Involvement in Traditional and Electronic Bullying Among Adolescents

Juliana Raskauskas
University of California, Davis

Ann D. Stoltz
California State University, Sacramento

The increasing availability of Internet and cell phones has provided new avenues through which adolescents can bully. Electronic bullying is a new form of bullying that may threaten adolescent social and emotional development. In this study the relation between involvement in electronic and traditional bullying was examined. Eighty-four adolescents completed questionnaires regarding their involvement in traditional and electronic bullying. Results show that students’ roles in traditional bullying predicted the same role in electronic bullying. Also, being a victim of bullying on the Internet or via text messages was related to being a bully at school. Traditional victims were not found to be electronic bullies. Perceptions of the effects of and motivations for electronic bullying are discussed.

Keywords: bullying, victimization, adolescents

During adolescence peer relationships increase in importance and peers play a critical role in social and emotional development (Espelage & Swearer, 2003; Kupersmidt & Coie, 1990). Positive peer relationships are related to successful identity formation of adolescents, their sense of self-worth, healthy self-esteem, and developing skills for romantic relationships (Gavazzi, Anderson, & Sabatelli, 1993; Hightower, 1990; Kupersmidt & Coie, 1990). Stable peer relationships during adolescence have even been related to high mental health at midlife (Hightower, 1990). Bullying or aggression from peers, on the other hand, can disrupt adolescents’ emotional and social development. Although bullying has been a part of the adolescent experience for many generations, adolescents today face new forms of bullying.

Today’s adolescents represent the first generation to have grown up in a society in which the Internet is an integral part of daily life (Berson, Berson, & Ferron, 2002). A recent survey of youths aged 12–18 years found that 97% of those surveyed used the Internet at least once a week (UCLA Center for Communication Policy, 2003) and many youth have access to other electronic devices such as PDAs (personal digital assistants) and cellular phones. The availability of the Internet has improved adolescents’ access to information and created alternative learning environments for students (Wendland, 2003); however, it has also given rise to new opportunities for bullying. This emerging form of bullying, utilizing the Internet and other devices such as cell phones and PDAs, is called Internet or electronic bullying and may pose a new threat to healthy social and emotional development among adolescents.

Bullying and Adolescent Development

The majority of research on bullying has been conducted in Europe and Australia (see Smith et al., 1999). Only one national study on bullying has been conducted in the United States (Nansel et al., 2001). In this study 15,686 students in Grades 6 through 10 reported on their bullying experiences. It was found that 29.9% reported moderate to frequent involvement in bullying with 13.0% self-identifying as bullies, 10.6% as victims, and 6.3% as both. Further, this study indicated that the frequency of both victimization and bullying behavior was higher among 6th through 8th grade students than 9th and 10th grade students. Boys were more likely than girls to be involved in the bullying dynamic both as bullies and victims. Cross-sectional studies of bullying over time indicate that bullying increases between elementary and middle school and then again directly following the transition to high school (Nansel et al., 2001; Whitney & Smith, 1993).

The increase of bullying in adolescence is accompanied by a shift of attitudes about the use of aggression and delinquency. Relative to earlier periods of development, aggression is viewed less negatively by peers during adolescence. In fact, bullies become more popular as they get older (Graham, Bellmore, & Juvonen, 2003; Graham & Juvonen, 1998; Rodkin, Farmer, Pearl, & Van Acker, 2000). On the other hand, victims of bullies are more rejected by peers and less likely to have friends than non-victimized classmates throughout the school years (Hodges, Boivin, Vitaro, & Bukowski, 1999; Hodges, Malone, & Perry, 1997).

Research has shown that involvement in bullying is related to poor outcomes for those who bully (Nansel et al., 2001) as well as for those who are victims of bullying (see Espelage & Swearer, 2003). Being the victim of bullying has been related to the development of general psychological distress and poor psychosocial adjustment (Kochenderfer-Ladd & Skinner, 2002; Nansel et al., 2001), as well as specific indicators such as heightened anxiety, depressive symptoms, and a lower sense of self-worth (Grills & Ollendick, 2002; O’More & Kirkham, 2001). Being a bully has been associated with academic problems, externalizing problems, poor psychosocial adjustment, and delinquency in late adolescence and early adulthood (Kupersmidt & Coie, 1990; Nansel et al., 2001; Perren & Hornung, 2005). Most students report that bullying is most frequent within the school grounds, but recently a new threat has emerged that allows bullying to transcend school grounds.

Juliana Raskauskas, School of Education, University of California, Davis; Ann D. Stoltz, Division of Nursing, College of Health and Human Services, California State University, Sacramento.

Correspondence concerning this article should be addressed to Juliana Raskauskas, who is now at the Massey University College of Education, Private Bag 11-222, Palmerston North, New Zealand. E-mail: j.l.raskauskas@massey.ac.nz
grounds and into a child’s home (Whitney & Smith, 1993; Ybarra & Mitchell, 2004).

A New Type of Bullying

Sixteen-year-old David Knight was having a hard time at school, being teased and taunted by peers. But his life became unbearable when a friend sent him a link to a webpage entitled “Welcome to the page that makes fun of David Knight.” The webpage had hateful comments directed at David and his family. The combination of harassment at school and on the Web was too much for David and he dropped out (Leishman, 2005).

David Knight’s story is becoming more common. Anecdotal evidence suggests that electronic bullying can increase students’ level of stress and general anxiety, threaten self-esteem, and contribute to school failure and dropout (Leishman, 2005; Tench, 2003; Wendland, 2003). Electronic bullying is unique from traditional bully because aggressors are removed from their victims and from the impact of their actions (Ybarra & Mitchell, 2004). Electronic bullying may have more impact on youth’s emotional development and well-being than traditional bullying because of an even greater power imbalance created by the fact that many victims of electronic bullying may never know the identity of their bully. Another factor that can make electronic bullying more of a threat to psychological health than traditional bullying is its transcendence beyond school grounds and 24-hr availability such that children are not even safe from bullying in their own homes.

To date, little research has been performed examining the relationship between bullying at school and via electronic devices. The relationship between traditional and electronic bullying may predict whether intervention programs targeting traditional bullying will be effective for preventing or reducing electronic bullying. The purpose of the present study is to examine the relationship between involvement in traditional and electronic bullying among adolescents. We attempt to identify whether being a victim or perpetrator of traditional bullying predicts being a bully or victim in electronic bullying.

Forms of Bullying

Before the limited research on electronic bullying is reviewed it is important to discuss the different forms of traditional bullying and provide a clear definition of bullying. Traditionally, bullying is said to occur when a child is the target of any behavior that is (a) harmful or done with intent to harm; (b) repeated or occurs over time; and (c) characterized by an imbalance of strength or power, such that the victim does not feel he or she can stop the interaction (Espelage & Swearer, 2003; Olweus, 2001).

The main forms of bullying are physical and verbal (Olweus, 2001). Physical bullying occurs when one or more students attack a peer physically (i.e., hitting, kicking, pushing, shoving, throwing things, etc.). Verbal bullying involves verbal insults or taunts like teasing or name-calling (Olweus, 2001; O’Moore & Kirkham, 2001). The proportion of students who use physical aggression declines with age, whereas the proportion of students who use verbal and indirect forms of aggression increases throughout childhood and into adolescence (Björkqvist, Österman, & Kaukiainen, 1992). Although viewed as different types of bullying, physical and verbal harassment often co-occur. Prior research has shown that as many as 58% of students report being victims of both verbal and physical bullying (Orpinas, Horne, & Staniszewski, 2003). This is evidenced in the following story from a 17-year-old boy who participated in the current study:

I was a victim of bullying for two years in gym. Boys from the football team called me names like “lard ass, fat boy, and fat.” They threw things at me in class and shoved me in the hall. One day they put my head in the toilet and gave me a “swirly.” When I told the gym teacher he told me to “toughen up.” I just stopped going to gym after that.

Physical and verbal bullying can be direct or indirect in nature. Indirect verbal bullying has been called relational aggression, which is bullying characterized by psychological attacks such as humiliation and/or manipulation of relationships. Relational bullies use verbal methods to threaten relationships or social standing of victims and may use rumors or exclusion from important social activities to accomplish bullying (Crick et al., 2001; Espelage & Swearer, 2003).

Electronic bullying can also be direct or indirect bullying, committed through electronic means. Electronic bullying has been defined as a means of bullying in which peers use electronics to taunt, insult, threaten, harass, and/or intimidate a peer. Anecdotal evidence and media reports show that Internet bullies use text messaging, e-mails, defaming websites, and online “slam books” to aggress against peers (Tench, 2003; Wendland, 2003). The perpetrators of electronic bullying use messages, pictures, and webpages to circulate rumors, secrets, insults, and even death threats to harass, manipulate, and harm their victims. The following account from a 14-year-old girl who participated in the current study gives an example of electronic bullying via text messages:

I went on this trip with my family. When I came back everyone at school was avoiding me. They moved away when I came by and whispered and pointed at me. Finally a friend told me that my friend (name omitted) had sent text messages to everyone that I had been out of school because I’d had an abortion. I was so embarrassed!

Internet bullies have also been known to misuse images of peers in order to embarrass them. Images are used to create websites or online slam books where peers anonymously post mean comments about the victim.

15-year-old Jacqueline was bullied at school and on the Internet. For Jacqueline bullying began with name-calling on the bus and bullying in the hallway. Then, one day someone created a website posting her picture and poking fun at her appearance. Taking it a step further, they also added her home address, telephone number, and obscenity-laden descriptions about her. The website was posted for a month before the rumors and whispering led one of Jacqueline’s friends to tell her about the website (Tench, 2003, B1).

The availability of picture cell phones (also known as camera phones) has even resulted in compromising photos of students in school locker rooms or rest rooms spread via e-mail around the school or posted on websites. In one case a student used a cell phone with camera capabilities to take a photo of his classmate in the shower after gym and then distributed it around the school via e-mail (Wendland, 2003).
Existing Research on Electronic Bullying

The existing literature on electronic bullying comes from the limited research in the areas of Internet safety and Internet violence. In a national telephone survey (N = 1,501), Finkelhor, Mitchell, and Wolak (2000) found that 6% of adolescents in Grades 6 through 10 who used the Internet reported they had been harassed in the past year. Of youth who reported being harassed online, 33% of incidents took the form of instant messages, 32% occurred in chatroom exchanges, and 19% were included primarily in e-mails. In cases in which the victims knew who the perpetrators of the electronic bullying were, more than 63% of the bullies attended school with the victims. However, these reports are from a national survey that was limited to Internet behavior and did not include questions about cell phones or other electronic devices. It must also be noted that the research findings were published in 2000 and since that time access to technology has been steadily increasing, so it can be expected that these numbers would be much higher today.

A later study, with a representative sample of U.S. adolescent girls, found that 15% of their sample had received threatening e-mails, and 3% admitted to having sent peers threatening e-mails (Berson et al., 2002). In England, surveys of adolescents showed that 25% had been bullied over the Internet, and 16% had been bullied via cell-phone text messaging (Jerome & Segal, 2003). The incidence rates of electronic bullying are certain to continue to increase as children gain more access to personal electronic devices and website-building software, unless prevention and intervention strategies can be identified.

Only one prior study has provided insight into how traditional and electronic bullying may be related. Ybarra and Mitchell (2004) examined whether physical bullying was related to Internet harassment. Using the data from the Youth Internet Safety Survey (Finkelhor et al., 2000), Ybarra and Mitchell found that being hit or picked on by another child in the past year significantly predicted being a perpetrator of Internet harassment. Internet harassment was measured as making rude or nasty comments on the Internet or using the Internet to harass or embarrass someone. Because this research only included physical bullying and general Internet harassment, the current research adds to this research by examining whether the other forms of traditional bullying are likewise related to electronic bullying. In addition, the current research expands the technologies used for electronic bullying to include text messaging and picture cell phones.

Effects of Electronic Bullying

Research has consistently shown that children who are bullied are at an increased risk for negative psychosocial outcomes (see Espelage & Swearer, 2003). Of the few studies to have examined the relationship between psychosocial problems and electronic bullying, all have shown negative effects similar to those of traditional bullying. Finkelhor et al. (2000) found that of youth who had been harassed on the Internet in the previous year almost one third (32%) reported at least one symptom of stress after the incident. A further 31% reported being very or extremely upset, 19% were very or extremely afraid, and 18% were very or extremely embarrassed by the online harassment. Ybarra (2004) found a relationship between depressive symptoms and electronic bullying, such that youths with more depressive symptoms were more likely to have experienced electronic bullying than those with a fewer number of depressive symptoms. In extreme cases, electronic bullying has been linked to adolescent suicide. In the case of one 16-year-old boy, he received text messages harassing him for months prior to and on the night that he jumped off a cliff near his home. His mother later said to reporters, “Text-messaging isn’t going away. Bullying isn’t going away. That combination killed my son!” (Bramwell & Mussen, 2003, p. 1). The present research adds to this literature by asking participants to report on how electronic bullying has affected them.

Present Study

The purpose of the present study is to identify the relationship between electronic bullying and victimization and traditional bullying and victimization. There are two hypotheses being examined by this research. The first is that being a traditional bully will predict being an electronic bully and that being a victim of traditional bullying will be related to victimization by electronic bullies. The alternative hypothesis, supported by Ybarra and Mitchell’s (2004) findings, is that adolescents who are victimized at school will be perpetrators of electronic bullying, using the anonymity of electronics to retaliate against their aggressors from what is perceived to be a safe environment (Ybarra & Mitchell, 2004).

Method

Participants

The present study included 84 participants. All participants were adolescents between the ages of 13 and 18 years (M = 15.35, SD = 1.26). The majority of the youth who participated self-identified as Caucasian (89.3%); the remaining participants identified as Hispanic (3.6%), African American (3.6%), Asian (2.4%), and other (1.2%). The percentage of participants who reported having access to devices commonly used for electronic bullying was as follows: computer with e-mail (90.5%), cell phone with text messaging (64.3%), webpage building software (34.5%), and picture phones (27.4%).

Measures

Demographic information. Demographic information was collected from adolescents and included age, grade, and ethnicity. Information was also collected on each adolescent’s access to the Internet, e-mail, and cell phones with text messaging or picture-taking capabilities.

Internet Experiences Questionnaire. The Internet Experiences Questionnaire is included in Appendix A. It was designed for this study on the basis of existing surveys of Internet behavior and bullying (Finkelhor et al., 2000; Maxwell, 2001). The questionnaire included 28 self-report1 items asking students how often they had

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1 Although self-report victimization and bullying measures were used in this study we recognize that there is some debate in the literature as to whether self-report measures are as accurate as teacher or peer reports (see Juvonen, Nishina, & Graham, 2001). Because of the moderate correlation between these measures it is often preferable to combine self-report with peer or teacher nomination procedures (Pellegrini, 2001). Unfortunately, because of the nature of this convenience sample we were unable to include peer or teacher nominations.
experienced each of the different forms of Internet and traditional bullying. Forms of electronic bullying included text messages, websites or chatrooms, and taking or distributing someone’s picture without permission. Respondents were asked to consider the number of incidents within the current school year. Traditional bullying items were based on the four-item scale by Kochenderfer and Ladd (1996). The items are similarly formatted and asked whether the adolescent had experienced hitting, kicking, or shoving, teasing or name-calling, rumor starting, and/or being left out on purpose within the last month.

At the end of the questionnaire students were presented with items asking about their degree of participation as a perpetrator of traditional and electronic bullying. Because bullies often underreport bullying behavior there was an attempt to distance these items from the respondents (Craig & Pepler, 1997; Ladd & Kochenderfer-Ladd, 2002). Instructions were given that the items were statements about how some kids behave and that participants were being asked to indicate how much each kid described was like them. An example is, “Some kids send text messages that are not nice.” The adolescents were provided with responses from the following list: “not at all like me,” “a little like me,” “kind of like me,” and “a lot like me.” These items were used to identify whether each adolescent had engaged in traditional (physical, teasing, starting rumors, exclusion) or Internet (sending mean text messages and making websites about others that are mean) bullying.

Because of the small sample size, bully and victim statuses were determined by assigning a dichotomous score (yes = 1 and no = 0) for involvement in each type of traditional and electronic bullying. For traditional victimization, if it occurred three or more times in the past 30 days they were classified as a victim of that form of bullying, in accordance with findings by Solberg and Olweus (2003). Traditional and electronic bully classifications were awarded for items on which students did not choose “not at all like me.” Electronic victim classification was based on the yes/no item for each form of electronic victimization. For some analyses, groups were further collapsed into whether or not youth reported experiencing or perpetrating any of the forms under the following headings: electronic victim (text message, Internet, picture phone), traditional victim (physical, teasing, rumors, electronic bully (text message, Internet), or traditional bully (physical, teasing, rumors, exclusion). Categories were not mutually exclusive such that adolescents received a score for each category. See Table 1 for the number of participants included in each category.

Exploratory open-ended items were included to add to our understanding of electronic bullying. Adolescents that identified as electronic victims were prompted to answer open-ended questions asking whether they felt that electronic bullying had affected them and if so, how? At the end of the electronic bullying items students were asked why they thought some adolescents committed bullying using the Internet and cell phones. These items were presented in an open-ended format to encourage and not limit responses. It was important to include the views of adolescents as this is one of the first studies to examine electronic bullying.

Procedure

Adolescents aged 13–18 years were approached at two youth development events held at their school site and invited to participate. Adolescents were told that a study was being conducted about their experiences with the Internet, cell phones, and at school. One of the high schools was located in a rural community of over 12,000 people with an average household income of $57,000 per year (U.S. Census Bureau, 2000). Of the 96 students who attended that event 33 participated in this study. The second high school was from a suburb of a large west coast city, population 88,000 and average household income $45,000 per year (U.S. Census Bureau, 2000). Of the 114 adolescents who attended that event 51 accepted the invitation to participate in this research.

Parental consent was provided for 92 adolescents. Each participant was then given a copy of the Minor Assent Form to read before being asked if they were interested in participating. Eighty-eight adolescents agreed to participate, but 4 were later removed from the sample for missing data on bullying questions. Data from 84 adolescents are included in this report. On average, the questionnaire took adolescents 10–15 min to complete.

Results

The numbers of participants involved in electronic bullying are reported in Table 1. The most common form of electronic victimization was text messaging (32.1%), followed by Internet or website (15.5%), and picture phone (9.5%). Likewise, the most common form of electronic bullying was via text messaging (21.4%).

Table 1

<table>
<thead>
<tr>
<th>Form of bullying</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic victims</td>
<td>41</td>
<td>48.8</td>
</tr>
<tr>
<td>Text-message victim</td>
<td>27</td>
<td>32.1</td>
</tr>
<tr>
<td>Internet victim (websites, chatrooms)</td>
<td>13</td>
<td>15.5</td>
</tr>
<tr>
<td>Picture-phone victim</td>
<td>8</td>
<td>9.5</td>
</tr>
<tr>
<td>Traditional victims</td>
<td>60</td>
<td>71.4</td>
</tr>
<tr>
<td>Physical victim</td>
<td>38</td>
<td>45.2</td>
</tr>
<tr>
<td>Teasing victim</td>
<td>50</td>
<td>59.5</td>
</tr>
<tr>
<td>Rumors victim</td>
<td>32</td>
<td>38.6</td>
</tr>
<tr>
<td>Exclusion victim</td>
<td>30</td>
<td>36.8</td>
</tr>
<tr>
<td>Electronic bullies</td>
<td>18</td>
<td>21.4</td>
</tr>
<tr>
<td>Text-message bully</td>
<td>18</td>
<td>21.4</td>
</tr>
<tr>
<td>Internet bully</td>
<td>11</td>
<td>13.1</td>
</tr>
<tr>
<td>Traditional bullies</td>
<td>54</td>
<td>64.3</td>
</tr>
<tr>
<td>Physical bully</td>
<td>29</td>
<td>34.5</td>
</tr>
<tr>
<td>Teasing bully</td>
<td>38</td>
<td>45.2</td>
</tr>
<tr>
<td>Rumor bully</td>
<td>22</td>
<td>26.2</td>
</tr>
<tr>
<td>Exclusion bully</td>
<td>35</td>
<td>41.7</td>
</tr>
</tbody>
</table>

2 We recognize that directly asking students about the effects of bullying is not the traditional means of collecting effect data. Most studies use standardized scales, interviews, observation, diaries, or ethnography (see Espelage & Swearer, 2003; Pellegrini, 2001). In the present research, students were asked directly about the effects because this was an exploration of the new area of electronic bullying and students’ perceptions can guide choice of measures and techniques for future research. It was felt that standardized measures of effects would limit or bias student reports in this instance.

3 Nansel et al. (2001) found in their national study of bullying among adolescents that urban, suburban, and rural districts did not differ in prevalence or frequency of bullying. Therefore, in this study students from both areas were combined for analyses.
Note that fewer teens self-identified as perpetrators of electronic bullying (n = 18) than as victims of electronic bullying (n = 41). This may be due to a real difference or underreporting of electronic bullying. Traditional bullying research has shown that self-report methods can lead to an underestimation of bullying because bullies often minimize their involvement and victims may not wish to recall victimization if it was embarrassing or upsetting for them (Espelage & Swearer, 2003; Ladd & Kochenderfer-Ladd, 2002; Pellegrini, 2001).

Relations Between Traditional and Electronic Bullying

To examine whether youths involved in traditional bullying were the same youths who reported electronic bullying, we used chi-square analyses. Chi-square analyses examine the classification of individuals into categories. Here we used the inferential test to identify whether the distribution of individuals across categories was significantly different from what would be expected by chance. Membership in traditional bully and Internet bully categories were also compared.

Chi-square analyses comparing traditional and electronic victims are reported in Table 2. The significant chi-square for traditional and electronic victims indicates that more traditional victims were also electronic victims than what was expected by chance. The number of traditional victims involved in electronic bullying (n = 35) was larger than the number of traditional victims not involved in electronic bullying (n = 25). The relationship between traditional and electronic victimization was such that only six of the electronic victims were not involved as traditional victims. Chi-square analysis comparing traditional and electronic bullies was also significant (see Table 2). Analyses showed that most electronic bullies were also traditional bullies (17 of 18). In fact, only one electronic bully did not also identify as a traditional bully. Table 2 suggests that students involved in electronic bullying are a subset of those involved in traditional bullying. This suggests that bullying starts offline and then sometimes (but not always) continues online. This pattern also implies that bullying does not start online.

The possibility that traditional victims would be electronic bullies (using electronic means of retaliation against schoolyard bullies) was not supported. Chi-square analysis comparing traditional victims to electronic bullies was nonsignificant, \( \chi^2(1, N = 84) = .255, p = .61 \). Likewise, a chi-square analysis comparing traditional bullies and electronic victims showed that the number of traditional bullies who were also electronic victims was not significantly different from what was expected by chance, \( \chi^2(1, N = 84) = .560, p = .45 \).

To examine the relationships between individual forms of traditional and electronic bullying, we constructed a phi correlation matrix. The phi procedure allows the correlation between two dichotomous variables to be calculated. The correlation matrix is featured in Table 3. Involvement in the various forms of traditional and electronic victimization was related with all other forms of victimization but in general not with being an electronic or traditional bully. Conversely, being involved in the various forms of traditional or electronic bullying was related to all other forms of bullying but not in general with being classified a victim of most forms of traditional or electronic bullying. An exception to these general conclusions was physical victim status, which was only related to verbal victim status \( r = .26, p < .05 \). Victims of rumor spreading were also likely to report spreading rumors as a bully at school \( r = .37, p < .01 \).

An interesting finding was that victims of Internet bullying were involved in many other forms of victimization and bullying. Victims of bullying using the Internet also tended to report being victims of teasing, rumor spreading, text messages, and picture-phone bullying. Unexpectedly, Internet victims were found to be likely to be involved as bullies at school (physical, teasing, rumor spreading, and exclusion). Likewise, text-message victim status was related to being a victim of teasing, Internet, and picture phones, but also with having a bully status in traditional teasing and exclusion.

Hypothesis Testing

Logistic regression was used to test the two hypotheses presented in the introduction: (a) that being a traditional victim and bully will predict being the same in electronic bullying and (b) that victims of traditional bullying would be electronic bullies. Structural equation modeling would have been the preferred method for establishing directionality of effects within this sample; however, the fact that electronic victims and bullies were not independent, but subsets of traditional victims and bullies, made the use of structural equation modeling and other such methods inadequate (Kline, 2005; Muthen, 1984). Logistical regression allowed us to predict membership in electronic bullying and victimization from traditional involvement and vice versa (Andersen, 1997; Hosmer & Lemeshow, 2000; Morgan, Vaske, Gliner, & Harmon, 2003).

To test whether victims and bullies were the same in traditional and electronic bullying, we conducted separate logistic regressions. In the first analysis traditional victim status was used to predict electronic victim status. Age and gender were entered first as control variables with traditional victim status entered on the second step. As shown in Table 4, the model was significant and explained 16% of the variance \( R^2 = .16, p < .05 \). Traditional victim status emerged as a significant predictor of electronic victim status \( \beta = -1.52, p < .01 \). Therefore, we conclude that involvement in traditional bullying predicts involvement in electronic victimization.

Similarly, to test whether traditional bullying predicts involvement in electronic bullying, we performed another set of logistic regressions. In these analyses the variables of age and gender were entered first as controls. In one model, traditional bully status was

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Contingency Table Comparing Traditional and Electronic Bully and Victim Status (N = 84)</th>
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</thead>
<tbody>
<tr>
<td>Traditional victim</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>18</td>
</tr>
<tr>
<td>Yes</td>
<td>25</td>
</tr>
<tr>
<td>Electronic bully</td>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
<td>37</td>
</tr>
</tbody>
</table>


used to predict electronic bully status. As shown in Table 4, the model was significant and explained 27% of the variance (\(R^2 = .27, p < .01\)). Both traditional bully status (\(\beta = 3.05, p < .05\)) and age (\(\beta = .54, p < .05\)) emerged as significant predictors of electronic bully status, with traditional bullies and older students more likely to identify as electronic bullies. This finding is most likely due to the large overlap between electronic and traditional bullies.

The alternative hypothesis that traditional victims would be electronic bullies was also tested using logistical regression. Several models were run examining the relationship between the variables and controlling for age and gender. Electronic bully status and traditional victim status were entered in two analyses, one with traditional victim status (\(\beta = -.32, p = .58\)) predicting electronic bully status (\(R^2 < .01, p = .52\)) and the other with electronic bully status (\(\beta = -.33, p = .57\)) predicting traditional victim status (\(R^2 < .01, p = .92\)). Traditional bully status and electronic victim status were entered the same way into two separate regressions. In one logistic regression, traditional bully status (\(\beta = .58, p = .24\)) was used to predict electronic victim status (\(R^2 = .06, p = .26\)), and in the other, electronic victim status (\(\beta = .58, p = .24\)) was used to predict traditional bully status (\(R^2 = .11, p = .07\)). In each case the analyses failed to reach significance. Therefore, the alternative hypothesis was not supported by these data.

### Outcomes and Motivation

The qualitative data from student questionnaires was examined to provide information on how adolescents perceived that electronic bullying affects victims and why perpetrators commit electronic bullying. Thirty-eight of 41 or 93% of electronic victims stated that they felt that electronic bullying had negatively affected them. When asked how they felt electronic bullying had affected them, the most common responses that adolescents volunteered were “made me feel sad, hopeless or depressed” (22 of 38) and “made me afraid to go to school” (11 of 38). For those who

Table 3

| Phi Correlation Matrix \((N = 84)\) |
|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                  | 1                | 2                | 3                | 4                | 5                | 6                | 7                |
| **Traditional victimization** |                  |                  |                  |                  |                  |                  |                  |
| 1. Physical victim | —                |                  |                  |                  |                  |                  |                  |
| 2. Teasing victim | .26†             | 1.00             |                  |                  |                  |                  |                  |
| 3. Rumor victim  | .12              | .36†             | 1.00             |                  |                  |                  |                  |
| 4. Exclusion victim | .15              | .25†             | .37†             | 1.00             |                  |                  |                  |
| **Electronic victimization** |                  |                  |                  |                  |                  |                  |                  |
| 5. Text-message victim | .20              | .26†             | .08              | .09              | 1.00             |                  |                  |
| 6. Internet victim | .21†             | .22†             | .48†             | .21              | .34†             | 1.00             |                  |
| 7. Picture-phone victim | .19              | .10              | .16              | .08              | .30†             | .31†             | 1.00             |

### Table 4

**Logistic Regression Analysis Predicting Both Electronic Bullying and Electronic Victimization \((N = 84)\)**

<table>
<thead>
<tr>
<th>Traditional</th>
<th>Electronic Victim</th>
<th></th>
<th></th>
<th>Electronic Bully</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>.13</td>
<td>.48</td>
<td></td>
<td>Age (years)</td>
<td>.54</td>
<td>4.30†</td>
</tr>
<tr>
<td>Gender</td>
<td>-.93</td>
<td>2.56</td>
<td></td>
<td>Gender</td>
<td>.39</td>
<td>.25</td>
</tr>
<tr>
<td>Victim</td>
<td>-.152</td>
<td>.744†</td>
<td></td>
<td>Bully</td>
<td>3.05</td>
<td>7.50**</td>
</tr>
<tr>
<td><strong>Model</strong></td>
<td>(</td>
<td>\hat{\chi}^2(3) = 10.99)†</td>
<td>(\hat{\chi}^2(3) = 16.09)**</td>
<td>(Nagelkerke R^2 = .16)</td>
<td>(Nagelkerke R^2 = .27)</td>
<td></td>
</tr>
</tbody>
</table>

\(\text{† Wald statistic is analogous to the } t\text{-test in multiple regression and is used with categorical data to test the unique contribution of each coefficient in the model (Morgan, Vaske, Gliner, & Harmon, 2003).}

\(\hat{\chi}^2\) represents the model chi-square; this is an omnibus test of the model assessing the joint predictive ability of all the variables included (Hosmer & Lemeshow, 2000). Nagelkerke \(R^2\) statistic is a value similar to the \(R^2\) in multiple regression. It indicates the proportion of variance accounted for by the model (Hosmer & Lemeshow, 2000; Huck, 2004).

\(\star p < .05\). ** \(p < .01\).
reported not knowing who their aggressors were, about half (8 of 17) stated that it made them suspicious of those around them.

Of Internet bullies, 16 of 18 adolescents completed the open-ended item asking why they thought kids used the Internet or cell phones to pick on others. Analysis of the written answers revealed that 38% responded that electronic bullies do it “for fun,” whereas 25% said they do it “to get back at someone they’re mad at,” and 6% said bullies did it because they feel bad about themselves. Over one third of electronic bullies (31%) who completed the form responded “I don’t know” when explaining electronic bullies’ actions.

Discussion

The Internet and personal electronic devices have exponentially increased children’s access to information in recent years. Unfortunately, these technologies have also provided adolescents with new methods of aggressing against each other. Electronic bullying is a growing concern because of the potential threat to the emotional well-being of adolescents. Electronic bullying may pose a greater threat than traditional bullying because electronic bullying is often anonymous and can transcend school grounds such that children are vulnerable even in their own homes (Ybarra & Mitchell, 2004). The present research is a first step in exploring adolescent’s experiences of electronic bullying, as well as teasing apart the relationship between involvement in Internet and traditional bullying. Findings that adolescents who experience and perpetrate bullying may also be bullies or victims in the electronic context is important for planning intervention and prevention programs.

Prevalence and Access

A significant percentage of the participants in this research reported involvement in electronic bullying (48.8% victims, 21.4% bullies). An age difference among electronic bullying was found, with older adolescents more likely to report using electronic bullying. The most common form of Internet harassment was bullying via cell phones with text message capabilities. The high incidence of text-message bullying may be due to the widespread availability of cell phones. Nearly 65% of participants in this study had access to a cell phone with text messaging capabilities. This may prove a convenient means of bullying to adolescents because cell phones are permitted in most schools. Many schools are trying to ban cell phones; however, many parents are resistant to cell-phone bans. Parents argue that they want to be able to reach their child in the event of an emergency, an argument often supported by the fact that during the Columbine school shooting cell phones were the only means for students to call for help (Vail, 2000). The good news is that cell-phone bullying may be more susceptible to external intervention than some other forms of electronic bullying. Text messaging requires the use of personal phone numbers so if adolescents could be taught to protect their numbers it may reduce some of the incidence of electronic bullying. More research is needed to identify strategies for schools, parents, and students to prevent or reduce text messaging and other forms of electronic bullying.

Unexpected findings were that those who reported being victims via the Internet or text message were also involved not only in other forms of victimization but also as bullies at school. These findings seem to be in contrast to chi-square findings that electronic victims are not generally traditional bullies. This may be due to a subgroup of students who are both bullies and victims (hereafter referred to as “bully/victims”) or students who score high on both bullying and victimization within the sample. Prior research indicates that bully/victims report more frequent victimization and encounter more forms of bullying over time (Olweus, 2001; Furlong, Sharma, & Rhee, 2000). This sample had 48% overlap between traditional bullies and victims. The sample used in this study is not adequate to identify bully/victims or whether they are at greater risk for involvement in electronic bullying, but this should be addressed in future research. It is also possible that electronic bullying is more susceptible to escalation than traditional bullying. Cell phones and Internet allow victims to make an immediate response, which, if done in anger, may turn victims into bullies. More research is need about the bully–victim dynamic in electronic bullying.

Hypothesis Testing

This research examined two hypotheses: (a) that traditional bully victimization would predict victimization in electronic bullying and, an alternative hypothesis, (b) that victims of traditional bullying would be perpetrators of electronic bullying. It was found that there is a large percentage of overlap between traditional and electronic bullies and victims. Eighty-five percent of electronic victims in the present study were also classified as traditional victims, and 94% of electronic bullies were also traditional bullies. The reverse was not found, in that traditional victims do not tend to be the same people as electronic bullies.

The first hypothesis that traditional bully or victim status would predict the same status in electronic bullying was supported by regression findings. Traditional victims and bullies in this research were likely to retain their roles across the contexts of school and the cyber world. It is important to note that the data in the present study were correlational, so it is possible that involvement in electronic bullying precedes and contributes to traditional bullying; however, the fact that electronic bullying is a relatively new phenomenon makes that interpretation unlikely.

The results imply that electronic bullying, although often perpetrated and experienced off school grounds is related to what happens at school. School may be where Internet bullies select their victims. The overlap between traditional and electronic bullying is important because it means that some students are facing bullying both at school and outside school. It is possible that current bullying prevention curriculum can be expanded to include information on Internet safety and responsible use of technology. The Be Web Aware website (http://www.bewebaware.ca) has suggested possible strategies for students and parents faced with electronic bullying. See Appendix B for a summary of these suggestions as well as additional suggestions that are based on the existing research. These suggestions align with some of the prevention and de-escalation methods used with traditional bullying. For example, bullies can be reinforced by negative feedback from victims, so if victims ignore the harassment it may decrease (Graham & Juvonen, 1998; Olweus, 2001). However, the strategies listed in Appendix B have yet to be empirically tested for reducing or preventing electronic bullying. Current antibullying curricula need to be expanded to include these strategies and
evaluated for its effectiveness in reducing or preventing electronic bullying.

The alternative hypothesis that traditional victims would be Internet bullies was not supported by group analyses. There was no evidence that children who are victims at school utilize the anonymity of electronic bullying to lash out against their tormentors. However, there was some evidence that this may differ by form of electronic victimization considered. Being a victim of mean websites or chatroom bullying was related to involvement as a school bully (physical, verbal, relational). It may be that victims perceive using websites or chatrooms as the most anonymous form of bullying and therefore feel safe to lash out at aggressors. This notion is further supported because the name of the person who created a website is hard to find and chatrooms utilize screen names (Batheja, 2004; Tench, 2003). More research is needed to examine the characteristics of and dynamic between victims and perpetrators of Internet-based bullying (webpages, forums, chatrooms).

Outcomes and Motivation

The open-ended items asked adolescents to identify the negative effects electronic bullying had on them and why they think Internet bullies engage in this behavior. Adolescents who had experienced electronic bullying all felt it had negatively affected them. Emotional and social disruptions were the most frequently cited by participants. Feelings of sadness and hopelessness are consistent with findings that depression is a common outcome identified with traditional bullying (Grills & Ollendick, 2002; O’Moore & Kirkham, 2001). Feeling sad or hopeless and powerless, because they felt they could do nothing to stop the anonymous harassment, was a common response even though 27 of 41 victims knew who their attackers were. These outcomes are consistent with telephone surveys that showed that victims of online harassment tend to feel angry, upset, or embarrassed (Finkelhor et al., 2000).

Negative outcomes have long been associated with traditional bullying. This research indicates that electronic bullying may add negatively to adolescents’ emotional well-being. More research is needed to identify how electronic bullying alone contributes to emotional and social development as well as how it increases negative outcomes experienced by victims due to traditional bullying. However, because the large number of Internet victims were also traditional victims no conclusions can be made about the effects of electronic bullying because the negative effects reported by victims may also have been partially or totally due to their involvement in traditional bullying.

Electronic bullies reported that they believe adolescents commit electronic bullying “for fun,” to get back at others, and to feel better about themselves. These reasons are consistent with motivations for traditional victimization and largely reflect the external locus of control and tendency to blame victims (Espelage & Swearer, 2003; Graham & Juvonen, 1998). The anonymity and physical detachment from victims may also create a barrier between bullies and their victims, thereby reducing the likelihood that bullies will feel guilty about what they have done (Batheja, 2004).

Conclusions and Limitations

This research highlights the fact that the Internet and cyberspace culture of adolescence needs to be examined as an environment in which development is taking place and bullying can negatively impact social and emotional development. Electronic bullying is just now being recognized as a form of bullying being experienced by adolescents. The present research found that 48% of participants had been victimized by electronic means and 21% admitted to committing electronic bullying at some point during the past year. With increased access to personal electronics, cell phones, and the Internet among adolescents, numbers are likely to continue to rise unless intervention strategies can be identified and implemented.

Although there is a significant overlap between Internet and traditional bullies in the present study it is important to note that not all bullies are involved in electronic bullying. Future research should attempt to identify characteristics that separate traditional bullies who do and do not resort to electronic bullying. Because this is a relatively new area of concern, further research is needed to identify correlates and predictors of Internet victims and bullies, in the interest of identifying children at risk. It is possible that developmental stage, parental supervision, child personality, or peer group characteristics may predict these differences.

It is important to note the limitations of this study. First, the sample was a convenience sample drawn from youth development events. Bias may exist in the sample because of characteristics of youth who attend such events and in youth who would volunteer and complete the questionnaire. It is possible that victims of electronic bullying were more likely to participate in this study, which may have inflated frequencies. However, when approached, the participants were told that the survey involved questions about Internet and school experiences, which may have reduced some of the tendency for victims to be overrepresented. Another limitation is the use of self-report data for bully and victim status. Bullies and victims often underreport the problem of bullying. Although the anonymity of the survey and the fact that it did not take place within the classroom setting may have improved reporting, interpretation of findings should take into account the use of self-report. The sample was also limited primarily to Caucasians; this with the other sample bias will limit the generalizability of findings. The results of this research should be replicated with other populations and can be used to guide future research.

Second, different time frames were used to identify traditional (within the last month) and electronic (within the last year) victims. This was done to be able to compare these findings to existing research (Solberg & Olweus, 2003; Ybarra & Mitchell, 2004). Although future research on electronic bullying will need to experiment with different time frames, in the present study respondents were also asked if they had been bullied in the past year (yes or no). Responses to this item were found to be equivalent to the dichotomous classifications created from the items within the last 30 days. We are confident that time-scale differences were not a major influence in these results.

Finally, although the correlational nature of the data does not allow for causality to be inferred, these data do provide a much-needed description of electronic and traditional bullying among adolescents. This research provides a necessary first step in examining electronic bullying and its relationship to traditional bullying.
at school and possible effects on adolescent emotional and social development. Longitudinal and larger cross-sectional studies will be needed to expand on these findings and determine the direction of causality between involvement in electronic and traditional bullying.

References


(Appendixes follow)
Appendix A

Internet Experiences Questionnaire

Background

Your age: ___ years. Gender (circle one): Girl Boy

Current Grade in School (circle one): 6th 7th 8th 9th 10th 11th 12th

How would you describe your ethnic background:

☐ Black or African American
☐ White or Caucasian
☐ Asian or Pacific Islander
☐ Hispanic
☐ American Indian/Alaskan Native
☐ Other (Explain ________________________________)

Which of the following electronic devices do you have access to? (check all that apply)

☐ Computer with email
☐ Webpage building software
☐ Cell phones with text-message capabilities
☐ Cell phone with picture taking capabilities
☐ Digital Camera?

Your Experiences

For this section, bullying is when someone says things or does things over and over to make you feel bad or uncomfortable. This includes teasing, hitting or fighting, threats, leaving you out on purpose, sending you messages or images, or starting rumors about you.

In the past school year have you been bullied? Yes No

In the past 30 days, how often have the following things happened to you at school?

a. You have been hit, pushed, or shoved?
   Not at all 1–2 Times 3–4 Times Once a Week Several Times A Week

b. You have been teased or called mean names?
   Not at all 1–2 Times 3–4 Times Once a Week Several Times A Week

c. People have started rumors about you?
   Not at all 1–2 Times 3–4 Times Once a Week Several Times A Week

d. People have left you out on purpose?
   Not at all 1–2 Times 3–4 Times Once a Week Several Times A Week

Text-message Bullying

During this school year have you ever been bullied through text-messaging? Yes No

How many times did this occur?: 0 1–2 3–5 6–10 11–15 16 or more

Did you know who it was that was doing it? Yes No

Was the text-message bullying the result of a failed romantic relationship? Yes No

Internet Bullying

During this school year have you ever been bullied by someone creating a website about you, using your pictures on-line without permission, or creating forums about you? Yes No

How many times did this occur?: 0 1–2 3–5 6–10 11–15 16 or more

Did you know who it was that was doing it? Yes No

Was the internet bullying the result of a failed romantic relationship? Yes No
Picture Phone Bullying

During this school year have you ever been bullied by someone taking pictures of you with picture phones without permission and showing the pictures to others to embarrass you?  Yes  No

How many times did this occur?:  0  1–2  3–5  6–10  11–15  16 or more

Did you know who it was that was doing it?  Yes  No

Was the picture phone bullying the result of a failed romantic relationship?  Yes  No

If you have been bullied by text-messaging, internet, or picture phone, do you think that it has affected you?  Yes  No

If Yes, How?

The following items are statements about how some kids behave. Please circle how much this is or is not like you. Remember, no one will see your answers to these questions and do not put your name on your survey.

a. Some kids push, hit, or shove other kids at school.
   A lot like me  Kind of like me  A little like me  Not at all like me

b. Some kids call other kids mean names at school.
   A lot like me  Kind of like me  A little like me  Not at all like me

c. Some kids start rumors at school.
   A lot like me  Kind of like me  A little like me  Not at all like me

d. Some kids leave other people out of things on purpose.
   A lot like me  Kind of like me  A little like me  Not at all like me

e. Some kids send text-messages that are not nice.
   A lot like me  Kind of like me  A little like me  Not at all like me

f. Some kids make websites that say mean things about other people.
   A lot like me  Kind of like me  A little like me  Not at all like me

Why do you think that some kids bully others using text-messages and the internet?

Appendix B

Strategies for Reducing and Managing Electronic Bullying

- Take Internet harassment seriously. If electronic bullying includes physical threats (including death threats), notify police immediately.
- Guard your contact information. Don’t give people your cell-phone number, instant message name, or e-mail address.
- If being harassed online, log out of the site immediately. Immediately tell an adult you trust.
- Never reply to harassing messages. If being bullied through e-mail or instant messaging, block the sender’s messages.
- Save harassing messages and forward them to your Internet or e-mail provider. Most Internet service providers have appropriate-use policies that restrict users from harassing others via the Internet.
- Speak out when you see someone harassing others online or via cell phones. Most adolescents respond better to criticism from peers than from adults.

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