

Linkages between depressive symptomatology and Internet harassment among youth

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* 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. L., Alexander, C., & Mitchell, K. J. (2005). Depressive symptomatology, youth Internet use, and online interactions: a national survey. *Journal of Adolescent Health, 36*, 9-18, or by contacting CiPHR for further information.



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."

Depressive symptomatology in childhood

- 6% of youth at any time (Kessler & Walters, 1998)
- Significant public health burden
 - 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)

Traditional bullying

- 10-20% of young people (Boulton & Underwood, 1992; Slee & Rigby, 1993; Rigby, 1993)
- Significant public health burden
 - Concurrent symptoms of depression (Haynie, Nansel, Eitel et al., 2001; Kaltiala-Heino, Rimpela, Martunen et al., 1998)
 - Long-term effects:
 - Symptoms of depression over time (Kumpulainen & Rasanen, 2000)
 - Poor health (Rigby, 1998)
 - 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 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 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

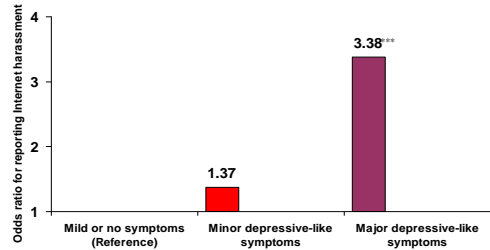
Statistical methods

- Complete data requirements: N=1,489
- Depressive symptomatology
 - Mild/no symptoms: 81%, N=1,201
 - Minor depressive symptomatology (3+ sx): 14%, N=211
 - Major depressive symptomatology (5+sxs & functional impairment): 5%, N=77
- Logistic regression
- Stratify by sex
- Multivariate parsimonious logistic regression model

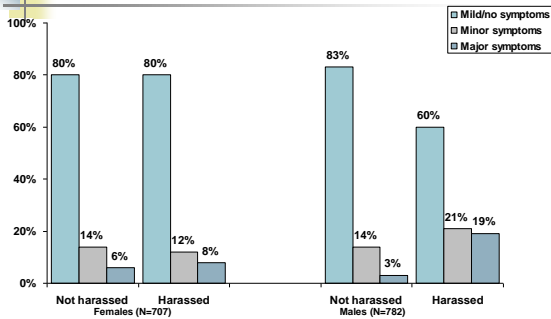
General findings

- 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 report of depressive symptomatology (N=1,489)



Internet harassment by sex & depressive symptomatology (N=1,489)



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)

<i>Youth characteristics</i>	<i>AOR (95% CI)</i>	<i>P-Value</i>
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)

<i>Youth characteristics</i>	<i>AOR (95% CI)</i>	<i>P-Value</i>
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

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 is robust among otherwise similar males:

- Males: OR = 3.64, CI: 1.16, 11.39
- Females: OR = 0.90, CI: 0.27, 3.04

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 (i.e., non-English speaking youth, households without a telephone)

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.