



# New bottle but old wine: A research of cyberbullying in schools

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## Abstract

This study investigates the nature and the extent of adolescences' experience of cyberbullying. A survey study of 177 grade seven students in an urban city is conducted. In this paper, "cyberbullying" refers to bullying via electronic communication tools. The results show that almost 54% of the students were victims of traditional bullying and over a quarter of them had been cyber-bullied. Almost one in three students had bullied others in the traditional form, and almost 15% had bullied others using electronic communication tools. Almost 60% of the cyber victims are females, while over 52% of cyber-bullies are males. Majority of the cyber-bully victims and bystanders did not report the incidents to adults.

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## 1. Introduction

School violence is a serious social problem both in Europe (Clarke & Kiselica, 1997; Hoover & Juul, 1993) and North America (Charach, Pepler, & Ziegler, 1995; Hoover & Olsen, 2001). This problem is particularly persistent and acute during junior high/middle school period (National-Center-for-Educational-Statistics, 1995). Possible reasons explaining this high frequency of school violence include the drastic biological and social changes experienced by adolescents.

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[A]dolescence is a period of abrupt biological and social change. Specifically, the rapid body changes associated with the onset of adolescence and changes from primary to secondary school initiate dramatic changes in youngster's peer group composition and status. Changes in peer group availability, individuals' status within groups, and peer support confront youngsters as they are entering new, larger, and typically impersonal secondary schools. One way in which peer status is achieved in these sorts of environments, especially by boys, is through the selective use of aggression and other agonistic strategies.

(Pellegrini & Bartini, 2000)

Much of school violence, particularly during adolescence, involves students bullying their peers (Boulton, 1999). According to Hoover and Olsen, "up to 15% of students in American schools are frequently or severely harassed by their peers. . . . Only a slim majority of 4th through 12th graders . . . (55.2%) reported neither having been picked on nor picking on others" (Hoover & Olsen, 2001). Further, bully-victim cycles are found where individuals are both bullies and victims (Ma, 2001; Pellegrini & Bartini, 2000; Schwartz, Dodge, & Coie, 1993; Schwartz, Pettit, Dodge, & Bates, 1997). More importantly, it is reported that in many school-shooting cases, bullying played a major role (Dedman, 2001).

## 2. The problem of cyberbullying

The use of the new technology such as the Internet and cell phones has increased dramatically in recent years. In education, the increasing access to new technology can increase students' social interaction and enhance collaborative learning experiences. Substantial research studies have shown that computers in classrooms can have positive effects on learning of all subjects. The introduction of electronic communication into classrooms, however, also brings problems that deserve our attention. One such issue concerns the increasing serious cyberbullying problem in schools, i.e., the use of electronic communication devices to bully others.

Although many teachers and administrators now recognize the problem of school bullying, few are aware that students are being harassed through electronic communication (Beran & Li, 2005). Parallel to this lack of awareness by school professionals, researchers have yet to examine the nature of cyberbullying. The growing number and the level of severity of cyberbullying call for our educators, researchers, administrators and authorities to take actions.

But before we can tackle this problem, a better understanding of the issue is necessary. Because cyberbullying is a new territory, we know little about it. This study, hence, investigates the nature and the extent of adolescences' experience of cyberbullying. A survey study of 177 grade seven students in an urban city is conducted. In this paper, "bullying" refers to bullying in the traditional sense and "cyberbullying" refers to bullying via electronic communication tools.

### 2.1. Related literature

Bill Belsey, who developed the award-winning webpage [www.bullying.org](http://www.bullying.org), defined cyberbullying in his recently published website [www.cyberbullying.ca](http://www.cyberbullying.ca):

Cyberbullying involves the use of information and communication technologies such as email, cell phone and pager text messages, instant messaging, defamatory personal Web sites, and defamatory online personal polling Web sites, to support deliberate, repeated, and hostile behavior by an individual or group, that is intended to harm others.

According to Nelson, “cyberbullying is often very serious, including stalking and death threats. . . I can say anything I want. It’s impersonal. Face to face is a little intimidating”. Further, it is reported that females prefer this type of bullying (Nelson, 2003).

Many news stories have reported cyberbullying incidents all over the world. For example, in Australia, a nine-year-old grade 4 female student received very pornographic emails. Her parents assumed the sender of the emails was an adult. When the source was traced by local police, it was found that the sender was actually her classmate (Thorp, 2004). A 15-year-old boy in Quebec, Canada became an unwilling “celebrity when a film he made of himself emulating a Star War’s fight scene was posted on the Internet by some classmates. Millions downloaded the 2-min clip. . . He was so humiliated he sought counseling [and dropped out of school], and his family has launched a lawsuit against his tormentors” (Snider & Borel, 2004). In Japan, cell phone pictures of an overweight-boy, which was taken on the sly in the locker room, were distributed to many of his peers (Paulson, 2003). Another incident happened in Calabasas High School in California. “It was a website – [www.schoolscandals.com](http://www.schoolscandals.com) – on which vicious gossip and racist and threatening remarks grew so rampant that most of the school was affected” (Paulson, 2003).

Combating cyberbullying is more difficult for schools than people initially expected. Many bullies are anonymous. Further, under the free-speech rights, it is difficult to take down a website. In the case of the Calabasas High School, the principal did get involved,

after comments [on the website] caused many of his students to be depressed, angry, or simply unable to focus on school. It might have been happening off campus. . . but the effects carry on into the school day. . . [However], the site has more than 30,000 members and any student can post a message. . . [further], getting the site stopped wasn’t easy. Talking to law-enforcement officials led nowhere; there are few rules governing what can get posted on the Internet.

(Paulson, 2003)

Cyberbullying also takes various forms and electronic communication tools – from email, listserve, cell phone, to websites. In the US, a boy, using photo-editing tool to paste a girl’s face onto a pornographic photo, distributed the photo to his entire email list because he had a quarrel with the girl. “Some used websites to circulate rumors, ask students to vote on the ugliest or fattest kid in school. . . When Will, a middle-schooler in Kansas, broke up with his girlfriend, she created a website devoted to smearing him. She outlined vivid threats, made up vicious rumors, and described what it would be like to see him torn apart” (Paulson, 2003).

Aside from the many reported news stories, several surveys have been conducted to explore cyberbullying issues. In a survey conducted in Britain in 2002, it was found that one out of four youngsters aging 11–19 has been cyber-bullied (National-Children’s-Home, 2002). An earlier survey conducted in New Hampshire at 2000 found that about 6% of youths had the experience of being harassed online (Thorp, 2004). A survey

conducted in Canada shows that one quarter of young Canadian Internet users reported that they had the experience of getting messages telling hateful things about others (Mnet, 2001).

Further, a more severe form of bullying – harassment has also been found in cyberspace. In a small sample of developmentally delayed adolescents, Katz (2002) found that many adolescents experienced sexual harassment over the Internet. Other researchers (Spitzberg & Hoobler, 2002) reported that one-third of undergraduate students reported being stalked over the Internet. Text-based name calling, use of coarse language, profanity and personal attacks have been discovered in computer-mediated communication environments (Kiesler & Sproull, 1992; Thompsen, 1994).

In a survey to a females-only listserv, one-fifth of 500 subscribers reported that they had experienced online sexual harassment (Brail, 1994). This type of harassment or intimidation takes a variety of forms ranging “from ‘flaming’ (overt attacks on a person) to highly sexual comments and visual pornography that dehumanize women” (Soukup, 1999), and “seduction under false pretences, electronic stalking, and virtual rape” (Herring, 1995). For example, a textually enacted “rape” was conducted on MOO in which a male user controlled two female players’ characters to force the performance of sexually degrading actions on themselves (Dibbell, 1996). Another incident occurred in a support MUD for sexual abuse survivors in which a male enacted graphic sexual abuse to all participants (Reid, 1994). Anonymity inherited in many electronic communication modes “not only fosters playful disinhibition but reduces social accountability, making it easier for users to engage in hostile, aggressive acts” (Herring, 2001).

These studies suggest that cyberbullying indeed occurs, yet it is unclear whether these experiences occurred in the context of peer harassment. Because it is a new phenomenon, limited research studies have been conducted, and the extent to which these behaviors occur through electronic means has yet to be examined. This study, therefore, examines the nature and extent of adolescents’ experience of cyberbullying and their perceptions of school climate. Particularly, middle school students are chosen because

adolescence is a time when physical aggression increases in frequency and intensity; for this reason it has been labeled a ‘brutalizing’ period. Correspondingly, and perhaps as an antecedent, this period also witnesses a series of abrupt changes in the social lives of youngsters.

(Pellegrini & Bartini, 2000)

The nature of new technology makes it possible for cyberbullying to occur more secretly, to spread more rapidly, and to preserve easily (such as cutting and paste messages). As this behavior becomes recognized as a significant problem, researchers must provide information about its occurrence to inform and support educators and administrators. Considering that many Internet users are socially isolated (Mesch, 2001) and that some may even look for peer support on the Internet that incites them to act out in violence against their bullies (Markward, Cline, & Markward, 2002), suggests that victims of cyberbullying are at risk for experiencing poor psycho-social adjustment. Thus to support the appropriate use of technology in schools, teachers and administrators must be knowledgeable about the extent and various forms of cyberbullying, and as a result, develop appropriate preventive and intervention strategies to ensure the safety of all students.

## 2.2. Research questions

This study is an exploration of the cyberbullying issue. The primary focus is on the examination of the nature and extent of adolescents' cyberbullying experiences. A secondary focus is on the investigation of adolescents' perception of school climates and safety strategies. The third purpose of this study is to discern possible relationships between student experiences of cyberbullying and other activity. Particularly, the following research questions guide this exploration:

1. To what extent do adolescents experience cyberbullying?
2. What are the characteristics of cyberbullying?
3. What are students' perceptions about school climate in terms of adults' prevention of cyberbullying?
4. To what extent do students know safety strategies in cyberspace, and who taught them?
5. Are there relationships between cyberbullying and the reported academic achievement?
6. Are there relationships between cyberbullying incidents and the frequency of using computers?
7. Are there relationships between bullying in school and cyberbullying?

## 3. Methods

### 3.1. Subject and instrument

The subjects for this study were randomly selected from two middle schools in a large Western Canadian city. The two schools were chosen because of the schools' enthusiasm about technology. Both schools are involved in a large educational technology integration project of the province. One school is located in an area where residences are mainly at middle class range, and the other is in a low/middle SES area. A total of 177 grade seven students (80 males and 97 females) completed the questionnaire. Among them, only 7.6% are ESL students. Further, 69.7% students are white, 9% Asian, and about 20% are Black, Hispanic Aboriginal, or other. See Table 1 for details. Over half of the students have reported that their school grades are usually above average, while 46.3% of them are average. Only a couple of the students reported their grades to be below average.

An anonymous survey was used which includes two major areas: students' demographic data and their experience related to cyberbullying. A total of twenty-six questions including the frequency of using computers were analyzed to answer the research questions of this study (see Appendix A for details of the survey).

Table 1  
Demographic of the students

| Ethnicity (%) |      |       | Gender (%) |      | Academic achievement (%) |         |               |
|---------------|------|-------|------------|------|--------------------------|---------|---------------|
| White         | Asia | Other | M          | F    | Above average            | Average | Below average |
| 68.9          | 9    | 20.9  | 45.2       | 54.8 | 50.3                     | 46.3    | 1.1           |

\*  $n = 177$ .

\*\* Total percentages may not add up to 100 due to missing values.

### 3.2. Analysis

In this paper, both descriptive and inferential statistics are used to examine adolescents' experience of cyberbullying. The statistical package SPSS (2004) is used to analyze data. To answer research questions 1–4, mainly inferential statistics are employed to explore the extent of cyberbullying, the characteristics of cyber-bullies and their victims, and student perceptions of safety related variables. Then the data are further analyzed to address additional research questions.

Questions 5–7 consider whether any relationships exist between different variables related to the cyberbullying issue. In the effect to address these questions, inferential statistics are conducted. Particularly, correlation coefficients are calculated to discern possible relationships. Because data are not normally distributed, non-parametric rather than parametric tests are employed. Kendall's correlation analysis is applied to explore relationships among the interested variables. Alpha is set at the 0.05 level.

## 4. Result

### 4.1. Extent

To what extent do young adolescences experience cyberbullying? This was explored from the following three perspectives: percentages of students' experience of both bullying and cyberbullying were first calculated because of the belief that adolescences' experience of bullying can inform our understanding of their experience of cyberbullying. The second perspective examined who cyber-bullied others and the scope of anonymity related to cyberbullying. The third examination investigated how frequent cyberbullying happened. The following reports the examination from these three perspectives.

Overall, almost 54% of the students were bully victims and over a quarter of them had been cyber-bullied. Almost one in three students had bullied others in the traditional form, and almost 15% had bullied others using electronic communication tools. See Table 2 for details. In addition, 52.4% of the students reported that they knew someone being cyber-bullied.

The next analysis addressed the question: who cyberbully those students? Due to the nature of the electronic communication means, do cyber victims always know who did that? According to the cyber victims, 31.8% were bullied by their school mates, 11.4% by people outside their schools, and 15.9% by multiple sources (i.e., school mates, people

Table 2  
Percentages of student experience of bullying and cyberbullying

|                   | Yes  | No   |
|-------------------|------|------|
| Bully             | 31.1 | 67.8 |
| Bully victim      | 53.7 | 44.1 |
| Cyberbully        | 14.5 | 76.8 |
| Cyberbully victim | 24.9 | 74.0 |

\* $n = 177$ .

\*\*Total percentages may not add up to 100 due to missing values.

Table 3  
Frequency of cyberbullying incidents

|               | Cyberbully victim, % ( $n = 44$ ) | Cyberbully, % ( $n = 23$ ) |
|---------------|-----------------------------------|----------------------------|
| 1–3 times     | 59.1                              | 43.5                       |
| 4–10 times    | 18.2                              | 30.4                       |
| Over 10 times | 22.7                              | 26.1                       |

outside, and others). The highest percentage, that is, 40.9%, had no ideas who cyber-bullied them.

The third perspective explored how often cyberbullying occurs. On the one hand, almost 60% of the cyber victims were cyber-bullied one to three times, over 18% of them were cyber-bullied four to ten times, and 22.7% of them were cyber-bullied more than ten times. On the other hand, for those cyber-bullies, over 43% of them cyber-bullied others less than four times, over 30% did four to ten times, and over 26% of them cyber-bullied others over ten times (see Table 3).

#### 4.2. Characteristics

What are some characteristics of cyber-bullies and their victims? The data analysis showed that over 60% of the cyberbully victims and about 70% of the cyber-bullies are white. This very much reflected the ethnic distribution of the data. Almost 60% of the cyber victims are females, while over 52% of cyber-bullies are males. That is, the majority of the cyber victims are females. Although more males than females were reported to be cyber-bullies, the difference between the two was small. Half of the cyberbully victims had above average school grades, whereas less than 35% of the cyber-bullies reported their school grades were above average. One interesting pattern was that while the majority of the cyber victims (88.6%) used computers at least once a week, every cyberbully reported that he/she used computers at least four times per month. See Table 4 for details.

The next approach was based on previous research of the bully-victim cycle in traditional forms (Ma, 2001; Perry, Kusel, & Perry, 1988). That is, since it was found in the real world that bullies can also be bully victims, is this also the case in cyberspace? The following analysis focused on the extent to which bullies were also victims, examining both regular bullying and cyberbullying issues. The results showed that almost half of the vic-

Table 4  
Characteristics of cyber-bullies and victims

|                                | Ethnic (%) |       | Gender (%) |      | Academic achievement (%) |         |               | Frequency of using computer (%) |                            |
|--------------------------------|------------|-------|------------|------|--------------------------|---------|---------------|---------------------------------|----------------------------|
|                                | White      | Other | M          | F    | Above average            | Average | Below average | Less than 3 times per month     | At least 4 times per month |
| Cyberbully victim ( $n = 44$ ) | 61.4       | 38.6  | 38.6       | 59.1 | 50                       | 47.6    | 2.4           | 9                               | 88.6                       |
| Cyberbully ( $n = 23$ )        | 69.6       | 30.4  | 52.2       | 43.5 | 34.8                     | 56.5    | 4.3           | 0                               | 100                        |

Note. Some percentages may not add up to 100 due to missing values.

Table 5  
Percentage related to bully-victim cycle

|                           | Bully victim (%) | Bully (%) | Cyberbully (%) | Cyberbully victim (%) |
|---------------------------|------------------|-----------|----------------|-----------------------|
| Bully victim ( $N = 94$ ) | 100              | 49.5      | 16.7*          | 31.9                  |
| Bully ( $n = 55$ )        | 85.5             | 100       | 29.8**         | 27.3                  |

\* Due to system missing data, here,  $N = 84$ .

\*\* Here,  $N = 47$ .

tims also had bullied others. Within the group who reported being bullied in schools (i.e., victims), about a third reported that they had also been cyber-bullied (i.e., cyber victims); and 16.7% were also cyber-bullies. Within the school bully group (i.e., bullies), 85.5% reported that they were also victims. In addition, almost 30% in this group were cyber-bullies and 27.3% were cyberbully victims. That is, most of the bullies were also bully victims. Aside from regular bullying, many bullies also harassed others using electronic communication tools. Table 5 gives the details.

What types of electronic communication were used for cyberbullying? The data analysis showed that 22.7% of the cyberbully victims had been assaulted only by email, 36.4% in chat rooms only, and another 40.9% had been assaulted by multiple sources including email, chat-room, and cell phone.

For cyber-bullies, the pattern was somewhat similar. Over 9% reported that they only used email, 36.4% used only chat-room, and almost 55% used multiple sources to bully. That is, the majority used more than one type of electronic communication to bully others. See Table 6 for details.

#### 4.3. Safety strategies

To what extent do adults in schools try to prevent cyberbullying? The data analysis showed that only 67.1% of the students believed that adults in schools tried to stop cyberbullying when informed. For those cyber-bully victims, only 34.1% said that they told adults about the incidents. Similarly, for those 87 students who knew someone being cyber-bullied, only 34.5% told adults. Obviously, the majority of the students chose to be quiet when they were cyber-bullied or knew someone being cyber-bullied.

With respect to safety strategies in cyberspace, over three quarters of the students reported knowing those safety strategies. Over 78% of the cyber-bullies and about 70% cyberbully victims believed that they knew the strategies. Overall, 47% of the students learned those strategies from their parents, schools, and/or multiple sources. Only a little over 28% learned by themselves. Scrutinizing the cyberbully group revealed a reverse pattern: 52% of them taught themselves the strategies, and 26% learned from others or

Table 6  
Type of electronic communication used for bullying

|                  | Cyberbully victim, % ( $n = 44$ ) | Cyberbully, % ( $n = 23$ ) |
|------------------|-----------------------------------|----------------------------|
| Email            | 22.7                              | 9.1                        |
| Chat-room        | 36.4                              | 36.4                       |
| Multiple sources | 40.9                              | 54.5                       |

multiple sources. For the cyberbully victim group, however, the number of students who learned by themselves and those who learned from others or multiple sources were almost identical. Table 7 offers details.

#### 4.4. Relationships between interested variables and cyberbullying

Did students' academic achievement relate to cyberbullying? To test this, two correlation coefficients were calculated between the student reported school grades and the cyberbully/victim variables. The correlation coefficient between school grades and reported cyberbully incidents, as well as the one between school grades and cyberbully victims were not statistically significant.

Was there a relationship between cyberbully incidents and students' frequency of using computers? To answer this question, again two correlations were used. A weak but significant positive correlation was found between the cyberbully variable and how often computers were used ( $\tau = 0.161$ ,  $p = 0.042$ ). That is, students who used computers more frequently were more likely to be cyber-bullies. No significant correlation was found between the frequency of using computers and cyberbully victims.

#### 4.5. Bullying and cyberbullying

To explore the relationships between bully and cyberbully issues, five relationships were examined between each of the following five pairs: bully and cyberbully, bully and cyberbully victim, bully victim and cyberbully, bully victim and cyberbully victim, and cyberbully and cyberbully victim. Among these five pairs, three positive significant correlation coefficients were identified: between bully and cyberbully ( $\tau = 0.298$ ,  $p < 0.001$ ), between bully victim and cyberbully victim ( $\tau = 0.175$ ,  $p = 0.022$ ), and between cyberbully and cyberbully victim ( $\tau = 0.305$ ,  $p < 0.001$ ). That is, bullies, compared to non-bullies, tended to be cyber-bullies; while bully victims in the physical world were also likely to be bully victims in cyberspace. Further, cyber-bullies were more likely to be victims in cyberspace than those who did not cyberbully. Table 8 provides details.

## 5. Discussion

This study explores a new and important issue related to cyberbullying. The preliminary analysis of a survey data collected from grade seven students in Canada sheds light on this evolving issue. Particularly, the following highlights the emergent themes.

The first important issue concerns the large extent of young adolescences' experience of bullying and cyberbullying. In this study, about half of the students report that they have

Table 7  
Percentage relates to safety strategies

|                            | Know safety strategies (%) | Taught by (%) |   |
|----------------------------|----------------------------|---------------|---|
|                            |                            | Self          | Parents, schools, and/or multiple sources |
| Total ( $n = 166$ )        | 75.4                       | 28.3          | 47*                                       |
| Cyber-bullies ( $n = 23$ ) | 78.3                       | 52.2          | 26*                                       |
| Cyberbully victims         | 70.5                       | 36.4          | 31.4*                                     |

\* Percentages may not add up to 100% due to missing values.

Table 8  
Correlation coefficient related to bully and cyberbully

|                                    | <i>n</i> | Kendall's tau | <i>p</i> |
|------------------------------------|----------|---------------|----------|
| Bully and cyberbully               | 159      | 0.298**       | <0.001   |
| Bully and cyberbully victim        | 174      | 0.031         | 0.683    |
| Bully victim and cyberbully        | 156      | 0.101         | 0.207    |
| Bully victim and cyberbully victim | 172      | 0.175*        | 0.022    |
| Cyberbully and cyberbully victim   | 159      | 0.305**       | <0.001   |

\*  $p < 0.05$ .

\*\*  $p < 0.001$ .

been bullied during school. This supports the view that bullying is a significant problem in schools (Hoover & Olsen, 2001). The researcher is puzzled by this much higher percentage of bully victims as compared to previous research results (Hoover & Olsen, 2001). Initially, the researcher thought that the students' social economic background might be a major factor. The fact that over 60% of the students are from the school where there are mainly middle class residences indicates that merely considering SES cannot explain this phenomenon. One possible explanation is the school climates – that is, perhaps no effective official policy toward bullying or anti-bullying programs are adopted and followed in the two schools (Pellegrini & Bartini, 2000). Another explanation may be that bullying is becoming increasingly severe in terms of the scope and the extent in large cities. Further research studies are necessary to examine this issue.

A second issue that deserves our serious consideration is the scope of cyberbullying in schools. Over half of the students knew someone who had been cyber-bullied. Further, over a quarter of the students in this study had the experience of being cyber-bullied, and one out of six students had cyber-bullied others. This is consistent with a British survey conducted in 2002 showed that 25% of children age 11–19 had been bullied or threatened via various electronic communication modes (National-Children's-Home, 2002). An earlier survey conducted in 2000 in New Hampshire found that only about 6% teenagers had the experience of being cyber-bullied or threatened (Thorpe, 2004). This suggests that cyberbullying may be on the rise and is becoming an increasingly critical issue of concern.

Third, the highest percentage of those cyber victims had no idea who did it. This is followed by the numbers of victims being cyber-bullied by schoolmates and multiple sources. Only about 10% of the victims know that they are bullied merely by people outside school. This result suggests the unique characteristic of cyberbullying – anonymity. As discussed in many news stories and web resources (Belsey, 2004; Simmerle, 2003), the anonymity associated with electronic communication tools make it easier for cyberbullying to happen and more difficulty to prevent. How to effectively prevent and appropriately intervene remains to be answered.

Anonymity allows those bullies to be more scathing, hurtful and unless the bully makes real and intended threats or repeatedly and personally harasses a student, those that are caught usually cannot be punished by the school or through criminal law; most of this sort of bullying does not take place at school and therefore, the students are not under its jurisdiction.

(Simmerle, 2003)

Fourth, bullies, cyberbullies, and their victims have close relationships, as indicated in this study. Almost 30% of the bullies are also cyber-bullies. Similarly, about one in three bully victims are cyberbully victims, and one sixth of those bully victims had also cyber-bullied others. The correlation statistics further indicate the significant relationships between the bully and the cyberbully, as well as between bully victim and cyberbully victims. Those students who bully others in schools, compared to non-bullies, tend to harass others using electronic communication modes. As well, bully victims are more likely to be cyber-bullied than those non-bully victims. All these findings indicate a close tie between bullying and cyberbullying. Hence, cyberbullying should not be examined as a separated issue; rather, we need to consider what we already know about bullying. For example, many effective techniques to combat cyberbullying and bullying are the same. These techniques include teaching students to report incidents and building awareness of the problem (Belsey, 2004).

Another important theme emergent from the data is the high percent of bullies who are also bully victims, as well as the parallel close tie between cyber-bullies and cyberbully victims. The results of this study indicate that cyber-bullies are more likely to be cyberbully victims themselves than those who do not cyberbully. This is somewhat contradict to previous research conclusion that being a bully is negatively related to victimization (Pellegriani & Bartini, 2000). One explanation of this high percentage of students who are both bully and victims may be that those students are among the very active groups. That is, students in those social groups tend to bully others which include bullying each other. Therefore, they are also more likely to be victims themselves. Previous research studies have explored victim-bully cycles (Ma, 2001; Perry et al., 1988), but the their exploration always involves bullying in its traditional form. This new finding of cyberbullying-victim cycle, coupled with the above mentioned close tie between bullying and cyberbullying, suggests a vital aspect to be considered when dealing with cyberbully issues and working on prevention programs. That is, to establish the effective exercise of a prevention program, we need to consider bullies, cyber-bullies, and their victims as an integrated whole rather than the current common practice of treating them as separate groups.

Fifth, about 60% of the cyberbully victims are females while only a slim majority of males are cyber-bullies. This result supports the point that females prefer to use electronic communication medium such as chat-room and email to bully others (Thorp, 2004). In addition, cyber-bullies tend to report lower academic achievement than their cyberbully victims. Further, cyberbullying happened most frequently by using more than one electronic medium.

Another issue worth noticing is the bystanders of cyberbullying. This study shows that, just like in the real world, the vast majority of the students who were cyber-bullied or knew someone being cyber-bullied chose to be quiet rather than to inform adults. One possible explanation may lie in the fact that many students, about one-third of this sample, do not think that adults in schools tried to stop cyberbullying when they knew it. Because of this belief that adults in schools would not help, many students, feeling either scared or powerless, chose not to report cyberbully instances. This supports the literature that adolescents' perceptions of their school environments relate to their bullying related behaviors (Pellegriani & Bartini, 2000). It highlights the importance of building and further strengthening of a trusty relationship between students and school staff (including teachers, administrators, and the like). Another explanation may be due to students' lack of appropriate

strategies to deal with the problems. In this study, though three in every 4 students believe that they know safety strategies in cyberspace, it is possible that many of them know the safety strategies in a shallow way. The students' open ended comments in the survey indicate that many hold naïve beliefs about safety strategies: they equate safety strategies to stay away from chat rooms. They think that as long as they avoid chat rooms, they are safe. This, coupled with the fact that many of those strategies are self-taught, leads us to question the comprehensiveness of the safety strategies that are held by those students. They may know “do not talk to strangers”, but they may not know reporting bullying incidents to trustworthy adults. This underscores the importance of the safety strategies in cyberspaces and calls for systematic education of students regarding those safety strategies.

## 6. Conclusion

This study contributes to the extant literature on bullying in several conceptual areas. First, cyberbullying is a bullying problem occurring in a new territory. Few research studies have examined the bullying issue in this new context. The astonishing high percent of adolescents who had experienced cyberbully tactics observed in this study suggests that cyberbullying is becoming an increasingly critical problem for schools and the whole society.

Second, in this paper, bullying and cyberbullying are examined at “a point where it had seldom been studied. Extant studies, for the most part, studied primary school children. The early adolescent period merits attention because it is a period, labeled a ‘brutalizing period’, where disruptions in social networks afford opportunities for peer victimization and aggress to establish peer status” (Pellegrini & Bartini, 2000). Consistent with this, the result of this study shows a high percent of the students are involved in bullying or cyberbullying.

Third, bullying, cyberbullying, and victimization are explored in this study by considering them as an integrated whole. Though some studies (Ma, 2001; Pellegrini & Bartini, 2000) have examined bully-victim cycles, conceptually and most importantly, this work, established for the first time, the relationships amongst bullying, cyberbullying, and victimization. The close tie amongst bullies, cyber-bullies, and their victims found in this study underscores the importance of holistic approaches for the research and possible intervention programs related to cyberbully issues.

Fourth, the vast majority of adolescents choosing to be quiet bystanders further stress the importance of systematic education of safety strategies from early age. This education should be a joint endeavor of schools, families, communities, and the whole society. It supports the idea that our concern of the bully and cyberbully issue “must be at many levels, not only for the individuals themselves, and their families, but also society at large” (Morrison, 2002, p. 3).

Like any research study, this study has some limitations. For example, the survey question which intended to discover frequency of student using computers did not consider that the majority of students in the schools have easy access to computers in this urban city. Simply categorizing it into rare, 1–3 times per month, and over 4 times a month does not appropriately reflect the current trend of access in educational technology. Further, the data were collected from an urban city; we need to be cautious when generalizing the findings to other regions.

*Note.* An earlier version of this study based on fewer analyses was presented at the Annual Meeting of the American Educational Research Association, Montreal, 2005 (Li, 2005).

## Appendix A. Survey

### Section one: About You (circle one)

1. Sex: Male Female      Grade level\_\_\_\_\_
2. Year of birth\_\_\_\_\_
3. How do you describe yourself:Asian Hispanic Black White Aboriginal Other
4. English is my **second** language Yes No
5. My school grades are usually: above average average below average
6. I use computers: rarely 1–3 times/month at least 4 times/month

### Part two: Cyberbully

1. I have **been bullied** during school: yes no
2. I have **bullied** others: yes no
3. I have been **cyber-bullied** (e.g. via email, chat room, cell phone): yes no
4. If yes, I was **cyber-bullied** via (circle **all** that apply):email, chat room, cell phone other, specify\_\_\_\_\_
5. If yes, I was **cyber-bullied** by: school mates, people outside school, I don't know who
6. If yes, I have been **cyber-bullied**: less than 4 times, 4–10 times, over 10 times
7. I have **cyber-bullied** others: yes no
8. If yes, I **cyber-bullied** others via (circle **all** that apply): email, chat room, cell phone other, specify\_\_\_\_\_
9. If yes, I have **cyber-bullied** others: less than 4 times, 4–10 times, over 10 times
10. I know someone who has **been cyber-bullied**: yes no
11. When adults in school know **cyberbullying**, they try to stop it: yes no
12. When I was **cyber-bullied**, I told adults (e.g. parents, teachers): yes no
13. When I knew someone being **cyber-bullied**, I told adults: yes no
14. I know safety strategies in cyberspace: yes no
15. If yes, I learned safety strategies:By myself, taught by parents, taught in schools, other, specify:\_\_\_\_\_

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