

Sexual solicitation and harassment on the Internet and the mental health of young people

by
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September 13, 2003

* Thank you for your interest in this presentation. Please note that analyses included herein are preliminary. More recent, finalized analyses can be found in: Ybarra, M., Leaf, P., & Diener-West, M. (2004). Sex differences in youth-reported depressive symptomatology and unwanted internet sexual solicitation. *Journal of Medical Internet Research*, 6(1), e5, or by contacting CiPHR for further information.

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Today's talk outline

- General Internet use
- Youth experiences online
- Hypothesized links with mental health
- YISS study methods
- Findings for sexual solicitation
- Findings for Internet harassment
- Questions

Youth Internet use characteristics

- 97% of youth between the ages of 12 and 18 use the Internet (UCLA Center for Communication Policy, 2003)
- Home Internet access (US Department of Commerce, 2002)
 - Half of youth 10-13 years old
 - 61% of youth 14-17 years old

Youth Internet use characteristics (cont)

- The majority of youth use the Internet for an hour or less a day (Finkelhor, Mitchell & Wolak, 2000; Woodard, 2002)
- Boys and girls are equally likely to have used the Internet (Rideout, Foehr, Roberts & Brodie, 1999)

Internet activities

- 95% of youth use the Internet for email (Lenhart, Rainie, & Lewis, 2002).
- 85% of teens use the Internet for school work (US Department of Commerce, 2002)
- 76% of older teens (15-17 y.o.) have searched for health information (Kaiser Family Foundation, 2001)

Internet use for health care information

- Somatic health (Kaiser Family Foundation, 2001)
 - HIV/AIDS: 31%
 - Sexually transmitted diseases: 24%
 - Pregnancy or birth control: 21%
- Mental health
 - Drug and alcohol abuse: 25% (Kaiser Family Foundation, 2001)
 - Depression or mental illness: 18-23% (Kaiser Family Foundation, 2001; Rideout, 2001)
 - Violence: 23% (Rideout, 2001)
 - Suicide: 12% (Gould, Munfakh, Lubell et al., 2002)

Impact of online health information

- 53% have had a conversation with their caregiver about what they learned (Rideout, 2001)
- 41% have changed their behavior (Kaiser Family Foundation, 2001)
- 14% have sought healthcare services (Rideout, 2001)

Internet experiences

- Most youth report positive experiences (Borzekowski & Rickert, 2001; National Public Radio, Kaiser Family Foundation, Harvard School of Public Policy, 2000; Lenhart, Rainie & Lewis, 2001).
- Still, concerns about potential negative online exposures cited by parents, and to a lesser extent, youth (UCLA Center for Communication Policy, 2001; NPR, Kaiser Family Foundation, Harvard School of Public Policy, 2000; Lenhart, Rainie, & Lewis, 2001)

Context

- As the number of youth with Internet access increases :
- Public policy and research attention on the potential influence the Internet may have on youth behavior and development (e.g., Finkelhor, Mitchell & Wolak, 2000; Congress' Children's Internet Protection Act, 2000; Whitehouse press release, 2002; Lenhart, Rainie & Lewis, 2001)
- Identifying sub-populations of potentially vulnerable youth is vitally important

Unwanted sexual solicitation

Three main types of sexual solicitation (Finkelhor, Mitchell & Wolak, 2000)

- Sexual talk
 - 15 y.o. girl: "I was on the Internet with [this] guy and all of a sudden the guy began to get perverted. I found it to be really uncomfortable."
- Sexual information
 - 11 y.o. girl: "I was talking with a man and he started to ask me about my physical features...[the] color of my eyes and bra size"
- Sexual acts
 - A 11 year old girl: "they told me to play with myself"
 - A 13 year old boy: " we were talking to this one girl and she wondered how big my privates were and she asked me to jack off so she could bang or something"

Internet harassment

An overt, intentional act of aggression towards another person online

- Physical threats
 - *"Someone threatened to beat me up."*
 - *"Someone was threatening to kill me and my girlfriend."*
- Embarrassment/humiliation
 - *"They were mad at me and they made a hate page about me."*
 - *"Some friends from school were posting things about me and my boyfriend, then they found a note between me and my boyfriend and they scanned it and put it on their website, then sent it through e-mail to people in school."*

Mental health & 'traditional' experiences

Depressive symptomatology in childhood

- 6% of youth at any time (Kessler & Walters, 1998)
- Significant public health problem
 - Increased risk for adult depressive episode and other disorders (Lewinsohn, Rohde, Klein & Seeley, 1999; Kessler, McGonagle, Swartz et al., 1993)
 - Increased health care utilization (Wu, Hoven, Bird et al., 1999)
- Demographic differences:
 - Affects more females than males (Simonoff, Pickles, Meyer et al., 1997; Kazdin & Marciano, 1998; Silberg, Pickles, Rutter et al., 1999)
 - Risk of onset increases through adolescence (Kazdin & Marciano, 1998)

Unwanted sexual experience

- 1.3/1000 children at any given time (National Clearinghouse on Child Abuse and Neglect Information, 1999)
- Related to major depression and other clinical problems (Kendall-Tackett, Meyer-Williams & Finkelhor, 1993; Rind, Bauserman, Tromovitch; 1997)
- Females are more than 2 times more likely to have reported abuse than males (National Clearinghouse on Child Abuse and Neglect Information, 1999)

Traditional bullying

- 10-20% of young people (Boulton & Underwood, 1992; Slee & Rigby, 1993; Rigby, 1993)
- Significant public health problem
 - Concurrent symptoms of depression (Haynie, Nansel, Elliot et al., 2001; Kabbaila-Heino, Rimpela, Martunen et al., 1999)
 - Long-term effects:
 - Symptoms of depression over time (Kumpulainen & Raasanen, 2000)
 - Poor somatic health (Rigby, 1999)
 - Challenges in adult personal relationships (Hugh-Jones & Smith, 1999)
- Males are significantly more likely to be target and/or initiator of bullying (Nansel, Overpeck, Pilla et al., 2001)

Hypothesized links between depressive symptomatology and Sexual solicitation

- Depressive symptoms may be related to increased risk for subsequent sexual abuse (Boney-McCoy & Finkelhor, 1996).
- Depressive symptomatology has been linked to risky sexual practices for both males and females (Shrier, Harris, Sternberg et al., 2001).

Hypothesized links between depressive symptomatology and Internet harassment

- Significant relationship between being a victim of bullying and depressive symptomatology cross-sectionally (Hawker & Boulton, 2000; Haynie, Nansel & Eitel et al., 2001) as well as over time (Kaltiala-Heino, Rimpela, Rantanen & Rimpela, 2000).
- Internet communication is different because of its lack of non-verbal cues (McKenna & Bargh, 2000). Youth with depressive symptoms may be at even greater disadvantage in online versus traditional exchanges to correctly interpret and react to others.

Youth Internet Safety Survey (YISS)

Conducted by David Finkelhor and colleagues at the Crimes Against Children Research Center, University of New Hampshire

Youth Internet Safety Study Methodology

Study design:

- National probability design
- Cross-sectional
- Telephone survey
- Fall 1999 and Spring 2000
- 1,501 youth and 1 caregiver
- 82% participation among contacted and eligible households

YISS Study Methodology (cont)

Inclusion criteria

- 10-17 years old
- Use Internet at least 3 times in previous 3 months (anywhere)
- English speaking
- Live in household for at least 2 weeks in previous year
- Caregiver and youth consent

YISS Study Sample characteristics

- 48% were female
- Average age: 14 years
- Race/ethnicity:
 - 75% White
 - 10% Black
 - 7% Hispanic

Measures and Indicators

Internet harassment

- Felt worried or threatened because of someone else bothering or harassing him or her while online (5%)
- Felt threatened or embarrassed because someone had posted or sent a message about the youth for other people to see (2.5%)

Unwanted sexual solicitation

- Asked to talk about sex when not desired (14%)
- Disclose personal, sexual information when not desired (15%)
- Engage in sexual acts when not desired (8%)
- Perpetrated by an adult

Measures and Indicators

Depressive symptomatology

- Current (previous month) symptoms, except dysphoria (all day, nearly every day for 2 weeks)
- DSM-IV based check-list
- Major depressive-like symptoms
 - 5+ symptoms, 1 of which is anhedonia or dysphoria
 - Functional impairment (school, hygiene, self-efficacy)
- Minor depressive-like symptoms (3+ symptoms)
- Mild or no symptoms (Fewer than 3 symptoms)

Measures and Indicators

Internet use	Interactive Internet activity, most frequent Internet activity, average daily use, ISP, Harassment towards others
Psychosocial indicators	Substance use, # of close friends, frequency of interaction, # of life challenges, # of interpersonal challenges, physical/sexual victimization
Demographic characteristics	Age, household income, race/ethnicity, sex

Analytic Approach

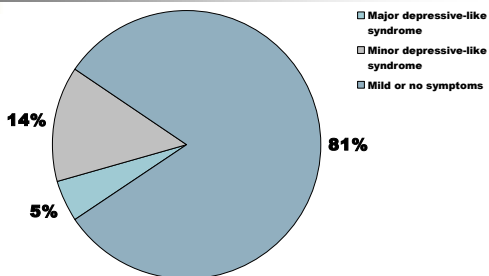
Logistic regression to estimate the odds of an unwanted Internet experience given the report of depressive symptomatology

- Stratified by sex
- Tested effect modification of reported depressive symptoms by: age and substance use
- 4 final parsimonious models of significant characteristics identified:
 - Internet harassment among females
 - Internet harassment among males
 - Sexual solicitation among females
 - Sexual solicitation among males

Study sample ⇒ 1,489 youth

YISS Findings

Report of depressive symptomatology



Unwanted sexual solicitation online

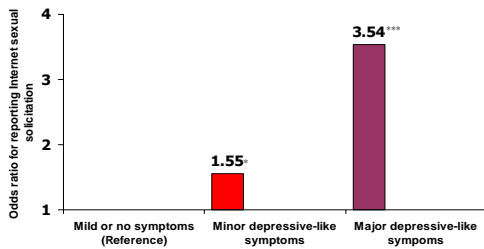
General findings

- 19% of regular Internet users in the previous year (Finkelhor, Mitchell & Wolak, 2000)
- 25% of those sexually solicited felt very/extremely upset or afraid (Finkelhor, Mitchell & Wolak, 2000)
- Females are 2 times as likely to be targeted than males
- 77% are 14 years and older
- 48% of perpetrators are youth

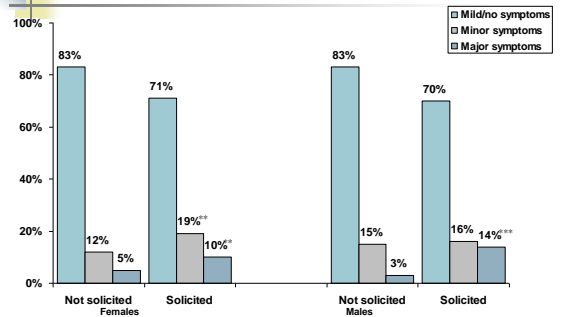
Odds of unwanted sexual solicitation given psychosocial challenge (n=1,498)

Youth characteristics	Solicited (N=97)	Not solicited (N=1392)	Odds Ratio (95% CI)	P-Value
Substance use				
High user	33.2% (94)	15.5% (187)	10.00 (5.06, 19.79)	<.01
Moderate user	63.3% (179)	68.0% (820)	4.34 (2.26, 8.37)	<.01
Low user	3.5% (10)	16.5% (199)	1.00 (Reference)	
Physical/sexual victimization				
Physical/sexual victimization	5.7% (16)	1.2% (15)	4.76 (2.32, 9.75)	<.01
Interpersonal victimization (2+)	32.9% (93)	16.0% (193)	2.57 (1.92, 3.44)	<.01
Negative life events (2+)				
Negative life events (2+)	35.6% (429)	55.1% (156)	2.22 (1.71, 2.89)	<.01
Infrequent peer interaction (3 days or less)	41.3% (117)	31.8% (383)	1.51 (1.16, 1.98)	<.01

Odds of online solicitation given report of depressive symptomatology



Unwanted sexual solicitation by sex & depressive symptomatology



Final logistic regression model of sexual solicitation: **Male Internet users** (n=782)

<i>Youth characteristics</i>	<i>AOR (95% CI)</i>	<i>P-Value</i>
Depression		
Major depressive-like symptoms	2.72 (1.15, 6.40)	0.02
Minor depressive-like symptoms	0.89 (0.45, 1.77)	0.74
Mild/Absent symptomatology	1.00 (Reference)	
Psychosocial challenge		
Life challenge (2+)	2.94 (1.33, 6.50)	0.01
Interpersonal victimization (2+)	1.87 (1.12, 3.14)	0.02

Male Internet users:(Cont)

<i>Youth characteristics</i>	<i>AOR (95% CI)</i>	<i>P-Value</i>
Internet usage characteristics		
Interactive Internet use		
Frequent	4.80 (2.47, 9.35)	<0.01
Moderate	2.13 (1.16, 3.94)	0.02
Infrequent	1.00 (Reference)	
Most frequent Internet activity		
Chat room	3.13 (1.60, 6.11)	<.001
Email	1.57 (0.84, 2.94)	0.16
Instant Messaging	1.10 (0.52, 2.32)	0.80
All other	1.00 (Reference)	
Harasser of others online	1.80 (1.01, 3.20)	0.05

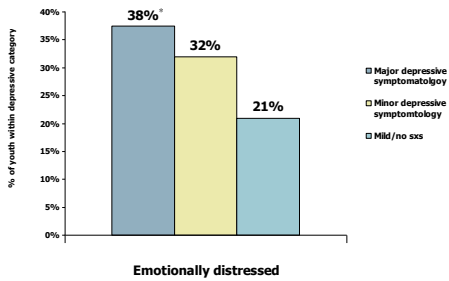
Final logistic regression model of sexual solicitation: **Female Internet users** (n=707)

<i>Youth characteristics</i>	<i>AOR (95% CI)</i>	<i>P-Value</i>
Depression		
Major depressive-like symptoms	1.40 (0.65, 2.99)	0.39
Minor depressive-like symptoms	1.62 (0.96, 2.76)	0.07
Mild/Absent symptoms	1.00 (Reference group)	
Psychosocial characteristics		
Substance use		
High user	2.87 (1.13, 7.34)	0.03
Average user	2.09 (0.97, 4.53)	0.06
Mild/non-user	1.00 (Reference group)	
Interpersonal victimization (2+)	1.82 (1.15, 2.89)	0.01

Female Internet users (cont)

<i>Youth characteristics</i>	<i>AOR (95% CI)</i>	<i>P-Value</i>
Internet usage characteristics		
Harasser of others online		
	4.07 (2.48, 6.68)	<.001
Interactive Internet use		
Frequent	3.21 (1.79, 5.77)	<.001
Moderate	2.12 (1.34, 3.37)	<.001
Infrequent	1.00 (Reference group)	
Most frequent Internet activity		
Chat room	3.10 (1.62, 5.93)	<.001
Instant Messaging	1.34 (0.68, 2.62)	0.39
Email	1.30 (0.81, 2.07)	0.28
All other	1.00 (Reference group)	

Emotional distress among sexual solicitation targets



Summary

Self-reported major depressive symptomatology is significantly related to the report of unwanted sexual solicitation

All youth: OR = 3.53, CI: 2.19, 5.71

Among males: OR = 5.90, CI: 2.79, 12.49

Among females: OR = 2.33, CI: 1.25, 3.45

Summary

After adjusting for other significant characteristics, a relationship persists among otherwise similar males, but not females:

- Males: AOR = 2.72, CI: 1.15, 6.40
- Females: AOR = 0.89, CI: 0.45, 1.77

Internet Harassment

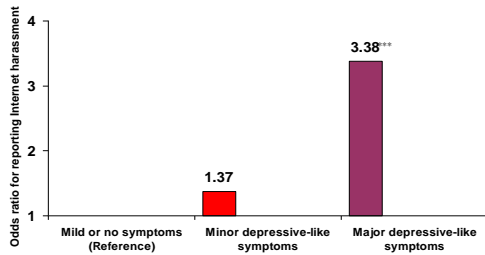
General findings

- 6% of regular Internet users in the previous year
(Finkelhor, Mitchell & Wolak, 2000)
- 1/3 of youth harassed indicate feeling very/extremely upset or afraid
- Males and females equally at risk
- 70% are 14 years and older
- 63% of perpetrators are youth

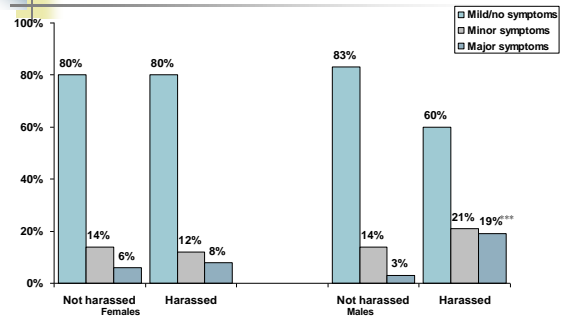
Odds of Internet harassment given psychosocial challenge (n=1,498)

Youth characteristics	Harassed (N=97)	Not harassed (N=1392)	Odds Ratio (95% CI)	P-Value
Substance use				
High user	32.0% (31)	18.0% (250)	6.36 (2.21, 18.30)	<.01
Moderate user	67.3% (937)	63.9% (62)	3.39 (1.22, 9.43)	0.02
Low user	14.7% (205)	4.1% (4)	1.00 (Reference)	
Negative life events (2+)				
Interpersonal victimization	41.2% (40)	17.7% (246)	3.27 (2.13, 5.01)	<.01
Physical/sexual victimization	59.8% (58)	37.9% (527)	2.44 (1.60, 3.72)	<.01
Physical/sexual victimization	4.1% (4)	1.9% (27)	2.17 (0.74, 6.35)	0.16

Odds of Internet harassment given report of depressive symptomatology



Internet harassment by sex and depressive symptomatology



Final logistic regression model of Internet harassment:
Male Internet users (N=782)

Youth characteristics	AOR (95% CI)	P-Value
Depression		
Major depressive-like symptoms	3.64 (1.16, 11.39)	0.03
Minor depressive-like symptoms	1.60 (0.68, 3.76)	0.28
Mild/Absent symptomatology	1.00 (Reference)	
Internet usage characteristics		
Average daily Internet use		
Intense (3+ hrs/day)	4.34 (2.12, 8.89)	<.001
Moderate (2 hrs/day)	1.00 (0.43, 2.31)	1.00
Low (<=1 hr/day)	1.00 (Reference)	
Harasser of others online	4.19 (2.06, 8.50)	<.001
Psychosocial characteristic		
Interpersonal victimization (2+)	3.07 (1.57, 6.00)	<.001

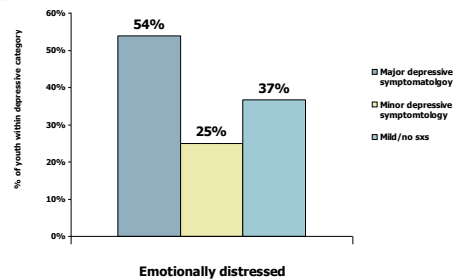
Final logistic regression model of Internet harassment: Female Internet users
(n=707)

Youth characteristics	AOR (95% CI)	P-Value
Depression		
Major depressive-like symptoms	0.90 (0.27, 3.04)	0.87
Minor depressive-like symptoms	0.88 (0.34, 2.31)	0.80
Mild/Absent symptomatology	1.00 (Reference)	

Female Internet users (Cont)

Youth characteristics	AOR (95% CI)	P-Value
Internet usage characteristics		
Average daily Internet use		
Intense (3+ hrs/day)	3.67 (1.53, 8.81)	0.01
Moderate (2 hrs/day)	2.34 (1.16, 4.73)	0.02
Low (<=1 hr/day)	1.00 (Reference)	
Most frequent Internet activity		
Instant Messaging	2.92 (1.10, 7.79)	0.03
Email	2.75 (1.20, 6.26)	0.02
Chat room	1.68 (0.51, 5.50)	0.39
All other	1.00 (Reference)	
Harasser of others online	2.82 (1.43, 5.53)	<.01
Internet service provider	0.52 (0.28, 0.97)	0.04
America Online ISP	1.00 (Reference)	
All other	0.36 (0.17, 0.75)	0.01
Don't know/refused	0.31 (0.13, 0.74)	0.01

Emotional distress among harassment targets



Summary

Self-reported depressive symptomatology is significantly related to the report of Internet harassment, especially for males:

All youth: OR = 3.38, CI: 1.78, 3.45

Among males: OR = 8.18, CI: 3.47, 19.25

Among females: OR = 1.32, CI: 0.45, 3.87

Summary

After adjusting for additionally significant characteristics, the association remains among otherwise similar males:

■ Males: AOR = 3.64, CI: 1.16, 11.39

■ Females: AOR = 0.90, CI: 0.27, 3.04

General profile

Summary across models

	Females		Males	
	Sex Sol.	Harassment	Sex Sol.	Harassment
Depressive symptomatology				
Major depressive-like symptoms			>	>
Minor depressive-like symptoms				
Psychosocial characteristics				
Interpersonal victimization	>		>	>
Life challenge			>	
Substance use	>			

Summary across models

	Females		Males	
	Sex Sol.	Harassment	Sex Sol.	Harassment
Internet usage characteristics				
Most frequent Internet activity				
Chat room	>		>	
Email		>		
Instant Messaging		>		
Average daily usage		>		>
Interactive Internet use	>		>	
Internet service provider		>		
Harasser of others online	>	>	>	>

Study Limitations

1. Cross sectional data
2. Definition of depressive symptomatology not a measure of "caseness" of major depression
3. Potential undercounting of some populations (e.g., non-English speaking youth)

Implications

- ✓ Differences in Internet usage alone are not sufficient to explain the odds of Internet harassment or sexual solicitation.

Implications

- ✓ Psychosocial challenge is associated with higher odds of an event:
 - ✓ Among young, regular Internet users, those who report DSM IV-like depressive symptomatology are significantly more likely to also report being the target of Internet harassment, and to have experienced an unwanted sexual solicitation compared to youth that report no symptoms of depression .
- ✓ Interpersonal victimization, substance use and negative life challenges

Implications

Future studies should:

- Investigate the temporality of events
- Identify additional subpopulations of vulnerable youth
- Look at other nations to begin understanding intra and inter-cultural similarities

Implications for health practitioners

- As more youth go online, Internet-related 'conditions' will be more common
- Questions about the Internet should be integrated into the well-being check

Implications for public health researchers

- The Internet is an influential environment that is shaping and affecting youth today
- If we are to understand and identify positive and negative risks young people face, the Internet must necessarily be on the forefront of the research agenda.

Implications for families

- Caregivers
 - Need to be educated about the Internet as well as positives and negatives of the technology
 - Need to have a strong overall relationship with their child
- Children
 - The majority of young people report positive Internet experiences
 - Majority of Internet targets report poor caregiver-child relationships
 - They need to be educated and empowered to enact their own intervention programs (e.g., schools)

Conclusion

Understanding the complex interaction between mental health and online interactions, especially the influence of malleable characteristics such as depressive symptomatology and Internet usage, is an important area of emerging research.

Questions?

Discussion

- ✓ Differences in association with depressive symptomatology for males versus females
- ✓ Psychosocial challenge: "learned helplessness"?

Discussion

- ✓ Emotional distress
- ✓ Cognitive distortion
- ✓ Interplay of aggression