Original article

Online Requests for Sexual Pictures from Youth: Risk Factors and Incident Characteristics

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Abstract

Purpose: The aim of this study was to explore the prevalence and characteristics of youth who receive requests to make and send sexual pictures of themselves over the Internet.

Methods: Data were collected as part of the Second Youth Internet Safety Survey, a nationally representative telephone survey of 1,500 youth Internet users, ages 10–17 years, in the United States.

Results: Among Internet-using youth 4% reported an online request to send a sexual picture of themselves during the previous year. Only one youth of 65 sample case subjects actually complied. Being female, being of Black ethnicity, having a close online relationship, engaging in sexual behavior online, and experiencing physical or sexual abuse offline were risk factors for receiving a request for a sexual picture. Incidents that involved requests for sexual pictures were more likely to occur when youth were in the presence of friends, communicating with an adult, someone they met online, who had sent a sexual picture to the youth, and who attempted or made some form of offline contact with the youth.

Conclusions: The findings from this study provide support for including requests for sexual pictures in the spectrum of online experiences about which pediatric and adolescent health professionals need to be knowledgeable. These findings also provide information about populations that need targeted prevention education about online dangers, namely vulnerable (e.g., abused boys and girls) and female Black youth. © 2007 Society for Adolescent Medicine. All rights reserved.

Keywords: Internet; Child pornography; Youth; Risk

Much of the discussion about child pornography focuses on its possession and distribution; however, the Internet also may facilitate its production in various ways. One particular way that has received little attention involves people who use the Internet to solicit a youth to produce sexually explicit images and post or send them online. To date, little information is available as to how common such requests are, who is at risk to receive such requests, who makes such requests, and how they impact youth. The current article uses information from a national survey of youth to answer some of these questions.

The United States federal government and all 50 states prohibit the possession of child pornography. The advent of the Internet has taken this from a largely hidden problem to one that is receiving a great deal of public attention [1]. Although it is difficult to place an exact number on how much child pornography is available, the Internet allows for easier and faster distribution across state and international boundaries than was possible prior to the advent of this technology. Although a true estimate of the extent of child pornography available on the Internet is difficult to determine, one national study of Internet sex crimes against minors revealed an estimated 1,713 arrests involving the possession of child pornography in the United States in the year after July 1, 2000 [2]. Since March 1998, the National Center for Missing and Exploited Children's CyberTipline, based out of the United States, has received 404,511 online

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reports[1] about child pornography and 22,077 reports of online enticement of children for sexual acts [3].

Although much of the discussion surrounding online child pornography focuses on its possession and distribution, it is crucial also to address its production. The limited information that is available about the production of child pornography focuses on offenders who take sexual pictures of minors [4]. This research study of cases in the U.S. criminal justice system identified approximately 400 offenders arrested for Internet sex crimes that involved the production of child pornography in a 1-year period. However, this by no means represents the full extent of the problem, given that most sex crimes against children never come to the attention of law enforcement [5–7], and many of those known to law enforcement do not culminate in arrest [8].

The Internet provides another context for the production of child pornography as well. Among Internet-using youth between the ages of 10 and 17 years, 13% received unwanted sexual solicitations or approaches over the Internet during the previous year [9]. A number of these youth said that solicitors asked them to take sexual pictures of themselves.

The current article will examine requests for sexual pictures using data collected from a national sample of youth Internet-users (10–17 years of age). The following specific questions will be addressed in the current article: (1) What are the demographic, Internet use, and psychosocial characteristics of youth who receive requests for sexual pictures? (2) What specific incident characteristics are associated with receiving requests for sexual pictures, in terms of perpetrator characteristics and behavior?

Methods

Sampling method

The Second Youth Internet Safety Survey (YISS-2) was a national telephone survey of 1,500 youth Internet users conducted between March and June 2005. Households were randomly identified via random digit dialing. A final sample size of 1,500 was pre-determined based upon a maximum expected sampling error of ± 2.5% at the 5% significance level. The response rate was .45 [10]. More details about the YISS-2 methodology can be found elsewhere [9].

Sample and procedures

One caregiver and one youth were surveyed in each participating household. Eligibility criteria required the youth to be between the ages of 10 and 17 years, have used the Internet at least once a month for the previous 6 months at any location, and be English speaking. Caregivers pro-

vided verbal informed consent for their own participation and youth participation. Youth also provided verbal informed assent. Youth interviews were scheduled when youth could talk freely. On average, the caregiver interview lasted 10 minutes and gathered information about household demographics and use of filtering software while the youth interview lasted 30 minutes. Youth who participated received $10. Details of the demographic characteristics of the entire sample are published elsewhere [9].

Since we asked questions that could identify youth who were in dangerous or abusive situations, we hired a qualified counselor to work directly with these youth respondents over the phone. The goal was to have the counselor work with the youth respondent so that disclosure of the situation to a caretaker or some other authority would take place. The counselor re-contacted the youth on a periodic basis to inquire about the resolution of the situation. Contacts were maintained until the counselor determined the danger had ended or appropriate parental, child protection, law enforcement, or other authorities were involved. This process was successfully used in this and several other national telephone surveys of youth [6,9,11,12]. Use of human subjects and all procedures were 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.

Measures

All measures were designed by the authors for the purpose of this study unless otherwise noted.

Interpersonal online victimization. Interpersonal online victimization was defined by the report of either unwanted sexual solicitation or harassment over the Internet in the previous year. "Unwanted sexual solicitations" were defined as requests to engage in sexual activities or sexual talk or to give personal sexual information that was unwanted or, whether wanted or not, made by an adult. Youth who said they had an online sexual relationship with an adult were included to capture possible statutory sex crimes (n = 8). Online relationships were considered sexual if youth said the relationship was "sexual in any way." "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. It should be noted that, although we refer to these situations as online interpersonal "victimization," youth experiences online represent a spectrum of incidents ranging from the relatively benign to serious [9,11]. Terms such as "unwanted," "inappropriate," and "offensive" apply to many episodes, but online incidents do not generally have the violent and criminal aspects of more familiar child victimizations such as sexual or physical abuse.

Associations between online behaviors and harassment as well as unwanted sexual solicitation were assessed sep-

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[1] This number represents reports of such incidents only. The number of confirmed cases may be lower.

arately in bivariate analyses (note shown). Similar psycho-social correlates and online behaviors were observed for both. For the purposes of parsimony and cell size, the two victimization types were combined into a global interpersonal victimization variable.

Requests for sexual pictures. Respondents were asked more extensive follow-up questions about the above experiences, including characteristics of the perpetrator and events. Follow-up questions included the following: (1) "Did this person ever ask you to send them a picture of yourself?" and if so, (2) "Did this person ever ask you to send them a sexual picture of yourself?" Youth indicating a positive response to the second question were coded as having an interpersonal online victimization involving a request for sexual pictures. Finally, youth were also asked whether they actually sent the requested sexual picture.

Incident characteristics and impact. Follow-up questions about a variety of incident characteristics were asked. Questions included chronicity of incidents, perpetrator characteristics (e.g., age, sex), and perpetrator behavior (e.g., attempts at offline contact). Offline contact by the perpetrator included contact through regular mail, by telephone, or in person or attempts or requests for such offline contact. Youth were also asked how upset and how afraid they were about this experience, on a scale of 1–5, with 1 meaning not at all upset (or afraid) and 5 meaning extremely upset (or afraid). Youth who reported being very or extremely upset or afraid (4 or 5 on either item) were coded as distressed. Youth were also asked whether they talked to anyone about the incident. A positive response indicated disclosure of the incident.

Demographic characteristics. A number of demographic characteristics were gathered from parents including the age of their child, youth sex, highest level of household education, annual household income, and marital status. Youth self-reported race and ethnicity. Details of the total sample (N = 1,500) and the sub-sample of youth with interpersonal online victimization (n = 300) are available in Table 1.

Internet use characteristics. Youth estimated the average number of days a week and hours a day they spent online in a typical week, as well as their Internet expertise and the importance of the Internet to themselves. These four variables were included in a factor analysis, with one latent variable indicated (Eigenvalue 1.71, % variance 42.9). As such, a summation score was created (mean 0.41, SD 0.31) and dichotomized at 1 SD above the mean to reflect a high level of Internet use. Youth were also asked about specific online activities related to interaction with others: blogging, instant messaging, and chat room use.

Online behavior. Youth reported whether or not they had engaged in a variety of different online behaviors that are deemed risky in current prevention messages—sexual behavior, viewing pornography, posting and sending a picture

Table 1
Demographic characteristics of all participants and those who reported an interpersonal online victimization (N = 1,500)

Characteristic	All youth (N = 1,500) no. (%)	Youth with interpersonal online victimization (n = 300) no. (%)
Age at time of survey (y)		
10	77 (5)	3 (1)
11	120 (8)	11 (4)
12	148 (10)	19 (6)
13	189 (13)	37 (12)
14	213 (14)	46 (15)
15	249 (17)	62 (21)
16	252 (17)	65 (22)
17	252 (17)	57 (19)
Sex		
Boy	738 (49)	106 (35)
Girl	760 (51)	194 (65)
Missing	2 (<1)	0 (0)
Race/ethnicity[1]		
White	1,141 (76)	223 (74)
Black	194 (13)	46 (15)
Hispanic or Latino	133 (9)	30 (10)
American Indian or Alaskan Native	38 (3)	8 (3)
Asian	43 (3)	8 (3)
Other	16 (1)	4 (1)
Missing	41 (3)	6 (2)
Parent marital status		
Married	1,139 (76)	214 (71)
Divorced	147 (10)	36 (12)
Single/Never married	117 (8)	26 (9)
Living with partner	37 (3)	5 (2)
Separated	22 (1)	7 (2)
Widowed	29 (2)	9 (3)
Missing	9 (1)	3 (1)
Youth lives with both biological parents	926 (62)	167 (56)
Highest education level completed in household		
Not a high school graduate	30 (2)	10 (3)
High school graduate	305 (20)	66 (22)
Some college education	344 (23)	76 (25)
College graduate	481 (32)	90 (30)
Post college degree	333 (22)	57 (19)
Missing	7 (1)	1 (<1)
Annual household income		
Less than $20,000	123 (8)	27 (9)
$20,000 to $50,000	405 (27)	90 (30)
More than $50,000 to $75,000	355 (24)	80 (27)
More than $75,000	494 (33)	82 (27)
Missing	123 (8)	21 (7)

Note. Percentages that do not add to 100% are due to rounding. All data is based on questions asked of parents with the exception of race/ethnicity, which was asked of youth.

[1] Multiple responses possible.

of oneself, and aggressive behavior. Sexual 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 por-

nography was indicated if the youth reported either going to X-rated sites on purpose or downloading sexual pictures from a file-sharing program. Finally, aggressive behavior was indicated if youth had reported making rude or nasty comments to someone on the Internet or using the Internet to harass or embarrass someone they were mad at. Youth also reported on whether they had a close online relationship with someone they met on the Internet, meaning someone they could talk online with about things that were "really important to them"; whether they communicated with people online that they did not know in person; and whether they communicated online with known friends, like friends from school. Such relationships included peers (age 17 or younger; 62%), non-sexual relationships with adults (35%), and people of unknown age (2%). The eight close online relationships with adults that were sexual in nature (and thus counted in the sexual solicitation variable) were not included in this variable.

Psychosocial characteristics. Using selected questions from the Juvenile Victimization Questionnaire [12], youth were asked whether they had been sexually or physically abused in the previous year (yes/no); these victimizations were combined to ensure sufficient numbers of youth within categories to allow statistical comparisons. Offline interpersonal victimization happened when youth experienced at least one of the following in the previous year (yes/no): being attacked generally, being hit or jumped by a gang, being hit by peers, or being picked on by peers. Youth were also asked to rate on a 4-point Likert scale (1 = never/rarely; 4 = all of the time) how frequently their caregiver did the following three things: (1) nagged them; (2) yelled at them; and (3) took away their privileges. Based on exploratory factor analysis suggesting a common latent factor (Eigenvalue 1.69, % of variance 56.2), a composite variable was created to measure global parent–child conflict (mean 3.98, SD 1.43). Because of indications of nonlinearity, this was dichotomized at 1 SD above the mean to reflect high conflict.

Child behavioral and emotional problems were assessed using the Youth Self-Report (YSR) of the Child Behavior Check List [13]. 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" (mean 53.7, SD 5.6, α = .81). Seventeen items make up the aggressive behavior subscale, including "I physically attack people" (mean 53.5, SD 5.5, α = .86). Two subscales measuring internalizing problems were also analyzed. Social problems has 11 items such as "I get teased a lot" (mean 53.8, SD 5.7, α = 0.74). The withdrawn/depressed subscale has eight items, including "I refuse to talk" (mean 53.2, SD 5.4, α = .71). For each subscale, scores were categorized according to Achenbach's recommendations: nonclinical (92nd per-

centile and below), borderline (93rd to 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.

Analyses

We used SPSS 14.0 (SPSS Inc, Chicago, IL) [14] for all analyses. The first analysis use the entire sample of youth (N = 1,500). We used bivariate χ^2 tests to compare youth who received requests for sexual pictures with both youth without interpersonal online victimization and youth with an interpersonal online victimization that did not include a request for a sexual picture in terms of demographic characteristics, Internet use characteristics, online behavior, and psychosocial characteristics. To control for familywise error, the criteria for significance was set at $p < .01$.

All remaining analyses included the subset of youth who reported an interpersonal online victimization (n = 300). First, we used logistic regression to identify characteristics that discriminated youth who received requests for sexual pictures compared to those who did not. Second, we used bivariate χ^2 tests to compare youth who did and did not receive requests for sexual pictures on a variety of incident characteristics. Again, the significance criteria was set at $p < .01$ or better to control for familywise error. Finally, a logistic regression was conducted that examined the incident characteristics most closely associated with receiving requests for sexual pictures, while also controlling for relevant youth characteristics identified in the logistic regression model just described. Incident characteristics significant at the $p < .05$ level or better in the bivariate analysis were included in this model.

Results

How many youth receive requests for sexual pictures?

Of the 20% (n = 300) of Internet-using youth who reported online victimization, 45% (n = 136) received requests for pictures from the perpetrator. Of these, 48% (n = 65) received requests for sexual pictures; only one youth actually complied. The number receiving requests for sexual pictures in the last year translates into 4% of all Internet-using youth (1 in 25).

How do victimized youth who receive requests for sexual pictures differ from those who do not?

Compared with youth who reported online victimizations that did not involve requests for sexual pictures, youth who

received such requests were more likely to be female (AOR = 3.69) and Black (AOR = 3.03) (Tables 2 and 3). In terms of their Internet use characteristics and behavior, these youth were more likely to have a close online relationship (i.e., with a peer or non-sexual relationship with an adult) (AOR = 2.82) and engage in sexual behavior online, such as talking about sex with someone they did not know in person (AOR = 2.16). They were also more likely to report offline physical or sexual abuse (AOR = 2.84).

What incident characteristics are related to receiving requests for sexual pictures?

While controlling for the youth characteristics described above and listed in Table 3, youth were more likely to receive requests for sexual pictures if they were using the Internet in the physical presence of peers when the incident happened (AOR = 2.50, $p < .01$), were communi-

cating with someone they had met online (as opposed to someone they knew in person prior) (AOR = 5.35, $p < .01$), who was an adult (AOR = 3.76, $p < .001$), had sent the youth a sexual picture of him or herself (AOR = 9.56, $p \leq .001$), and attempted or made some form of offline contact (the most common forms of offline contact involved calling youth on the phone, asking to meet the youth in person, and coming to the youth's house) with the youth (AOR = 3.89, $p < .001$). Variables that are significant at the multivariate level are identified in Table 4 with boldface type.

Also, youth who received requests for sexual pictures were more distressed over the incident (52% vs. 32%, $p < .01$), more likely to have the incident occur multiple times by the same perpetrator (48% vs. 29%, $p < .01$), report multiple perpetrators (54% vs. 31%, $p < .001$), and report a male perpetrator (85% vs. 60%, $p < .001$) than those who

Table 2
Prevalence (%) of youth characteristics between youth experiencing requests for sexual pictures and those who did not (N = 1,500)

Characteristic	No interpersonal online victimization (n = 1,200) no. (%)	No sexual picture incident (n = 235) no. (%)	Sexual picture incident (n = 65) no. (%)	X^2 (2 df)
Demographic characteristics				
Age (mean, SD)	14.09 (2.14)	14.76 (1.72)	15.00 (1.77)	14.72***,[1]
Female	566 (47)	140 (60)	54 (83)[a]	40.39***
High education in household	667 (56)	115 (49)	32 (49)	4.33
Low income household	96 (8)	21 (9)	6 (9)	.33
Lives with both biological parents	759 (63)	138 (59)	29 (45)	10.13**
White race	918 (77)	179 (76)	44 (68)	2.63
Black race	148 (12)	29 (12)	17 (26)[b]	10.55**
Hispanic ethnicity	103 (9)	21 (9)	9 (14)	2.11
Internet use characteristics				
Uses Internet at friend's home	797 (67)	180 (77)	52 (80)	13.30***
Uses Internet from cell phone	166 (14)	62 (26)	21 (32)	34.46***
High Internet use	293 (24)	86 (37)	28 (43)	23.48***
Uses instant messaging	761 (64)	197 (84)	59 (91)	51.92***
Uses chat rooms	293 (24)	117 (50)	42 (65)	98.27***
Downloads music	406 (34)	124 (53)	42 (65)	49.62***
Keeps online journal or blog	158 (13)	66 (28)	19 (29)	40.12***
Online behavior				
Posted picture of self	172 (14)	75 (32)	28 (43)	68.36***
Sent picture of self	65 (5)	49 (21)	24 (37)[b]	118.55***
Sexual behavior online	37 (3)	27 (11)	22 (34)[a]	125.05***
Intentionally downloaded pornography	139 (12)	47 (20)	17 (26)	21.15***
Aggressive behavior online	274 (23)	127 (54)	43 (66)	135.42***
Talks with known friends	915 (76)	216 (92)	62 (95)	39.88***
Talks with people met online	315 (26)	143 (61)	51 (79)[b]	163.74***
Close online relationship	86 (7)	46 (20)	32 (49)[a]	133.40***
Psychosocial characteristics				
Offline physical or sexual abuse	21 (2)	14 (6)	15 (23)[a]	92.99***
Other offline victimization	429 (36)	117 (50)	32 (49)	19.63***
High parent-child conflict	130 (11)	54 (23)	18 (28)	36.67***
Rule-breaking behavior	51 (4)	26 (11)	16 (25)[b]	55.17***
Aggressive offline behavior	52 (4)	21 (9)	16 (25)[a]	49.83***
Withdrawn/depressed	45 (4)	15 (6)	5 (8)	5.11
Social problems	60 (5)	24 (10)	7 (11)	11.95**

[1] F statistic from one-way analysis of variance.
[a] Youth with nonsexual picture and sexual picture incidents significantly differ from each other at the $p < .001$ level.
[b] Youth with nonsexual picture and sexual picture incidents significantly differ from each other at the $p < .01$ level.
** $p < .01$. *** $p < .001$.

Table 3
Summary of logistic regression analysis of youth characteristics associated with requests for sexual pictures as compared with youth reporting an interpersonal online victimization without such a request (n = 300)

Variable	β	SE	Odds ratio	Wald statistic
Female	1.31	.39	3.69	11.11***
Black	1.11	.41	3.03	7.48**
Close online relationship	1.04	.34	2.82	9.53**
Online sexual behavior	.77	.40	2.16	3.78*
Offline physical or sexual abuse	1.04	.47	2.84	4.89*
Model summary				
–2 Log likelihood	254.93			
χ^2 (df)	58.67 (6)***			
Cox and Snell R^2	.18			
Nagelkerke R^2	.27			

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

did not receive such as request, although these characteristics were only significant at the bivariate level.

Discussion

This study contains important findings about the potential for digital photography to combine with the Internet to greatly expand the creation of child pornography. A substantial number of young Internet users (1 in 25 in a national representative sample) received an online request for sexual pictures in a 1-year period. This involves people asking youth to self-produce child pornography, a significant child welfare problem. In this study, only one youth complied. Many youth are "net-savvy," having a fairly sophisticated understanding of the social complexities of the Internet (e.g., inadvertent pornography and online predators) by the time they reach early adolescence [15]. However, if only a small percentage cooperate, considering such requests flattering, glamorous, adventuresome, or testament of their love and devotion, this could be a major contribution to the production of illegal material. As most of the concern about child pornography has focused on its possession, trading, and production by adults, perhaps insufficient attention has been drawn to youth being asked to produce pornographic images of themselves. We need to be clear and direct with youth that this is illegal behavior.

It is perhaps not surprising that requests for sexual pictures were more likely to occur when youth were communicating with adults (age 18 years or older), who had sent sexual pictures to the youth, and made some form of offline contact. All these characteristics taken together suggest these are high-risk situations that could result in additional sex crimes depending on how the youth responds to the situation. The exchange of sexual pictures is a common component of criminal Internet seduction cases [16]. Some offenders may use such exchanges to lower sexual inhibitions of potential victims. In addition, for some youth it may seem a relatively harmless adventure to make sexual imagery on their own, and the physical distance of their correspondents may feel like some degree of protection, so that they might comply with a request that they would typically not, if it were made in person.

We suspect that many youth, even those who dismiss such requests, are not aware of the criminal implications. Making requests to minors for sexual pictures is a federal crime [17] and also a crime in many if not all jurisdictions in the U.S. [18]. If youth comply and transmit pictures of themselves, they may also be guilty of crimes related to the production and transmission of child pornography. It is also likely that many young people are unaware of the enormous distribution networks into which their photographs can be

Table 4
Prevalence (%) of incident characteristics between victimized youth experiencing requests for sexual pictures and those who did not

Characteristic	Nonsexual picture incident (n = 235) no. (5)	Sexual picture incident (n = 65) no. (%)	X^2 (1 df)
Happened multiple times by same perpetrator	68 (29)	31 (48)	8.10**
With friends when incident happened	**81 (35)**	**35 (54)**	**8.06****
More than one perpetrator did this	72 (31)	35 (54)	11.95***
Met perpetrator online	**172 (73)**	**59 (91)**	**8.88****
Perpetrator was male	142 (60)	55 (85)	13.21***
Didn't know perpetrator's sex	42 (18)	5 (8)	3.99*
Perpetrator was an adult	**57 (24)**	**44 (68)**	**43.02****
Didn't know perpetrator's age	52 (22)	4 (6)	8.56**
Perpetrator sent picture of self	25 (11)	27 (41)	33.93***
Perpetrator sent sexual picture of self	**5 (2)**	**11 (17)**	**22.08****
Perpetrator made some type of offline contact	**63 (27)**	**37 (57)**	**20.78****
Youth disclosed incident	128 (55)	43 (66)	2.84
Very or extremely upset or afraid over incident	76 (32)	34 (52)	8.74**

Boldface type indicates variables significant in the multivariate analysis. The multivariate logistic regression also adjusted for all characteristics from Table 3.
* $p < .05$; ** $p < .01$; *** $p < .001$.

transmitted. Many likely believe that the images they are sending are simply for the enjoyment of their correspondent, but some portion of the solicitors can be expected to send, trade, and even sell them to others. It is not clear whether knowledge about the potential for such dissemination would act as a major deterrent to young people's participation. Furthermore, some youth whose images have been widely disseminated may report distress at becoming aware of the permanent and uncontrolled nature of the dissemination [19,20].

Nonetheless, an important starting point for prevention is to begin educating youth more systematically about the criminal vulnerability involved in the solicitation, production, and distribution of child pornography. Youth need to know that solicitors are committing crimes when they request photographs and should be reported to authorities. They also need to know that if they make or transmit or cooperate in the making of sexual pictures of themselves, both they and their correspondents can be subject to severe criminal sanctions. This may be true even if their correspondents are other youth. Information on these topics can be included in educational materials about the Internet, as well as in educational materials about dating and sexuality. Such education can be included as part of school-based Internet safety programs. Parents and healthcare professionals should also be aware of this potential and be prepared to talk with teenagers about such behavior and its possible ramifications.

Another important finding of this research is that certain groups of vulnerable youth were at increased risk for sexual picture requests, namely, youth who have been physically or sexually abused. This suggests an important group worth targeting for prevention, but one that may be particularly difficult to reach given the mental health concerns that are associated with physical and sexual abuse [21]. Creative avenues for reaching this population may be called for such as education through peers, siblings, school personnel, or pediatric and adolescent health professionals.

Prevention and safety information also need to take into account the race of the youth involved. We found that Black youth (and female Black youth in particular) were more likely to receive requests for sexual pictures. To date, it is unclear exactly why this is the case. One hypothesis is that those corresponding with these youth do not know the youth is Black and may be asking for pictures to ascertain this. Another possibility is that Black youth are not as self-protective when it comes to their Internet use. Some exploratory findings suggest that Black youth differ from non-Black youth on a variety of Internet use characteristics including being more likely to go to chat rooms and talk with people they meet online [22]; both risk factors for online sexual solicitation [23]. More research is necessary to better understand this differential risk for Black youth. In addition to the education mentioned above, additional strategies for reaching this population include after-school programs and boys and girls clubs.

It is apparent that many youth who received requests for sexual pictures were not taking the situation lightly, because they were more likely to be distressed than youth who were not asked to send sexual pictures (at the bivariate level). This suggests that mental health and medical professionals working with youth need to be aware of the impact and potential ramifications of these online experiences, particularly if sexual pictures are exchanged and youth know that sexually explicit images of themselves are available on the Internet. Such cases could pose different issues for mental health professionals working with the juvenile population than those seen in typical sexual assault cases, given this possibility of widespread distribution.

Finally, these findings provide for the development of some concrete warning signs that youth, parents, and pediatric and adolescent health professionals may use to identify online situations that are inappropriate, illegal, and pose a clear physical danger to youth. Namely, online conversations that involve the requests for or actual exchange of sexual pictures and attempts at offline contact are clear warning signs that youth should disclose the situation to a parent or law enforcement, both because requests to minors for sexual pictures are illegal but also because there is a real risk for additional sex crimes in these cases [16].

Our findings, however, should be interpreted within the confines of the study limitations. First, the data are cross-sectional, so we have no way of determining whether certain Internet use or psychosocial characteristics are the cause of or the result of requests for sexual pictures; we only know that they are related to each other in some fashion. Second, as with all self-report measures, some youth respondents may not have disclosed their victimization experiences. Third, information on requests for sexual pictures was gathered only in the context of interpersonal online victimizations. There are probably instances where youth receive such requests in other online contexts, such as wanted relationships. This limitation likely resulted in an undercount of such experiences in the current study. Fourth, the overall response rate for YISS-2 was somewhat low (45%). This response rate is reflective of a general decline in response rates for national telephone surveys [24]. However, national telephone surveys continue to obtain representative samples of the public and provide accurate data about the views and experiences of Americans [25]. Moreover, 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 similar. Fifth, given the lack of international boundaries posed by the Internet, limiting participants to those that speak English is a drawback to the study. Future research in this area should make participation available to people speaking a broader range of languages. Finally, by limiting the questions pertaining to offline victimization to the past year we may be under-representing the importance of the relationship

between requests for sexual pictures online and offline victimization.

In conclusion, the findings from this study provide support for including requests for sexual pictures in the spectrum of online experiences that pediatric and adolescent health professionals need to be knowledgeable about. A substantial number of young Internet users (1 in 25) received online requests to send sexual pictures in a 1-year period. On a positive note, only one youth complied. Requests for sexual pictures were more likely to occur when youth were communicating with adults, who had sent sexual pictures to the youth, and made some form of offline contact. These characteristics taken together suggest these are potentially high-risk situations that could result in additional sex crimes depending on how the youth responds to the situation. These findings also provide some knowledge about populations that need targeted prevention education about online dangers; this study specifically identified such populations as those that include vulnerable (e.g., abused boys and girls) and Black female youth.

Acknowledgments

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