

Online aggressor/targets, aggressors, and targets: a comparison of associated youth characteristics

Michele L. Ybarra¹ and Kimberly J. Mitchell²

¹Johns Hopkins Bloomberg School of Public Health, Center for Adolescent Health Promotion and Disease Prevention, Baltimore, MD, USA; ²Crimes Against Children Research Center, University of New Hampshire, Durham, NH, USA

Background: While most youth report positive experiences and activities online, little is known about experiences of Internet victimization and associated correlates of youth, specifically in regards to Internet harassment. **Methods:** The Youth Internet Safety Survey is a cross-sectional, nationally representative telephone survey of young regular Internet users in the United States. Interviews were conducted between the fall of 1999 and the spring of 2000 and examined characteristics of Internet harassment, unwanted exposure to sexual material, and sexual solicitation that had occurred on the Internet in the previous year. One thousand, five hundred and one regular Internet users between the ages of 10 and 17 years were interviewed, along with one parent or guardian. To assess the characteristics surrounding Internet harassment, four groups of youth were compared: 1) *targets* of aggression (having been threatened or embarrassed by someone; or feeling worried or threatened by someone's actions); 2) *online aggressors* (making rude or nasty comments; or harassing or embarrassing someone with whom the youth was mad at); 3) *aggressor/targets* (youth who report both being an aggressor as well as a target of Internet harassment); and 4) non-harassment involved youth (being neither a target nor an aggressor online). **Results:** Of the 19% of young regular Internet users involved in online aggression, 3% were aggressor/targets, 4% reported being targets only, and 12% reported being online aggressors only. Youth aggressor/targets reported characteristics similar to conventional bully/victim youth, including many commonalities with aggressor-only youth, and significant psychosocial challenge. **Conclusions:** Youth aggressor/targets are intense users of the Internet who view themselves as capable web users. Beyond this, however, these youth report significant psychosocial challenge, including depressive symptomatology, problem behavior, and targeting of traditional bullying. Implications for intervention are discussed. **Keywords:** Internet, bully, adolescence, computers, depression, child development. **Abbreviations:** YISS: Youth Internet Safety Survey; AOR: Adjusted Odds Ratio.

Internet access and use continues to increase among American youth (National Public Radio/Kaiser Family Foundation/Kennedy School of Government, 2000; UCLA Center for Communication Policy, 2001). Many young users view the Internet as a powerful tool that increases connectivity and communication with others (Kaiser Family Foundation, 2001), as well as provides access to valuable information such as somatic and mental health advice (Borzekowski & Rickert, 2001). While most youth report positive experiences and activities online (Kaiser Family Foundation, 2001; Borzekowski & Rickert, 2001; Finkelhor, Mitchell, & Wolak, 2000b), the need to identify subpopulations potentially vulnerable to negative Internet experiences is necessary for effective intervention and prevention programs. Internet harassment is one such experience that may have deleterious consequences for youth.

Internet harassment

Internet harassment is an overt, intentional act of aggression towards another person online. Actions

can take the form of purposeful harassment or embarrassment of someone else, or making rude or nasty comments towards someone else while online. For example, youth describe instances where they were threatened with physical harm: '*Someone was threatening to kill me and my girlfriend,*' while other examples focus on embarrassing and humiliating the youth: '*They were mad at me and they made a hate page about me.*' (Finkelhor, Mitchell, & Wolak, 2000a).

Internet aggression is sparsely documented, although research indicates an estimated 4% of youth have been the target of email harassment (British Broadcasting Corporation, 2002) and 6% have been the target of more general Internet harassment (Finkelhor et al., 2000b). Fifteen percent of young people have been an online aggressor (Ybarra & Mitchell, in press) at least once in the previous year. While the majority of youth targets of aggression report being relatively unaffected, a notable one-third of youth harassed online indicate feeling very or extremely upset, and one-third feel at least one symptom of stress following the incident (Finkelhor et al., 2000b).

Youth involved in conventional bullying

Studies detailing conventional bullying behavior can be used as a reference point for investigating Internet harassment. Estimates of bullying involvement, either as a bully, victim, or both, among American youth are about 30% (Nansel et al., 2001; Haynie et al., 2001). Bullies are generally aggressive, not only with their peers but also with adults (Olweus, 1994). They tend to have more positive views of violence compared to other children (Bowers, Smith, & Binney, 1994), are impulsive, and tend to lack empathy (Olweus, 1994). Youth who bully are typically stronger and bigger than their peers (Olweus, 1994). They are more likely to spend time with friends frequently compared to non-bully involved peers in the younger grades (Forero, McLellan, Rissel, & Bauman, 1999), though their popularity tends to wane in high school (Olweus, 1994). Victims of bullying, on the other hand, are much more introverted and have lower self-esteem (Olweus, 1993). These youth typically are anxious, sensitive, cautious, and react to aggression by withdrawing from the situation. They are more likely to report feelings of being ostracized and of loneliness (Forero et al., 1999). Boys are more likely to be both targets and perpetrators of bullying, especially direct (i.e., physical) bullying, but also indirect (e.g., slandering, manipulation of friendships) bullying (Forero et al., 1999; Olweus, 1993). Similarly poor ratings of school commitment are offered for bullies and targets (Forero et al., 1999). Long-term effects seen into adulthood include delinquency, crime, and alcohol abuse for bullies (Loeber & Dishion, 1984; Magnusson, Stattin, & Duner, 1983), and depression and lower self-esteem for victims (Magnusson Olweus, 1993).

In general, characteristics of bully/victims, youth who are both bullied and bully others, tend to be more aligned with bullies than targets. For example, they are more likely to be male (Nansel et al., 2001; Haynie et al., 2001; Forero et al., 1999), to report poor academic achievement, and to engage in cigarette smoking (Nansel et al., 2001). On the other hand, they report many of the social challenges victims do, including poor relationships with peers and heightened feelings of loneliness (Nansel et al., 2001). Studies indicate, however, that bully/victims may be a distinct subgroup among those involved in bullying as they likely are manifesting the greatest psychosocial challenge (Olweus, 1993, 1994; Nansel et al., 2001; Austin & Joseph, 1996; Haynie et al., 2001; Forero et al., 1999; Kumpulainen, Rasanen, Henttonen et al., 1998; Kaltiala-Heino, Rimpela, Rantenen, & Rimpela, 2000). A number of studies have reported that bully/victims have higher rates of depression (Kaltiala-Heino et al., 2000), anhedonia (Kumpulainen et al., 1998), somatization (Forero et al., 1999), co-occurring disorders (Kaltiala-Heino et al., 2000), and psychiatric referral (Kumpulainen et al., 1998) compared to bullies only, targets only, and youth not involved in bullying. Bully/victims also have been

noted to have the highest rates of behavior problems compared to all other groups (Austin et al., 1996; Wolke, Woods, Bloomfield, & Karstadt, 2000). Additional psychosocial challenges have been noted to be extremely severe, including interpersonal problems (Nansel et al., 2001; Haynie et al., 2001; Kumpulainen et al., 1998; Forero et al., 1999), and overall levels of functioning (Austin et al., 1997; Haynie et al., 2001; Kumpulainen et al., 1998; Forero et al., 1999) compared to their bully and non-bully involved peers. Finally, in addition to findings suggesting poor caregiver-child relationships associated with child aggression (Barnow, Lucht, & Freyberger, 2001), bully/victims are most likely to report their parents' discipline and monitoring practices as erratic and emotional warmth to be lacking compared to both bullies only and targets only (Bowers et al., 1994).

It is possible that, similar to conventional bullying, a similar subset of 'bully-victim' youth can be identified among those involved in Internet harassment. Using data from the Youth Internet Safety Survey, the most detailed survey of young Internet users to date (Finkelhor et al., 2000b), the current investigation aims to expand upon the traditional bully/victim literature by examining Internet aggressor/targets and identifying their potentially unique characteristics and challenges.

Methods

Data source sampling method

The Youth Internet Safety Survey (YISS) was based on a two-stage probability sample, resulting in a nationally representative group of young regular Internet users ($N = 1,501$) (Finkelhor et al., 2000b). The research was approved and supervised by the University of New Hampshire's Human Subjects Committee and conformed to the rules mandated by research projects funded by the Department of Justice.

Phone numbers were derived from the Second National Incidence Study of Missing, Abducted, Runaway, and Thrownaway Children (NISMART 2). NISMART 2 was a nationally representative telephone survey, conducted by the Institute for Survey Research at Temple University (Hammer, Finkelhor, & Sedlak, 2002). Households that were identified as having at least one child between 9 and 17 years of age during the NISMART 2 adult screening process were flagged for possible YISS selection. In total, 6,594 phone numbers were forwarded to YISS investigators.

All phone numbers received by YISS from NISMART 2 were dialed and successful contact was made with 3,446 households by the end of the survey period. Seventy-five percent of those households contacted completed the eligibility screen, 72% of which were identified as eligible for YISS participation. Finally, 82% ($N = 1,501$) of eligible households completed both the adult and youth surveys (Finkelhor et al., 2000b) when the desired sample size was reached. Unfortunately, characteristics of eligible, non-participants were not available for comparison.

Methods in YISS data collection

Schulman, Ronca, and Bucuvals, Inc. (SRBI), a national survey research firm, conducted interviews via telephone. Upon reaching a household, interviewers requested to speak with an adult and the presence of a child in the household meeting inclusion criteria was confirmed. The adult who was most familiar with the child's Internet use was then interviewed after providing informed consent. At the close of the parent survey, the interviewer asked if the child could also participate; confidentiality was assured, and the adult was informed that questions would be asked about 'sexual material your child may have seen', and would receive \$10 for his or her time. In households where there were more than one youth in the appropriate age range who used the Internet, the one who used the Internet the most often was chosen to participate in the study. The youth interview was scheduled at the convenience of the child, when he or she felt able to talk freely and confidentially. Confidentiality was assured, and young people were told that they could skip any question if desired. Youth participants were mailed Internet safety-related brochures and \$10 upon completion of the survey. Verbal consent from both adult and child were required for the youth interviews. The average youth interview lasted between 15 and 20 minutes. The adult survey lasted an average of ten minutes.

Study population

The YISS was conducted between the fall of 1999 and the spring of 2000 in an effort to quantify and detail youth experiences on the Internet, specifically reporting online harassment, unwanted sexual solicitation, and unwanted exposure to sexual material (Finkelhor et al., 2000b). Participants were regular Internet users who had used the Internet at least once a month for the past 6 months from any location, and one caregiver in the household self-identified as the one most knowledgeable about the youth's Internet practices (69.1% female). This broad definition of 'regular Internet use' was used to ensure a wide range of Internet use behaviors, from relatively low use to high use. Location of Internet access was similarly wide-ranging, and included home, school, library, another person's house, or any other point of access.

Youth participants ranged between the ages of 10 and 17 ($M = 14.14$, $SD = 1.96$). Forty-eight percent of respondents were female, and more than three-quarters (76%) self-identified as non-Hispanic White. Highly educated, highly prosperous families and White individuals were over-represented in the YISS sample compared to the national average (US Census Bureau, 2002), but they were reflective of the typical Internet household at the time of data collection (National Public Radio et al., 2000; UCLA Center for Communication Policy, 2001).

Measures

Online aggression. Online aggression was conceptualized as similar to conventional bullying behavior. For example, both bullying and Internet harassment were behaviors intended to psychologically agitate another

person (Olweus, 1993; Nansel et al., 2001). And, as revealed by the youth testimonials above, a real or perceived imbalance of power was achieved by the aggressor regardless of whether the action was online or in-person. Internet harassment research was still in its infancy, so standardized and accepted measures were yet to be developed when YISS data collection commenced. Questions used in the study aimed to identify episodes where one person tried to emotionally disturb another person either by things 'said' or actions taken.

Youth *targets of online aggression* were identified based upon two questions: 1) whether anyone had used the Internet in the previous year to threaten or embarrass the respondent by posting or sending messages about him or her for other people to see; and 2) whether the respondent ever felt worried or threatened because someone was bothering or harassing him or her while online. Being a target of aggression was dichotomized (yes/no), with youth responding positively to at least one of the two items compared to youth responding negatively to both items.

Youth *engaging in online aggression* were identified based upon two questions: 1) making rude or nasty comments to someone on the Internet; and 2) using the Internet to harass or embarrass someone with whom the youth was mad. The measure of aggression was dichotomized to reflect youth responding positively to at least one of the two items compared to youth responding negatively to each question.

Youth online aggressor/targets were defined as responding positively to at least one item for each of the above aggression measures. Non-harassment involvement was defined as those that responded negatively to all target and aggressor items.

Psychosocial challenge. Current symptoms (i.e., within the previous month) of depression were queried (yes/no) based upon the nine items outlined in the *Diagnostic Statistical Manual-IV* (American Psychological Association, 1999). Acceptable inter-item correlation was observed ($KR-20 = .81$). Based upon the DSM-IV definition of major depressive disorder, youth were defined as reporting major depressive-like symptomatology if: 1) at least five of the nine symptoms were endorsed, one of which was either anhedonia or dysphoria, and additionally 2) functional challenge was reported in at least one of three areas: self-efficacy, personal hygiene, or school work.

The number of times in the previous year youth engaged in drinking and smoking behavior was also assessed (0-5+, with an artificial ceiling at 5). Two dichotomous variables were created, to compare high users (i.e., those engaging in the behavior four or more times) versus all other. Four questions were asked to reflect behavior problems: 1) purposefully damaging property; 2) police contact; 3) physically assaulting a non-family member; and 4) taking something that did not belong to the respondent within the previous year. The measure was reduced to a dichotomous indicator of those indicating at least one of the four behaviors in the previous year versus none. Youth were asked to rate how well they liked school (referred to in the current analyses as 'school commitment') on a Likert scale of 1 to 5 (1 being 'the worst thing one could think of', 5 being 'love every minute of it'). Respondents scoring

one or two (i.e., disliking school) were compared to all others. Finally, the report of *offline* bullying victimization was indicated for youth reporting having been either hit or picked on by another child in the previous year.

Caregiver-child relationships. Youth respondents were asked to rate their daily interactions with their caregiver based upon nine questions. Each response was measured on a 4-point Likert scale ranging from very badly, to very well on emotional indicators, and never/rarely to all of the time for monitoring and discipline indicators. Exploratory factor analysis suggested three factors (all eigenvalues ≥ 1): 1) emotional closeness (i.e., how well caregiver and child get along, caregiver trust of child, discussing problems with caregiver when feeling sad or in trouble, and frequency of having fun together), 2) general monitoring (i.e., frequency with which caregiver knows where child is, and with whom child is spending time), and 3) discipline (i.e., frequency of 'nagging' child, taking away privileges, and yelling). One variable was created for each of the above three aspects of the caregiver-child relationship by reverse scoring the items to make a higher score reflect a poorer rating, and then summing the scores of the associated variables (Ranges: emotional closeness: 4-16; parental monitoring: 2-8; harsh discipline: 3-12). Finally, because of indications of non-linearity, each was dichotomized at one standard deviation above the mean.

Internet use. Several Internet usage characteristics were included in the analyses. Average frequency and duration of Internet use were gathered via youth report. Based upon indications of non-linearity, each was categorized at one standard deviation above the mean (6 days per week/3 hours per day, respectively). Youth were also asked for what activities they use the Internet most often and four categories were created to reflect communication-related activities: 1) chat rooms, 2) email, 3) Instant Messaging, and 4) all other activities (e.g., playing games, school assignments, downloading software). Location of Internet access was reported by youth and entered as using the Internet most often from home versus all other places. Additionally, youth were asked to rate the importance of the Internet to them based upon a 5-point Likert scale (not at all important - very important). This was dichotomized into two categories: not at all to average importance (reference group) versus very or extremely important. Respondents were also asked to rate their expertise on the Internet from 1 to 5, ranging from novice to expert. A dichotomous variable was created to compare almost expert/expert users versus less learned (reference group).

Internet controls. Two indications of restrictions of Internet use were included in the analyses. Caregivers were asked whether blocking software was used on the home computer (yes/no), as well as whether there were household rules about acceptable Internet practice (yes/no).

Demographics. Youth-reported age was dichotomized at 15 years and older versus younger. Self-reported race was dichotomized as White versus all other.

Caregivers reported youth gender and 1998 household income. Income was categorized at one standard deviation above the mean (\$75,000 and higher) versus lower.

Statistical methods

Stata 7.0 (StataCorp, 2000) was used for all analyses. Cases were required to have valid data for the majority of variables analyzed. Specifically, cases missing more than two data points in a subcategory of child characteristics (i.e., online aggression behaviors, Internet use, psychosocial characteristics, or demographics) were excluded. Three cases were thus dropped, resulting in a final sample of 1,498. 'Do not know' answers were categorized as 'symptom absent' (<1% in each variable affected). Missing values were imputed based upon best-set regression (StataCorp, 2000). Most affected variables had less than 1% imputed, except for household income (7.28% of values), average number of days Internet is used (1.13% values), and the frequency of caregiver 'nagging' (1.13% of values).

Following exploratory data analysis, χ^2 tests were used to identify significant differences in the data distribution between each of the four groups of youth based upon each specific characteristic examined. Next, in order to quantify specific differences between aggressor/target and other Internet harassment-involved youth, two parsimonious models of significant characteristics were created using backward stepwise deletion ($p > .05$). The first model compared aggressor/targets to victim-only youth, while the second compared aggressor/targets to aggressor-only youth.

Results

Descriptive results

Almost one in five (19%), young regular Internet users in the sample were involved in online harassment in some capacity within the previous year. Three percent were aggressor/targets. An additional 4% reported being targets of aggression, and 12% reported aggressive behavior towards others online. The data indicated that aggressor youth frequently targeted people they knew in conventional environments. Youth who reported they had harassed or embarrassed someone online were asked to report whether they knew the target in person; 84% ($N = 16$) said they did. In contrast, few youth who reported being a target of Internet aggression reported knowing the harasser in person (31%, $N = 30$). In general, Internet aggression was similar to traditional bullying in its repetitive nature; 55% of Internet targets of aggression indicated they were harassed more than once by the same individual, with 16% harassed four or more times in the previous year.

The prevalence of most youth characteristics assessed was higher for aggressor/target youth compared to non-harassment involved youth (see Table 1). In general, psychosocial and caregiver-child relationship characteristics were similar for

Table 1 Characteristics of young regular Internet users by the report of Internet harassment involvement ($N = 1,498$)

Youth characteristics	Aggressor/Victim ($N = 43$) (% N)	Aggressor-only ($N = 176$) (% N)	Victim-only ($N = 55$) (% N)	Non-harassment involved ($N = 1,224$) (% N)
Psychosocial characteristics				
Target of offline bullying ^{c,e}	55.8% (24)	49.4% (87)	43.6% (24)	29.2% (357)
Problem behavior ^{b,c,d,e}	44.2% (19)	34.7% (61)	14.6% (8)	12.5% (153)
Low school commitment ^e	27.9% (12)	27.8% (49)	12.7% (7)	14.1% (172)
Alcohol use ^{c,d,e}	25.6% (11)	28.4% (50)	10.9% (6)	8.7% (107)
Cigarette use ^{c,e}	23.3% (10)	17.6% (31)	7.3% (4)	6.8% (83)
Major depressive like symptomatology ^c	16.3% (7)	10.2% (18)	9.1% (5)	3.8% (47)
Parent-child relationship				
Infrequent parental monitoring ^{c,d,e}	51.2% (22)	54.0% (95)	29.1% (16)	30.2% (370)
Poor emotional bond ^{c,e}	37.2% (16)	46.0% (81)	27.3% (15)	18.7% (229)
Frequent discipline	27.9% (12)	33.5% (59)	20.0% (11)	16.0% (196)
Internet characteristics				
Use Internet most often at home ^{c,e}	81.4% (35)	73.9% (130)	72.7% (40)	62.2% (761)
Almost expert/expert Internet user ^{c,d,e}	58.1% (25)	52.8% (93)	32.7% (18)	28.9% (354)
6+ days per week ^{b,c,e}	44.2% (19)	29.0% (51)	20.0% (11)	17.5% (214)
Importance of Internet to self (very or extremely) ^{c,e}	37.2% (16)	30.1% (53)	32.7% (18)	17.7% (216)
3+ hours per day ^c	34.9% (15)	17.6% (31)	29.1% (16)	11.1% (136)
Most frequent Internet activity^{c,e}				
Instant Messaging	34.9% (15)	27.8% (49)	36.4% (20)	24.4% (299)
Chat room	25.6% (11)	18.8% (33)	16.4% (9)	8.2% (100)
Email	23.3% (10)	36.9% (65)	36.4% (20)	59.6% (730)
All else	16.3% (7)	16.5% (29)	10.9% (6)	7.8% (95)
Internet controls				
Parent has rules about Internet use	76.7% (33)	83.5% (147)	85.5% (47)	81.1% (993)
Use of blocking software	30.2% (13)	27.3% (48)	20.0% (11)	22.1% (270)
Demographic characteristics				
White race	83.7% (36)	80.1% (141)	80.0% (44)	74.0% (906)
15 years old and higher ^{d,e}	55.8% (24)	67.1% (118)	47.3% (26)	44.0% (538)
Male	53.5% (23)	52.8% (93)	47.3% (26)	53.0% (649)
High income (\$75,000+)	32.6% (14)	28.4% (50)	20.0% (11)	22.2% (272)

Statistically significant ($p < .01$) based upon χ^2 tests: a: Aggressor/victim vs. Aggressor-only; b: Aggressor/target vs. Victim-only; c: Aggressor/victim vs. non-harassment involved; d: Aggressor-only vs. Victim-only; e: Aggressor-only vs. Non-harassment involved.

youth who reported aggressor/target behavior and aggressor-only behavior. For example, about half of youth in each group reported being the target of offline bullying, around 20–25% indicated cigarette or alcohol use, and more than 50% reported poor parental monitoring. Over 50% of aggressor/victim youth and aggressor-only youth similarly rated themselves as being almost or expert online. Further, about 30% of caregivers of these two groups of youth indicated using blocking software on their home computers. Several Internet usage characteristics of aggressor/targets, however, were more similar to target-only youth. About 35% of youth in each group reported using the Internet most frequently for Instant Messaging, and around 30% use the Internet for 3 hours or more per day.

A profile of aggressor/targets youth

A cross-sectional profile of aggressor/target youth was identified using logistic regression to estimate the odds of being an aggressor/target versus victim-only youth, as well as aggressor-only youth, respectively. Two parsimonious models of characteristics necessary to explain the observed differences between youth were created using backward

stepwise deletion (variables with $p < .05$ were retained). The resulting adjusted odds ratios estimated the odds of being an aggressor/target versus being a victim-only or aggressor-only youth, respectively.

Aggressor/target youth differed significantly from victim-only youth in terms of Internet use, parent-child relationships, and psychosocial challenge ($N = 97$). Youth engaging in problem behavior were almost four times as likely (AOR: 3.90, 95% CI: 1.37, 11.09) to also report being an Internet aggressor/target versus victim-only youth after adjusting for all other significant characteristics. Infrequent parental monitoring was additionally significant in the odds of reporting aggressor/target behavior, with a three-fold increase in likelihood (AOR: 2.76, 95% CI: 1.05, 7.26) for youth indicating poor parental monitoring. Confidence in Internet use also discriminated youth behaviors, with those rating themselves as having almost expert or expert knowledge of the Internet 2.5 times more likely (AOR: 2.61, 95% CI: 1.03, 6.64) to also report being an aggressor/target versus victim-only youth. Compared to otherwise similar youth, those who reported Internet usage six or more days a week were more than three times as likely (AOR: 3.18, CI: 1.15, 8.77) to also indicate being an aggressor/target.

The parsimonious logistic regression model comparing aggressor/target and aggressor-only youth revealed that they share many similarities ($N = 219$). Only one characteristic was retained in the parsimonious logistic regression model and was able to significantly discriminate between the two groups of youth. Those who reported using the Internet three hours a day or more versus fewer were 2.5 times as likely (OR: 2.51, 95% CI: 1.20, 5.23) to also report engaging in aggressor/target behavior compared to aggressor-only behavior.

Consequences of Internet harassment

As reported previously, one-third of youth harassed online reported feeling emotionally distressed as a direct result (Finkelhor et al., 2000b). The odds of distress appeared to be related to status of harassment involvement. Subsequent analyses in the current investigation revealed that aggressor/targets of online harassment were almost six times as likely (OR: 5.94, 95% CI: 3.06, 11.51) to report emotional distress as a result of being the target of Internet harassment compared to victim-only youth.

Discussion

Overlap of participation in conventional and Internet bullying

Many youth involved in Internet harassment are also targets of conventional bullying. Over half of aggressor/targets (56%) report being the target of offline bullying, while 49% of aggressor-only and 44% of victim-only youth report similar experiences. These data also suggest however, that some youth are exclusively involved in harassment online. Thus, for some youth who are bullied, the Internet may simply be an extension of the schoolyard, with victimization continuing after the bell and on into the night. For other youth victims of conventional bullying, the Internet may be a place to assert dominance over others as compensation for being bullied in person. And for youth who are not involved in conventional bullying, the Internet may be a place where they take on a persona that is more aggressive than their in-person personality.

Internet harassment and conventional bullying differ in one important aspect of asymmetrical power; one's ability to keep his or her identity unknown is a unique method of asserting dominance online that conventional bullying disallows. This important difference may help explain the incomplete overlap in participation of both conventional and online harassment. In fact, it is interesting to note that the majority of aggressors (84%) indicate knowing who their target is, whereas most targets (69%) indicate the aggressor is unknown to them. It could also be, however, that aggressors say they

'know' the victim, but are reacting to an online persona one has created for online interaction.

Comparisons of characteristics to conventional bully/victims

As with bully/victims (Kaltiala-Heino et al., 2000; Haynie et al., 2001), aggressor/targets share more characteristics with aggressor-only than victim-only youth. Additionally, similar to previous reports of bully/victims (Haynie et al., 2001; Forero et al., 1999), psychosocial challenge is most frequently endorsed by aggressor/targets compared to all other youth. Two in five (44%) report problem behaviors (Austin et al., 1996; Wolke et al., 2000), and one-quarter has engaged in drinking (26%) and smoking (23%) on multiple occasions (Nansel et al., 2001; Kaltiala-Heino et al., 2000). They also have the highest rate of current depressive symptomatology (16%) (Kaltiala-Heino et al., 2000). These findings suggest that like conventional bully/victims (Haynie et al., 2001), aggressor/targets indicate the poorest psychosocial functioning and are likely in need of intervention and services.

In contrast to youth involved in conventional bullying (Nansel et al., 2001; Olweus, 1994), aggressor-only youth and aggressor/targets are more likely to be high school rather than middle school age. SES and race/ethnicity demonstrate similarly weak associations with both Internet aggressor/target and offline bully/victim status (Nansel et al., 2001; Wolke et al., 2000).

Unique Internet characteristics

Identifying unique Internet characteristics is an integral component of understanding youth Internet aggressor/targets. These youth are intense Internet users who are confident of their abilities. Compared to victim-only youth, aggressor/targets are three times as likely to report using the Internet for 6 days or more, and 2.5 times as likely to rate themselves almost or an expert at Internet navigation after adjusting for other significant characteristics. Further, while aggressor/targets and aggressor-only youth are comparable in terms of most characteristics, the odds of reporting aggressor/target behavior are 2.5 fold higher for youth who use the Internet three hours a day or longer versus fewer. Notably, average daily usage is similar for aggressor/targets and targets-only, indicating that the 'time at risk' may be intense daily use instead of frequent weekly usage.

Measuring Internet harassment

The study of Internet harassment is still in its relative infancy and standardized methods for measuring the behavior have not yet been developed. Experts in adolescent health crafted the questions in

the current study, however, and they were then pilot tested with youth to ensure applicability and understandability. An ever/never approach was taken to indicate Internet harassment in the current study. This does not take into account that some youth are harassed only once, while others are repeatedly targeted. This measurement is therefore a more inclusive definition of Internet harassment. It is possible that repetitive harassment is associated with different youth correlates; this is certainly an area for future research.

Another challenge in measuring Internet harassment is the inherently sensitive nature of the subject. As with all surveys, the method of data collection chosen has both positive and negative consequences. Telephone surveys are superior to school surveys in terms of economy (i.e., they are less expensive to carry out) and generalizability (i.e., not just public-schooled youth, etc.). Further, studies indicate that a high level of self-disclosure of sensitive information is achieved via telephone interviews (Ellen et al., 2002). On the other hand, privacy is more of an issue for telephone surveys because it is completed in the home. Young people might underplay their role in some online interactions while overplaying that of others if they believe their caregiver is privy to the information. YISS surveyors were mindful of scheduling the interview at a time when the youth felt he or she could talk in confidence, thus ensuring more accurate answers. Future studies should look at the differential rates of disclosure using telephone versus Internet-based collection methods.

Limitations

This study represents the first of its kind to rigorously examine characteristics of Internet aggressor/targets, but it is not without limitations. First, although the four categories of harassment involvement are exclusive, it cannot be determined whether aggressor/targets were both the target and the instigator during one encapsulated encounter, or as different interactions. Second, the measures for aggression and victimization may be less than symmetrical; for example, it is not a requirement for aggressors that the rude or nasty comment is posted where others can read it. This may lead to a lower threshold of aggression/bad temper for aggression than victimization. Third, the definition of Internet harassment does not take into account severity or frequency. Future studies should take into account these potentially important nuances. Fourth, the data were collected in 1999/2000 and thus cannot be said to represent the trends and patterns of Internet usage today. More youth are connected today and they have a greater level of Internet savvy. Many behaviors have stayed the same, however; for example, email remains the most commonly cited reason youth use the Internet (Turow & Nir, 2000;

Lenhart, Rainie, & Lewis, 2001; US Department of Commerce, 2002). Given the wide prevalence of conventional bullying, this may mean that more youth are involved in Internet harassment today (i.e., it is more than a growing pain for new users, but rather just as pervasive as conventional bullying); certainly further research is needed. Finally, it is possible that characteristics in the current model may modify one another. Due to necessary cell stability restrictions, however, such exploration was not conducted.

Implications

Despite limitations, the current study adds an important first look at the characteristics associated with youth Internet aggressor/targets. Several important implications arise from the findings.

Psychosocial challenge

Youth who report aggressor/target behavior are especially likely to also reveal serious psychosocial challenges, including problem behavior, substance use, depressive symptomatology, and low school commitment. The findings make clear that those involved in Internet aggression are likely facing challenges on multiple fronts. Mental health, school, social work, and other professionals interfacing with youth should be knowledgeable about the Internet, and specifically about experiences young people are having and engaging in online. Conceptualizations of traditional exposure settings for bullying such as school and the community should now be expanded to include the Internet. Questions about Internet experiences should be included in routine well-being checks as well as more intensive therapeutic conversations and risk assessments. Psychological challenges such as depressive symptomatology may confer risk for negative experiences online in a similar fashion to the way they are related to victims of conventional bullying (Kaltiala-Heino et al., 2000). Alternatively, Internet harassment may be related to the onset of mental health challenge just as negative experiences often precede the onset of major depressive disorder for youth (Kazdin & Marciano, 1998). Given that one-third of youth harassed online reported feeling distressed by the incident, and the deleterious effects associated with conventional bullying (Olweus, 1993), the current findings are enough to indicate that professionals working with youth need to, first, recognize that Internet victimization includes more than sexual exploitation (Finkelhor et al., 2000b), and second, address the seriousness of Internet harassment issues just as they would conventional bullying involvement. Further research is needed to better understand the temporality and relationship between psychosocial challenges and online negative experiences.

The caregiver's role

The majority of current Internet safety guidelines (e.g., American Academy of Pediatrics, 2001; Magid, 1998) recommend parental involvement and monitoring of their children's Internet use to ensure safe and appropriate online navigation. These are certainly worthy recommendations. Results of this study indicate, however, that additional measures are necessary. In fact, neither caregiver report of the use of blocking software nor their indication of household rules about Internet use was related to a significant difference in the likelihood of being involved in Internet harassment. Further, youth report accessing the Internet from many places other than the home, including school, the library, and other people's homes; 27% of victim-only youth said they log on to the Internet most frequently from somewhere other than their own home, as do 20% of aggressor/targets and 25% of aggressor-only youth. Thirdly, older youth, who tend to be more independent and demand more privacy, are more likely to be involved in Internet harassment. Professionals working with youth who are asked by caregivers what methods promote safe Internet use for their children should emphasize general positive parenting styles. Indeed, general monitoring and positive caregiver-child relationships may be more important factors in Internet safety as global parental monitoring is significantly related to a decrease in the likelihood of being an online aggressor. As with conventional victims of bullying, however (Nansel et al., 2001), parental monitoring is generally high among harassment victims. While the underlying reason is not clear, this indicates that alternative interventions may be necessary.

Recommendations for interventions

Clearly, not only parents but also youth should be empowered and responsible for their own online safety. Youth-oriented healthcare professionals should be as aware of the resource as youth are themselves in terms of generating Internet safety techniques. For example, as suggested by Finkelhor et al. (2000b), youth should be included in advocacy and educational campaigns about standard and healthy Internet behavior, and encouraged to take responsibility for youth-oriented aspects of the Internet. Young people should be viewed as resources for crafting intervention messages that are well received by youth and take into account realistic expectations of behavior change and Internet behavior.

Messages about modifying Internet usage by suggesting youth spend less time online, or staying away from specific types of sites, is not wholly sufficient in addressing the problem of Internet harassment, given the preponderance and degree of non-Internet related characteristics such as problem behavior. Interventions aimed at conventional psychosocial

issues need to integrate an Internet component. For example, currently implemented bullying prevention programs should reflect youth interactions of today and recognize that the Internet represents a new mode by which aggression and bullying behavior is expressed. Additional modules speaking specifically about Internet harassment issues should be added, including behaviors that constitute harassment, and the associated psychological distress experienced by some youth who are targeted. Discussion points should integrate Internet harassment into the conversation of bullying, recognizing that many youth are involved in both types of aggression.

Conclusions

The current study is an important first step in illuminating the characteristics of youth aggressor/targets on the Internet. Many parallels between online aggressor/targets and offline bully/victims were identified, including behavior problems and depressive symptomatology. Yet, a number of important differences were also identified. There is a notable lack of significant differences between male and female youth and an increased risk among older teens rather than younger. Future studies are necessary to determine how psychosocial challenge as well as mental illness may increase the likelihood of negative experiences online, as they have been noted offline. And as with research aimed at in-person psychosocial challenges youth are facing, future Internet-related research may do well to focus on the protective factors of safe Internet navigation.

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Correspondence to

Kimberly Mitchell, Crimes against Children Research Center – West Edge, University of New Hampshire, 7 Leavitt Lane, Durham, NH 03824, USA; Tel: 603-682-1888; Fax: 603-862-2899; Email: Kimberly.Mitchell@unh.edu

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