Are blogs putting youth at risk for online sexual solicitation or harassment?☆

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Abstract

Objective: In light of public concern about the dangers to young people from maintaining online journals or "blogs," this exploratory paper examines whether bloggers are at increased risk for online sexual solicitation or harassment. **Method:** A national telephone survey of 1,500 youth Internet users, ages 10–17, conducted between March and June 2005. **Results:** Sixteen percent of youth Internet users reported blogging in the past year. Teenagers and girls were the most common bloggers, and bloggers were more likely than other youth to post personal information online. However, bloggers were *not* more likely to interact with people they met online and did not know in person. Youth who interacted with people they met online, regardless of whether (AOR = 2.42, $p < .01$) or not (AOR = 2.36, $p < .001$) they blogged, had higher odds of receiving online sexual solicitations. Bloggers who did not interact with people they met online were at *no* increased risk for sexual solicitation (AOR = 1.41, *ns*). Moreover, posting personal information did not add to risk. However, youthful bloggers were at increased risk for online harassment, regardless of whether they also interacted with others online (AOR = 2.65, $p < .01$) or not (AOR = 2.55, $p < .01$).

Conclusion: Prevention messages about blogging need to directly address the risks of interacting with people youth meet online and the risk of online harassment.

Introduction

Mental health professionals are increasingly called upon to proffer advice about children's Internet use. But much like parents, they may be perplexed because the media offer competing images of the Internet as both a tremendous new tool for education and recreation for young people and a potential threat to their physical and emotional safety. Online journals, more commonly known as blogs, are the most recent trend in teenage Internet use (Lenhart & Madden, 2005). Blogs contain text and multimedia (e.g., videos, photographs) which allow teens to express feelings, thoughts, events, and experiences that their authors update daily, weekly, or monthly (Mazur, 2005). Many bloggers find this technology an excellent tool for communicating with friends, family, and classmates. MySpace.com, a popular blogging site, now counts approximately 69 million members (Auchard, 2006) of which approximately 20% are under the age of 18 (Veiga, 2006).

There are no data that quantify how much blogging activity is inappropriate or illegal. The amount could be quite small. However media reports about sex offenders meeting adolescent victims through blogging sites make it clear there is some degree of potential danger. Providing too much personal information or interacting with people youth do not know in person may open youth up to unwanted and inappropriate sexual advances which, in some cases, could lead to sexual victimization. Since an unprecedented amount of personal information is available on these sites (NetSmartz.org, 2006), particular concerns have been raised that blogs may be accessed by sex offenders who will use personal information posted there to gain the trust of victims, making them vulnerable to online grooming or seduction, and then lure them into meetings where they may be sexually assaulted or molested. Other forms of victimization are also possible through blogs including harassment, exposure to inappropriate material, and identity theft.

While recent media events depicting young girls who were sexually assaulted by men they came in contact with through their blogs (e.g., Associated Press, 2006a) and threats directed at students and high schools (e.g., Associated Press, 2006b; San Antonio News, 2005; The New York Times, 2007) have led to alarm and fear concerning the safety of using these sites, media reports of egregious crimes can be misleading. Relying on media reports to characterize the dynamics of crimes, particularly sex crimes against minors, can lead to misguided public policy and overreaction among parents and others concerned with the youth population. The current article provides initial research findings about who uses blogs and whether bloggers are at increased risk for online sexual solicitation and harassment, based on a nationally representative survey of youth Internet users in the United States (ages 10–17).

Youth bloggers

Almost one in five (19%) youth Internet users (ages 12–17) have created their own online journal or blog, and 38% have read one (Lenhart & Madden, 2005). This amounts to approximately 4 million and 8 million youth, respectively. Teens are more likely than adults to keep their own blog and to read the

blogs of others. Older girls are the most likely to blog. Twenty-five percent of girls, ages 15–17, keep blogs compared to 15% of boys and about 18% of younger girl and boy teens (12–14 years old). Teens who keep blogs tend to be heavy Internet users and savvy about technology. Twenty-seven percent of *daily* Internet users keep a blog, compared to 11% of those who go online several times a week, and 10% who go online less frequently. Bloggers have more technological tools than non-bloggers, including cell phones and personal digital assistants (PDAs) and are more likely to use them to go online. Bloggers are also more likely to have their own computer in their home and to use it in a private space. Finally, bloggers are more likely that non-bloggers to engage in a variety of everyday online activities including using instant messaging and e-mail, looking for entertainment information, getting news or information about current events, and making online purchases.

Online sexual solicitation and harassment

The potential for online sexual solicitation and harassment has raised obvious concerns among parents, teachers, and mental health professionals. Both of these are frequently reported by youth Internet users (Wolak, Mitchell, & Finkelhor, 2006). Sexual solicitations involve requests to engage in sexual activities or sexual talk or give personal sexual information. A national random sample of young Internet users in the United States (ages 10–17) found 13% had experienced an unwanted sexual solicitation on the Internet in the past year. Many of these incidents were confined to the Internet and relatively mild in nature. However, 4% of all youth Internet users received aggressive solicitations that threatened to spill over into "real life" because the solicitor attempted or made offline contact with the youth. Youth described almost three-quarters (73%) of solicitors as male and 39% as age 18 or older. Solicitors were typically people the youth met online and did not know in person (86%).

Online harassment involves threats or other offensive behavior, sent online to the youth or posted online about the youth for others to see (Wolak et al., 2006). Based on this same national survey of young Internet users, 9% of youth experienced an online harassment in the past year. In contrast to solicitors, more harassers were female (50%), and aged 17 or younger (58%). Compared to solicitors, youth knew more harassers in person (45%) as opposed to meeting them online.

Many of today's youth may be savvy about the Internet and the potential dangers that exist. Simply keeping a blog does not necessarily mean that they will respond to solicitations or harassment directed at them or that they will use the Internet to interact with people they meet online but do not know in person. In fact, most youth who receive solicitations and harassment online simply ignore them (Wolak et al., 2006). Further, there is some indication that youth may be responding to prevention messages about the dangers of interacting with people met online. In 2005, a smaller proportion of youth Internet users said they talked online with someone they never met in person compared to youth Internet users 5 years ago (Wolak et al., 2006).

However, some youth are still lured into sexual relationships with adults who use the Internet to meet and develop sexually exploitative relationships with young teenagers. A national study of law enforcement agencies in the United States identified an estimated 998 arrests for Internet sex crimes against minors in the year beginning July 1, 2000 (Wolak, Mitchell, & Finkelhor, 2003). These arrests involved Internet-related sexual assaults and other sex crimes such as the production of child pornography committed against identified juvenile victims. Interviews with law enforcement investigators revealed that most victims in these cases were young adolescents. Most offenders did not deceive victims about the fact they were adults who were interested in sexual relationships. Most victims met and had sex with the adults on more than

one occasion. Half of victims were described as being in love with or feeling close bonds with offenders. Thus, most of these cases involved statutory sex crimes that evolved from online relationships that often included sexual solicitations, but that victims viewed as romances. However, whether blogs increase the risk for such sex crimes by making youth vulnerable to sexual solicitations has not been established. It may not be the blogs or the availability of personal information that creates vulnerability for sex crimes, but rather the willingness of young people to respond to or conduct relationships with people they meet online through their blog or other means.

Given the wide-spread popularity of blogging sites among youth in combination with recent media reports of sex crimes stemming from encounters at such sites, it is important to develop an informed knowledge base about blogging and whether it poses an increased risk for receiving unwanted sexual solicitations and harassment. Using data from the Second Youth Internet Safety Survey (YISS-2), a nationally representative telephone survey of 1,500 youth Internet users (ages 10–17), the current article aims to explore differences in risk for unwanted sexual solicitation and harassment based on whether youth blog and whether they interact online with people they do not know in person.

Methods

YISS-2 is a telephone survey of a national sample of 1,500 youth Internet users in the United States, ages 10–17, and a parent, conducted between March 4 and June 12, 2005. The goal of the survey was to quantify and detail youth experiences with harassment, unwanted sexual solicitation, and unwanted exposure to sexual material on the Internet. Use of human subjects was approved by the University of New Hampshire Institutional Review Board and conformed to the rules mandated for research projects funded by the U.S. Department of Justice.

Sampling method

The sample for YISS-2 was drawn from a national sample of households with telephones, which was developed by random digit dialing. Schulman, Ronca, and Bucuvalas, Inc., a national survey research firm, conducted the interviews. Interviewers dialed a total of 54,842 telephone numbers to identify households with children aged 10 through 17 who had used the Internet at least once a month for the past 6 months. Standardized definitions developed by the American Association for Public Opinion Research (AAPOR; American Association for Public Opinion Research, 2006) were used to code the final dispositions for the telephone numbers used to create the sample. Families with eligible children in 1,500 households completed the survey. The sample size of 1,500 was pre-determined based upon a maximum expected sampling error of ±2.5% at the 5% significance level. More details about the sampling can be found in other publications (e.g., Wolak et al., 2006).

The response rate from YISS-2 was .45 using AAPOR's Response Rate 4 which allocates cases of unknown eligibility, but also includes partial interviews. This rate is reflective of a general decline in response rates for national telephone surveys (Curtin, Presser, & Singer, 2005). However, this decline in participation has not influenced the validity of most surveys conducted by reputable surveying organizations (Pew Research Center, 2004). More specifically, when compared with benchmarks obtained from the U.S. Census and other government surveys with response rates that exceed 90%, the demographic

and social composition of the samples in the average telephone survey today is remarkably accurate (p. 1–2).

Data collection methods

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

The youth interview was scheduled at the convenience of the youth and at a time when he or she was able to talk freely and confidentially. Youth participants were mailed $10 checks upon completion of the survey. The average youth interview lasted 30 minutes and the average adult interview lasted 10 minutes.

Sample

Participants were youth ages 10–17 who had used the Internet at least once a month for the past 6 months from a computer at their home, school, a library or any other place along with one parent in the household self-identified as the one most knowledgeable about the youth's Internet practices (71% female). This broad definition of Internet use was used to ensure the inclusion of youth respondents who had a range of Internet use, from relatively low to high use. Detailed information about the sample demographic characteristics is published elsewhere (Wolak et al., 2006).

Measures

Blogging and interacting

If they responded positively to the question: "In the past year, have you used the Internet to keep an online journal or blog?" youth were coded as keeping a blog. We also asked youth a series of questions about who they communicated with online. First we asked about people known in person using the following questions: "People use the Internet to communicate with a lot of different individuals. In the past year, have you communicated online with: (1) people your age you see often, like friends from school?; (2) people your age you don't see often, like friends who have moved away?; (3) people in your family you see often?; (4) people in your family you don't see often, like relatives who live in other places?; and (5) other people you know personally, like teachers or coaches or neighbors?". Youth who responded positively to any of the above questions were coded

as using the Internet to "interact with people known in person." Next, we asked about communication with people youth met online using the following questions: "People also communicate with individuals they only know from the Internet, who they don't know in person. In the past year, have you been online with: (1) people you get information from, like when you're working on school projects, but you don't know them in person?; (2) people you met through an online dating or romance site?; and (3) people you don't know in person, who you know online other ways? For example, people you met chatting or through instant messages." Youth who responded positively to any of the above questions were coded as using the Internet to "interact with people met online."

Online sexual solicitation and harassment

Unwanted sexual solicitations 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 (18 years old or older). The incidence rate for sexual solicitation was estimated based on endorsement of at least one of the following three screener questions: (1) "In the past year, did anyone on the Internet ever try to get you to talk online about sex when you *did not want to*?"; (2) "In the past year, did anyone on the Internet ask you for sexual information about yourself when you did not want to answer such questions? I mean very personal questions, like what your body looks like or sexual things you have done?"; and (3) "In the past year, did anyone on the Internet ever ask you to *do* something sexual that you did not want to do?" Additionally, youth who said they had a close online relationship with an adult that was "sexual in any way" were included to capture possible statutory sex crimes involving underage youth who viewed themselves as being in consensual sexual relationships with adults ($n = 8$). A sub-group of solicitation incidents were identified as being aggressive in nature. Aggressive solicitations were the ones most likely to evolve into crimes because they involved solicitors who made offline contact with youth through regular mail, by telephone, or in person or attempts or requests for such offline contact.

Online harassment episodes were defined as threats or other offensive behavior (not sexual solicitation), sent online to the youth or posted online about the youth for others to see. The incidence rate for harassment was estimated based on endorsement of at least one of the following two screener questions: (1) "In the past year, did you ever feel worried or threatened because someone was bothering or harassing you online?"; and (2) "In the past year, did anyone ever use the Internet to threaten or embarrass you by posting or sending messages about you for other people to see?".

Demographic characteristics

Information on demographic characteristics were gathered from parents including the age and sex of their child, highest level of household education, annual household income, and marital status. Youth self-reported race and ethnicity. For the purposes of the current paper youth age was dichotomized as 10–13 years old versus 14–17 years old. The highest level of household education was classified as having a college degree or higher versus all other. Annual household income was classified as $20,000 or less versus more.

Internet use characteristics

Youth reported on a variety of Internet use characteristics including intensity of use, how the Internet was used, where the Internet was used, and what behaviors youth engaged in online. High and low Internet use are two constructed variables derived from a factor analysis of the following four items: high experience with the Internet (4 or 5 on a scale of 1–5), high importance of Internet in child's life (4 or 5 on a scale of 1–5), spending 4 or more days online in typical week, and spending two or more hours online in typical day. Youth with a composite value one standard deviation above the mean or higher were considered high Internet users whereas those with a value one standard deviation below the mean or lower were considered low Internet users. Youth reported on a variety of ways they used the Internet including for e-mail, chat rooms, and instant messaging.

Finally, youth reported on whether or not they had engaged in a variety of different online behaviors that are deemed risky in current prevention messages—online sexual behavior, viewing online pornography on purpose, posting or sending personal information online, and aggressive behavior. Sexually curious behavior was indicated if youth responded positively to either of the following: using a sexual screen name or talking about sex online with someone not known in person. Viewing pornography was indicated if the youth reported either going to X-rated sites on purpose or downloading sexual pictures from a file-sharing program. Posting personal information was indicated if youth posted any of the following information about themselves online: last name, telephone number, school name, home address, age or year of birth, or a picture. Sending personal information was indicated if youth sent any of the above information to someone they met online. Finally, aggressive behavior was indicated if youth had reporting "making rude or nasty comments to someone on the Internet" or "using the Internet to harass or embarrass someone they were mad at."

Psychosocial characteristics

Child behavioral and emotional problems were assessed using the Youth Self-Report (YSR) of the Child Behavior Check List (Achenbach, 1991). All items refer to the past 6 months. A higher item score reflected greater challenge (0: not true—2: very/often true). The current study includes two subscales measuring externalizing problems. The rule-breaking subscale has 15 items, such as "I steal at home" (*M*: 53.7, *SD*: 5.6; alpha = .81). Seventeen items make up the aggressive behavior subscale, including "I physically attack people" (*M*: 53.5, *SD*: 5.5; alpha = .86). Two subscales measuring internalizing problems were also analyzed. Social problems have 11 items such as "I get teased a lot" (*M*: 53.8, *SD*: 5.7; alpha = .74). The withdrawn/depressed subscale has eight items, including "I refuse to talk" (*M*: 53.2, *SD*: 5.4; alpha = .71). For each subscale, scores were categorized according to Achenbach's recommendations: non-clinical (92nd percentile and below), borderline (93rd–97th percentile of the normative sample of nonreferred children), and clinical (above 97th percentile of the normative sample of nonreferred children), using specific cut-off values provided by the user's manual. As expected in a community sample, few youth scored within the clinical range of behavior problems. As such, youth in the borderline and clinical ranges were combined to allow statistical comparisons with normative youth. Due to time constraints, the full YSR instrument was not administered.

High conflict with a parent is a constructed variable derived from a factor analysis of three items. After asking which adult in the household knew the most about them, youth were asked the following questions: (1) "How often does this person nag you?"; (2) "How does this person take away your privileges?"; and

(3) "How often does this person yell at you?". Youth with a composite value one standard deviation above the mean or higher were considered to have high conflict with a parent.

Finally, youth were asked a series of questions about their experiences with offline victimization in the past year. Physical or sexual abuse was indicated if youth responded positively to either of the following questions: (1) "In the past year, did a grown-up taking care of you hit, beat, kick or physically abuse you in some way?"; or (2) "In the past year, have you been forced or made to do sexual things by someone else?". The perpetrator of the sexual abuse could be anyone including a caregiver, other trusted adult, friend, or dating partner. Other offline interpersonal victimization (not including physical or sexual abuse) was coded if youth reported any of the following in the past year: simple assault, gang assault, peer assault, or bullying.

Analyses

We used SPSS 14.0 for all analyses (SPSS, 2006). First, a series of bivariate Pearson chi-square tests were performed to compare bloggers with non-bloggers (demographic characteristics are displayed as row percentages while all other characteristics are displayed as column percentages). Second, a logistic regression was conducted to examine the most influential characteristics related to blogging. Third, youth were divided into four groups, depending on whether they reported blogging and whether they also interacted with people they met online and did not know in person: (1) non-blogger, non-interactor, (2) blogger, non-interactor, (3) non-blogger, interactor, and (4) blogger, interactor. A series of bivariate Pearson chi-square tests were performed to compare youth Internet use, and psychosocial characteristics across these four groups. The significance level was set at .01 for bivariate analyses to reduce the experiment-wise error rate. All variables that were significant at the $p < .05$ level or better in the bivariate analyses were included in their respective multivariate analyses.

Fourth, two logistic regressions were conducted to examine the relationship between belonging in one of the four groups and: (1) unwanted sexual solicitation, and (2) harassment, while controlling for demographic, Internet use, and psychosocial characteristics. Given the concern about posting personal information online, this variable was forced into the model in order to understand its relationship with sexual solicitation and harassment. Finally, an additional logistic regression was conducted to assess the risk associated with receiving solicitations that move beyond the Internet (aggressive solicitations). To do so, this logistic regression analysis examined the relationship between belonging in one of the four groups and receiving aggressive sexual solicitations. Posting personal information online was also forced into this model. Youth reporting solicitations that were not aggressive in nature ($n = 137$) were not included in this particular model.

The main aim of logistic regression is in identifying the simplest or most parsimonious model that predicts the outcome of interest. In the current analyses, our models were created using backward stepwise regression which is the preferred method for exploratory analyses. This method begins with a saturated model, meaning all variables of interest are included, and variables are eliminated from the model in an iterative process. The significance criteria for eliminating variables were set at .10. The fit of the model is tested after the elimination of each variable to ensure that the model still adequately fits the data. The analysis is complete when no more variables can be eliminated from model.

Table 1

Prevalence (%) of youth Internet and psychosocial characteristics among bloggers and non-bloggers ($N = 1,500$)

Demographic characteristic	Non-blogger ($n = 1,257$)	Blogger ($n = 243$)	χ^2 (1)
Age of youth			
10–13 years old ($n = 526$)	92	8	43.39[***]
14–17 years old ($n = 962$)	79	21	
Sex			
Girls ($n = 752$)	78	22	36.44[***]
Boys ($n = 734$)	89	11	
Household education			
Less than college degree ($n = 672$)	86	14	4.63[†]
College degree or higher ($n = 809$)	82	18	
Low household income			
Less than $20,000 ($n = 122$)	84	16	.06
$20,000 or higher ($n = 1366$)	84	16	
Lives with both biological parents			
Yes ($n = 922$)	84	16	.05
No ($n = 566$)	83	17	
White race			
Yes ($n = 1137$)	84	16	.01
No ($n = 351$)	83	17	
Black race			
Yes ($n = 190$)	86	14	.72
No ($n = 1298$)	83	17	
Hispanic ethnicity			
Yes ($n = 131$)	83	17	.02
No ($n = 1357$)	84	16	

Note: Cells that do not add to 1,500 are due to missing data. Results in this table are row percentages.

[†] $p < .05$.

[***] $p \leq .001$.

Results

Characteristics of bloggers

Sixteen percent of Internet-using youth ($n = 243$) reported blogging in the past year. Bloggers differed from non-bloggers on several demographic and Internet use characteristics (see Tables 1–3). Table 3 depicts a parsimonious logistic regression identifying the most influential characteristics associated with blogging, while controlling for all others. Teenagers (ages 14–17 years) were almost twice as likely as younger youth (ages 10–13 years) (adjusted odds ratio [AOR] = 1.82) to blog, and girls were over twice as likely as boys (AOR = 2.41). Using the Internet for instant messaging (AOR = 1.75) was also associated with blogging. High Internet use was associated with more blogging (AOR = 1.55), whereas low Internet use was associated with less blogging (AOR = .35). Finally, bloggers were almost three times more likely (AOR = 2.54) to post personal information about themselves on the Internet. Bloggers were *not* more

Table 2
Prevalence (%) of youth Internet and psychosocial characteristics among bloggers and non-bloggers

Youth characteristics	Non-blogger ($n = 1,257$)	Blogger ($n = 243$)	χ^2 (1)
Internet use characteristics			
E-mail	75	95	46.17[***]
Instant messaging	64	90	64.29[***]
Chat rooms	29	37	7.33[**]
Gaming	84	80	1.90
High Internet use	23	48	62.26[***]
Low Internet use	25	6	44.29[***]
Interacts with known friends	76	96	47.42[***]
Interacts with people met online	31	49	30.07[***]
Internet behavior			
Posted *any* personal information	51	83	85.81[***]
Real last name, phone number, school name, or home address	31	54	48.55[***]
Age or year born	40	73	91.14[***]
Picture of self	12	50	194.02[***]
Sent *any* personal information to someone met online	23	42	38.46[***]
Real last name, phone number, school name, or home address	9	19	18.25[***]
Age or year born	20	37	35.03[***]
Picture of self	7	22	58.85[***]
Sexual behavior	5	9	5.91[**]
Viewed pornography on purpose	14	13	.03
Aggressive behavior	27	42	22.75[***]
Psychosocial functioning			
Physical/sexual victimization	3	3	.002
Other interpersonal victimization	38	42	1.82
YSR (clinical/borderline range)			
Rule-breaking behavior	6	9	5.28[†]
Aggressive behavior	6	7	1.12
Withdrawn/depressed	4	5	.25
Social problems	6	5	.66
High conflict with parent	12	19	7.43[**]

Note: Results in this table are column percentages.

[†] $p < .05$.

[**] $p \leq .01$.

[***] $p \leq .001$.

likely than non-bloggers to interact with people online they did not know in person, when controlling for other related characteristics (AOR = 1.28, *ns*).

Blogging and interacting with people met online

Because we posited that interacting with people youth met online is a key element of risk, we divided youth into four groups based on whether they were bloggers and whether they interacted with people they

Table 3
Parsimonious logistic regression of characteristics of bloggers

Youth characteristics	β	SE	Adjusted odds ratio	Wald statistic
Demographic characteristics				
Teenager (14–17 years old)	.60	.27	1.82	4.99[*]
Female	.88	.16	2.41	30.18[***]
High household education (college degree or higher)	.18	.16	1.19	1.30
Internet use characteristics				
Instant messaging	.56	.27	1.75	4.17[*]
High Internet use	.44	.16	1.55	7.28[**]
Low Internet use	−1.05	.32	.35	10.57[***]
Interacts with known friends	.69	.41	2.00	2.90
Interacts with people met online	.25	.16	1.28	2.50
Posts personal information	1.04	.20	2.54[a]	27.83[***]

[a] Odds ratio adjusted to more closely approximate relative risk (Zhang & Yu, 1998).

[*] $p < .05$.

[**] $p < .01$.

[***] $p < .001$.

met online but did not know in person. Over half (58%) of youth ($n = 856$) did not blog and did not interact with people online they did not know in person [non-blogger/non-interactor]. Eight percent of youth ($n = 122$) were bloggers who did *not* interact with people online they did not know in person [blogger/non-interactor], 8% ($n = 119$) were bloggers who *did* interact with people they met online [blogger/interactor], and 26% ($n = 387$) did not blog but did interact with people they met online [non-blogger/interactor].

These four groups of youth differed on a variety of Internet use and psychosocial characteristics (see Table 4). Bloggers and/or interactors were more likely than youth who were neither to use the Internet for e-mail, instant messaging, and interacting online with known friends (such as peers from school), and to post personal information online (which was particularly high for bloggers). These youth were also more likely than those who did neither to have other offline interpersonal victimization in the past year (i.e., offline victimization besides physical and sexual abuse). Both groups of bloggers were the most likely to have high Internet use whereas youth who did neither were the most likely to have low Internet use.

Interactors, regardless of whether or not they were bloggers, were the most likely to use chat rooms, send personal information to someone online, engage in online sexual behavior, download pornography on purpose, and engage in aggressive behavior online. Interactors were the most likely to have scores on the YSR in the borderline or clinical range on the following subscales: rule-breaking behavior, aggressive behavior, withdrawn/depressed, and social problems. Finally, they were the most likely to have high conflict with parents which was especially true for youth who were both bloggers and interactors.

Risk for online sexual solicitation and harassment

Youth across these four categories also differed in terms of their experiences with online sexual solicitation and harassment (see Table 4). Youth who were bloggers and interactors were the most likely to report harassment in the past year (23%, $p < .001$), followed by interactors who did not blog (14%), bloggers who did not interact (12%), and youth who did neither (4%). Youth who were interactors and bloggers were the most likely to report any sexual solicitation in the past year (33%, $p < .001$), followed

Table 4
Prevalence (%) of youth characteristics based on use of blogs and interacting with people met online

Youth characteristics	No blog—no interact (*n* = 856)	No blog—interact (*n* = 387)	Blog—no interact (*n* = 122)	Blog—interact (*n* = 119)	χ^2 (3)
Internet use characteristics					
E-mail	70	88	93	98	100.61***
Instant messaging	58	79	88	93	119.10***
Chat rooms	16	56	21	54	237.71***
Gaming	81	89	76	84	16.04***
High Internet use	17	37	44	52	116.80***
Low Internet use	29	15	6	5	77.04***
Interacts with known friends	70	91	94	97	117.69***
Internet behavior					
Posted *any* personal information	43	70	79	87	163.80***
Real last name, phone number, school name, or home address	27	38	51	57	63.21***
Age or year born	32	58	66	82	170.77***
Picture of self	8	22	43	57	236.78***
Sent *any* personal information to someone met online[a]	6	61	12	73	568.33***
Real last name, phone number, school name, or home address	2	25	3	35	222.83***
Age or year born	5	53	11	65	474.20***
Picture of self	2	18	4	41	238.02***
Talked about sex online	1	15	3	15	113.82***
Viewed pornography on purpose	10	22	5	21	45.16***
Aggressive behavior	18	47	29	56	147.44***
Psychosocial functioning					
Physical/sexual victimization	3	5	2	5	6.19
Other interpersonal victimization	32	50	42	42	38.98***
YSR (clinical/borderline range)					
Rule-breaking behavior	3	10	3	16	42.96***
Aggressive behavior	4	10	5	10	25.32***
Withdrawn/depressed	3	8	4	6	22.28***
Social problems	5	9	2	8	14.52**
High conflict with parent	10	18	12	26	32.55***
Online victimization					
Harassment	4	14	12	23	70.10***
Any sexual solicitation	6	25	11	33	125.78***
Aggressive sexual solicitation	1	10	2	10	64.34***

Note: Results in this table are column percentages.

[a] Some youth who said they did not interact with people they met online could still have sent personal information to someone online, in the form of an application or online purchase.

** $p < .01$.

*** $p < .001$.

by interactors who did not blog (25%), bloggers who did not interact (11%), and youth who did neither (6%). Interactors, regardless of whether they were bloggers, were the most likely to report an aggressive sexual solicitation (10% for both, $p < .001$), whereas only 2% of bloggers who did not interact reported an aggressive solicitation and 1% of youth who did neither.

Table 5 depicts how blogging and/or interacting are related to risk for unwanted sexual solicitation and harassment, as compared to doing neither, while controlling for demographic, Internet use, and psychosocial characteristics. All youth who were bloggers and/or interactors were at increased risk for harassment, compared to youth who did neither. This was particularly true for bloggers, regardless of whether they interacted with people they met online (AOR = 2.65, $p < .01$) or not (AOR = 2.55, $p < .01$). Interactors who were not bloggers were also at increased risk for harassment, although to a slightly lesser extent (AOR = 1.83, $p < .05$). Posting personal information online was not related to an increased risk for harassment (AOR = 1.10, *ns*).

Youth who were interactors, regardless of whether they were also bloggers, were over two times more likely to report a sexual solicitation in the past year than youth who did neither. Youth who were both bloggers and interactors were 2.42 times ($p < .01$) more likely than youth who did neither to report a solicitation. Youth who were interactors but not bloggers were 2.36 times ($p < .001$) times more likely to report a solicitation. Bloggers who were *not* interactors were not at increased risk for solicitation (AOR = 1.41, *ns*). Posting personal information online was not related to an increased risk for sexual solicitation (AOR = 1.14, *ns*).

Given that the sexual solicitations youth experience online vary widely in the degree of risk posed to youth in terms of sexual assault, a group of solicitations that were the most likely to result in physical harm to the youth was identified. These "aggressive solicitations" were defined as sexual solicitations involving offline contact with the perpetrator through regular mail, by telephone, or in person or attempts or requests for offline contact. Youth who interacted with people they met online, but were not bloggers were almost three times more likely to report an aggressive solicitation (AOR = 2.69, $p < .05$). Posting personal information online was not related to an increased risk for aggressive sexual solicitation (AOR = .95, *ns*).

Discussion

We found that one in six youth Internet users (16%) are bloggers; a percentage similar to that found in another national study (19%) (Lenhart & Madden, 2005). Also consistent with Lenhart and Madden, our findings suggest bloggers are more likely to be females with heavy Internet use. They are also more likely to use instant messaging. Given the context of blogs, it is not surprising that bloggers are more likely than other youth to post personal information online where others could see, including their real last name, phone number, school name, and home address; their age or year of birth; and pictures of themselves. Posting of personal information online has been the focus of current prevention and safety messages regarding blogs to date, which suggest that sex offenders may use such information to perpetrate their crimes. However, we found that interacting with people youth meet online but do not know in person is what puts youth at risk for online sexual solicitation, rather than posting personal information online.

Our findings have both reassuring and concerning elements for those trying to determine whether blogging puts youth at risk for online victimization. On the reassuring side, blogging in itself is not

Table 5
Logistic regression analyses of relationships between keeping a blog, interacting with people met online, and online sexual solicitation and harassment

Characteristic	Harassment ($n = 1,500$)				Any sexual solicitation ($n = 1,500$)				Aggressive sexual solicitation[a] ($n = 1,363$)			
	β	SE	AOR	Wald statistic	β	SE	AOR	Wald statistic	β	SE	AOR	Wald statistic
Posted personal information online	.09	.25	1.10	.14	.13	.22	1.14	.37	−.05	.42	.95	.01
No blog—no interact (reference category)				11.75**				12.92**				6.25
No blog—interact	.61	.29	1.83	4.51*	.86	.25	2.36	11.90***	.99	.48	2.69	4.28*
Blog—no interact	.94	.34	2.55	7.40**	.35	.35	1.41	1.01	−.44	.83	.64	.28
Blog—interact	.97	.34	2.65	8.16**	.89	.31	2.42	7.97**	.57	.58	1.77	.97

Note: Each logistic regression controls for demographic, Internet use, and psychosocial characteristics. AOR: adjusted odds ratio.

[a] All youth who reported a sexual solicitation that was not aggressive were excluded from this analysis ($n = 137$).

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

related to increased risk for online sexual solicitations or for the more serious aggressive solicitations in which solicitors make or attempt to make offline contact with youth. Rather, it is interacting with people the youth meet online that poses the greatest risk for sexual solicitation. There are many ways such interactions can begin and continue online, including in chat rooms, through instant messaging, and gaming sites. There is no indication that blogs are more likely to lead to solicitations than other forms of online communication, in fact, less than 1% of solicitation episodes reported by a national sample of youth Internet users began in a blog (Wolak et al., 2006). This does not mean that some online offenders are not using blogs to search for potential targets, but it does mean those who do are likely to be unsuccessful if youth are careful about who they are interacting with online.

It is also good news that not all youth who blog also interact with people they meet online. In fact, the current findings indicate that half of bloggers do not interact with people they meet online and that bloggers are not more likely to interact with people they meet online than non-bloggers. Some youth only use blogging to interact with friends they know in person. These youth are likely at less risk for sexual solicitations than youth who both blog and interact with people they meet online. The current study provides some initial support for this notion. It is important to note that this finding holds true even when controlling for whether youth post personal information about themselves online. This provides further support for the idea that it is the interaction between youth and people they meet online that increases risk for solicitation which can lead to sexual victimization, rather than the disclosure of personal information that may happen in many blogs.

In the current debate about blogging, much of the focus has been on the dangers of posting personal information on these sites (e.g., BlogSafety.com; NetSmartz.org). This stems from the fear of parents, teachers, and mental health professionals that offenders will utilize this information to target teenagers, and ultimately sexually assault them in person—as this is what media accounts have focused on (e.g., Associated Press, 2006a). Yet, such wide-spread concern based on egregious crimes depicted in the media, without examining whether their use results in risk for online victimization from a broader perspective, is premature. Sex crimes against minors arising from online meetings often involve voluntary interactions between offenders and victims (Wolak, Finkelhor, & Mitchell, 2004). Although posting personal information could play a role by, for example, giving offenders knowledge about a potential victim's interests that can be used to begin an interaction, it is the interaction that creates the environment that enables the crime to unfold. Further, posting personal information online is becoming a normative behavior given that more youth Internet users post information online than not (Ybarra, Mitchell, Finkelhor, & Wolak, 2007). We are unlikely to change normative behaviors and the findings from the current study suggest that perhaps it is not necessary to try to. Posting personal information is not related to increased risk for sexual solicitation or harassment when taking into account other Internet use characteristics and behaviors. Current prevention messages need to place more emphasis on the problems that can arise from interacting with people met online rather than trying to impart prevention messages that sound good but are not a crucial aspect of risk and are unlikely to be adopted by youth.

The appeal of blogging technology to teenagers is clear. As with any other form of technology, or any other youth activity for that matter, the risks and benefits need to be weighed before effective prevention messages can be developed. The findings from the current study in combination with the fact that millions of youth safely use blogs suggest the risk of sexual solicitation stemming from these sites is low. Given that youth, and teenagers in particular, are likely to ignore restrictions against blogging,

these findings suggest educating them about how to use blogs safely may be a more effective way of protecting youth. MySpace.com, a popular blogging site, has begun incorporating Internet safety and victimization awareness messages on its site and sites like BlogSafety.com and Netsmartz.org have developed safety and educational material that should be of interest to parents and mental health professionals. However, educating youth about the potential dangers of interacting with people they meet online needs to be highlighted in the discussion of blog safety—this will likely play a larger role in keeping youth safe. For example, youth should be discouraged from allowing people they meet online to have access to their blog given that this information may be used in an exploitative manner. They should be encouraged to limit blog access to known friends only. Such a message may be better received by teenagers.

On the concerning side, our findings indicate that blogging is related to increased risk for online harassment. This is a risk factor that is even stronger for youth who both blog and interact with people they meet online. Blogging sites are a forum where users announce their thoughts and values and invite feedback. As such, it is perhaps not surprising that people get negative feedback. Online harassment, one form of negative feedback, can take many forms including nasty and threatening comments, and the posting of harassing and embarrassing information online for others to see so harassment does not require much interaction. Moreover, many harassers are people youth know in person (Wolak et al., 2006). As such, blogging may be linked to increased risk for online harassment, regardless of whether or not youth interact with people they meet online. The current findings provide some support for this notion. Youth who blog, regardless of whether they interact with people they meet online, are over 2.5 times more likely to report an online harassment, as compared to youth who did neither. Yet, youth who do not keep a blog, but interact with people they meet online are also more likely to report harassment, although to a slightly lesser extent. These findings likely speak to the diverse nature online harassment can take, namely at the hands of friends and unknown individuals; and through both direct interaction and more indirect online postings (Wolak et al., 2006).

Education and prevention messages need to alert youth to the fact that displaying their feelings and activities online may open them up for receiving nasty and sometimes threatening actions from others, even their friends. It is important to keep in mind that we did not gather any information about what youth were doing with their blogs. Bloggers who say nasty things about others may be more likely to be harassed, for example. Blogs with provocative pictures or comments may draw solicitations. These are important nuances to explore in future research. Further, these findings suggest some important harassment prevention points that should be made to youth. First, we need to alert youth to the fact that blogging may lead to harassment. Much of the current prevention surrounding blogging sites focuses on the dangers of sexual solicitations. Second, we need to push for etiquette on the Internet. One avenue may be asking youth to have clear statements on their blogs that they will not tolerate negative and rude comments. Third, we need to expand the concept of bystander roles that are a critical component of existing bullying prevention. Bystanders often directly fuel bullying situations by setting up or cheering on the aggressor and victim (Slaby, 2005). As such, bystanders also play a key role in determining whether bullying will occur and escalate—or be prevented. We need to incorporate and place more emphasis on the importance of the bystander role in blogging sites and other group electronic venues as well. For example, bystanders may express written disapproval if someone is posting offensive or malicious comments or pictures in a blog. Similarly, online harassment should be incorporated into standard school-based bullying prevention programs and messages and school Internet policies.

Limitations

This study is the first of its kind to examine the characteristics of youth bloggers and their risk for online sexual solicitations and harassment. However, it has a variety of limitations. First, the data are cross-sectional so we have no way of determining whether certain youth characteristics, such as parent conflict are the cause of or the result of sexual solicitation risk, we only know that they are related to each other in some fashion. Second, some youth respondents may not have disclosed their experiences during the interview. Also, some youth declined or were barred from participating, and we do not know whether their inclusion could have changed the results. Third, there was a low overall response rate (.45) however this response rate is reflective of a general decline in response rates for national telephone surveys (Curtin et al., 2005). Still, national telephone surveys continue to obtain representative samples of the public and provide accurate data about the views and experiences of Americans (Pew Research Center, 2004). Fourth, given the necessity of talking with a parent or guardian before the youth respondent, there could be a small bias by eliminating youth with less stable homes or without adults around. Finally, we did not gather a lot of follow-up detail about posting personal information, including where information was posted. This information will be important to gather for a better understanding of this behavior and the risks associated with it.

Conclusions

This study provides enough concerning facts for mental health professionals, educators, law enforcement officials, and child protection workers to add blogs to the list of Internet activities about which they should be knowledgeable and able to provide counsel to families. At the same time, the risks are not so alarming that they should in themselves cause parents to bar children from using these sites. Blogs can be beneficial to both friends and family members as they provide information about what youth are thinking and feeling. Such information is often difficult to access with teenagers. Using the Internet to interact with people youth meet online still appears to be the pivotal aspect of risk for online sexual solicitation however blog use does appear to play a key role in risk for online harassment. This has some implications for revising and developing new prevention messages about blogging sites. It may be that we need to more directly address the dangers of interacting with and developing relationships with people youth meet through a blog, and with adults in particular, since it is adults who are the offenders in most Internet-related sex crimes; in addition to the cautions about posting personal information.

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