unwanted sexual solicitation, 25% reported an unwanted exposure to sexual material, and 6% had been ha-

U.S. Department of Health and Human Services, Administration of Children, Youth and Families. (2002). *Child Maltreatment 2000*. Washington, DC: U.S. Government Printing Office.

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rassed online. Data suggest that youth encounter a substantial quantity of offensive episodes, and a comprehensive strategy to respond to the problem would aim to reduce the quantity of offensive behavior, better shield youth from its occurrence, increase the level of reporting, and provide more help to youth and families to protect them from any consequence. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress. com> Website: <http://www.HaworthPress.com> © 2003 by The Haworth Press, Inc. All rights reserved.]*

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INTRODUCTION

The Internet is quickly becoming an integral element in the lives of many children, adolescents, and adults. Internet use has dramatically increased throughout the entire United States population over the last several years (U.S. Department of Commerce, 2002). This increase is readily apparent among youths, a population known for enthusiastically embracing new technology. In 1998 and 2001, an increase from 4.1% to 14.3% was seen among 3-4 year olds; 16.8% to 38.9% among 5-9 year olds; 39.2% to 65.4% among 10-13 year olds; and 51.2% to 75.6% among 14-17 year olds. The Internet provides youths with many exciting experiences, including education, entertainment, and communication, opportunities that this population readily embraces. A great majority of teens (12-17 years old) use the Internet to communicate, with 92% reporting sending or reading e-mail, 74% sending Instant Messages, and 55% visiting chat rooms (Lenhart, Raine, & Lewis, 2001). Many also go online to gather information. Sixty-nine percent use the Internet to look for information on hobbies, 68% for news, 66% to research a product or service before buying it, 47% check sports scores, 26% look for health information, and 18% look for information on a topic that is hard to talk about. Finally, youths also use the Internet for entertainment, with 84% surfing the Web for fun, 83% visiting entertainment sites, 66% playing or downloading games, and 59% listening to music.

Unfortunately, the Internet can also be a tool for bothering, harassing, and/or committing crimes against children. It is not uncommon to

hear media reports of youths being sexually solicited or harassed online or having easy access to pornography, whether they want it or not. These occurrences have led to a concern among families, professionals, and policy makers, leading them to question what can be done to help protect youth from these types of situations. The first step toward a complete understanding of youth and their experiences and safety online is to get a get a complete picture of what youth experience and how often.

The present study, funded by the U.S. Congress through the National Center for Missing & Exploited Children, was developed to address this issue. The Youth Internet Safety Survey (YISS) relies upon interviews with youths and parents about experiences using the Internet. Specifically, it provides a base national estimate of how many youths (aged 10-17) experienced unwanted exposure to sexual material, sexual solicitations, and harassment on the Internet "in the past year." The study also examines characteristics of the youths, perpetrators, incidents, and impacts of such experiences, along with household rules and concerns.

This study does not seek to contradict or lessen the benefits the Internet can offer, but it does draw attention to the potential dangers associated with its use. The Internet is certain to continue to play a large role in the lives of Americans, specifically children and adolescents. Therefore, it is important to highlight the need for private and public initiatives to raise awareness and provide solutions.

METHODS

Participants

The Youth Internet Safety Survey,[1] sponsored by the National Center for Missing & Exploited Children, conducted telephone interviews between August 1999 and February 2000 to gather information from a national sample of 1501 young people (796 boys and 705 girls), ages 10-17, who were regular Internet users. Table 1 details the demographic characteristics of the sample. In the survey "regular" Internet use was defined as "using the Internet at least once a month for the past six months on a computer at home, school, a library, someone else's home, or some other place." The researchers chose this definition to exclude "occasional" Internet users and, at the same time, to include a range of both "heavy" and "light" users. Prior to each youth interview, a shorter interview was conducted with a parent or guardian in the household. Thus, the study was able to determine regular Internet use by youth initially by ques-

TABLE 1. Youth and Household Characteristics[†] ($N = 1501$)

Characteristic	% All Youth
Age of youth	
• 10	4%
• 11	8%
• 12	11%
• 13	15%
• 14	16%
• 15	18%
• 16	17%
• 17	13%
Sex of youth	
• Male	53%
• Female	47%
Race of youth	
• Non-Hispanic White	73%
• Black or African American	10%
• American Indian or Alaska Native	3%
• Asian	3%
• Hispanic White	2%
• Other	7%
• Don't know/Refused	2%
Marital status of parent/guardian	
• Married	79%
• Divorced	10%
• Single/Never married	5%
• Living with partner	1%
• Separated	2%
• Widowed	2%
Youth lives with both biological parents	64%
Highest level of completed education in household	
• Not a high school graduate	2%
• High school graduate	21%
• Some college education	22%
• College graduate	31%
• Post college degree	22%
Annual household income	
• Less than $20,000	8%
• $20,000 to $50,000	38%
• $50,000 to $75,000	23%
• More than $75,000	23%
Type of community	
• Small town	28%
• Suburb of large city	21%
• Rural area	20%
• Large town (25,000 to 100,000)	15%
• Large city	14%

[†] All the data in this table are based on questions asked of the parent/guardian with the exception of the information on race.
Note: Categories that do not add to 100% are due to rounding and/or missing data.

tions to the parent or guardian, before confirming this regularity during the youth interview.

The survey sample does not represent all youths within the United States because Internet use was not evenly distributed among the population during the time period in question. Internet users tended to have higher incomes and more education than non-Internet users, and among lower income groups, Internet users were more likely to be White, although racial difference was disappearing at higher income levels (National Public Radio, 2000). However, the sample is representative of the population of *Internet-using youths* in the United States and can therefore be used to extrapolate population estimates to this population (see Appendix A).

Procedures

Households with children in the target age group were identified through another much larger household survey, the Second National Incidence Study of Missing, Abducted, Runaway, and Thrownaway Children (NISMART 2), conducted by the Institute of Survey Research at Temple University between February and December 1999. This was a random digit dial sample of United States household phone numbers randomly generated using GENESYS, a commercial database maintenance and retrieval system (Hammer, Finkelhor, & Sedlak, 2002). NISMART 2 interviewers screened more than 180,000 telephone numbers to identify 16,000 households with children aged eighteen and younger. Telephone numbers for households including young people aged nine through seventeen were forwarded to interviewers for the YISS.

Staff of the experienced national survey research firm Schulman, Ronca, and Bucuvalas, Inc., conducted interviews for the YISS. They first screened for regular Internet use by a child in the household aged 10-17. In doing so, they defined Internet use itself as "connecting a computer or a TV to a phone or cable line to use things like the World Wide Web and e-mail." The interviewers identified the children who used the Internet most often in the household and then asked to speak with the parents or guardians who knew the most about these children's Internet use. They then conducted short interviews with these individuals about household rules and parental concerns about Internet use, as well as about demographic characteristics. Finally they asked permission to speak with the previously identified youths. The interviewers assured parents and guardians of the confidentiality of the interviews, told them that young participants would receive checks for $10, and in-

formed them frankly that the interviews would include questions about "sexual material your child may have seen."

With parental consent, the interviewers described the study to the children and obtained their verbal consent. The subsequent youth interviews lasted about half an hour. They were scheduled at the convenience of youth participants and arranged for times when they could talk freely and confidentially. Researchers constructed questions that invited mostly short, one-word youth responses that would not reveal anything meaningful to persons overhearing any portions of the conversations. Where the study required longer answers, they were prefaced with the statement, "This may be something private. If you feel you can talk freely, or move to a place where you can talk freely, please tell me what happened." The interviewers did not press youths for answers. They promised complete confidentiality and told them that they could skip any questions that they did not want to answer and could stop the interview at any time. As promised, youth respondents received checks for $10, as well as brochures about Internet safety.

RESULTS

Participation Rate

In total, 6594 household phone numbers were forwarded from the NISMART-2 survey to YISS researchers. All of these numbers were dialed. No contact was made with 3148 (47.7%) of the households, including un-active residential phone numbers at the time of the survey, households with a non-English-speaking caregiver or a caregiver that was unavailable for an extended period of time, and households that did not answer the phone or were in call-back status at the end of the data collection period. Of the 3446 households where contact was made, 874 (25.4%) refused to screen for the study. Seventy-five percent of these households ($N = 2572$) completed the eligibility screen for the study. The majority of households qualified for study participation, representing 72% ($N = 1857$) of those screened. Eighty-two percent ($N = 1501$) of eligible households completed the survey (Finkelhor, Mitchell, & Wolak, 2000). The 18% of eligible households that did not participate are as follows: 5% of parents in eligible households refused to complete the adult questionnaire, 11% completed the interview and then refused to allow their child to participate, 2% of youth refused to participate af-

ter the adult had granted permission, and 1% of eligible households were in 'call-back' status when the survey period ended.

Patterns of Youth Internet Use

Of the 1501 youths interviewed, nearly three-quarters (74%) had access to the Internet at home. Youths also used the Internet in a number of other locations, including school (73%), other households (68%), and public libraries (32%). The great majority (86%) used the Internet in more than one location. At the time of the interviews, most youths (76%) had last used the Internet during the previous week, with 10% reporting Internet use in the previous two weeks and 14% in the previous month or more. In a typical week 29% spent one day or less online, 40% used the Internet two to four days, and 31% went online five to seven days. Sixty-one percent of the interviewed youth spent one hour or less online on a typical day when they used the Internet, with 26% spending one to two hours and 13% spending more than two hours in a typical day.

Overall Incidence of Online Victimization

· The study asked youths about unwanted sexual solicitations or approaches, unwanted exposures to sexual material, and harassment during the year prior to the interview. Figure 1 shows the incidence of each type of online victimization.

FIGURE 1. Online Victimization in the Past Year
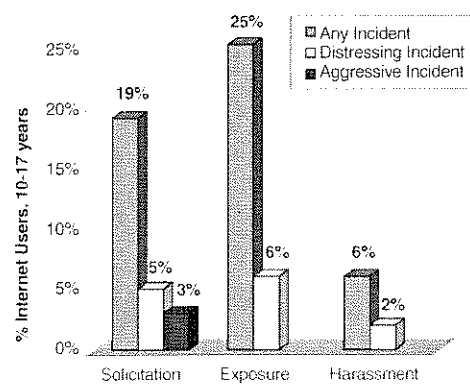
Sexual Solicitation and Approaches

With so many young people socializing on the Internet, a key law-enforcement concern has been the access and anonymity that the Internet gives to persons who might want to exploit youths sexually. The YISS confirms that large numbers of youths are sexually propositioned online, although such propositions do not always come in the form of the most frightening law-enforcement stereotypes. Namely, these stereotypes often involve youths who meet an adult stranger on-line, meet them in person, and are subsequently sexually assaulted.

To assess the problem of sexual exploitation on the Internet, the survey asked youths about four kinds of potentially dangerous online incidents: (1) sexual approaches, when "someone on the Internet tried to get them to talk about sex when they did not want to" or "asked for sexual information about them when they did not want to answer such questions, very personal questions like what their body looked like or sexual things they had done"; (2) sexual solicitations from people online who "asked them to do something sexual they did not want to do," such as asking them to engage in "cybersex"; (3) close friendships formed online with adults, including those involving sexual overtures; and (4) encouragements by people they met online to run away, a ploy apparently favored by some individuals looking for vulnerable youth. In the context of these questions, sexual solicitations and approaches were defined as "requests to engage in sexual activities or sexual talk or to give personal sexual information that were *unwanted or*, whether wanted or not, *made by an adult* " (see Appendix B for further details).

According to this definition, the survey determined that approximately one in five of the youths interviewed (19%) had received an unwanted sexual solicitation or approach in the previous year. Not all of these episodes were disturbing to the recipients; however, 5% of youths (one in four of those solicited) reported a solicitation that left them feeling very or extremely upset or afraid; the study termed these cases *distressing incidents.*

In order to assess solicitations that appeared to pose a higher risk to youths based on their potential to carry over into offline contact, the study identified *aggressive sexual solicitations*, defined as "solicitations involving *offline contact* with the perpetrator through regular mail, by telephone, or in person, or attempts or requests for offline contact." Three percent of youths (one in seven of all the solicitations) reported these more serious aggressive sexual solicitations.

Unwanted Exposure to Sexual Material

While it is easy to access pornography on the Internet, what makes the Internet appear particularly risky to many parents is the impression that young people can encounter pornography there inadvertently. It is common to hear stories about children researching school reports or looking up movie stars and finding themselves subjected to offensive depictions or descriptions.

To assess the problem of unwanted exposure to sexual material, the survey asked youths about two kinds of online experiences: (1) while "conducting an online search or surfing the web, finding themselves in a website that showed pictures of naked people or of people having sex when they did not want to be in that kind of site"; and (2) "opening an e-mail or Instant Message or a link in a message that showed them actual pictures of naked people or people having sex that they did not want." In the context of the survey, *unwanted exposure to sexual material* was defined thus: "without seeking or expecting sexual material, being exposed to pictures of naked people or people having sex when doing online searches, surfing the web, opening e-mail or e-mail links" (see Appendix B for further details).

One quarter (25%) of the surveyed youths had at least one such unwanted exposure to pictorial sexual material in the previous year. Seventy-one percent of these exposures occurred while the youths were searching or surfing the Internet, and 28% occurred while they were opening e-mails or clicking on links in e-mail or Instant Messages. Because exposure to sexual images, even when unwanted, is not necessarily offensive, the study designated a category of *distressing exposures* to identify specific situations in which youths found an exposure to such materials very or extremely upsetting. Six percent of youths reported *distressing exposures* to sexual material on the Internet in the previous year.

Harassment

Although less publicized than sexual solicitation and unwanted exposure to sexual material, other threatening and offensive behaviors have been directed on the Internet to youths, including threats to assault or harm them, their friends, their families, or their property and efforts to embarrass or humiliate them. Once again, the concern of parents and other officials is that the anonymity of the Internet may make it a fertile territory for such behaviors.

To assess the problem of harassment on the Internet, the survey asked youths about two kinds of incidents: (1) "feeling worried or threatened because someone was bothering or harassing them on-line"; and (2) "having someone using the Internet to threaten or embarrass them by posting or sending messages about them for other people to see." Accordingly, the study defined *harassment* as "threats or other offensive behavior (not sexual solicitations) sent online to the youth or posted online for others to see" (see Appendix B for further details).

Six percent of youths were the targets of threats or other kinds of offensive behavior that we termed harassment. A third of these youths, or 2% of the total sample, reported *distressing incidents*, that is, harassment that left them feeling very or extremely upset or afraid.

### Targets of Victimization

Youth Targets for Sexual Solicitations

Girls were targeted for sexual solicitation at almost twice the rate of boys (66% versus 34%), but, given that girls are often thought to be the exclusive targets of sexual solicitation, the sizable percentage of boys is important (see Figure 2). More than three quarters of targeted youth (77%) were age fourteen or older (see Figure 3). Only 22% were ages 10-13, but this younger group reported 37% of the distressing episodes, suggesting that younger children have a harder time shrugging off such solicitations.

Youth with Unwanted Exposures to Sexual Material

Unlike the sexual solicitation incidents mentioned above, boys were slightly more likely to have experienced an unwanted exposure to sexual material than girls (57% to 42%) (see Figure 2). Nearly two-thirds (63%) of unwanted exposure incidents occurred to youths fifteen years of age or older (see Figure 3). Eleven- and twelve-year-olds accounted for 7% of the unwanted exposures, while none of the ten-year-olds reported unwanted exposures. The somewhat greater exposure of boys may reflect their tendency to allow curiosity to draw them closer to such encounters. However, the relatively small difference should not be over-emphasized. Nearly a quarter of both boys and girls had such exposures.

FIGURE 2. Target Gender by Type of Online Victimization
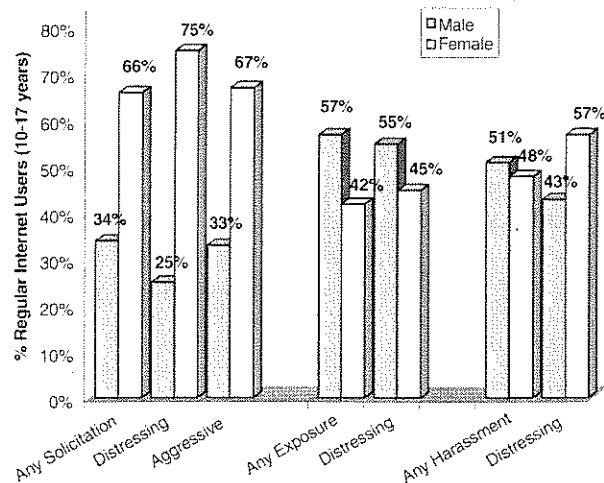
Youth Targets for Harassment

Boys and girls were targeted about equally for harassment (51% and 48%) (see Figure 2). Seventy percent of the episodes occurred to youth fourteen and older (see Figure 3). Eighteen percent of targeted youths were ages ten, eleven, or twelve.

Perpetrators of Victimizations

Perpetrators of the Sexual Solicitations

It must be kept in mind that, given the anonymity the Internet provides, individuals may easily hide or misrepresent themselves. This information gathered about perpetrators was derived from the self-reports of youths; thus, no substantiated reports of perpetrator characteristics are available. Further, virtually all perpetrators of sexual solicitation (97%) were persons that the youths originally met online, so it is possible that the reality of who these perpetrators were might be different from that reported here.

Adults were responsible for 24% of sexual solicitations and 34% of the aggressive solicitations (see Figure 4). Most of the adult solicitors

FIGURE 3. Target Age by Type of Online Victimization
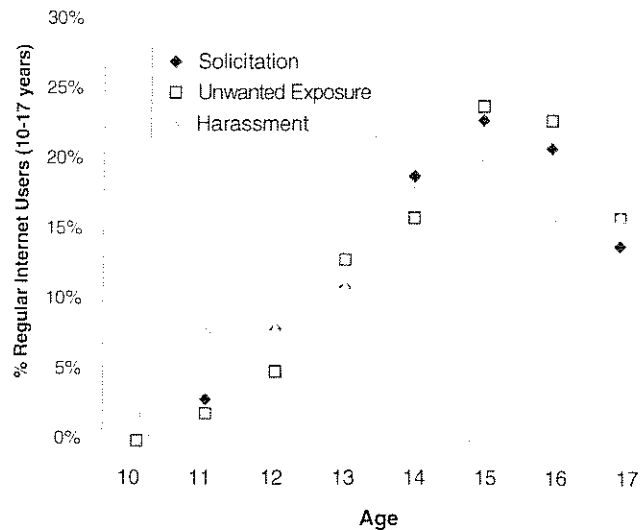
were reported to be ages 18-25, with only about 4% of all solicitors known to be older than twenty-five. Juveniles made up 48% of the overall and 48% of the aggressive solicitations. Slightly more than two-thirds of the solicitations and approaches came from males, while one-quarter of the aggressive episodes came from females (see Figure 5). In 13% of instances, the youth knew where the solicitors lived. Youths stated that the solicitors lived nearby (within an hour's drive or less) in only 4% of incidents.

As the study demonstrates, few of the sexual trawlers on the Internet fit the media stereotype of an older, male predator. Many are young, and some are women. In a large percentage of cases (27%), youths did not know the ages of the persons making the overtures. And in 13% of cases, they did not know the genders. In almost all of the cases in which the youths gave ages or genders for perpetrators, they had never met the perpetrators in person, thus leaving the accuracy of the identifying information in question.

Perpetrators of Harassment

More than one quarter of the perpetrators of harassment (28%) were offline friends or acquaintances of the targeted youth. A majority (54%)

FIGURE 4. Perpetrator Age by Type of Online Victimization
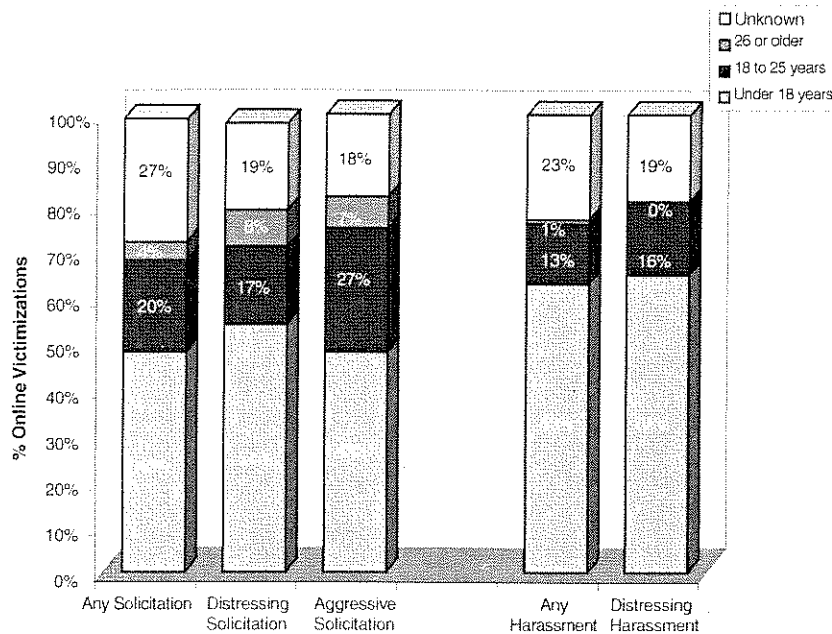
were reported to be males, but 20% were reportedly females (see Figure 5). In 26% of instances, the gender of the perpetrators was unknown. Nearly two-thirds (63%) of harassment perpetrators were other juveniles (see Figure 4). Almost a quarter of harassment perpetrators (24%) lived near the youths (within an hour's drive). In distressing episodes, 35% of perpetrators lived near the youths. In contrast to the sexual solicitation episodes, in which only 3% of perpetrators were known to the youths offline, approximately one quarter of the harassment episodes involved known persons and persons living relatively close to the youths.

Characteristics of Victimizations

Solicitation Incident Characteristics

Based on the descriptions given to interviewers, many of the sexual propositions appear to be solicitations for "cybersex," which is a form of fantasy sex involving interactive chatroom sessions in which the participants describe sexual acts and sometimes disrobe and masturbate. In

FIGURE 5. Perpetrator Gender by Type of Online Victimization
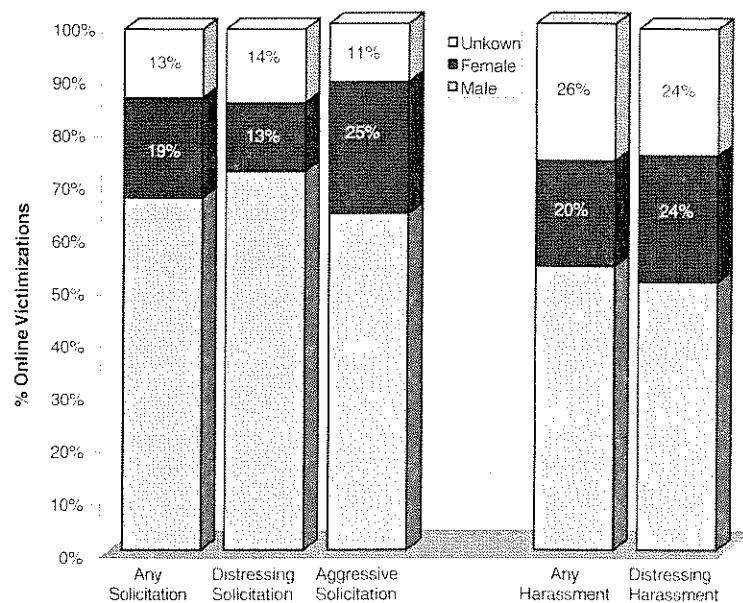
70% of the sexual solicitation incidents, the youths were at home when they were solicited, and in 22% of incidents they were at other people's homes (see Table 2). In 65% of incidents, the youths met the persons who solicited them in chatrooms; in 24% of episodes the meetings occurred through Instant Messages. In 10% of incidents, the perpetrators asked to meet the youths somewhere. Six percent of the youths received regular mail, 2% received telephone calls, and 1% received money or gifts. In one instance, a youth received a travel ticket. The study labeled all such incidents as aggressive solicitations. In most incidents, the youths ended the solicitations, using a variety of strategies like logging off, leaving the sites, or blocking the persons who made the solicitations.

Exposure Incident Characteristics

Ninety-four percent of the unwanted images seen by the youths consisted of naked persons (see Table 3). Thirty-eight percent showed people having sex, and 8% involved violence in addition to nudity and/or sex. Most of the unwanted exposures (67%) occurred at home, but 15% occurred at school, and 3% in libraries. Unfortunately, the study did not

TABLE 2. Solicitation Incident Characteristics

Episode Characteristics	All Incidents (N = 293)	Aggressive Incidents (N = 44)	Distressing Incidents (N = 72)
Gender of solicitor			
• Male	67%	64%	72%
• Female	19%	25%	13%
• Don't know	13%	11%	14%
Age of solicitor			
• Younger than 18 years	48%	48%	54%
• 18 to 25 years	20%	27%	17%
• Older than 25 years	4%	7%	8%
• Don't know	27%	18%	19%
Relation to solicitor			
• Met online	97%	100%	96%
• Knew in person before incident	3%	-----	3%
Incidents in which youth knew where person lived	**13%**	**29%**	**17%**
• Person lived near youth (1 hour drive or less)	4%	11%	7%
Location of computer when incident occurred			
• Home	70%	66%	51%
• Someone else's home	22%	27%	36%
• School	4%	2%	5%
• Library	3%	5%	4%
• Some other place	1%	-----	1%
Place on Internet that incident first happened			
• Chat room	65%	52%	60%
• Using Instant Messages	24%	36%	26%
• Specific web page	4%	7%	7%
• E-mail	2%	2%	1%
• Game room, message board, newsgroup, or other	3%	-----	2%
• Don't know/refused	2%	2%	1%
Forms of offline contact[†,‡]			
• Asked to meet somewhere	10%	66%	20%
• Sent regular mail	6%	39%	9%
• Called on telephone	2%	14%	4%
• Came to house	< 1%	2%	-----
• Gave money, gifts, or other things	1%	5%	1%
• Bought plane, train, or bus ticket	< 1%	2%	-----
• None of the above	84%	-----	70%
How situation ended			
• Logged off computer	28%	25%	35%
• Left site	24%	16%	22%
• Blocked perpetrator	14%	25%	17%
• Told them to stop	13%	11%	5%
• Changed screen name, profile, or E-mail address	5%	13%	13%
• Stopped without youth doing anything	4%	9%	5%
• Called police or other authorities	1%	2%	3%
• Other	20%	20%	18%

[†] Multiple responses possible.
[‡] Only youths who did not know the solicitors prior to the incidents were asked this question (N = 284 for all incidents, N = 44 for aggressive incidents, and N = 70 for distressing incidents).
Note: Categories that do not add to 100% are due to rounding and/or missing data.

establish how many of the exposures involved child pornography. Important as this question is, the researchers had decided that youth respondents could not reliably determine the ages of individuals appearing in the pictures that they viewed.

For the youths who encountered the unwanted material while surfing the web, it came up as a result of searches (47%), misspelled addresses (17%), and links in web sites (17%). For youths who encountered the

TABLE 3. Exposure Incident Characteristics

Episode Characteristics	All Incidents (N = 393)	Distressing Incidents (N = 92)
Location of computer		
• Home	67%	61%
• School	15%	16%
• Someone else's home	13%	16%
• Library	3%	3%
• Some other place	2%	3%
Type of material youth saw or heard[†]		
• Pictures of naked person(s)	94%	92%
• Pictures of people having sex	38%	42%
• Pictures that also included violence	8%	9%
How youth was exposed		
• Surfing the Web	71%	72%
• Opening E-mail or clicking on E-mail link	28%	30%
Youth could tell site was X-rated before entering	17%	12%

Surfing Exposure	All (N = 281)	Distressing (N = 66)
How web site came up		
• Link came up as result of search	47%	36%
• Misspelled web address	17%	18%
• Clicked on link when in other site	17%	24%
• Other	15%	18%
• Don't know	3%	3%
• Youth has gone back to web site	2%	-----
• Youth was taken into another X-rated site when exiting the first one	26%	33%

E-mail Exposure	All (N = 112)	Distressing (N = 26)
• Youth received E-mail at a personal address	63%	58%
• E-mail sender unknown	93%	96%

[†] Multiple responses possible.
Note: Categories that do not add to 100% are due to rounding and/or missing data.

TABLE 4. Harassment Incident Characteristics

Episode Characteristics	All Incidents ($N = 96$)	Distressing Incidents ($N = 37$)
Gender of harasser		
• Male	54%	51%
• Female	20%	24%
• Don't know	26%	24%
Age of harasser		
• Younger than 18 years	63%	65%
• 18 to 25 years	13%	16%
• Older than 25 years	1%	-----
• Don't know	23%	19%
Relation to harasser		
• Met online	72%	65%
• Knew in person before incident	28%	35%
Incidents in which youth knew where person lived	**35%**	**43%**
• Person lived near youth (1 hour drive or less)	24%	35%
Location of computer[†]		
• Home	76%	81%
• Someone else's home	13%	5%
• School	6%	5%
• Library	1%	3%
• Some other place	2%	3%
• Wasn't using computer[‡]	2%	3%
Place on Internet that incident first happened		
• Using Instant Messages	33%	41%
• Chat room	32%	22%
• E-mail	19%	22%
• Specific web page	7%	8%
• Game room, message board, newsgroup, other	6%	5%
• Don't know	2%	3%
Forms of Offline Contact[‡,£]		
• Sent regular mail	9%	4%
• Asked to meet somewhere	6%	4%
• Called on telephone	4%	-----
• Came to house	1%	-----
• Gave money, gifts, or other things	1%	-----
• Bought plane, train, or bus ticket	-----	-----
• None of the above	88%	96%
How situation ended		
• Logged off	19%	22%
• Blocked that person	17%	11%
• Left site	13%	16%
• Told harasser to stop	11%	16%
• Stopped without youths doing anything	10%	11%
• Changed screen name, profile, or E-mail address	3%	3%
• Called police or other authorities	2%	-----
• Other	27%	22%

[†] These youths had information posted about them online by other people.
[‡] Multiple responses possible.
[£] Only youths who did not know the harassers prior to the incidents were asked this question ($N = 69$ for all incidents and $N = 24$ for distressing incidents).
Note: Categories that do not add to 100% are due to rounding and/or missing data.

material through e-mail, 63% of unwanted exposures came to addresses used solely by the youths. In 93% of instances, the sender was unknown to the youth.

In 17% of all unwanted exposure incidents, the youths said that they did know the sites were X-rated before entering them (these were all encounters described earlier as unwanted or unexpected). This group of episodes was not distinguishable in any fashion from the other 83% of episodes, including the likelihood of being distressing. Almost half of these incidents (48%) were disclosed to parents. It is not clear to what extent it was curiosity or just navigational naiveté that resulted in the opening of the sites in spite of the prior knowledge.

Pornography sites are often programmed to make them difficult to exit. In fact, in some sites the exit buttons take viewers into other sexually explicit sites. In 26% of unwanted exposure incidents, youths reported that they were brought to other sex sites when they tried to exit the sites they were in. This happened in one-third of distressing incidents.

Harassment Incident Characteristics

Slightly more than three quarters of the youths who reported harassment incidents were logged on at home when the harassments occurred (see Table 4). These harassments primarily took the form of Instant Messages (33%), chat room exchanges (32%), and e-mails (19%). Twelve percent of the harassment episodes involving perpetrators who were not face-to-face acquaintances of the youths included attempts at offline contact by telephone or regular mail or requests to meet in person.

Youth Disclosure

Youth Disclosure of Online Sexual Solicitations

In almost half of the incidents (49%), the youths did not tell anyone about the episodes; even when the episodes were aggressive, youths did not tell in 36% of incidents (see Figure 6). In 24% of incidents, the youths disclosed the incidents to parents, and in 29%, to friends or siblings. Only 10% of incidents were reported to authorities, such as teachers, Internet service providers, or law-enforcement. Even with aggressive episodes, only 18% were reported to authorities.

It is remarkable that so few episodes of sexual solicitation, even those that were quite distressing, prompted the youths to confide in other persons or to make reports to authorities. This phenomenon
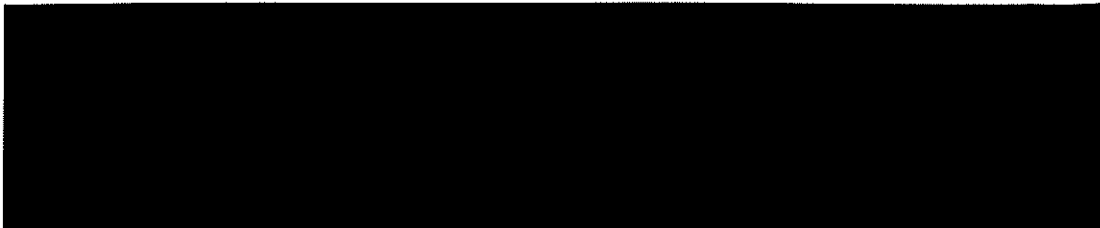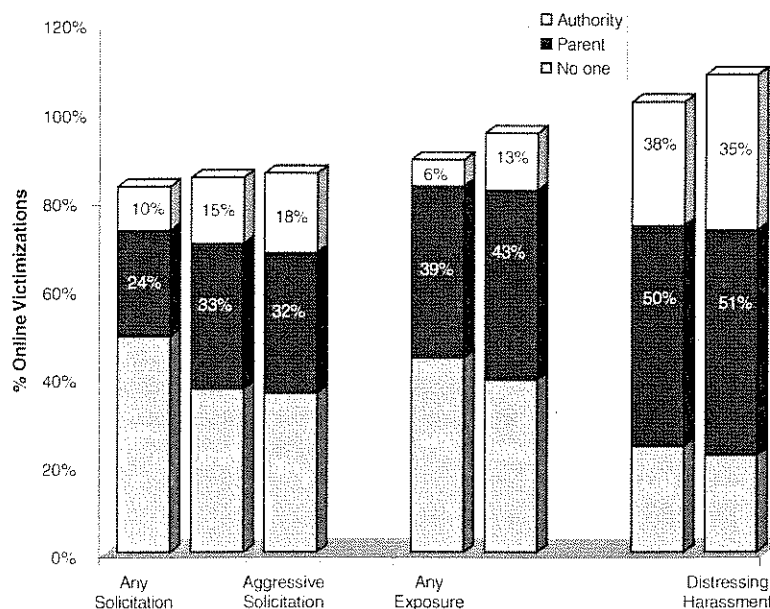
FIGURE 6. Youth Disclosure by Type of Victimization

may reflect the fact that in some cases the youths were not alarmed. Others probably did not know or doubted that anything could be done. But the response may also reflect embarrassment or shame because the youths may have believed they had gone into places on the Internet of which parents, law-enforcement, or even friends would disapprove. Some may also have been concerned that their access to the Internet would be restricted if they told parents about such incidents.

Youth Disclosure of Unwanted Exposure to Sexual Materials

Parents found out or were told in 39% of the episodes of unwanted exposure to sexual materials (see Figure 6). In 44% of incidents, youths disclosed the episodes to no one. In only a few cases were authorities notified, most frequently teachers or school officials (3% of incidents) and Internet service providers (3%). Only 2% of youths encountering unwanted exposures said that they returned later to the

sites of the exposures. None of the youths with distressing exposures returned.

The fact that so many youths did not disclose the incidents of exposure to anyone, including friends, even to laugh about them or talk about them as adventures, is noteworthy. This phenomenon probably reflects some degree of guilt on the part of many youths.

Youth Disclosure of Harassment

Parents found out or were told about episodes of harassment half the time (see Figure 6). Slightly more than a third of youths told friends. Twenty-one percent of the episodes were reported to Internet service providers, 6% to teachers, and 1% to law enforcement agencies. Twenty-four percent of harassment incidents were undisclosed. It is noteworthy that, compared to sexual solicitations and exposures, a larger proportion of the harassment episodes were reported to parents and to authorities.

Impact of Victimizations

Impact of Solicitations on Youths

In 75% of incidents, youths had no or only minor reactions, saying that they were not very upset or afraid in the wake of the solicitations (see Figure 7). However, in 20% of incidents, youths reported being very or extremely upset, and in 13% they reported being very or extremely afraid. In 36% of the aggressive solicitations, youths were very or extremely upset and in 25% very or extremely afraid. In 17% of incidents, youths were very or extremely embarrassed. This was true in 32% of aggressive incidents. In one quarter of the incidents, youths reported at least one symptom of stress (staying away from the Internet; not being able to stop thinking about the incident; feeling jumpy or irritable; and/or losing interest in things) "more than a little" or "all the time." The aggressive episodes were more distressing, with at least one symptom of stress reported in 43% of such episodes. Seventeen percent of the youths who were solicited had five or more symptoms of depression at the time they were interviewed, twice the rate of depressive symptoms in the overall sample.

Most of the youths who were solicited appeared to brush off the encounters, treating them as minor annoyances. Nonetheless, there was a core group of youths who experienced high levels of "upset" and/or "fear" and for whom the experience may have provoked stress responses. It is reassuring that most solicited youths were not affected, but given

the estimated large proportions that were solicited, the group with strongly negative reactions is quite substantial (see Appendix A).

Impact of Exposure

Twenty-three percent of youths were very or extremely upset by exposures to sexual material (see Figure 7). This figure amounts to 6% of regular Internet users. Twenty percent of youths were very or extremely embarrassed. Twenty percent reported at least one symptom of stress "more than a little" or "all the time" following the incident (staying away from the Internet; not being able to stop thinking about the incident; feeling jumpy or irritable; and/or losing interest in things).

Impact of Harassment

Thirty-one percent of the harassment episodes were very or extremely upsetting, and 19% were very or extremely frightening (see Figure 7). Eighteen percent were very or extremely embarrassing. Al-

FIGURE 7. Impact by Type of Victimization
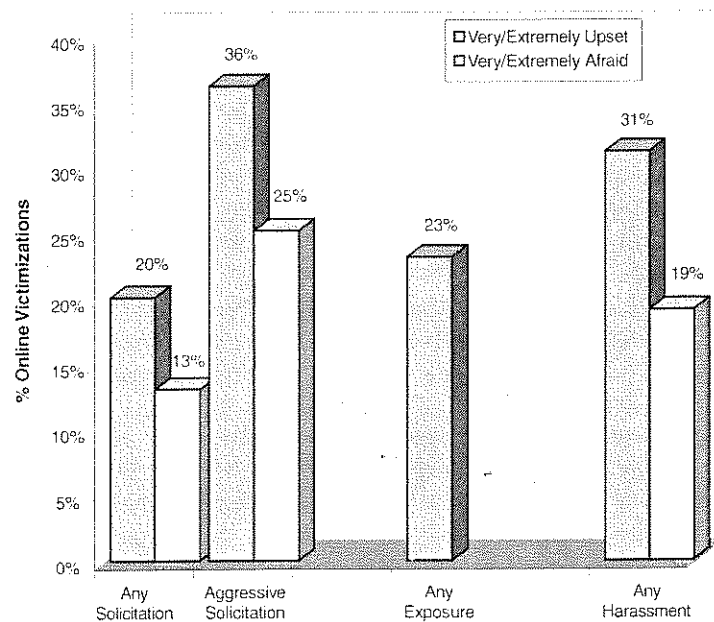
most one-third of the harassed youths (32%) reported at least one symptom of stress "more than a little" or "all the time" following the incident (staying away from the Internet; not being able to stop thinking about the incident; feeling jumpy or irritable; and/or losing interest in things). Almost one half of the youths with distressing experiences had at least one symptom of stress. Eighteen percent of the harassed youths were depressed at the time of their interview, more than twice the rate for the overall sample. Most of the harassed youths described the episodes as mildly distressing, but an important subgroup was quite distressed.

Youth at Risk for Internet Victimization

Youth at Risk for Sexual Solicitation

Identifying the vulnerable population of youths is an important first step in the development of effective prevention and intervention programs surrounding online sexual solicitations. Logistic regression findings from these data (Mitchell, Finkelhor, & Wolak, 2001) suggest that youths at risk tend to be troubled,[2] older (14-17) female teens who use the Internet more often than others,[3] enter chat rooms, talk with strangers online, engage in high online risk behaviors,[4] and use the Internet in households other than their own (see Figure 8). These findings suggest that troubled youth and youth with high Internet use and risk behavior may be at increased risk for victimization and are worth targeting for prevention efforts. Yet caution needs to be taken not to focus exclusively on these groups of youths: 42% of youths reporting sexual solicitations were *not* troubled high-rate or risky Internet users.

Youth at Risk for Unwanted Exposure to Sexual Materials

An important step necessary to inform the national debate about policies regarding youths and Internet pornography is to identify youths at risk for unwanted exposure to sexual materials on the Internet. Published findings from a logistic regression analysis from the present dataset reveal that these youths are similar to those at risk for sexual solicitation: They are typically troubled, older (ages 14-17) teens who use the Internet more frequently than others, use e-mail and chat rooms, use the Internet in households other than their own, talk with strangers online, and engage in high online risk behavior (Mitchell, Finkelhor, & Wolak, 2003) (see Figure 9). Again, as is the case with youths at risk for online sexual solicitation, we must take caution not to create too narrow a focus on youths who are troubled and have high and risky Internet use:
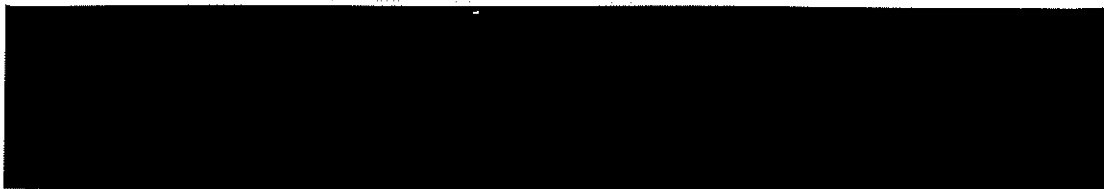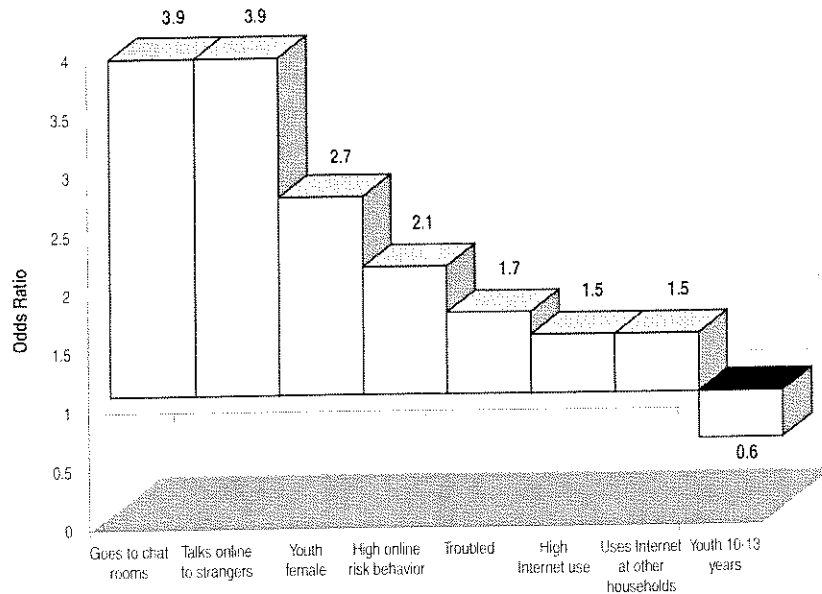
FIGURE 8. Risk Factors for Unwanted Sexual Solicitation

In the cases of unwanted exposure, nearly half (45%) of youths report-ing exposure were *not* troubled high-rate Internet users or high online risk takers.

Risks and Remedies

Our lack of knowledge about the dimensions and dynamics of the problems this new technology has created for young people is, of course, a barrier to devising effective solutions. But even in the absence of knowledge, there has been no dearth of suggestions about things to do. Parents have been urged to supervise their children and talk with them about perils and dangers, and organizations have been established to monitor and investigate suspicious episodes. Have any of these reme-dies been taken to heart?

The survey asked a variety of questions of both parents and children ·to find out more about the prospects for prevention. The study tried to determine to what degree parents are monitoring and advising their children about Internet activities and asked about parents' and youths'

FIGURE 9. Risk Factors for Unwanted Exposure to Sexual Materials
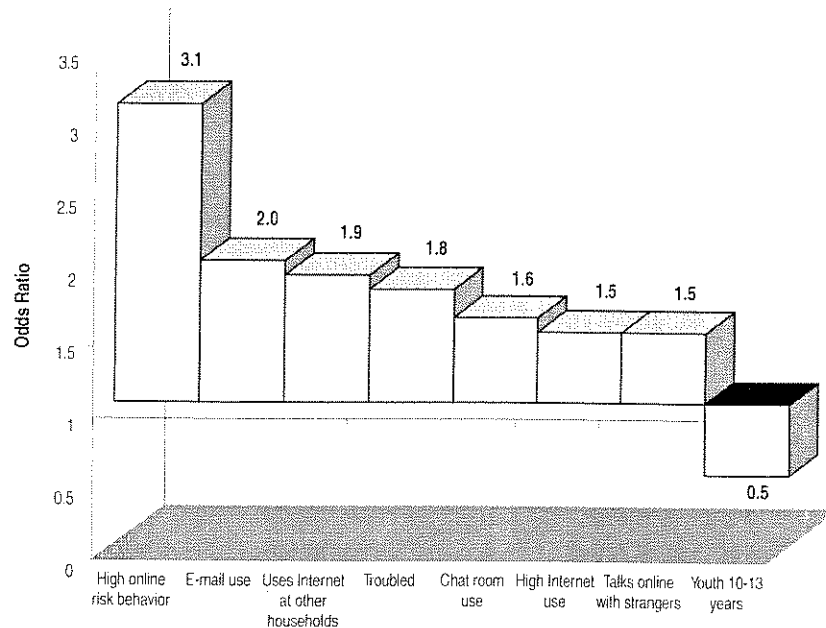
knowledge about what remedies or information sources are available for them when they run into problems.

Parental Concern

Parents and youth both believed that adults should be concerned about the problem of young people's exposure to sexual material on the Internet. As might be expected, parents thought adults should be more concerned than youths thought adults should be, with 84% of parents saying that adults should be extremely concerned, compared to 46% of the youths (see Figure 10). Some inflation of concern might be expected in a survey with this topic, but other surveys confirm that this an issue of substantial immediacy for parents and youths (e.g., Turow, 2000).

Use of Filtering and Blocking Software

Thirty-three percent of households surveyed were currently using filtering or blocking software at the time of the interviews (see Figure 11).

FIGURE 10. Parental Concern About Youth Online Exposure to Sexual Materials
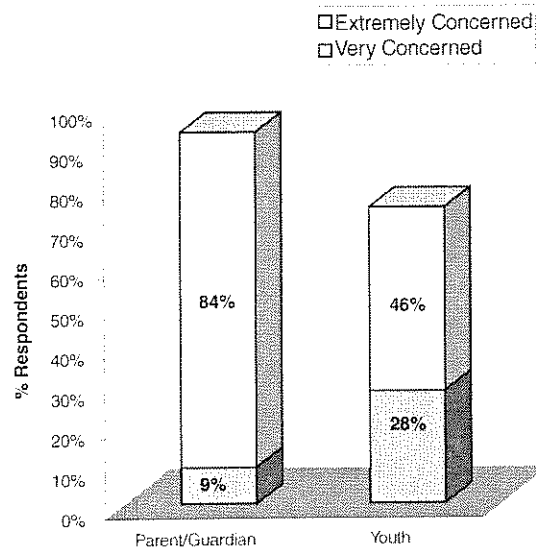
The most common option used by far is the access control offered by America Online (AOL) to its subscribers, used by 12% of the households with home Internet access, or 35% of households using filtering or blocking software. Interestingly, another 5% of the households in the sample had used some kind of filtering or blocking software during the year but were no longer doing so, a statistic suggesting some possible dissatisfaction with its use.

Knowledge of Help Sources

As noted earlier, youths reported relatively few of the Internet episodes (solicitations, unwanted exposures to sexual material, or harassment) to official sources. One possibility is that youths and their families are not familiar enough with places that are interested in or receptive to such reports. Almost a third of the interviewed parents or guardians claimed that they had heard of places where troublesome Internet episodes could be reported, but only approximately 10% of them could cite specific names or authorities (see Figure 12). Only 24% of youths stated that they had heard of places to report, and only 17%

FIGURE 11. Family Use of Filtering and Blocking Software
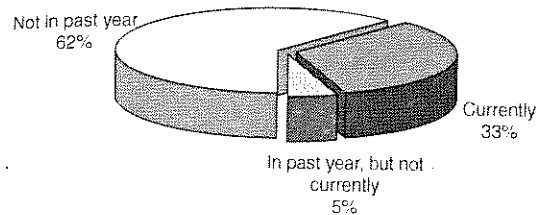
could actually name such places (see Figure 13). Reporting the episodes to the Internet service providers, most often AOL, was the option most often considered.

DISCUSSION

By providing more texture and details to the picture of the cyber-hazards facing youth, the national Youth Internet Safety Survey has much to contribute to current public policy discussions about what to do to improve the safety of young people (see Appendix C for study limitations). What follows are some key conclusions and recommendations based on the important findings from the study:

   1. *A large percentage of youths appear to be encountering offensive experiences on the Internet.*

The percent of youths encountering offensive experiences (19% solicited sexually, 25% exposed to unwanted sexual material, 6% harassed) are figures for one year only. The number of youths encountering such experiences from the time that they start using the Internet until they are 17, which might include five or more years of Internet activity, would certainly be higher.

   2. *The offenses and offenders seem even more diverse than previously thought.*

The perpetrators highlighted in this study were not merely adult males trolling for sex. Much of the offending behavior came from other youths. There was also a substantial amount committed by females. In

FIGURE 12. Has Parent Heard of Places to Report Internet Victimization?

No
69%

Yes
31%

Yes, but don't
remember name
20%

Internet Service
Provider
3%

FBI < 1%
Safe Surf < 1%
Cyber Angels < 1%
Cyber Tipline < 1%

Other
7%
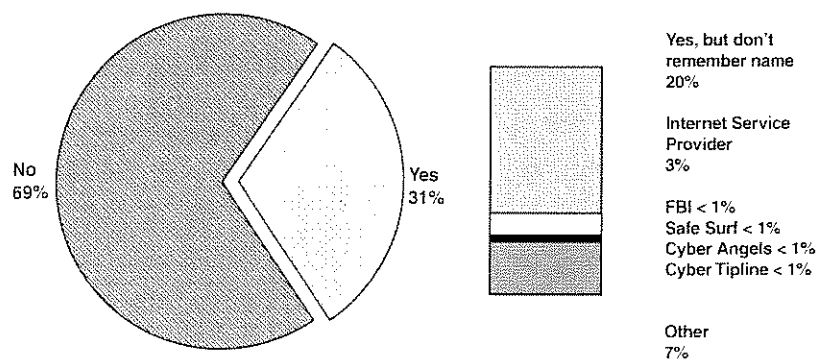
FIGURE 13. Has Youth Heard of Places to Report Internet Victimization?

No
76%

Yes
24%

Yes, but don't
remember name
7%

Internet Service
Provider
9%

FBI 1%
Cyber Angels < 1%
Cyber Tipline < 1%

Other
9%
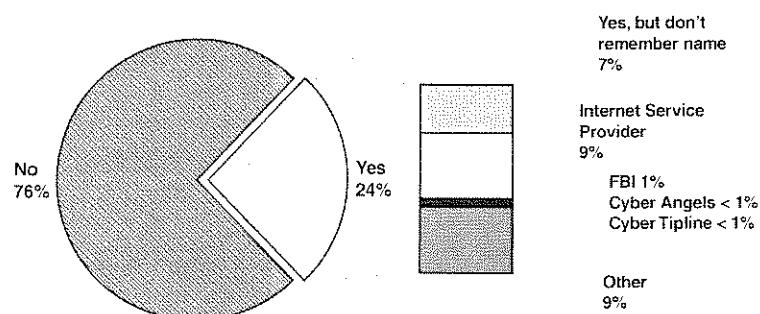
addition, the non-sexual offenses (e.g., harassment episodes) were numerous and quite serious. We need to keep this diversity in mind. Sexual victimization on the Internet should not be the only thing that grabs public attention.

3. *Most sexual solicitations fail, but their quantity is potentially alarming.*

Based on current Internet use statistics, we estimate that 4.5 million young people ages 10-17 are propositioned on the Internet every year. If even some small percentage of these encounters results in offline sexual

assaults or illegal sexual contact, a percentage smaller than we could detect in this survey, it would amount to several thousand incidents. The good news is most young people seem to know what to do to deflect these sexual "come-ons." But there are youths who may be especially vulnerable through ignorance, neediness, disability, or poor judgment. The wholesale solicitation for sex on the Internet is worrisome for that reason.

4. *The primary vulnerable population is teenagers.*

For solicitations, as well as unwanted exposures to sexual materials and harassment, most of the targets identified in the survey were teens, especially teens fourteen and older. Because children and teenagers are different victim populations, it is thus misleading to say that child molesters are moving from the playground to the living room, trading in their trench coats for digicams, as some have characterized it. Pre-teen children use the Internet less, in more limited ways (Richardson, 1999; Roberts, Foehr, Rideout, & Brodie, 1999), and are less independent. It does not appear that much predatory behavior over the Internet involves conventional pedophiles targeting eight-year-old children with their modems, at least not yet. Because the target population for this Internet victimization is teens, prevention and intervention present a different sort of challenge. Teens are more independent, and they do not necessarily listen to what parents and other "authorities" tell them.

5. *The sexually explicit material on the Internet is very intrusive.*

Great numbers of youthful Internet users are exposed to sexually explicit materials when they are not looking for them, through largely innocent misspellings and opening of e-mails, web sites, and other documents. These explicit materials on the Internet are not discretely segregated and signposted, as in a bookstore, and they are not easy to avoid. Some graphic imagery is easy to stumble upon; youths can come across it inadvertently while searching for other materials.

6. *Most youths brush off these offenses, but some are quite distressed.*

Most youths are not bothered much by what they encounter on the Internet, but there is an important subgroup who are quite distressed by the exposure, as well as the threats and solicitations. We cannot assume that this distress is merely a transient effect. Intrusive thoughts, physical discomfort, and other stress symptoms reported by youths are warning

signs. The residual effects of distressing Internet encounters, which are hard to predict, may depend partly on variables like age, prior experience—both with the Internet and with sexual matters—family attitudes, the degree of surprise, and the kinds of exposure. Anticipating and trying to respond to negative impacts is something that needs more consideration.

7. *Many youths do not tell anyone about their encounters on the Internet.*

Nearly half of the sexual solicitations were not disclosed to anyone. Parents, who would certainly want to know, are not being informed about many of these episodes. And some youth are not even telling their friends. Thus, they are not getting chances to reflect upon, process, or get ideas about how to deal with these encounters.

Some of the non-disclosure in cases of sexual solicitation is certainly due to embarrassment or guilt, as the higher disclosure rates for nonsexual encounters suggest. The Internet is providing places to talk about difficult subjects, but, ironically, at the same time it may be increasing the number of difficult subjects to talk about.

8. *Youth and parents rarely report these experiences and do not often know where to report them.*

Most parents and youths interviewed by the survey did not know where to report or get help for Internet offenses, and the low rate of reporting for actual offenses confirms this lack of awareness. Even the most serious episodes were rarely reported. Because the Internet is new territory, most people do not yet know who the policing authorities are; this may, in fact be part of the attraction. But victims and their parents need to know how to get help, and people perpetrators do need to know that there are consequences.

IMPLICATIONS AND RECOMMENDATIONS

Some recommendations follow from these major findings and conclusions:

1. *Those concerned about preventing sexual exploitation on the Internet need to talk specifically in their materials about the di-*

*versity of hazards, including threats from youthful and female of-
fenders.*

A stereotype of the adult Internet "predator" or "pedophile" has
come to dominate much of the discussion about Internet victimization.
While such figures exist and may be among the most dangerous of
Internet threats, the YISS revealed a more diverse array of individuals
who are making offensive and potentially exploitative online overtures.
We should not ignore them. We have to remember that in a previous gen-
eration, campaigns to prevent child molestation characterized the threat
predominately as "playground predators" so that for years the problem of
youthful, acquaintance, and intrafamily perpetrators went unrecognized.
One of the reasons for the mistaken characterization of child molesters
in an earlier era was that people extrapolated the problem entirely from
what came to the attention of law enforcement. A similar process could
currently be underway in the case of Internet victimization, but it is
probably early enough to reverse. Today, those concerned with prevent-
ing Internet exploitation must be careful not to make, consciously or in-
advertently, a characterization of the threat that fails to encompass all of
its forms.

2. *Prevention planners and law enforcement officials need to ad-
   dress the problem of non-sexual, as well as sexual, victimization
   on the Internet.*

An additional problem with the "Internet predator" stereotype men-
tioned above is that it does not give enough attention to non-sexual
forms of Internet victimization. The current study shows that non-sex-
ual threats and harassment constitute another common peril for youth
that can be as distressing as, or even more distressing than, sexual over-
tures. Experience in crime prevention has shown that concerns about
sexual threats often eclipse other equivalently serious crimes. Those
who would prevent Internet victimization should make a concerted ef-
fort to ensure that non-sexual threats and harassment are included
among the Internet safety agenda of educators, mental health practitio-
ners, legislators, and law enforcement agencies.   _

3. *More of the Internet-using public need to know about the exis-
   tence of help sources for Internet offenses, and the reporting of of-
   fensive Internet behavior needs to be made even easier, more
   immediate, and more important.*

Multiple strategies are needed to increase reporting. The Internet-using public needs to be made aware of reporting options in as many ways as possible, through the Internet as well as through other avenues. The public also needs to be briefed on the reasons why they should make such reports and on the importance of keeping the Internet a safe and comfortable place for everyone to use. Although people balk at being tattle-tales, citizen vigilance and community involvement have been traditional keys to community safety; the same community involvement would serve Internet safety interests as well.

4. *Different prevention and intervention strategies need to be developed for youth of different ages.*

Most of the encounters reported to the current study occurred to teenagers, specifically older teens. The threat, then, differs from conventional child molestation, and the potential victims differ from the 7-13-year-old targets of this kind of molestation. Older teens have more independence, more experience, and different relationships with adults and their families. For example, advice telling parents to check the Internet and e-mail activity of older teens regularly may amount to saying that parents should read their teens' mail, and such invasions of privacy will seem unrealistic in many families. Good protection strategies, especially for teens, cannot rely too heavy-handedly on parental control; they should, instead, invite the youth themselves to develop prevention strategies in conjunction with those offered by parents and other authorities.

5. *Youths themselves need to be mobilized in campaigns to help clean up the standards of Internet behavior and take responsibility for youth-oriented parts of the Internet.*

Much has been learned over the years about reducing crime, social deviance, and public disorder in communities. For example, greater community policing and cleaning up of minor kinds of neighborhood disorder and decay have helped reduce crime. Crime-watch campaigns that deputize and empower community members to be on the watch for crime have worked to reduce theft. In the field of education, school revitalization campaigns have had similar success in improving decorum and reducing anti-social behaviors in school communities. We should adapt the same kinds of initiatives to the Internet, which, after all, is itself a community, albeit one with special properties. We might, for example, apply the experi-

ences of those trying to prevent sexual harassment in the larger world by launching campaigns to raise awareness about Internet threats and their effects, and help youths themselves enforce proper conduct among peers. Because such youth-oriented campaigns might have some success with at least some forms of Internet victimization, and they may well be worth a try.

6. *We need to train mental health, school, and family counselors about these new Internet hazards and about how these hazards contribute to personal distress and other psychological and interpersonal problems.*

The current study revealed that substantial numbers of young people do experience distress because of Internet encounters. Unfortunately, in most cases, these youths are not getting help. Mental health and other counselors need to learn to be alert and ask questions to induce young people to talk about such encounters. They need to know how young people use the Internet, so that they can understand their problems; they also need to be trained to treat the kinds of distress and conflicts that have connections with negative Internet experiences. Educational packages for schools and for the professional development of all kinds of youth workers would help inform counselors about the threats and suggest methods for intervention. Unfortunately, at the training conferences being offered today, most of the Internet education seems directed at law enforcement. We need to develop workshops for educators, practitioners, psychologists, and social workers as well.

7. *Much more research is needed on the developmental impact of unwanted exposure to pornographic images among children of different ages.*

The Internet is almost certainly increasing the frequency and the explicitness of unwanted exposures to sexual images, but even more importantly, it is certainly increasing the number of youths exposed involuntarily and unexpectedly. Although this topic has commanded some public attention, to date there has been little research on it. And even if the vast majority of such encounters are trivial or innocuous, it would be important to know under what conditions such encounters can be influential or stressful and what kinds of interventions are useful to preventing negative influence. The domain of influences could be broad, including attitudes about sex, attitudes about the Internet itself, and fam-

ily dynamics. Studying these matters in an ethical and dispassionate way is not easy, but it can be done. We should make it a priority to do so.

8. *More understanding is needed about families' knowledge of, attitudes about, and experience with filtering and blocking software.*

The study found that only a minority of families with children was using blocking or filtering software, even though most interviewed parents said that adults should be very or extremely concerned about the problem of Internet victimization. Blocking and filtering software is one main line of defense available to families concerned about the problem. It is, in fact, the one being strongly advocated by people opposed to legislative solutions. Why, then, is it not being used more?

The lack of filtering or blocking software use may reflect a lack of knowledge about its availability, suspicions about its utility, or the unsuitability of such software in the context of real family dynamics and Internet use practices. For example, the introduction of such software may provoke conflicts between adults and youth or at least excite fears about such conflicts. It is interesting that 5% of the families interviewed during the survey had used filtering or blocking software in the past year and then discontinued its use.

Before recommending that more families utilize such software, we should know more about its operation and suitability. If a lack of knowledge is the problem, then education and awareness can be the answer. If the software does not suit the concerns of families or is difficult to use in real family contexts, then new designs or approaches may be needed. We need detailed, real-life evaluation research about available Internet blocking and filtering technologies.

9. *Laws are needed to ensure that offensive acts that are illegal in other contexts will also be illegal on the Internet.*

Some of the offensive behaviors revealed in this study–especially sexual solicitations by adults of minors and some of the threatening harassment–are probably illegal under current law. But questions have been raised about whether and how various criminal statutes apply to Internet behavior because most law was written prior to the development of the Internet. Although it is a daunting task, criminal statutes need to be reviewed systematically with the Internet in mind to make sure that relevant statutes cover Internet behaviors.

10. *Concern about Internet victimization should not eclipse preven-tion and intervention efforts to combat other conventional forms of youth victimization.*

This study has revealed how many offensive and distressing experiences youths encounter on the Internet. But Internet victimization has not become, nor is it threatening to become, the most serious crime peril in children's lives, just the newest. Among the regular Internet users in the survey, 30% had been physically attacked in real life by other youths in the last year, 1% had been physically abused by an adult, and 1% had been sexually assaulted (see Bruhn, this volume). As far as the study could determine, however, none of these serious offenses had any connection with the Internet. And none of the Internet threats documented by the study actually materialized into a face-to-face violent offense. Certainly we need to mobilize about Internet victimization because it is a new threat that causes distress, that could mushroom, and that could otherwise escape attention. But the conventional crime perils in the lives of children and youth are all too real and continuing. As reported by the National Crime Victimization Survey, youth the age of the respondents in the YISS have conventional violent crime victimization rates—rape, robbery, and aggravated assault—that are twice that of the adult population (Hashima & Finkelhor, 1999). Children and adolescents are the most criminally victimized segment in our society. So, as much as possible, efforts to address Internet victimization should try to combine with, and not displace, efforts to prevent youth crime victimization in general.

NOTES

1. The survey was conducted under the supervision of the University of New Hampshire's Institutional Review Board and conformed to the rules mandated by research projects funded by the U.S. Department of Justice.

2. *Troubled* is a composite variable that includes items from a negative life event scale (death in the family, moving to a new home, parents' being divorced or separated, and/or parents losing a job); from the physical and sexual assault items on a victimization scale; and from a depression scale (five or more depression symptoms in the past month). Those with a composite value of one standard deviation above the mean or higher were coded as having this characteristic, while the rest were coded as zero.

3. *High Internet use* is a composite variable consisting of high experience with the Internet (4 or 5 on a scale of 1 to 5); high importance of Internet in child's life (4 or 5 on a scale of 1 to 5), spending four or more days online in a typical week; and spending two or more hours online in a typical day. Youths with a composite value one standard deviation above the mean or higher were considered high Internet users.

4. *High online risk behavior* is a composite variable of the following dichotomous activities pertaining to behavior online: posting personal information; making rude or nasty comments; playing a joke on or annoying someone; harassing or embarrassing

someone; talking about sex with someone the youth never met in person; and going to X-rated sites on purpose. Youths with a composite value two standard deviations above the mean or higher were considered high online risk takers.

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APPENDIX A. Prevalence of Internet Use

Estimates of the prevalence of regular Internet use for youth ages ten through seventeen were created from data gathered during eligibility screening for the survey. These data allowed for the calculation of numbers and ages of children in households that screened out of the survey as having no Internet use, as well as numbers and ages of children in households that screened into the survey. National estimates of regular Internet use by age are presented in Table Appendix A.1 below. The middle column in the table represents the percentage of youth in the U.S. in each age group who used the Internet regularly in 1999, based on the screening for this survey. The estimated number of Internet users in column three was derived by multiplying the percentage of Internet users in each age group by the 1999 census figures for the population for that age group (not shown). Population estimates for specific online victimizations of youth are provided in Table Appendix A.2. See the box titled "How Many Youth Had Online Episodes" for information about the limitations of these estimates.

TABLE Appendix A.1. National Estimates of Regular Internet Use by Age[1]

AGE	% INTERNET USERS	ESTIMATED # INTERNET USERS[2]
10 years old	52%	2,100,000
11 years old	64%	2,490,000
12 years old	77%	2,970,000
13 years old	81%	3,150,000
14 years old	79%	3,080,000
15 years old	86%	3,270,000
16 years old	83%	3,260,000
17 years old	87%	3,490,000
TOTAL		23,810,000

[1] Confidence intervals were not calculated for these figures.
[2] Estimates are rounded to the nearest ten thousand.

TABLE Appendix A.2. Population Estimates and Confidence Intervals for On-line Victimization of Youth[1]

Online Victimization	% Regular Internet Users	95% Confidence Interval	Estimated Number of Youth[2]	95% Confidence Interval[2]
Sexual Solicitations and Approaches				
• Any	19%	17% - 21%	4,520,000	4,050,000 - 4,990,000
• Distressing	5%	4% - 6%	1,190,000	930,000 - 1,450,000
• Aggressive	3%	2% - 4%	710,000	510,000 - 910,000
Unwanted Exposure to Sexual Material				
• Any	25%	23% - 27%	5,950,000	5,430,000 - 6,470,000
• Distressing	6%	5% - 7%	1,430,000	1,140,000 - 1,720,000
Harassment				
• Any	6%	5% - 7%	1,430,000	1,140,000 - 1,720,000
• Distressing	2%	1% - 3%	480,000	310,000 - 650,000

[1] Estimates and confidence intervals are based on an estimated number of 23,810,000 regular Internet users between the ages of 10 and 17.

How Many Youth Had Online Episodes?

Because this sample of youth was designed to be representative of all regular Internet users ages ten through seventeen in the U.S., it is tempting to try to translate percentages from this survey into actual numbers or population estimates. For example, the 19% of the sample who experienced a sexual solicitation or approach in the last year can be multiplied against our estimate that 23.81 million youth between ten and seventeen are regular Internet users to yield a population number of 4.52 million youth who might have had such an episode.

However, this precision can be somewhat misleading. Sample surveys have margins of error, which are described in scientific terms as "95% confidence intervals." These confidence intervals express the range of numbers within which the "true" number is likely to fall in 95 out of 100 attempts to estimate it with a sample of this size. So in this sample of 1501, it is 95% likely that the true number of youth experiencing a sexual solicitation or approach in the previous year falls in a range that could be almost half a million youth more or less than our estimate of 4.52 million. These ranges are provided for seven of the major episode types in Table Appendix A.2. Unfortunately, in this case the imprecision for such estimates is compounded by the fact that the figure for regular Internet users is **also** an estimate with its own margin of error (not calculated for this report) and not a number obtained from an actual census count.

Thus, because both the parameters needed to make a population estimate have large elements of imprecision and because population estimates can take on an aura of exactitude that is sometimes misleading, we have in this report followed the convention with most social scientific surveys of this size and reported the results primarily in terms of percentages (in this case of regular Internet users). We recommend this approach to other interpreters of this survey.

## APPENDIX B. Definitions and Instrumentation

The aspects of youth online victimization that this study focused on were sexual solicitations and approaches, unwanted exposure to sexual materials, and harassment. The incidence rates for sexual solicitation, unwanted exposure to sexual materials, and harassment were estimated based on a series of screener questions about unwanted experiences while using the Internet. Two of the screeners concerned harassment, four involved unwanted exposure to sexual materials, three focused on sexual solicitation, and one asked if anyone online had encouraged the youth to run away from home. More extensive follow-up questions were asked about up to two of the unwanted incidents per youth, and these follow-up questions were used to classify the reported episodes further into the categories reported on in this chapter.

Follow-up questions were limited to only two reported incidents because of time constraints. Consequently, some incidents reported by young people were not followed up upon, and these were omitted from incidence rates. If a youth reported more than one incident in a particular category, the follow-up questions referred to the "most bothersome" incident or, if none was "most bothersome," the most recent incident. The limits on follow-up questions probably led to some undercounting of incidents, particularly episodes of unwanted exposure to sexual materials.

APPENDIX C. Limitations of the Study

Every scientific study has limitations and defects. Readers should keep some of these important things in mind when considering the findings and conclusions of this study:

1. We cannot be certain how candid our respondents were. Although we used widely accepted social science procedures, our interviews involved telephone conversations with young people on a sensitive subject, a factor that could easily result in less-than-complete candor.

2. The young people to whom we did not talk may be different from the youth we talked to. There were parents who refused to participate or refused to allow us to talk to their children, and there were youth who refused to participate, and those we could never reach. Our results might have been different if we had been able to talk to all these people.
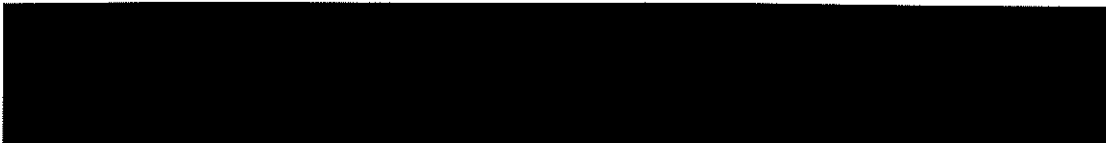
Appendix D. Recommended Resource Materials

1. The National Center for Missing & Exploited Children (www.missingkids.org) provides materials and maintains an online reporting system, the CyberTipline, at www.cybertipline.com, for reporting online victimizations.

2. Federal Bureau of Investigation's Innocent Images Program: www.fbi.gov/hq/cid/cac/innocent. htm.

3. Information and Resources about the Commission on Online Child Protection (COPA): www.COPAcommission.org.

4. National Resource Council project on tools and strategies for protecting kids from pornography: http://www4.nas.edu/cpsma/cstb/itas.nsf.

5. Internet Safety Education for Parents and Youth: www.getnetwise.com.

6. CyberAngels: Internet Safety Organization: www.cyberangels.org.