Current Research Knowledge About Adolescent Victimization via the Internet

Janis Wolak, JD\textsuperscript{a,\ast}, Michele L. Ybarra, MPH PhD\textsuperscript{b},
Kimberly Mitchell, PhD\textsuperscript{a}, David Finkelhor, PhD\textsuperscript{a}

\textsuperscript{a}Crimes Against Children Research Center, University of New Hampshire, 10 West Edge Drive, Durham, NH 03824, USA
\textsuperscript{b}Internet Solutions for Kids, Inc, 1820 East Garry Avenue, No. 105, Santa Ana, CA 92705, USA

In this article we review current knowledge about Internet-mediated victimization of youth, particularly as it relates to adolescents. One section addresses Internet-initiated sex crimes and online sexual solicitations, and 3 shorter sections address Internet harassment, risky online behavior, and exposure to online pornography. Although we use the term “victimization,” many of the experiences we discuss do not rise to the level of criminal incidents, and many are not disturbing to the youth who are affected. For instance, 13\% of youth Internet users interviewed in 2005 had been subjected to unwanted sexual solicitations in the previous year, but many of these incidents were mild and many solicitors were other youth.\textsuperscript{1} Nonetheless, some solicitors are online child molesters who use the Internet to seek victims.\textsuperscript{2} Internet harassment is beginning to be acknowledged as a form of bullying that, although generally not criminal, can be emotionally distressing.\textsuperscript{3} Most online exposures to pornography among youth are not criminal events, but their impact could be serious, at least among certain vulnerable youth.\textsuperscript{4}

We present an overview of related research, much of which was conducted by us at the Crimes Against Children Research Center (CCRC) at the University of New Hampshire. The CCRC research includes the National Juvenile Online Victimization (N-JOV) Study,\textsuperscript{†} which is the only research to date that has

\textsuperscript{\ast}Corresponding author.
\textit{E-mail address:} Janis.Wolak@unh.edu (J. Wolak).
\textsuperscript{†}In the N-JOV Study, researchers surveyed by mail a national sample of 2574 federal, state, and local law enforcement agencies about cases that involved Internet-related sex crimes against minors in which offenders were arrested during the 12 months after July 1, 2000. Researchers then conducted >600 interviews with investigators about specific cases, including those that involved Internet-initiated sex crimes, child pornography, and solicitations of undercover investigators who posed online as minors. (Data collection on a second N-JOV Study to examine changes in the rates and dynamics of such cases began in the spring of 2007.)
examined the characteristics of Internet-related sex crimes by interviewing law enforcement investigators. The N-JOV Study shed light on the prevalence and dynamics of online sex crimes in which offenders were arrested by law enforcement, as well as the characteristics of victims and offenders. CCRC research also included the first and second Youth Internet Safety Surveys (YISS-1 and YISS-2), which were telephone interviews with separate national samples of youth Internet users. These studies examined youth experiences with unwanted online sexual solicitations, exposure to pornography and harassment, and related personal Internet use and psychosocial characteristics.

INTERNET-INITIATED SEX CRIMES

Media stories about "online predators" who use the Internet to gain access to young victims have become a staple of news reports since the late 1990s, when youth Internet use became widespread. Much of the publicity about these cases has depicted online child molesters who use the Internet to lure children into sexual assaults. These online molesters stereotypically portrayed by the media lurk in Internet venues that are popular with children and adolescents. They contact victims by using deception to cover up their ages and sexual intentions, tricking victims into giving out identifying information, or using information divulged in online profiles and social-networking sites. They then entice unknowing victims into meetings or stalk and abduct them. Some news reports suggest that law enforcement is facing an epidemic of sex crimes perpetrated through a new medium by a new type of criminal. However, the reality about Internet-initiated sex crimes (those in which child molesters meet victims online) is different, more complex, and possibly less frightening than the publicity about them suggests.

Research makes it clear that the stereotype of the online child molester who uses trickery and violence to assault children is inaccurate. The N-JOV Study found that most Internet-initiated sex crimes involve adult male offenders who use the Internet to meet and seduce adolescents into sexual encounters. The offenders use chat rooms, instant messages, and e-mail to meet potential victims. In the great majority of cases, victims are aware that they are conversing online with adults. The offenders seldom pretend to be other teens. In the N-JOV Study, only 5% of online molesters deceived victims this way. Online molesters also rarely deceive victims about their sexual interests. Sex is usually broached online, and most victims who meet offenders face-to-face go to such meetings expecting to engage in sexual activity. The offenders use Internet communications to develop intimacy with victims, many of whom profess to be in love with

‡Media reports, Internet-safety information, and law enforcement agencies have been using the term Internet or online "predator" to describe offenders who use the Internet to meet victims. We prefer the term "online child molester" to emphasize that most of them are not violent, and their crimes do not constitute a new type of sexual abuse but, rather, follow familiar patterns of seduction.
or feel close to their offender. When deception does occur, it often involves promises of love and romance by offenders whose intentions are purely sexual. Many victims meet face-to-face with offenders for sex more than once. Most offenders are charged with crimes such as statutory rape that involve nonforcible sexual activity with victims who are too young to consent to sexual intercourse with adults. Violence by online child molesters is rare; 5% of N-JOV Study offenders committed violent crimes, mostly rape and attempted rape.

**Are Internet-Initiated Sex Crimes a New Form of Child Sexual Abuse?**

Media reports and Internet-safety messages about Internet predators often suggest that online meetings between adults and youth that develop into sex crimes constitute a new type of child sexual abuse. Although a new medium for communication is involved, nonforcible sex crimes such as statutory rape are not new or uncommon. All states have laws that deem youth below a specific age (16 years in most states) too young to consent to intercourse.\(^9\)\(^,\)\(^10\) Statutory rape is nonforcible by definition. In general, offenders seduce their victims. However, the degree of willingness among youthful victims may vary considerably.\(^10\)\(^-\)\(^12\) These nonforcible sex crimes constitute a substantial proportion of sex crimes against minors. Analyses of crime-report data suggest that 25% of sex crimes against minors reported to police involve statutory rape, numbering an estimated 15,700 reports across the United States in 2000.\(^13\)

**How Much Are Internet-Initiated Sex Crimes Contributing to Statutory Rape?**

There were \(~6,594\) arrests nationwide for statutory rape in 2000.\(^13\) During about the same time period (July 1, 2000, to June 30, 2001) federal, state, and local law enforcement agencies made an estimated 500 arrests for Internet-initiated sex crimes, \(~95\%\) of which were nonforcible.\(^2\)\(^-\)\(^5\) This suggests that Internet-initiated sex crimes may have accounted for \(~7\%\) of statutory rapes. This proportion of arrests has almost certainly grown since 2000 as Internet use has become more widespread and more law enforcement agencies have been trained to respond to Internet-related crimes. In the context of global risk assessment, however, these numbers indicate that Internet-initiated sex crimes account for a noticeable but small proportion of statutory rape offenses and a relatively low number of the sexual offenses committed against minors overall.

**What Makes Youth Vulnerable to Online Child Molesters?**

Many of the media stories and much of the Internet-safety information currently available suggest that children are vulnerable to online child molesters because they are naive and inexperienced (eg, see ref 14). Such messages, which often focus on youthful loss of innocence, imply that youth will not be able to understand sexual matters they come across online and will be easily duped or
fail to recognize the sexual motives of people who intend to exploit them. These messages suggest that younger youth and those who lack experience online will be particularly vulnerable, and they ignore the possibility that youth might use the Internet to pursue their own sexual interests. Nonetheless, research indicates that high school–aged youth are more likely to be victims of Internet-initiated sex crimes than preteens and more likely to be sexually solicited online. Ninety-nine percent of victims of Internet-initiated sex crimes in the N-JOV Study were 13 to 17 years old, and none were younger than 12. More than 70% were high school aged (14–17 years old). Most adolescents have a fairly sophisticated understanding of the social complexities of the Internet, and many engage in complex and highly interactive Internet use, which carries higher risks. This is consistent with what one might expect on the basis of normal adolescent development. Adolescents are at a stage of life at which they have an intense interest in expanding their social networks, forming close relationships, and acquiring knowledge about sex. In addition, rebellion and risky sexual behavior are hallmarks of adolescence for some youth. These normal developmental factors make adolescents vulnerable to seduction and put them at risk for responding to online sexual advances from adults.

There are several other youth characteristics in addition to age that seem to be associated with victimization by Internet-initiated sex crimes, as found in the N-JOV Study, or with receiving aggressive sexual solicitations (ie, unwanted online sexual solicitations that evolve into offline contact or threaten to do so), as examined in the YISS-1 and YISS-2.

Girls are considerably more at risk than boys for victimization by Internet-initiated sex crimes as well as for statutory rape in general. They also are significantly more likely than boys to be the targets of unwanted sexual solicitations.

Although girls constitute a higher proportion of victims than boys, boys who self-identify as gay or are questioning their sexual orientation may be a population that is particularly vulnerable to online victimization. Boys constitute 25% of the victims in Internet-initiated sex crimes, and virtually all their offenders are male. Hostility and social stigma toward homosexuality, as well as feelings of isolation and loneliness, may limit the face-to-face interactions of boys who self-identify as gay and their ability to form age-appropriate, intimate relationships. Concerns about confidentiality and feelings that problems are too personal to disclose may also limit their willingness to get information about sexual matters and health from trusted adults. Gay boys may also turn to the Internet to meet others who are gay and find answers to questions about their sexuality, which may make them vulnerable to online child molesters.

What youth do online is also a risk factor in Internet-mediated victimization. Youth who talk online to people they do not know in person, send personal
information to such people, and talk online to them about sex are more likely to receive aggressive sexual solicitations, the solicitations most likely to evolve into Internet-initiated sex crimes. Moreover, it seems that the youth who engage in these types of behaviors are not typical youth Internet users. The majority of youth refrain from these behaviors: two thirds do not communicate online with people they do not know in person, and approximately three quarters have not sent personal information online to such people. Only 5% report talking online to people they do not know in person about sex.

Visiting chat rooms is another characteristic associated with Internet-mediated victimization. It is related to receiving aggressive sexual solicitations, over and above the impact of communicating with, sending personal information to and talking about sex with people not known in person. One possible explanation for the additive impact of chat-room use is that the nature of chat rooms and the kinds of interactions that occur in them create additional risk. Explicit sexual talk, sexual innuendo, and obscene language are common in unmonitored chat rooms that are geared to adolescents and may attract online child molesters. Another possible explanation is that the youth who visit chat rooms are different from and more vulnerable than other youth. There is some evidence that adolescents who visit chat rooms are more likely to have problems with their parents: suffer from sadness, loneliness, or depression; have histories of sexual abuse; and engage in risky behavior than those who do not go to chat rooms. A higher proportion of such youth may have poor judgment about online interactions or be more likely to respond to overtures from online child molesters because they are lonely, looking for parent substitutes, or interested in sexual experimentation.

Chat-room use declined substantially among youth Internet users between 2000 and 2005. Whether there has been a decline in online child molesters using chat rooms to locate potential victims is an open question. Some may have moved to sites that are more popular with youth, but chat rooms may still be seen as an efficient venue for locating victims if they contain a higher concentration of youth who are susceptible to sexual advances.

Another vulnerable group is youth Internet users who report offline sexual or physical abuse in the previous year. These youth are considerably more likely to receive aggressive sexual solicitations. There are probably several mechanisms that make abused youth more vulnerable. For some, previous sexual abuse could trigger sexualized behavior that directly invites sexual advances. It could also be related to other emotional needs or developmental distortions that attract online molesters or make youth more responsive to or less aware of the inappropriateness of their advances. In addition, some abused youth are desperate for validation, rescue, or freedom from their current circumstances. They may go online looking for help and find exploiters instead.
Have Social-Networking Sites Increased the Risk of Victimization by Online Molesters?

Starting in early 2006, there was considerable publicity about the potential dangers of social-networking sites (eg, see refs 32 and 33), which have become increasingly popular with adolescents. By the end of 2006, 55% of youth aged 12 to 17 used such sites, with older girls having higher rates of use. Parents, child advocates, and law enforcement seem to have arisen particularly from the amount of personal information that youth may post online at networking sites. Media stories have suggested that online molesters could use information that youth post about their plans and activities to identify, locate, and stalk victims (eg, see refs 35 and 36). Nonetheless, a close perusal of media stories suggests that online molesters have not changed their tactics with the advent of social-networking sites (eg, see refs 37–39). Online molesters do not seem to be stalking unsuspecting youth but, rather, are continuing to seek youth who are susceptible to seduction. Findings from the YISS-2 suggest that maintaining online blogs or journals, which are similar to social-networking sites because they often display considerable amounts of personal information, is not associated with greater likelihood of aggressive sexual solicitation unless youth also interact online with people they do not know in person. There is also evidence that two thirds of youth with social-networking pages limit access to their sites and that youth are not receiving large numbers of sexual solicitations. Suggestions that social-networking sites are more dangerous for youth than other types of interactive Internet use are not substantiated by the small amount of existing research on this topic.

Child-Pornography Production and Online Requests for Sexual Pictures

A feature of sexual-offending criminality that may have been facilitated by the Internet and its associated technology is child-pornography production. One in 5 online child molesters in the N-JOV Study took sexually suggestive or explicit photographs of victims or convinced victims to take such photographs of themselves or friends. In the YISS-2, 4% of youth who were solicited online said they were asked to take and transmit sexual photographs of themselves. Many of these requests seemed to constitute production of child pornography under federal statutes. In addition, if youth complied with such requests (only 1 did—a 16-year-old boy who sent a photograph to someone he believed was a 23-year-old woman), the images could easily be circulated online, and the youth pictured would not be able to retrieve them. This is a situation that some youth might not have the foresight to understand or appreciate.

Implications

Recognizing that the victims in Internet-initiated sex crimes are not young children but, rather, adolescents who are seduced into participating in nonforcible
sex crimes should guide understanding of risk factors and dynamics and has implications for prevention and treatment. Simply urging parents and guardians to control, watch, or educate their children will not be effective, because adolescents are more independent and, appropriately, less supervised than younger children. Moreover, some of the most vulnerable youth may be alienated from their parents, victims of abuse, or dealing with sensitive issues such as sexual orientation that they feel their parents will not understand. Those who design prevention approaches need to acknowledge the independence and developmental interests of adolescents. It is essential to acknowledge that normal adolescent sexual feelings, urges, and curiosity are important factors in these cases. Many online child molesters are good at communicating with adolescents and understanding their emotional needs. Too often approaches to prevention shy away from realistic discussions with youth about normal sexual feelings and focus on violence, which occurs rarely. By focusing on violence, advocacy groups can spread comfortable messages about child safety and innocence; adults can avoid dealing with adolescent sexuality; prevention experts and educators do not have to face the controversies that can arise in communities when sexual behavior is discussed openly and frankly; and parents do not have to confront their own discomfort about talking to their children about sex. However, the consequence is that we are not giving youth accurate information about how to recognize and respond to sexual approaches by online molesters. We recommend educating youth frankly about the dynamics of Internet-initiated and other nonforcible sex crimes as well. We need to talk to youth directly about seduction and how some adults deliberately evoke and then exploit the compelling feelings that sexual arousal can induce both online and offline. Ideally, this information would be part of a broader education program that teaches youth to recognize and avoid sexual victimization in all environments, including their homes and neighborhoods.

INTERNET HARASSMENT

Internet harassment, defined as threats or other offensive behavior sent online or posted online for others to see, is an emerging health issue related to youth Internet use. Six percent of youth surveyed in the YISS-1 reported being harassed online, and the proportion increased to 9% in the YISS-2, 5 years later. Many of these incidents were mild, but 35% of harassed youth were distressed.

Based on YISS-2 data, Ybarra et al reported on the dynamics of harassment and the characteristics of youth who were harassed. Two thirds of harassed youth had been bothered or harassed online, in contrast to one third who had been threatened or embarrassed by someone who posted or sent messages about them for other people to see. Thus, many Internet-harassment incidents are not direct exchanges between harassers and the harassed. Approximately one third of harassed youth reported chronic online harassment (ie, ≥3 times in the previous year). Almost half of the incidents involved harassers the youth knew in person
Have Social-Networking Sites Increased the Risk of Victimization by Online Molesters?

Starting in early 2006, there was considerable publicity about the potential dangers of social-networking sites (eg, see refs 32 and 33), which have become increasingly popular with adolescents. By the end of 2006, 55% of youth aged 12 to 17 used such sites, with older girls having higher rates of use. Fears among parents, child advocates, and law enforcement seem to have arisen particularly from the amount of personal information that youth may post online at networking sites. Media stories have suggested that online molesters could use information that youth post about their plans and activities to identify, locate, and stalk victims (eg, see refs 35 and 36). Nonetheless, a close perusal of media stories suggests that online molesters have not changed their tactics with the advent of social-networking sites (eg, see refs 37-39). Online molesters do not seem to be stalking unsuspecting youth but, rather, are continuing to seek youth who are susceptible to seduction. Findings from the YISS-2 suggest that maintaining online blogs or journals, which are similar to social-networking sites because they often display considerable amounts of personal information, is not associated with greater likelihood of aggressive sexual solicitation unless youth also interact online with people they do not know in person. There is also evidence that two thirds of youth with social-networking pages limit access to their sites and that youth are not receiving large numbers of sexual solicitations. Suggestions that social-networking sites are more dangerous for youth than other types of interactive Internet use are not substantiated by the small amount of existing research on this topic.

Child-Pornography Production and Online Requests for Sexual Pictures

A feature of sexual-offending criminality that may have been facilitated by the Internet and its associated technology is child-pornography production. One in 5 online child molesters in the N-JOV Study took sexually suggestive or explicit photographs of victims or convinced victims to take such photographs of themselves or friends. In the YISS-2, 4% of youth who were solicited online said they were asked to take and transmit sexual photographs of themselves. Many of these requests seemed to constitute production of child pornography under federal statutes. In addition, if youth complied with such requests (only 1 did—a 16-year-old boy who sent a photograph to someone he believed was a 23-year-old woman), the images could easily be circulated online, and the youth pictured would not be able to retrieve them. This is a situation that some youth might not have the foresight to understand or appreciate.

Implications

Recognizing that the victims in Internet-initiated sex crimes are not young children but, rather, adolescents who are seduced into participating in nonforcible
sex crimes should guide understanding of risk factors and dynamics and has implications for prevention and treatment. Simply urging parents and guardians to control, watch, or educate their children will not be effective, because adolescents are more independent and, appropriately, less supervised than younger children. Moreover, some of the most vulnerable youth may be alienated from their parents, victims of abuse, or dealing with sensitive issues such as sexual orientation that they feel their parents will not understand. Those who design prevention approaches need to acknowledge the independence and developmental interests of adolescents. It is essential to acknowledge that normal adolescent sexual feelings, urges, and curiosity are important factors in these cases. Many online child molesters are good at communicating with adolescents and understanding their emotional needs. Too often approaches to prevention shy away from realistic discussions with youth about normal sexual feelings and focus on violence, which occurs rarely. By focusing on violence, advocacy groups can spread comfortable messages about child safety and innocence; adults can avoid dealing with adolescent sexuality; prevention experts and educators do not have to face the controversies that can arise in communities when sexual behavior is discussed openly and frankly; and parents do not have to confront their own discomfort about talking to their children about sex. However, the consequence is that we are not giving youth accurate information about how to recognize and respond to sexual approaches by online molesters. We recommend educating youth frankly about the dynamics of Internet-initiated and other nonforcible sex crimes as well. We need to talk to youth directly about seduction and how some adults deliberately evoke and then exploit the compelling feelings that sexual arousal can induce both online and offline. Ideally, this information would be part of a broader education program that teaches youth to recognize and avoid sexual victimization in all environments, including their homes and neighborhoods.

INTERNET HARASSMENT

Internet harassment, defined as threats or other offensive behavior sent online or posted online for others to see, is an emerging health issue related to youth Internet use. Six percent of youth surveyed in the YISS-1 reported being harassed online, and the proportion increased to 9% in the YISS-2, 5 years later. Many of these incidents were mild, but 35% of harassed youth were distressed.

Based on YISS-2 data, Ybarra et al reported on the dynamics of harassment and the characteristics of youth who were harassed. Two thirds of harassed youth had been bothered or harassed online, in contrast to one third who had been threatened or embarrassed by someone who posted or sent messages about them for other people to see. Thus, many Internet-harassment incidents are not direct exchanges between harassers and the harassed. Approximately one third of harassed youth reported chronic online harassment (ie, ≥3 times in the previous year). Almost half of the incidents involved harassers the youth knew in person.
(often other youth), and approximately half of the harassers were female. Twenty-five percent of incidents spilled over into offline life because, for example, the harasser telephoned or went to the harassed youth's home.

Youth who were harassed online were disproportionately teenagers (aged 13–17) rather than preteens (aged 10–12). They were also more likely to use the Internet in certain interactive ways (ie, sending instant messages, visiting chat rooms, and keeping online journals or blogs), have borderline or clinically significant social problems, report offline interpersonal victimization, and use the Internet to harass others. Although teenagers were more likely than younger youth to be harassed online, younger youth were more likely to be distressed about harassment, as were youth who reported harassment by adults (aged ≥18) and harassment that involved offline contact.

Internet harassment is occurring to ~1 in 10 youth. Almost 1 in 4 Internet harassers are 18 years of age or older, and only half are known to the harassed youth in person before the event. Because many harassed youth report incidents in which threats or offensive messages are posted online or sent to other people, advice telling youth to log off or ignore harassers does not adequately address the challenges that many youth face in responding to harassment. Practitioners who work with adolescents should partner with parents and young people to identify strategies to minimize the impact of harassment episodes based on their specific characteristics.

Using instant messages, keeping online journals or blogs, and visiting chat rooms are also associated with being harassed online. We do not recommend suggesting that youth avoid these sorts of interactive activities. Indeed, the content and tone of communications rather than the modes of transmission likely influence whether interactions are perceived as harassing. This stance is supported by findings that youth who have problems with social skills and those who use the Internet to harass others are more likely to report being harassed. Prevention efforts may be best aimed at improving online-communication skills and also coping skills, particularly among younger youth who are more likely to feel distressed about harassment.

School-based antibullying programs typically include a school-wide as well as classroom-specific focus on raising awareness and reducing acceptance of bullying behavior. The current findings suggest that antibullying interventions should also address Internet harassment by emphasizing the importance of making reports and the role that "bystanders" can play in discouraging the behavior.

**RISKY ONLINE BEHAVIORS**

Although many Internet-safety advocates admonish youth to refrain from posting personal information and talking to unknown people online, few have studied
whether such behaviors are actually associated with risk for Internet-mediated victimization. Using data from the YISS-2, Ybarra et al.\(^49\) examined 9 potentially risky online behaviors for their relationship with online interpersonal victimization (ie, sexual solicitation and harassment): (1) posting personal information online; (2) interacting online with people not known in person; (3) having unknown people on a buddy list; (4) using the Internet to make rude and nasty comments to others; (5) sending personal information to unknown people met online; (6) downloading images from file-sharing programs; (7) visiting X-rated sites on purpose; (8) using the Internet to embarrass or harass people youth are mad at; and (9) talking online to unknown people about sex. Although these behaviors have been deemed risky, some are also quite prevalent. Just over half (56%) posted personal information online; 43% talked online to people they did not know in person; 35% had such people on their buddy list; 28% made rude or nasty comments online; 26% sent personal information online to people they did not know in person; 15% downloaded images from file-sharing programs; 13% visited X-rated Web sites on purpose; 9% used the Internet to harass or embarrass someone they were mad at; and 5% talked online to unknown people about sex.\(^1\) Of youth Internet users aged 10 to 17, three quarters engaged in at least 1 of the 9 behaviors in the past year, and \(\sim28\%\) had engaged in \(\geq4\).\(^49\) Despite the prevalence of these behaviors, only some were individually related to online interpersonal victimization after the total number of behaviors was taken into account. Youth who used the Internet to make rude or nasty comments to others, embarrass people they were mad at multiple times, meet people online multiple ways, and talk online to unknown people about sex, along with youth who had multiple unknown people on their buddy lists, were more likely to be solicited or harassed.\(^49\) However, displaying a pattern of risky online behavior by engaging in a number of different types of these behaviors was more important than any specific behaviors and strongly elevated the odds for solicitation or harassment. Indeed, as the number of different types of behaviors increased, so did the likelihood of online interpersonal victimization. Youth who engaged in 4 different types of risky online behavior were 11 times more likely than those with none to report online interpersonal victimization, whereas youth who engaged in 3 of these behaviors were 5 times more likely.

Sharing personal information, either by posting or actively sending it to someone online, was not by itself associated with interpersonal victimization once a youth’s pattern of Internet risky behavior was taken into account. Instead, the findings of Ybarra et al.\(^49\) suggest that harassment perpetration is more strongly associated with online interpersonal victimization. Youth who harass others online by making rude or nasty comments or frequently embarrassing others are twice as likely to report an online interpersonal victimization even after adjusting for the total number of online behaviors in which they engaged.

Many types of online behaviors considered risky by educators are, for better or worse, becoming normative. For example, over half of youth Internet users have
posted personal information online. Health practitioners should take this into account when assessing youth Internet use and presenting prevention information. It may not be feasible to change the entire online culture, and the promotion of prevention messages that contradict or fail to recognize widely accepted online behavior may lack credibility to youth. A harm-reduction approach may be more effective. For example, encouraging youth to restrict viewing of social-networking sites to people they know in person is probably more effective protection against unwanted sexual solicitations or harassment than admonishing them not to post personal information on such sites.

On the other hand, there may be risks associated with posting particular kinds of information or posting in particular venues. For example, youth with sexually provocative social-networking sites may be more likely to receive sexual solicitations. These youth are acting out sexually, and they may have other characteristics that explain their actions, such as histories of sexual abuse, which is associated with sexual risk-taking. In these cases, the Internet may be a mode of risk transmission rather than a creator of risk. In pre-Internet days, the same youth may have frequented malls or other environments where they could meet unknown people.

The more different types of potentially risky online behaviors youth engage in, the more likely they are to be targets of online sexual solicitations and harassment. A simple checklist of the 9 behaviors documented here could help practitioners assess risk. More broadly, prevention messages should be expanded to target youth with a pattern of online risky behaviors rather than focus on specific behaviors alone. The normality of a behavior also should be taken into account. Although more than half of youth Internet users post personal information online, only 5% talk about sex with unknown people. The uniqueness of this latter behavior should be a marker for concern and intervention in and of itself. Engaging in nonnormative behaviors online, especially behaviors with sexual intent, are likely markers for other difficulties in youths' lives.

UNWANTED AND WANTED EXPOSURE TO PORNOGRAPHY

There has been extensive worry about the possible harms to youth of being exposed to online pornography. Fueling this concern is knowledge that many youth are exposed. Although some of this exposure is voluntary, much of it is not. In the 2005 YISS-2, 13% of youth Internet users aged 10 to 17 visited X-rated Web sites on purpose in the past year, but even more youth (34%) were exposed to online pornography they did not want to see. Overall, 42% of youth Internet users aged 10 to 17 had seen online pornography in the past year, and two thirds of those reported only unwanted exposure. This degree of unwanted exposure may be a new phenomenon, because before the Internet there were few places youth frequented where they might regularly encounter unsought pornography. Although there is evidence that most youth are not partic-
ularly upset when they come across pornography on the Internet, unwanted exposure could have more of an impact than voluntary encounters. Some youth could be psychologically and developmentally unprepared for unwanted exposure, and online images may be typically more graphic and extreme than pornography available from other sources.

Adding to concerns, unwanted exposure to online pornography has increased, rising to 34% of youth Internet users in the YISS-2 from 25% in the YISS-1, with increases among all age groups (ages 10–17) and both boys and girls. Moreover, since 2000 Internet use has expanded rapidly. Eighty-seven percent of youth aged 12 to 17 used the Internet in 2005, compared with 73% in 2000. These numbers suggest that millions of youth Internet users may be exposed to unwanted online pornography annually.

**What Puts Youth at Risk for Unwanted Exposure to Online Pornography?**

Although teenagers (aged 13–17) have higher rates of unwanted exposure than younger youth (aged 10–12), close to 20% of younger youth surveyed in the YISS-2 reported seeing online pornography that they did not want to see over the course of a year. Wolak et al found that no other demographic characteristics beside age were related to exposure, however. Amount of Internet use was not related, and online activities were not related except that youth who used file sharing to download images were more like to report unwanted exposure. This may be because pornography can be “bundled” with nonpornography downloads that youth commonly access. In addition, there were associations between unwanted exposure and offline interpersonal victimization (eg, being bullied, assaulted by peers or siblings, a victim of theft) as well as depressive symptomatology, but these associations were not strong. Youth with these latter 2 attributes may have shared some underlying common traits such as compromised judgment or impulsiveness that may explain these associations. Overall, however, it seems that much unwanted exposure arises from normal Internet use and, except for downloading images from file-sharing programs and being a teenager, is not strongly related to specific behaviors or characteristics.

**Which Youth Are Most Likely to Have Wanted Exposure to Online Pornography?**

Similar to offline pornography consumption, teenage boys have the highest rates of wanted exposure to online pornography. Data from the YISS-1 suggest that youth who intentionally seek pornography are still more likely to use traditional means (eg, magazines, movies) than the Internet. In the YISS-2, more than one third of male Internet users aged 16 to 17 had visited X-rated sites on purpose in the past year. Interest in sexuality is high in this age group, and among teenage boys, rates of pornography exposure were high before the advent of the
Internet. Wanted exposure was also associated with talking online with unknown people about sex, using file sharing to download images, and using the Internet at friends’ homes. The latter may reflect a group dynamic in viewing such material.

Delinquent tendencies and symptoms of depression were also related to wanted exposure. There are links between delinquency and underlying tendencies for sensation seeking. The association between wanted exposure and symptoms of depression could have a similar explanation in that some depressed youth may seek the arousal of online pornography as a means of relieving dysphoria. These associations should not be overstated, however. Sexual curiosity among teenage boys is normal, and many might say that visiting X-rated Web sites is consistent with normal sexual development for some youth.

However, some researchers have expressed concern that exposure to online pornography during adolescence may lead to a variety of negative consequences, including undermining accepted social values and attitudes about sexual behavior, earlier and promiscuous sexual activity, sexual aggression, sexual deviancy, sexual offending, and sexually compulsive behavior. Although it is by no means established that exposure to online or offline pornography acts as a trigger for problem sexual or other behavior among adolescents, there is evidence that pornography may increase aggression among youth with sexually aggressive tendencies. If pornography can promote deviant sexual interests or offending among youth who are prone to violence, the subgroup of youth Internet users with delinquent tendencies could include the youth who are most vulnerable to such effects, given the association between juvenile sexual offending and antisocial behavior. Also, some researchers have found relationships between depression and online sexually compulsive behavior. This suggests that the group of depressed youth Internet users could contain some who might be at risk for developing online sexual compulsions that could interfere with normal sexual development or impair their ability to meet daily obligations and develop healthy relationships with peers. Much more research is needed to determine how using pornography is related to these types of problems among youth.

Reducing Exposure to Online Pornography

Filtering, blocking, or monitoring software seems effective in lowering the risk of unwanted exposure and reducing wanted exposure among youth Internet users, although more comprehensive forms of the software seem required; simple pop-up blockers and spam filters alone did not have a preventive effect. Attending a law enforcement presentation about Internet safety was associated with reduced odds of unwanted exposure. Youth may pay more attention or give more weight to information provided by law enforcement. Also, presentations may be particularly effective for a problem such as unwanted exposure, which in most cases does not seem to be an outgrowth of hard-to-change youth characteristics or behaviors.
Exposure to online pornography may have reached a level at which it is normative among youth Internet users, particularly teenaged boys. Methodologically sound empirical research about whether and how this may be influencing youth is in order. There is some evidence that youth reactions to sexual material are diverse and complex, especially among older youth, and many teens may respond thoughtfully and critically to the images they see. However, there has been very little research about the impact on youth of viewing pornography, either wanted or (more relevant) unwanted. There is no research that sheds light on whether, how, or under what circumstances unwanted exposure to pornography may trigger adverse responses in youth. Researchers in the field of sexual development do not know whether there are important “primacy effects” relating to early exposure of youth to pornography or what the effects of such exposures might be on anxieties, normative standards, or patterns of arousal in some youth. Clearly, the extent of exposure to online pornography is great enough that even if adverse effects occur to only a small fraction of youth, the numbers in absolute terms could be fairly large.

CONCLUSIONS

Responses to concerns about youth safety online can be effective only if they are based on accurate perceptions of what the safety issues are and what youth populations are impacted. New technology and periods of rapid social change often breed considerable anxiety. Sensationalized media stories and anxiety-driven stereotypes of online predators do not accurately convey the characteristics and dynamics of Internet-initiated sex crimes. In the rapidly changing environment created by new communications technologies, it is important that we have accurate and dispassionate information about youth behaviors, experiences, and their impact on health and development. Continuing research and evidence-based prevention programs are necessary to understand and effectively respond to these problems.

ACKNOWLEDGMENTS

The first Youth Internet Safety Survey was funded by the US Congress through National Center for Missing & Exploited Children grant 98MC-CX-K002. The National Juvenile Online Victimization Study and the second Youth Internet Safety Survey were funded by the National Center for Missing & Exploited Children and the Office of Juvenile Justice and Delinquency Prevention, US Department of Justice (grants 2000-JW-VX-0005, 2002-JW-BX-0002, and 2003-JN-FX-0064).

Points of view or opinions in this article are those of the authors and do not necessarily represent the official position or policies of the US Department of Justice.
REFERENCES


7. Berliner L. Confronting an uncomfortable reality. APSAC Advis. 2002;14:2-4

8. Lanning KV. Law enforcement perspective on the compliant child victim. APSAC Advis. 2002;14:4-9


33. Bahney A. Don’t talk to invisible strangers. The New York Times. March 9, 2006;G1


35. Kornblum J. Social Websites scrutinized; MySpace, others reviewed in crimes against teenagers. USA Today. February 13, 2006;6D

36. Roeper R. Wide-open MySpace.com filled with teens, danger. Chicago Sun Times. April 12, 2006;Sect 11:1

37. Gustafson P. Offender admits sex with girl. 15. Minneapolis Star Tribune. February 16, 2006;5B


