

Beyond the Schoolyard: Examining Electronic Bullying Among Canadian Youth

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Abstract

Though an extensive amount of research has been conducted on traditional playground bullying, very little (if any) academic research has been conducted on electronic bullying. This study aimed to uncover the nature of electronic bullying (bullying through technological means such as the internet or cellular phones) and identify how it differs from traditional playground bullying. 233 students (grades 9 to 12) completed the Safe School Student Survey (Hymel, Ishiyama, & White, 2003), which inquired about experiences with traditional bullying, and the Electronic Bullying Survey (Stys, 2004), which inquired about experiences with electronic bullying. 39% of participants reported being bullied electronically in the last school year, with the majority occurring through instant messaging and e-mail. Electronic bullying was verbal or relational in nature, and occurred across many types of friendship types. Traditional bullying was found to occur more frequently and with more severity and impact than electronic bullying. Implications of findings are discussed and directions for future research are suggested.

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Beyond the Schoolyard: Examining Electronic Bullying Among Canadian Youth

Bullying, the repeated exposure over time to negative actions on the part of one or more persons (Olweus, 1987), is a topic which has gained much momentum in North America within the last 15 years. In Canada, the recognition of bullying as a national concern has resulted in such measures as the launch of a multi-year, multi-media anti-bullying public education campaign, supported by the Government of Canada's National Strategy on Community Safety and Crime Prevention (Government of Canada, 2002). Studies have found that bullying in Canada occurs in comparable rates to the United States, and in higher rates than in most European countries and in Australia (Smith, Morita, Junger-Tas, Olweus, Catalano, and Slee, 1999). In a survey of 4,211 Canadian students, Adlaf, Pglia, and Beitchman (2001) found that 5.7% on those surveyed reported being bullied daily or weekly, while 18.8% reported being bullied monthly or less.

The value of research to uncover the nature of bullying in Canada is immeasurable. The long term consequences of bullying have been widely documented; children who are bullies tend to, as adults, have children who are bullies, and victims of bullying tend to have children who are likewise victimized (Farrington, 1993). Depression and suicidal ideation have been found to be common outcomes of being bullied for both boys and girls, and bullies themselves have been found to be prone to depression (Van der Wal, De Witt, & Hirasing, 2003). Bullying behaviour has similarly been found to transfer from the classroom to the streets, male bullies having been found to be 17 times more likely to be frequently violent outside of the classroom and female bullies over 100 times more likely to be frequently violent on the streets (Andershed, Kerr, and Stattin, 2001). Longitudinal research has found that bullying and aggressive

behaviour were identified as being characteristic of those students who later became involved in criminal behaviour (Hamalainen and Pulkkinen, 1995). Nansel, Overpeck, Haynie, Ruan, and Scheidt (2003) likewise report that both bullies and victims are more likely to be involved in violent behaviour, the severity of which increases when the bullying is done outside of the school property.

Traditionally, bullying has been regarded as a playground activity. When asked to pinpoint the locations where children are most often bullied, they most often indicate that they are victimized on the school playground or in other secluded areas of the school property such as the hallways or bathrooms (Smith and Shu, 2000; Wolke, Woods, Stanford, & Schulz, 2001). However, with an increase in technological access and knowledge among children and teenagers, other, often more anonymous avenues of bullying, have become available. The internet, with e-mail, chat rooms, and instant messaging programs, along with cellular phones with their text messaging capabilities, equip technologically savvy individuals with the means to move bullying from the schoolyard to the home and beyond. *This paper aims to uncover the nature of electronic bullying in Canada while distinguishing the elements which make electronic bullying unique from playground bullying.* Although little is known about the nature of electronic bullying, extensive work has been done to uncover the truths behind bullying itself. Based on the extensive research available on traditional bullying, a number of hypotheses were generated about the nature of electronic bullying in the following review.

Review of Bullying Research

The most universal definition of bullying articulates that “a person is being bullied when he or she is exposed, repeatedly and over time, to negative actions on the

part of one or more other persons (Olweus, 1987, pg.4)". These negative actions, which can be verbal (threatening, degrading, teasing) or non-verbal (hitting, kicking, vandalizing, making faces), are purposefully inflicted, or intended to be inflicted in order to cause injury or discomfort to another person (Olweus, 1991).

Several other elements have been introduced to the definition of bullying to distinguish it from other types of aggressive behaviour, mainly general aggression and self-defensive acts. General acts of aggression may occur due to a particular circumstance (an argument over a toy) and may involve participants with similar (or equal) degrees of social power. Bullying behaviour differs in this regard in that it is carried out repeatedly and intentionally (Yates and Smith, 1988) and that it infers an imbalance of power which renders the victim, in a sense, defenseless (Rigby, 1993). It is different than self-defensive aggression in that bullying must be unprovoked by the victim (Smith and Thompson, 1991).

Research on bullying has uncovered several forms of the behaviour. Past research focused on two types of bullying: verbal and physical. Both overt in nature, verbal bullying encompasses behaviours such as name calling, taunting, threatening or degrading while physical bullying comprises actions such as punching, kicking, vandalizing, performing rude gestures, and making faces (Olweus, 1991). More recently, there has been an increase in the acknowledgement of a more covert type of bullying: relational bullying. Coinciding with indirect and social types of aggression, relational bullying focuses on gossiping, spreading rumours, social exclusion, and other acts intent on damaging relationships (Bjorkqvist, Lagerspetz & Kaukiainen, 1992; Crick & Grotpeter, 1995; Galen & Underwood, 1997).

The recent surge in recognition of bullying as an international concern has resulted in a move to develop a cross-cultural definition of bullying. Researchers have found cross-national comparison of bullying rates difficult in that the word “bully” does not easily translate to other languages and cultures. While the term bully is familiar in Scandinavian, Germanic, and English languages, words for bully are less familiar in the Latin languages, and French-speaking nations have no direct translation of the term. Research by Smith, Cowie, Olafsson, and Liefoghe (2002) has recently attempted to match native words equivalent to “bullying” in 14 different countries with 13 different languages using a cartoon task of 25 stick-figure depictions of social interactions. Surveying 8 and 14 year-olds in each country, findings suggested that internationally, children could discriminate between physical bullying, verbal bullying, and social exclusion and that the terms used for such acts fell into 6 groups: general bullying, verbal plus physical bullying, verbal bullying, physical bullying, mostly physical aggression, and social exclusion.

Theoretical Perspectives

Several theories have sought to explain the existence of bullying behaviour. Some developmental theorists perceive bullying as a child's attempt to establish social dominance over other children. This dominance is established through developmentally appropriate actions; in the early years, when children lack complex social skills, they bully using physical means. As these overt acts are punished by disciplinarians, and as children develop a larger repertoire of verbal language, bullying becomes more verbal in nature. Finally, when children gain the skills to understand and participate in intricate social relationships, they begin to use these relationships as a more covert type of

bullying in order to establish power and social dominance (Smith & Sharp, 1994; Hawley, 1999).

Other theories take a more social approach to bullying. Sociocultural theory explains that bullying occurs as a result of power differences between different groups in society, mainly, different genders, races or ethnicities, or different social classes (Hirschi, 1969). This theory has mainly focused on bullying between males and females, stipulating that males are more likely to bully females in an effort to maintain dominance (Smith & Sharp, 1994), and that those individuals who bully someone of their own sex tend to target males and females who deviate from the stereotypical norms of what males and females should be (Connell, 1995; Duncan, 1999).

Another social theory attempting to explain bullying behaviour is social cognition theory. Social cognition theory posits that bullies often have a hostile attributional bias, causing them to misinterpret a neutral action (i.e. being bumped on the playground) as a hostile or purposefully aggressive action. Thus, bullies tend to lash out and act aggressively in situations where no harm was intended (Crick, 1995). Likewise, victims of bullying are thought to misinterpret ambiguous statements or friendly teasing as aggressive actions (Shapiro et al., 1991).

While the developmental and social theories outline broad explanations for bullying, many researchers subscribe to yet another theory: individual differences. This theory takes into account characteristics such as psychopathy, personality, genetic or parental influences, and school ethos in determining why children bully (Rigby, 2003). The following review of bullying literature takes into account all of the aforementioned

theories in order to present a thorough and comprehensive representation of the bullying phenomenon.

Characteristics of a Bully

Until recently, research reflected the widely held belief that girls did not partake in bullying activity. Consequently, a large amount of the research on bullying has focused on bullying among boys, although information on girl bullies is quickly gaining ground. In general, bullies are boys and girls who attend the same grade as the victim and, if not, are older than the victim (Boulton & Underwood, 1992; Zindi, 1994). Bullies are more likely to bully when they are younger, as victimization rates decrease as age increases (Rigby & Slee, 1991), although this may be because boys and girls tend to use more relational aggression, which is harder to detect and identify as bullying, as they become older (Rys & Bear, 1997).

Research has identified several characteristics which are similar across boy bullies. They tend to be more impulsive and physically stronger than their peers, have a more positive attitude toward violence, and have a higher need to dominate others than their peers (Olweus, 1987). Likewise, they lack empathy for their victims and harbour little or no remorse about bullying (Olweus, 1984). Lane (1989) found that bullying behaviour among boys was constant across contexts, that is, they were aggressive towards all people with which they interacted, not only the victims of their bullying. Boy bullies were also generally more active and assertive, were more easily provoked, and were attracted to situations where aggressive content occurs (Yates & Smith, 1989).

Several studies have aimed to address the issue of why boys bully. In a study by Hoover, Oliver, and Hazler (1992), victims of bullying were asked why they believed

they were targeted by their male bullies. The most frequent perceived motivators were that “they didn’t fit in”, that they were “physically weak”, that the bullies were “short tempered”, or because of “what I was wearing” or “who my friends were”. When asked about their own motives for being bullies, boys were most likely to say that they bullied others to “feel powerful” or to “feel cool” (Charach, Pepler, & Ziegler, 1995).

As previously mentioned, data surrounding girl bullies is much less plentiful. Aside from engaging in relational or social aggression significantly more often than boys, it has been hypothesized that girl bullies exhibit much of the same externalizing behaviour as previously mentioned for boys, such as having a higher need to dominate, and being active and assertive (Craig, Peters, & Konarski, 1998). Some studies have shown that rejected and controversial girls were more likely to be bullies than popular girls (Crick & Grotpeter, 1995), however this assertion has been contested. Girls, when asked about why they bullied others, also expressed the desire to feel “powerful and feel cool” (Charach, Pepler, & Ziegler, 1995), although victims of girl bullies indicated that they felt the motive behind their victimization was that they “didn’t fit in”, that it was due to their “facial appearance”, the fact that they “cried/were emotional”, were “overweight”, or because they got “good grades” (Hoover, Oliver, & Hazler, 1992).

Often it is assumed that both boy and girl bullies bully their victims due to low self-esteem. This common explanation for bullying behaviour dictates that bullies aggress against others in an effort to make themselves feel more confident and powerful; to raise their self-esteem. Although some research has found this to be the case (O’Moore, 1997), other findings report that not only do bullies not suffer from low self-esteem (Olweus, 1993), but that they are actually higher in self-esteem in terms of their

physical attractiveness and popularity (Salmivalli, 1998). More recent work conducted by O'Moore and Kirkham (2001) found that while bullies scored higher on measures of global self-esteem than victims or bully/victims, they scored lower on global self-esteem than children who did not bully others.

An important element in the reason for bullying behaviour is the role of peers. Peers can play several roles in bullying incidence: acting as supporters to the bullies, supporters to the victims, as audience members or as interveners in the bullying situation. Peers can be incredibly effective at stopping bullying incidence if they intervene, however, the majority do not intervene. Drawn into the bullying interactions by the excitement of aggression, peers provide an audience for bullying while their positive attention and lack of opposition often reinforces the bullying behaviour. Likewise, their lack of empathy and intervention reinforce the victims' role (Pepler and Craig, 2000).

Are Bullies Simply "Bad Kids"?

While blaming the problem of bullying on a few "bad kids" may be tempting, research surrounding the root of bullying behaviour for both boys and girls has found overwhelming support for the theory of family influence. It has been said that some bullies at school are in fact victims at home (Floyd, 1985). Results show that bullies often come from families where parents chose more physical forms of discipline, are more rejecting and hostile or sometimes overly permissive (Rigby, 1994). These parenting practices negatively affect child development in that they model aggression and the effect of combining aggression with power; they "train" the child to use antisocial behaviour, and they promote hostility and anger towards others (Patterson, 1982). Family demographics have likewise been found to indirectly facilitate bullying in

children in that stress due to unemployment, lack of education or low income may aggravate latent antisocial tendencies in parents, leading to harsh or inconsistent parenting practices (Patterson & Dishion, 1988).

Characteristics of Victims

Significantly less research has been conducted on the victims of bullying as compared to the aggressors. Using peer nominations, Craig (1998) found that victims were more likely to display behaviours which are described as internalizing problems. They are often passive, anxious, weak, lacking self-confidence, unpopular with other children, and have low self-esteem. They have been found to be insecure and non-assertive and more likely to withdraw and cry when bullied by others. This makes them the perfect target for bullies who do not want the hassle of bullying someone who will retaliate (Olweus, 1994). Pepler and Craig (1995) have described the victim as being trapped in a vicious cycle of negative self-regard and victimization, observing that they tended to be victimized time and time again, having established themselves as the victim.

The findings surrounding the age of victims has been mixed. Although the majority of research indicates that younger children are victimized more often than older children (Hoover, Oliver, & Hazler, 1992; Whitney, & Smith, 1993), some studies have found no significant differences between grades in terms of frequency of victimization (Bidwell, 1997). Lastly, it is important to mention the victimization of children with special educational needs. Several studies have documented how children with special educational needs are overrepresented as victims of bullying (Charach, Pepler, and Ziegler, 1995).

Gender Differences in Bullying

As previously noted, research on bullying by girls was initially lacking due to the belief that girls did not partake in bullying behaviour. This was mainly due to the exclusive focus on bullying as an overt (physical or verbal) act. However, when physical, verbal, *and* relational bullying are considered, the research illustrates that girls can bully just as much as boys (Rys & Bear, 1997). In fact, many studies have found that while boys are more likely to use direct physical and verbal aggression, girls are more likely to use relational aggression in their bullying (Lagerspetz, Bjorkqvist, & Peltonen, 1988; Crick & Grotpeter, 1995; Rys & Bear, 1997). Although, conflicting evidence has been presented by other researchers, who have found no differences between males and females on the use of relational bullying (Bjorkqvist, 1994).

Research examining the relationship between the gender of the bully and the gender of his/her victim has also been mixed. In a study of 38 000 children, 22% of girls reported being bullied exclusively by boys, while 3% of boys reported being bullied exclusively by girls, indicating that boys are more likely to target girls than vice versa (Rigby, 2003). However, research by Pepler and Craig (1995) reports that girls are more likely to victimize boys than they are other girls. Likewise, when looking at victims of bullying, some researchers have found that boys are bullied at a greater frequency than girls (Rigby & Slee, 1991), while others have reported that both genders are victimized at equal rates (Slee, 1994; Bidwell, 1997). Obviously, more research is needed in the area of gender and bullying in order to gain a more cohesive understanding of bullying in and among males and females.

The Nature of Bullying

Research on the nature of bullying began in Scandinavia in the 1970s, when pioneering Norwegian researcher Dan Olweus was recruited to do a national survey of 140,000 students to examine the extent of bullying problems in the country after the bullying-related suicides of three young boys. He found that about 9% of students were victims of bullying (Olweus, 1987). More recent research by Olweus and his colleagues shows that this rate has not changed, 10.1% of Scandinavian students aged 11-15 reported being bullied at least once in the past school term (Solberg & Olweus, 2003).

Research in England found similar results: 7% of students in one study were the victims of bullying (Stephenson & Smith, 1987), while 10% of students in another English study were found to be victims of bullying at least once a week (Whitney & Smith, 1993). Current research reports that 7.1% of English students are the victims of bullying (Boulton, Bucci, & Hawker, 1999). Studies conducted in Ireland have found that 43% of students admitted to bullying another student occasionally (O'Moore & Hillery, 1989). Australia, one of the leading countries in bullying research, has also reported that 10% of the students in their sample were "picked on a lot" by other students (Rigby & Slee, 1991), while a more recent study of 38,000 schoolchildren from that area reported that one in six children are bullied each week in their schools (Rigby & Slee, 1997). American researchers Whitney and Smith (1993) found that 20% of American schoolchildren were victimized by bullies. Later research conducted as part of the American National Crime Prevention Survey found that 5.1% of 12-18 year-old students and 10.5% of 6th-graders reported that they were bullied at school during the past 6 months (Addington, Ruddy, Miller, & DeVoe, 2002).

What should be recognized in this epidemiological review is that bullying is not a problem which exists in a cultural or national vacuum; it is a universal problem. While many of these countries, recognizing the significant impact of bullying and bullying research, have established national prevention programs and initiatives, Canada is lagging behind. As previously mentioned, research on the nature of bullying in Canada is lacking, although some meaningful research has been performed. One of the groundbreaking studies on the nature of Canadian bullying was conducted by Charach, Pepler, and Ziegler (1995). The Toronto School Board of Education, concerned with the violence in certain Toronto communities, sponsored an investigation into the extent of bullying in Toronto schools. In surveying 211 students in grades 4 through 8, they found that 49% of children reported being bullied (physically, verbally, and/or relationally) at least once or twice during the school term, that 20% were bullied more than once or twice and 8% were bullied regularly (weekly or more). Victims tended to be younger students, of a different race than the bullies, and those with special needs.

The Toronto study also found that 24% of students admitted that they had been the bully once or twice in the term, while 15% admitted to frequent bullying and 2% confessed to a high frequency of bullying (weekly or more). Three times as many boys (23%) as girls (8%) reported being bullies. Adults (parents and teachers) were generally less aware of the amount of bullying occurring, and a discrepancy existed between where adults felt they should intervene in the bullying and where children felt adults should intervene. Younger children (kindergarten to grade 4) were more inclined to look to adults for protection, while older children felt bullying could not be stopped by adults.

A similar study was undertaken in Calgary by Bentley and Li (1995) in an effort to survey the nature and prevalence of physical, verbal, and relational (indirect) bullying in elementary school children. Surveying 379 children in grades 4 to 6, the researchers found that 24.8% indicated that they were bullied sometimes, while 9.2% perceived themselves to be victims of severe bullying. Boys reported being bullied slightly more than girls (23.1% versus 20%) and younger children reported being bullied more than their older peers.

In terms of children who bully, the study found that while 68.3% of students reported that they had not bullied students at all, 11.6% admitted to bullying sometimes and 5.2% identified themselves as bullying once a week or more often. Once again, more boys (20.2%) than girls (4.4%) reported physically or verbally bullying others, however, there were no gender differences in indirect bullying. Interestingly, the number of children who identified themselves as bullies increased across the grade levels from 9.8% in grade 4 to 11.6% in grade 5 and 14% in grade 6.

In a study of 482 Saskatchewan elementary-school children grades 5 through 8, Bidwell (1997) found that 57.1% of students were bullied either only once or a few times, while 11% were bullied "lots of times" (items included measures of physical, verbal, and relational bullying). Unique to this study were the findings that there were no significant differences in the amount students were bullied depending on their grade or gender. That is, where previous studies found that boys were bullied more than girls and bullying was significantly more prevalent in younger years, this study found that the amount of bullying was constant throughout grades 5 to 8 and equal across gender.

In a sweeping study of the mental health and well-being of Ontario students conducted by Adlaf, Paglia, and Beitchman (2001), 4,211 students (grades 7 through OAC) from 41 school boards were surveyed about bullying as part of the Ontario Student Drug Use Survey (OSDUS). Among other questions, students were asked to rank how safe they felt in their school and how worried they were that someone would harm, threaten, or take something from them while at school. The report found that 12.5% of students felt worried about being harmed or threatened at school. More females (14.3%) than males (10.7%) felt threatened, and consistent with some previous research, younger children (grades 7 and 8) felt more worried than older (12 and OAC). These findings were invariable across all of Ontario.

Bullying was defined in the OSDUS as occurring when “one or more people tease, hurt, or upset a weaker person on purpose”. In regards to incidence of bullying, 18.8% of students reported being bullied monthly or less, 5.7% reporting being bullied daily or weekly. No significant differences were found for reporting being bullied by males and females; males reported being bullied just slightly more than females. Bullying was found to be more frequent in the younger grades (7 and 8) than in the elder (12 and OAC). In comparing regional rates of reported bullying behaviour, Toronto had significantly less bullying behaviour than Northern, Western, and Eastern regions of Ontario, which were not significantly different from one another (13.7% vs. 27.3%, 27.4%, and 26.6% respectively).

One Canadian study attempted to evaluate incidence of bullying at a national level. A study by Craig, Peters, and Konarski (1998) used data from the National Longitudinal Study of Children and Youth (NLSCY) to evaluate bullying in Canada and

how familial and individual factors could contribute to the development of bullying and victimization. Results from 11,308 surveys indicated relatively low incidence of bullying (defined as physical or indirect aggression) among 4-6 year olds (4.7%) and 7-9 year olds (5.7%), while 10.9% of children aged 10-11 reported being bullied. However, these low results may be explained by the fact that bullying incidence for these groups was measured by parent report (of whether their child was bullied at school or bullied by others) rather than self-report by the children, while the 10-11 age group was measured by self-report. As many previous studies have illustrated, parents are often unaware of and underestimate the amount of bullying their child experiences (Ziegler and Rosenstein-Manner, 1991; Olweus, 1991). This parental unawareness is not unique to the extent to which their child is involved in bullying situations; as the following section describes, parents are likewise often naive about their children's use of the media.

Children's use of Media: From Film to Computers and Beyond

History of Children's Use of Media

As previously mentioned, very few (if any) empirical studies exist regarding the extent of electronic bullying among children and youth. However, children's use of media and the social and developmental effects of such use has been well documented. Throughout the years, various forms of media and involvement in them have contributed to the social dynamics and experiences of children. The first of these was film. Initially, films were aimed at mature audiences with mature themes, with the first family films such as *Little Miss Marker*, *Snow White*, and *The Wizard of Oz* emerging in the early to late 1930s (Singer and Singer, 2001). Attendance in film took a small dip in the late 20s and early 30s due to the emergence of the radio. Unlike film, radio had the capability of

reaching people in their homes while promoting products. Flourishing in the 1930s and 40s, entire families could be found gathered around their radio listening to various shows and news (Singer and Singer, 2001).

Unlike film attendance, levels of radio listening remained constant after the next major medium, television, was introduced. Commercial telecasting came into existence in 1941 with the transfer of technological advancements from war measures to television. By the 1950s, television was experiencing a period of growth and innovation; a 1951 survey found that children were watching television throughout the day, and that they watched programming aimed at children as well as adults (UNESCO, 1953); more recent research has shown that children as young as 2 years old watch more than 3 hours of television daily (Nielsen Media Research, 1998). No gender differences have been found in terms of amount of time spent viewing for males and females (Huston, Wright, Marquis, & Green, 1999).

Initially, television viewing was more of a family experience, with the family gathering around the one household television in the living room. More recently, it is common for most homes to have more than one television, making family viewing less frequent. Consequently, children are choosing to watch less educational programming than when they watched with their parents (St. Peters, Fitch, Huston, Wright, & Eakins, 1991). Schramm, Lyle, and Parker (1961) found that children's program preferences are largely determined by their motivation for viewing, a trend which still applies today. They outlined three main reasons why a child would select a program for viewing: for the passive pleasure of being entertained and living a fantasy, to gain information, and for the

social utility function of watching (by providing a subject of conversation or reason to socialize with people).

Children and the Internet

The social utility function of television watching is one that has been carried through to the most recent evolution of media: the internet. Not only does the internet provide a topic of conversation to children and adolescents, but it also provides a fully interactive medium which allows them to actually socialize with others. The idea of the internet dates back to the 1950s, but the current model can be traced to 1969 and the United States Defense Department. At the time, the Defense Department computer network was joined with universities doing military research to allow for the efficient exchange of information. This format was extended globally in 1987 to compose the basic structure of today's internet. Since that time, the internet has ballooned, expanding by 50% every year in the 1990s (Singer and Singer, 2001), with a 1998 survey by Lawrence and Giles estimating the existence of 320 million web sites, a figure which had increased to 800 million only a year later. Today, the number of indexed internet sites is estimated to be well over the 5 billion mark, with billions more yet to be identified (Sullivan, 2003).

Children and teenagers have been found to be the two largest sectors on the internet (Jupiter Communications, 1999). Research on Canadian students aged 6-16 found that 99% of students have used the internet, and 86% use it on a regular basis. No difference in usage rates exist between boys and girls, although in general, girls are more likely to use the internet for communication while boys are more likely to engage in entertainment and games online (Media Awareness Network, 2000). When asked to

describe their main uses for the internet, children and adolescents report information gathering as their most frequent use. The second and third most common reasons for use among children and teenagers are for e-mail and participation in chat rooms, both activities which are social in nature (U.S. Census Bureau, 1999).

The opportunities for socialization afforded by the internet can be both positive and negative. The internet may allow otherwise shy, unpopular children or those with disabilities to form friendships with others (Hasselbring & Glaser, 2000), and can act as a source of advice or help for children who otherwise feel they have no place to go. In a study of adolescents aged 13-19, Gould, Munfakh, Lubell, Kleinman, and Parker (2002) found that 18% of teens used the internet to seek help when they felt very upset, sad, stressed, or angry. The most common reasons for seeking help included romantic problems (57.4%), problems with friendships (50%), family problems (37.2%) and academic/school problems (36.2%). However, internet socialization is often negatively related to real-life socialization. In their study on the effects of childhood and teenage internet use, Subrahmanyam, Kraut, Greenfield, and Gross (2001) found that an increased use of the internet for social purposes resulted in decreased social involvement with families and a decrease in the size of participant's local social networks. In addition, those who spent more time socializing on the internet reported more loneliness and depression.

Another type of threat to children and adolescents exists via communication through the "information superhighway". Law enforcement officials have warned children and parents about the possibility of sexual exploitation through on-line relationships (Armagh, Battaglia, & Lanning, 1999), and many internet sites share safety

guidelines for young people which outline the best policies and practices to follow when socializing through the internet (Aftab, 2000). Likewise, the Microsoft Corporation recently shut down its free, unsupervised live chat rooms in an effort to make the internet safer for children (Wiender, 2003). Despite these warnings, children and adolescents continue to communicate with strangers online. In a survey of 213 11-16 year-olds, 74% of participants reported contact with a stranger via e-mail or a chat room, and 25% of these students admitted that they shared identifying information about themselves with these strangers (Stahl & Fritz, 2002). Wolak, Mitchell, and Finkelhor (2003), in their study of 1,501 internet users aged 10 to 17 (790 boys, 708 girls), found that a disproportionate number of adolescents with close online relationships were highly troubled and reported high amounts of conflict with their parents.

Electronic Bullying: What Do We Know?

The internet along with cell-phone technology has allowed for a different type of victimization of children and adolescents: electronic bullying. No longer is the only concern the victimization of a child by some unknown predator, but now parents and children alike have to be worried about being tormented by other children. Electronic bullying (also often called cyber bullying) can be propagated through several methods: electronic mail, chat rooms, instant messages, small text messages, web sites, web logs, and voting/polling booths.

Electronic Mail (E-Mail).

Thought by some as one of the most modern conveniences of our time, electronic mail refers to the transmission of messages over electronic communication networks. These messages can be typewritten content or files of text, images, audio, or video.

Electronic mail systems are extremely accessible, with most mainframes, minicomputers, computer networks, cell phones, and personal organizers equipped with e-mail systems, and allow users to communicate on a global level (Webopedia, 2003).

Bullying can occur through electronic mail when an individual sends malicious, harassing and threatening messages to their targets with the intent to hurt them over time. Although it is often possible to trace which e-mail account the message was sent from, it is almost impossible to prove who actually used the account to send the message (Cyberbullying.ca, 2003: <http://www.cyberbullying.ca/examples.html>). A survey conducted by the National Children's Home in the UK reported that of 856 children and adolescents (aged 11-19) surveyed, 4% had been the victims of electronic mail bullying (BBC News, 2002).

Chat Rooms.

Chat rooms are web sites (or sections of web sites) which allow for real-time communication between two or more users. Users enter a chat room under a "username", a name which they display to represent themselves, and can converse about any topic. Often, specific chat rooms are established for people to speak about similar interests or to converse with people of similar ages. Most networks and online services offer a chat feature (Webopedia, 2003). Chat rooms can be especially dangerous for children and adolescents due to the added anonymity of usernames; both bullies and sexual predators can pose as a trustworthy friend and confidant. 7% of the U.K. children who participated in the National Children's Home Survey reported being the victim of chat room bullying (BBC, 2002).

Instant Messages (IM).

Instant messages are a type of communications service that enables people to create a kind of private chat room with another individual in order to communicate in real time over the Internet, analogous to a telephone conversation but using text-based, not voice-based, communication. Typically, the instant messaging system alerts you when someone on your private list is online. You can then initiate a chat session with that particular individual (Webopedia, 2003). Examples of common IM services include MSN Messenger, ICQ, and Yahoo Messenger. Once again, although it is easy to ascertain which contact one might be communicating with, one can never be sure who is using that username. In a survey of Canadian youth, 14% of users reported being threatened while using instant messaging, while 16% admitted they had posted hateful comments themselves (as cited in Leishman, 2002).

Small Text Messages (SMS, EMS, and MMS).

Small text messages refer to text messages sent between two mobile phones or to short messages sent from a computer to a mobile phone. Commonly called “text messages”, this service is generally provided by mobile phone distributors and can take one of 3 forms. The first, Short Message Service (SMS), refers to simple text messages up to 160 characters in length. The second, Enhanced Messaging Service (EMS), is similar to text messaging but with more advanced options. Finally, Multimedia Messaging Service (MMS) allows users to send mobile to mobile messages comprising of a combination of text, sounds, images, and video (Webopedia, 2003).

Bullying through text messaging appears to be a method of primary concern among researchers and children alike. In the UK sample of children and adolescence,

text messaging was the most commonly used method of electronic bullying, with 16% of students reporting being victimized through this method (BBC, 2002).

Educators are also becoming aware of the problem. A recent interview with teachers in the Southwestern Ontario school district reported that many teachers felt cellular phones were the most rapidly growing method of bullying children, and admitted that it is both difficult to deal with as well as recognize (Nelson, 2003).

Web Sites.

A web site is a location (or site) on the World Wide Web. They generally contain a homepage and text, and can contain additional documents, files, photos, etc. Each site is owned and managed by an individual, company, or organization. They are generally published on an Internet Service Provider (ISP), the most common hosts including Yahoo, Geocities, Angelfire, and Tripod (Webopedia, 2003).

Electronic bullying through these means most often occurs in the form of a defamatory web site. One particularly publicized case of web site electronic bullying occurred in Burlington Ontario, where a student who had previously been physically and verbally bullied at school discovered that someone had set up an abusive web site about him. Titled "Welcome to the page that makes fun of Dave Knight", the web site invited people to post lewd, sexual comments and smear his reputation. The web site was active for several months before a classmate told him about it; the humiliation and anguish David felt lead him to leave school and finish his final year of studies at home (Leishman, 2002).

Unfortunately in David's case, as well as most other incidence of defamatory web sites used in bullying, there is little that the victim can do to fight back. Often, it is

impossible to know who set up the site; and while the most frequently given advice in this situation is to contact the Internet Service Provider hosting the web site to have it removed, the ISP's often hold to rights of freedom of speech. While retaining policies instructing users not to post offensive material, representatives for the ISP's maintain that they are neither censors nor morality police, and that families should decide what is appropriate content to view online (Leishman, 2002). This being said, research has found that 7.5% of 11-16 year-olds report visiting sites primarily concerned with putting down or hating other people (Stahl & Fritz, 2002).

Web Logs (Blogs).

A Web Log (or Blog) is a Web page that serves as a publicly-accessible personal journal or diary for an individual. Typically updated daily, blogs often reflect the personality of the author (Webopedia, 2003). Children and adolescents often bully through this electronic medium by writing their personal thoughts and opinions about a given individual, and generally no language or feelings are spared. An example is given by Rachel Simmons (2003) in an article on the topic in the Washington Post:

“One 12-year-old blogger, writing on the popular Angelfire Web site, recently announced she would devote her page to ‘anyone and everyone i hate and why’. She minced no words. ‘erin used to be aka miss perfect. too bad now u r a train face. hahaha. god did that to u since u r such a b -- . ashley stop acting like a slut wannabe. lauren u fat b -- can't even go out at night w/ ur friends. . . . and laurinda u suck u god damn flat, weird voice, skinny as a stick b -- .’”.

Not only do web logs illustrate the blatant feelings of the writer, but they further victimize the target of bullying by allowing anyone else who is interested in reading these feelings to be biased by this opinion.

Voting/Polling Booths.

Several web sites have been dedicated to allowing users to create online voting or polling booths to rate people on a certain attribute. They can create these booths on the polling web sites themselves or link them back to a personal web site, perhaps a slanderous bullying web site. Bullies have been known to establish polls asking for people to vote on which student at their school is the ugliest, most overweight, dumbest, etc. While many of these sites do have strict policies against abuse of the polls, with a clear abuse reporting system established, many of the pages are not regulated by web site creators (Belsey, 2003).

Why Take Bullying to The Internet?

What is it about electronic bullying that is creating such a shift from more traditional “in person” styles of bullying to the electronic version? Simmons (2003) theorizes that the internet is a breeding ground for bullying behaviour in that it is a “gray area” for social interactions. Deleting social inhibitions, it allows people to do and say things that they would be uncomfortable doing face-to-face. Because they are so impersonal, informal, and indirect, electronic bullying methods allow for more ferociousness and viciousness in the bullying. The bully never has to hear the person or see their reaction; it is a very dehumanizing type of victimization. The internet serves as a perfect vehicle to meet the goals of bullying. Bullying in and of itself is covert in nature, especially in the case of social bullying where avoiding apprehension is of utmost

importance. Added to this is the anonymity of electronic bullying. Where physical bullying on a playground is somewhat easier to spot, proving an electronic bullying incident requires a recorded archive of activities and conversations which is often not established. In addition, bullies often invoke their right to freedom of speech and privacy, stating that they can write whatever they wish on a semi-private web log or personal e-mail (Simmons, 2003).

The effects of electronic bullying on victims, however, are often more profound than with traditional bullying. David Knight's experience with the defamatory web site against him had a different effect than the other forms of bullying he had experienced. He began to withdraw completely, isolating himself from everyone; his mother hypothesized that it was not knowing who knew about the site that made him not want to associate with anyone (Leishman, 2002). Others point out that it is the intrusive nature of electronic bullying that causes such negative effects. Children and adolescents who were bullied in the classroom and playground could find sanctuary and safety at home. Now, with electronic bullying, they can receive a threatening text message on their phone regardless of their location, and spending time at the computer doing homework, talking to friends, or playing games opens up youth to an excess of bullying opportunities (BBC, 2002).

The Present Study

A review of bullying research in Canada conducted by Harachi, Catalano, and Hawkins (1999) found that more research is needed on the nature of the problem of bullying in Canada; existing research having been conducted by the same few investigators in mostly urban areas. The reviewers point out that despite the fact that the

issue of bullying is highly visible in Canadian media, bullying has not received widespread attention in Canadian educational programming or in scientific literature. Likewise, in a review of electronic bullying research, Jerome and Segal (2003) highlight the lack of scientific literature surrounding the use of the internet as a vehicle for bullying, stating that any information found on the topic was found through internet web sites.

This study adds to the body of knowledge surrounding bullying in Canada by focusing on electronic bullying among adolescents. At the time of this research there were no published academic studies exclusively focused on this area, thus this paper had several objectives. The primary goal of the study was to uncover the nature of electronic bullying among a rural sample of youth in Eastern Ontario. Specifically, the intention was to discover the most prevalent methods of electronic bullying, its incidence, the characteristics of those who bully electronically, and gender and grade differences. The secondary goal of the study was to determine in what ways electronic bullying differs from more traditional types of schoolyard bullying. Of particular interest were the differences between electronic bullying and schoolyard bullying in terms of frequency, severity of harm inflicted, likelihood of victim retaliation, and the response of witnesses.

Also of particular interest in this study were the differences between males and females in regards to the various elements of electronic bullying. Past research on bullying and gender has been mixed: while some report that males are bullied more frequently than females (Rigby & Slee, 1991), others report that no differences exist between the two genders in terms of rates of victimization (Bidwell, 1997). Coupled with this is the suggestion that electronic bullying may lend itself more readily to females; it is

more covert in nature and offers a unrestricted medium for relational bullying, the form of bullying which females have been found to use most frequently (Rys & Bear, 1997). Thus, the examination of gender differences within the elements of electronic bullying is essential for a comprehensive understanding of the nature of electronic bullying itself.

It is hypothesized that electronic bullying will occur commonly among youth, that is, it will occur at least as often as previously reported for traditional bullying. As previous research has found that bullying tends to become more relational (and less physical) as children age (Rys & bear, 1997), it is also hypothesized that electronic bullying will be verbal or social/relational in nature. Due to the anonymous and covert nature of electronic bullying, comparisons between electronic and traditional bullying are expected to find that, as social inhibitions are abandoned, bullying incidence will be more frequent and more severe online than in person. The removal of social inhibitions also leads to the hypothesis that victims and witnesses will be more likely to retaliate or stand up for themselves and others online than in person, and that the impact of being bullied will be more hurtful when bullied online than when bullied in person.

Methods

Participants

This research was conducted within three rural townships in the Ontario region. School principals were contacted to determine if they would be interested in participating in the study. All principals contacted ($N = 3$) agreed to participate in exchange for written summaries of school-specific results and presentations on bullying behaviour. One thousand parental consent forms were distributed to the schools, of which 300 were returned (a 30% consent rate). Of those students who returned parental consent forms, 233 were present on the day of survey administration¹.

The sample consisted of 233 students in grades 9 to 12 (ages 14 to 18) from three schools in a rural school board. Participants were all from small, farming communities which surround a large urban centre. Students from grades 9 to 12 were selected as participants due in part to their technological ability levels and to their accessibility to computers and cellular telephones as compared to younger students. Of this sample, 81 (34.8%) were male and 150 (64.4%) were female. Two participants (0.8%) failed to identify their gender. The majority of the participants (58.8%) were in the 9th grade, with 30.9% in the 10th grade, 5.2% in the 11th grade, and 4.7% in the 12th grade. This variability in grade distribution was due to the fact that sampling of 11th and 12th grade students was only conducted in one of the schools surveyed.

The participants were predominantly Caucasian (77.3%), with a small representation of African Canadian (2.6%), Asian (0.4%), Aboriginal (2.6%), Middle

¹ A large number of students were not present on the day of survey administration due to scheduling conflicts with a city-wide track and field meet.

As no information was collected on the 700 students who failed to return a parental consent form, no comparative information between participants and non-participants was available.

Eastern (0.4%), and other (5.2%) populations. The remainder of the participants (11.2%) failed to identify themselves as members of a particular ethnicity. This sample, although not demographically representative of larger urban populations, is typical of rural areas in Ontario.

Materials

An edited version of the Safe School Student Survey (Hymel, Ishiyama, & White, 2003) along with the Electronic Bullying Survey were distributed to gather information on bullying and use of technology among youth. These surveys were included as part of a larger scale battery of questionnaires used to assess the social networks of adolescents. Both the Safe School Student Survey and the Electronic Bullying Survey utilized self-report formats. This format was preferred for this study as parent-reports have been found to underestimate the occurrence of bullying (Ziegler and Rosenstein-Manner, 1991; Olweus, 1991). The Safe School Student Survey and the Electronic Bullying Survey are described as follows:

Safe School Student Survey.

The Safe School Student Survey, available in elementary and secondary school versions, is a measure of feelings of safety, bullying, sexual harassment and racial discrimination. Developed by the West Vancouver Safe School Survey Committee in consultation with Dr. Shelley Hymel, Dr. Ishu Ishiyama, and Dr. Aaron White, the Safe School Student Survey is used throughout the West Vancouver School District as well as in research for the Canadian Public Health Association (CPHA). In 2003/2004, the CPHA recognized the Safe School Student Survey as being the leading tool in Canadian bullying research and has used it as part of several national surveys on bullying and best

practices in addressing bullying behaviour. The CPHA has made the Safe School Student Survey available to all Canadian schools at no cost, and has established an on-line data entry system where schools can enter their survey results and have them evaluated by the organization. Likewise, it has developed a free assessment toolkit, in partnership with the Canadian Initiative for the Prevention of Bullying, using the Safe School Student Survey. Although psychometric evaluation of the Safe School Student Survey is underway, no psychometric data are available at this time. However, the survey appears to have high content validity, measuring all the of the types of bullying (physical, verbal, and relational), obtaining reports from many sources (the bully, victim, and witness), and inquiring about characteristics, attitudes, and perceptions of bullying.

This study, using the survey designed for secondary school students in an edited form, applied only those items which concerned bullying. This survey defined bullying as follows:

“A bully wants to hurt the other person (it’s not an accident), and does so repeatedly and unfairly (the bully has some advantage over the victim).

Sometimes a group of students will bully another student.”

The survey then goes on to describe the various forms bullying can take: physical (defined as hitting, shoving, kicking, spitting, beating on others, or damaging another’s’ property), verbal (defined as name calling, mocking, hurtful teasing, humiliating, or threatening someone), social (defined as exclusion, gossiping, and spreading rumours), and electronic bullying (defined as using computer or e-mail messages to bully). It inquires about the frequency of bullying by asking respondents to indicate how often (on a categorical scale from “Not at all this year” to “Many times a week”) in the last school

year they had been part of a bullying incident, either as a victim, bully, witness, or accomplice. Other bullying questions are also included, including assessments of reactions to bullying and attitudes towards bullying and its occurrence (see Appendix A).

Electronic Bullying Survey.

A direct measure of electronic bullying, the Electronic Bullying Survey was developed specifically for use in this study due to a lack of available measures. Aimed at children in grades 7 to 12, the questionnaire defines electronic bullying and outlines the various ways in which electronic bullying can occur (through e-mail, chat rooms, instant messaging, web pages, web logs, and text messaging; see Appendix B).

Questions were designed to measure several areas of interest in regards to electronic bullying which corresponded to the primary goal of this study. The frequency of electronic use was measured by asking participants to indicate how often (on a categorical scale ranging from “None, I never use this” to “More than one hour a day”) they use the internet in general and each electronic media in specific. The frequency of electronic bullying was measured by asking participants to indicate how often (on a categorical scale ranging from “Not at all this year” to “Many times a week”) they had been involved in, witnessed, or heard about electronic bullying in the last school year. Participants were considered to have participated in, witnessed, or heard about electronic bullying if they indicated anything from “Once or a few times” to “Many times a week”, as has been the practice in the majority of bullying research. Although there has been some controversy in the literature regarding the conceptual use of “Once or a few times” as a cut-off point for measuring bullying behaviour (considering the definition of bullying as occurring *repeatedly*), Solberg & Olweus (2003) have found that those students who

report being bullied only once or twice are significantly different than those who are not bullied at all.

The characteristics of electronic bullies and victims were measured by asking participants to indicate the gender, grade, school, and relationship with the electronic bully or victim. Reactions to electronic bullying by witnesses and victims was measured by asking each participant to indicate, out of a series of possible responses to bullying, which reactions they had used in the last school year when witnessing and/or being the victim of electronic bullying. The form which electronic bullying took (physical, verbal, or relational) was measured by asking participants to indicate, of a series of possible bullying actions, what happened in the bullying situation. Finally, the severity and impact of electronic bullying was measured on a Likert-type scale ranging from “Not at all harsh/No impact” to “Really harsh/A huge impact”.

The format and style of items in the Electronic Bullying Survey were modeled on those representing the Safe School Student Survey. This allows for straightforward comparisons between items on both surveys, as similar (if not identical) scales and response items were used. Electronic bullying was defined by the Electronic Bullying Survey as follows:

“When one person or a group of people tries to hurt another person repeatedly (more than one time) in order to gain power over them using their computer or cellular phone. Electronic bullying is unfair because the bully has some advantage over the victim, and it is done on purpose to hurt someone, not like an accident or like teasing between friends.”

Procedure

Questionnaire packages were administered by the principal researchers in May and June of 2004². Each student completed the entire battery of questionnaires (including the Safe School Student Survey and the Electronic Bullying Survey) in a 1-hour session. Questionnaires were administered only once to each participant, with all students present on the day of testing given the opportunity to participate. In order to participate, students were required to have parental consent (in the form of a parental consent form) and to have completed a participant consent form (see Appendices C and D).

The principal researchers administered the questionnaires to each group, quickly reviewing the aims of the study. Surveys were administered in several settings within the schools, depending on availability of space. Aside from one group which completed their questionnaires in a classroom, the remainder of the participants completed questionnaires in the library or auditorium. Regardless of location, all students were asked to alternate seating to ensure privacy. To ensure that surveys were completely anonymous and confidential, participants submitted identifying information separately from the questionnaire package itself. Participants were informed that the surveys would be used to learn about their social networks and friendships, including topics such as bullying, relational aggression, and friendship quality. As all questions were in a multiple choice self-report format, participants were assured that no correct answers existed, but that the researchers were simply looking for the answers which were most true for them.

² As previously mentioned, the Safe School Student Survey and the Electronic Bullying Survey were administered as part of a larger scale battery of questionnaires used to assess the social networks of adolescents. Data was collected by the present researcher along with a second Master's level researcher who was utilizing the additional questionnaires for a graduate thesis.

Due to a technical error during the survey reproduction process, a number of items from the Electronic Bullying Survey (questions 25-50) were not included in the questionnaire package. These questions inquired about participant attitudes toward electronic bullying (if they believed it was problematic, if they saw it as harmless, if they feared it happening to them, etc). The implications of this omission are presented in Appendix E, which illustrates planned evaluations prior to and post item omission. The omission of these items resulted in the inability to compare the attitudes and fears associated with traditional bullying with the attitudes and fears associated with electronic bullying. The omission also made it impossible to conduct a factor analysis on the set of scales measuring attitude toward bullying, as had been planned.

Results

As previously outlined, this study had two goals: to uncover the nature of electronic bullying in a rural sample of youth in Eastern Ontario, and to compare electronic bullying with the more traditional types of schoolyard bullying. Results for each goal will be presented separately. Analyses were conducted using SPSS for Windows, version 10.0. Where applicable, parametric post hoc tests were conducted at levels corrected using the Bonferroni adjustment. All non-parametric analyses were conducted at a reduced test-wise power level (.01) to compensate for multiple comparisons. Although this power level could be considered liberal for the number of tests conducted in each area of focus, the alpha of .01 takes into account the exploratory nature of the study and the lack of previous research in the area.

Primary Goal: The Nature of Electronic Bullying

The primary goal, uncovering the nature of electronic bullying, was examined using several main areas of focus. These areas of focus included the frequency and types of electronic medium use, frequency of electronic bullying, the disparity between witness and bully or victim accounts of bullying, characteristics of electronic bullies and victims, reactions to electronic bullying, form and severity of electronic bullying, and the relationship between severity of electronic bullying and quality of friendship between bully and victim. For clarity, each of these areas of focus will be discussed separately.

Each of the areas of focus was tested for gender and grade differences using two-way contingency table analyses (chi-squares). Due to the low sample sizes of those in grades 11 and 12, tests for grade differences were only conducted between grades 9 and 10. Few significant differences were found (at the .01 level) for the areas of focus in

terms of gender or grade, thus these analyses will only be discussed in the instances where significant differences were found. Finally, all test assumptions (independence, normality, homogeneity of variance, etc.) were satisfied unless otherwise noted.

Frequency and Types of Electronic Medium Use.

In order to examine the nature of electronic bullying, it was first necessary to determine the extent to which participants used electronic media. Participants were asked to indicate, on a categorical scale from 0 (“None”) to 6 (“More than an hour every day”), how much they used the internet (in general) and how much they used each electronic medium. To facilitate interpretation of results and to allow for large enough sample sizes under each category for comparison, results were transformed to a 4-point scale specifying frequency of electronic medium use as “never”, “rarely”, “often”, and “always”. The “never” category included those that had indicated using “none” of a particular medium, “rarely” represented those that used the internet for less than an hour per week, “often” represented those that used the internet for a few hours a week to less than an hour a day, and “always” represented using the internet for more than an hour per day. For a detailed summary table of frequency and types of electronic medium use before transformation, see Appendix F.

Table 1 outlines the frequency of electronic medium use for the sample. In general, 42.3% of participants ($N = 96$) indicated that they always used the internet (that they used the internet for more than an hour each day). Several media were never used by the majority of participants, such as chat rooms (55.8%, $N = 126$), web logs (77.9%, N

Table 1

Frequency (and %) of Electronic Medium Use

Electronic Medium	Never % (N)	Rarely % (N)	Often % (N)	Always % (N)
Internet in General	3.5 (8)	22.9 (52)	31.3 (71)	42.3 (96)
Chat Rooms	55.8 (126)	31.4 (71)	9.7 (22)	3.1 (7)
Instant Messaging	19.4 (44)	23.8 (54)	24.2 (55)	32.6 (74)
E-Mail	10.2 (23)	42.9 (97)	35.8 (81)	11.1 (25)
Web Log	77.9 (176)	14.2 (32)	5.8 (13)	2.2 (5)
Personal Web Page	79.2 (179)	11.9 (27)	6.6 (15)	2.2 (5)

= 176), and personal web pages (79.2%, $N = 179$). Others, however, were routinely used; 56.8% of participants ($N = 129$) reported sending instant messages often or always, and 46.9% ($N = 116$) reported using e-mail often or always. The electronic medium of cellular phones was measured in terms of frequency of text messages sent. The majority of participants (80.5 %, $N = 182$) had not sent a text message within the last school year. Only 14.2% ($N = 20$) had sent more than one text message a week during the school year.

Two-way contingency table analyses were conducted to determine if frequency of electronic medium use varied as a function of gender. As illustrated in Table 2, results found that females were significantly more likely than males to use e-mail (Pearson χ^2 (1, $N = 224$) = 13.02, $p = .005$), with 54.8% of females and 33.3% of males using e-mail often or always. No significant gender differences existed on frequency of use for any of the remaining electronic media.

The extent of electronic medium use was also reflected in participants' accessibility to the internet and cellular phones. Of those surveyed, 91.4% ($N = 213$) of participants had access to a computer with internet access in their home. Table 3 outlines the number of computers with internet access in participants homes, along with their location. Although the majority of participants had only one computer at home, many (22.3%) had two computers, and 9.8% of participants had three or more computers with internet access at home. Computers were most likely to be located in the living room/family room (53.7%) or basement (32.7%). Notable is the fact that a quarter of participants ($N = 57$) had a computer with internet access in their bedrooms.

Table 2

Results of Two-Way Contingency Table Analysis Examining Gender Differences on Frequency of Using E-Mail

Gender	Frequency of E-Mail Use				Total
	None	Rarely	Often	Always	
Male <i>N</i>	11.0	41.0	16.0	10.0	78.0
<i>Expected N</i>	8.0	33.1	28.2	8.7	78.0
% of Gender	14.1	52.6	20.5	12.8	100.0
% of Frequency	47.8	43.2	19.8	40.0	34.8
Female <i>N</i>	12.0	54.0	65.0	15.0	146.0
<i>Expected N</i>	15.0	61.9	52.8	16.3	146.0
% of Gender	8.2	37.0	44.5	10.3	100.0
% of Frequency	52.2	56.8	80.2	60.0	65.2
Total <i>N</i>	23.0	95.0	81.0	25.0	224.0
<i>Expected N</i>	23.0	95.0	81.0	25.0	224.0
% of Gender	10.3	42.4	36.2	11.2	100.0
% of Frequency	100.0	100.0	100.0	100.0	100.0

Note. $\chi^2 = (3, N = 224) = 13.02, p = .005$.

Table 3

Accessibility to Computers with Internet Access: Location of Computer

Computer Location	Entire Sample % (N)	Male % (N)	Female % (N)
Participant's Bedroom	25.1 (57)	29.9 (23)	23.0 (34)
Parents' Bedroom	8.4 (19)	5.2 (4)	9.5 (14)
Siblings' Bedroom	11.5 (26)	13.0 (10)	10.8 (16)
Living/Family Room	53.7 (122)	55.8 (43)	52.7 (78)
Kitchen	9.3 (21)	2.6 (2)	12.8 (19)
Basement	32.7 (74)	26.3 (20)	35.8 (53)

Note. Percentages may exceed 100% due to several participants having more than one computer in the household with access to the internet.

Results indicated that, interestingly, only 33% of participants had cellular phones, however, 91.4% (N = 213) of households had one or more cell phones. It was more common for mothers (70.7%) or fathers (65.3%) to have cellular phones.

Finally, participants were asked what activity they spent the majority of their time doing when online. Table 4 illustrates the most frequent online activities for all participants as well as for males and females separately. The most frequently reported activity was talking to “real life” friends (friends that they had met in real life rather than friends that they had met online). 57.1% of participants reported that this is what they spent the majority of their online time doing. The next most frequent activities were doing schoolwork (13.8%) and speaking to friends they had met online (12.1%). It is important to note that overall, 69.2% of participants cited speaking to a friend, either “real life” or “cyber”, as being their main pursuit when online.

Frequency of Electronic Bullying and Medium Used.

In order to test the hypothesis that electronic bullying occurred commonly among rural youth, frequency of electronic bullying was analyzed from the perspective of several of the “players” in a bullying situation (the bully, their accomplice, and the victim). Participants were asked to report, on a categorical scale from 0 (not at all this year) to 4 (many times a week), how frequently they electronically bullied, took part in electronic bullying, or were the victim of electronic bullying in the last school year. To facilitate interpretation and to adjust cell frequencies so that gender analyses could be completed, frequency of electronic bullying was transformed into a 3-point scale (“not at all”, “sometimes”, and “regularly”), where “sometimes” represented being bullied or

Table 4

Participants' Most Frequent Online Activities: Entire Sample and By Gender

Online Activity	Entire Sample % (N)	Male % (N)	Female % (N)
Schoolwork	13.8 (31)	11.8 (9)	15.1 (22)
Playing Games	4.9 (11)	10.5 (8)	2.1 (3)
Reading World News	1.3 (3)	2.6 (2)	0.7 (1)
Reading Entertainment News	2.7 (6)	5.3 (4)	0.7 (1)
Listening To/Downloading Music	8.0 (18)	9.2 (7)	7.5 (11)
Talking to "Real Life" Friends	57.1 (128)	47.4 (36)	62.3 (91)
Talking to Friends They Met Online	12.1 (27)	13.2 (10)	11.6 (17)

Note. N for genders may not add up to entire sample N due to 2 participants who failed to identify a gender.

being the bully once or a few times in the last school year and “regularly” represented being bullied or being the bully every month or more. The following provides a detailed summary of bully, victim, and accomplice reports of electronic bullying frequency.

When participants were asked to report the frequency with which they bullied others, overall, 33.9% ($N = 79$) reported using at least one type of electronic medium to bully someone (they reported using any of the six media to bully at least once in the last school year). 36.7% ($N = 55$) of all females and 28.4% ($N = 23$) of all males admitted to bullying, however this difference was not statistically significant (Pearson $\chi^2 (1, N = 231) = 1.61, p = n.s.$). When examining each medium independently, the majority reported not bullying at all that school year (from 81.4% to 96.0%, depending on the medium). However, 24.3% ($N = 55$) of participants admitted to bullying at least sometimes through instant messaging, and 18.6% ($N = 42$) reported bullying at least sometimes in the school year through e-mail. Very few participants (2 to 12) admitted to bullying regularly (see Table 5).

When participants were asked to report the frequency with which they were the victims of electronic bullying, overall, 39.1% ($N = 91$) of participants reported being the victim of electronic bullying at some time in the last school year. When the media were examined independently, the majority reported not being victimized at all (from 70.3% to 96.1%, depending on the medium). Consistent with bullies' reports, 29.7% ($N = 68$) of participants reported being victimized at least sometimes through instant messaging, and 18.8% ($N = 43$) reported victimization at least sometimes in the school year through e-mail. Few participants (2 to 15) reported being bullied regularly.

Table 5

Frequency (and %) of Bullying and Medium Used: Bully, Victim, and Accomplice Perspectives

Electronic Medium	Not At All This Year % (N)	Sometimes % (N)	Regularly % (N)
E-Mail			
<i>Bully</i>	81.4 (184)	15.9 (36)	2.7 (6)
<i>Victim</i>	81.2 (186)	17.9 (41)	0.9 (2)
<i>Accomplice</i>	84.3 (193)	12.7 (29)	3.1 (7)
Chat Rooms			
<i>Bully</i>	90.3 (204)	8.0 (18)	1.8 (4)
<i>Victim</i>	91.3 (209)	7.9 (18)	0.9 (2)
<i>Accomplice</i>	90.0 (206)	6.1 (14)	3.9 (9)
Instant Messaging			
<i>Bully</i>	75.7 (171)	19.0 (43)	5.3 (12)
<i>Victim</i>	70.3 (161)	23.1 (53)	6.6 (15)
<i>Accomplice</i>	75.5 (173)	18.3 (42)	6.1 (14)
Personal Web Page			
<i>Bully</i>	96.0 (217)	2.2 (5)	1.8 (4)
<i>Victim</i>	95.2 (218)	3.1 (7)	1.7 (4)
<i>Accomplice</i>	95.2 (218)	2.6 (6)	2.2 (5)
Web Log			
<i>Bully</i>	96.0 (217)	2.2 (5)	1.8 (4)
<i>Victim</i>	96.1 (220)	3.1 (7)	0.9 (2)
<i>Accomplice</i>	95.6 (219)	3.5 (8)	0.9 (2)
Text Messaging			
<i>Bully</i>	95.1 (215)	3.1 (7)	1.8 (4)
<i>Victim</i>	94.8 (217)	3.5 (8)	1.7 (4)
<i>Accomplice</i>	94.3 (216)	2.6 (6)	3.1 (7)

Two-way contingency table analyses were conducted to examine the relationship between victimization and gender for each electronic medium. A two by two table was constructed, comparing gender (male and female) and electronic victimization (no, not victimized in the last year and yes, victimized in the last year). Results found that 12.8% of females and no males reported being victimized through chat rooms (Pearson $\chi^2(1, N = 227) = 10.86, p = .001$), indicating that gender and victimization through chat rooms are not independent (see Table 6).

Participants were likewise asked to report the frequency with which they were the accomplices in an electronic bullying situation. This involved taking part in the bullying incident, but not being the primary actor³. Overall, 32.2% ($N = 75$) of participants reported being an accomplice in an electronic bullying situation using at least one medium at some time in the last school year. An almost identical proportion of males (32.1%, $N = 25$) and females (32.7%, $N = 49$) reported being an accomplice. An independent examination of the media found that the majority of participants reported never being an accomplice (from 75.5% to 95.6%, depending on the medium). Accomplices corroborated bully and victim reports in admitting most frequently to being involved in bullying through instant messaging (24.5%, $N = 56$) and e-mail (15.7%, $N = 36$) at least sometimes. Between 2 (for web-logs) and 14 (for instant messaging) accomplices reported being involved in bullying on a regular basis.

Two-way contingency table analyses were conducted to determine if frequency of being an accomplice varied as a function of gender for each medium. A two by two table was constructed, comparing gender (males and females) and being an accomplice (no, not

³ A person can act as an accomplice through chat rooms or instant messaging by somehow supporting the bully and their behaviour without actually participating in the bullying itself. For example, they could interject into the conversation with supporting comments such as “Yeah!” or “Good one!”.

Table 6

Results of Two-Way Contingency Table Analysis Examining Gender Differences on Being a Victim of Electronic Bullying Through Chat Rooms

Gender	Victim of Electronic Bullying Through Chat Rooms		
	No	Yes	Total
Male <i>N</i>	78.0	0.0	78.0
<i>Expected N</i>	71.5	6.5	78.0
% of Gender	100.0	0.0	100.0
% of Victim	37.5	0.0	34.4
Female <i>N</i>	130.0	19.0	149.0
<i>Expected N</i>	136.5	12.5	149.0
% of Gender	87.2	12.8	100.0
% of Victim	62.5	100.0	65.6
Total <i>N</i>	208.0	19.0	227.0
<i>Expected N</i>	208.0	19.0	227.0
% of Gender	91.6	8.4	100.0
% of Victim	100.0	100.0	100.0

Note. $\chi^2 = (1, N = 227) = 10.86, p = .001.$

an accomplice in the last year and yes, acted as an accomplice at least once in the last year). Results found that females were more likely than males to have been an accomplice to bullying through the chat room medium (Pearson χ^2 (1, $N = 227$) = 6.90, $p = .009$). Of those identified as accomplices in the chat room medium, 90.9% were female and 9.1% were male. Overall, 13.4% of females and 2.6% of males admitted to being an accomplice to bullying in the chat room medium (see Table 7).

Disparity in Bullying Reports: Witness and Word of Mouth Frequencies.

The hypothesis that electronic bullying occurs frequently among rural youth was further assessed by examining witness and hearsay reports. In order to take into account participant reluctance to admit to electronic bullying or victimization, participants were asked to report the extent to which they had witnessed (but not taken part in) electronic bullying (on a categorical scale with 0 representing “Not at all this year” and 4 representing “Many times a week”), as well as, on the same categorical scale, the frequency with which they had heard rumours or gossip about an electronic bullying event⁴. Witness and hearsay frequencies were likewise transformed to a 3-point scale (“not at all”, “sometimes”, and “regularly”), where “sometimes” represented witnessing or hearing rumours or gossip about bullying once or a few times in the last school year and “regularly” represented witnessing or hearing rumours or gossip about bullying every month or more. Again, transformations were conducted in order to ease interpretation and to allow cell frequencies to be large enough for comparisons between genders.

Overall, 52.8% ($N = 123$) of participants reported witnessing an electronic bullying event through at least one medium in the last school year, with females being

⁴ Witness accounts of bullying did not include witnessing one’s own bullying event. Witnesses were asked to report the frequency with which they had witnessed, but had not taken part in, a bullying event.

Table 7

Results of Two-Way Contingency Table Analysis Examining Gender Differences on Being an Accomplice to Electronic Bullying Through Chat Rooms

Gender	Accomplice to Electronic Bullying Through Chat Rooms			Total
	No	Yes		
Male <i>N</i>	76.0	2.0		78.0
<i>Expected N</i>	70.4	7.6		78.0
% of Gender	97.4	2.6		100.0
% of Accomplice	37.1	9.1		34.4
Female <i>N</i>	129.0	20.0		149.0
<i>Expected N</i>	134.6	14.4		149.0
% of Gender	86.6	13.4		100.0
% of Accomplice	62.9	90.9		65.6
Total <i>N</i>	205.0	22.0		227.0
<i>Expected N</i>	205.0	22.0		227.0
% of Gender	90.3	9.7		100.0
% of Accomplice	100.0	100.0		100.0

Note. $\chi^2 = (1, N = 227) = 6.90, p = .009$.

significantly more likely than males to report witnessing electronic bullying (73.0% of females vs. 27.0% of males reported witnessing electronic bullying; Pearson χ^2 (1, $N = 231$) = 7.30, $p = .007$). In total, 59.3% of females and 40.7% of males had witnessed a bullying event online (see Table 8). As illustrated in Table 9, which summarizes witness and hearsay accounts of frequency of electronic bullying according to medium used, 40.3% ($N = 91$) of participants reported witnessing bullying during an instant messaging session in the last school year, and 13.3% ($N = 30$) reporting regularly witnessing bullying through this medium. Similarly, 35.2% ($N = 80$) reported witnessing electronic bullying through e-mail on at least one occasion in the last school year, almost twice as many accounts as reported by the bullies themselves.

When asked to comment on the frequency with which they had heard rumours or gossip about electronic bullying happening in their school, the vast majority of participants (70.4%, $N = 164$) reported hearing of such an event occurring in the last school year. Again, a two-way contingency table analysis indicated that the proportion of males (27.8%, $N = 45$) and females (72.2%, $N = 117$) who heard rumours or gossip about electronic bullying differed significantly from chance (Pearson χ^2 (1, $N = 231$) = 12.65, $p = .000$), with significantly more females having heard rumours or gossip about electronic bullying than would be expected by chance (see Table 10). Overall, 78.0% of all females and 55.6% of all males had heard rumours or gossip about electronic bullying happening in the last school year. The majority of participants (52.9%, $N = 121$) had heard accounts of electronic bullying occurring through instant messaging and e-mail at least sometimes in the last school year. 23.1% ($N = 53$) had heard about electronic bullying occurring through instant messaging on a regular basis.

Table 8

Results of Two-Way Contingency Table Analysis Examining Gender Differences on Being a Witness to Electronic Bullying in the Last Year

Gender	Witness to Electronic Bullying		Total
	No	Yes	
Male <i>N</i>	48.0	33.0	81.0
<i>Expected N</i>	38.2	42.8	81.0
% of Gender	59.3	40.7	100.0
% of Witness	44.0	27.0	35.1
Female <i>N</i>	61.0	89.0	150.0
<i>Expected N</i>	70.8	79.2	150.0
% of Gender	40.7	59.3	100.0
% of Witness	56.0	73.0	64.9
Total <i>N</i>	109.0	122.0	231.0
<i>Expected N</i>	109.0	122.0	231.0
% of Gender	47.2	52.8	100.0
% of Witness	100.0	100.0	100.0

Note. $\chi^2 = (1, N = 231) = 7.30, p = .007.$

Table 9

Frequency (and %) of Bullying and Medium Used: Witness and Hearsay Reports

Electronic Medium	Not At All This Year % (N)	Sometimes % (N)	Regularly % (N)
E-Mail			
<i>Witness</i>	64.8 (147)	27.3 (62)	7.9 (18)
<i>Hearsay</i>	47.2 (108)	38.4 (88)	14.4 (33)
Chat Rooms			
<i>Witness</i>	78.9 (179)	14.1 (32)	7.0 (16)
<i>Hearsay</i>	70.3 (161)	20.5 (47)	9.2 (21)
Instant Messaging			
<i>Witness</i>	59.7 (135)	27.0 (61)	13.3 (30)
<i>Hearsay</i>	47.2 (108)	29.7 (68)	23.1 (53)
Personal Web Page			
<i>Witness</i>	87.7 (199)	7.5 (17)	4.8 (11)
<i>Hearsay</i>	78.6 (180)	16.2 (37)	5.2 (12)
Web Log			
<i>Witness</i>	92.1 (209)	5.7 (13)	2.2 (5)
<i>Hearsay</i>	87.3 (200)	9.6 (22)	3.1 (7)
Text Messaging			
<i>Witness</i>	89.9 (204)	6.6 (15)	3.5 (8)
<i>Hearsay</i>	77.3 (177)	16.6 (38)	6.1 (14)

Table 10

Results of Two-Way Contingency Table Analysis Examining Gender Differences on Hearing Rumours or Gossip about Electronic Bullying in the Last Year

Gender	Heard Rumours or Gossip about Electronic Bullying		Total
	No	Yes	
Male <i>N</i>	36.0	45.0	81.0
<i>Expected N</i>	24.2	56.8	81.0
% of Gender	44.4	55.6	100.0
% of Rumours/Gossip	52.2	27.8	35.1
Female <i>N</i>	33.0	117	150.0
<i>Expected N</i>	44.8	105.2	150.0
% of Gender	22.0	78.0	100.0
% of Rumours/Gossip	47.8	72.2	64.9
Total <i>N</i>	69.0	162.0	231.0
<i>Expected N</i>	69.0	162.0	231.0
% of Gender	29.9	70.1	100.0
% of Rumours/Gossip	100.0	100.0	100.0

Note. $\chi^2 = (1, N = 231) = 12.65, p = .000.$

Characteristics of Electronic Bullies and Victims.

In addition to learning about the frequency of electronic bullying, it was important to uncover who the electronic bullies and victims were, along with their characteristics. Victims of electronic bullying were asked to describe the characteristics of their bully in terms of gender, grade level, physical proximity, and quality of relationship (see Table 11). Victims most often reported their bully to be in their grade and school, and they were usually someone that they had met in “real life”. Notable in Table 11 is the finding that a quarter of victims (26.9%) reported not knowing who it was that was bullying them online, and that when questioned on the quality of the relationship that the participant had with the bully, the majority (25.4%) saw the bully as an acquaintance, while 10% reported being bullied by their best friend.

Two-way contingency table analyses examining differences between male and female victims of bullying on the gender of their bully (male, female, or both) found a significant relationship between gender of target of bullying and gender of bully (Pearson $\chi^2(2, N = 77) = 24.91, p < .001$, see Table 12). An examination of the standardized residuals found that males were significantly more likely than expected by chance to be bullied by other males ($SR = 3.3$) and significantly less likely than expected by chance to be bullied by females ($SR = -2.5$). Likewise, females were significantly less likely than expected by chance to be bullied by males ($SR = -2.2$).

Table 11

Characteristics of Electronic Bullies as Reported by Victims

Characteristic of Bully	Overall % (N)	Male % (N)	Female % (N)
Gender			
<i>Male</i>	26.4 (23)	57.1 (16)	12.1 (7)
<i>Female</i>	36.8 (32)	7.1 (2)	50.0 (29)
<i>Group of Males</i>	5.7 (5)	14.3 (4)	1.7 (1)
<i>Group of Females</i>	4.6 (4)	0.0 (-)	6.9 (4)
<i>Males and Females</i>	26.4 (23)	21.4 (6)	29.3 (17)
Grade			
<i>Same grade as victim</i>	53.3 (48)	55.2 (16)	51.7 (31)
<i>Higher grade level</i>	24.4 (22)	20.7 (6)	26.7 (16)
<i>Lower grade level</i>	5.6 (5)	6.9 (2)	5.0 (3)
<i>More Than One of the Above</i>	16.7 (15)	17.2 (5)	16.7 (10)
Physical Proximity			
<i>Same School as Victim</i>	52.2 (47)	44.8 (13)	55.0 (33)
<i>Different School than Victim</i>	27.8 (25)	31.0 (9)	26.7 (16)
<i>Same School and Different School</i>	20.0 (18)	24.1 (7)	18.3 (11)
<i>Someone They Met Online</i>	13.5 (10)	13.6 (3)	13.5 (7)
<i>Someone They Met in "Real Life"</i>	86.5 (64)	86.4 (19)	86.5 (45)
<i>They Did Not Know Who it Was</i>	26.9 (25)	36.7 (11)	22.6 (14)
Quality of Friendship			
<i>Someone They Did Not Know at All</i>	20.0 (26)	20.0 (7)	19.4 (18)
<i>An Acquaintance</i>	25.4 (33)	22.9 (8)	25.8 (24)
<i>Someone From Class</i>	20.0 (26)	20.0 (7)	20.4 (19)
<i>A Friend</i>	13.1 (17)	11.4 (4)	14.0 (13)
<i>A Good/Close Friend</i>	11.5 (15)	11.4 (4)	11.8 (11)
<i>A Best Friend</i>	10.0 (13)	14.3 (5)	8.6 (8)

Note. Percentages may exceed 100% due to the ability to give multiple responses to character questions.

Table 12

Results of Two-Way Contingency Table Analysis Examining Gender Differences on Victim Accounts of Gender of the Bully When They Were Electronically Bullied

Gender	Gender of the Bully			Total
	Male	Female	Both Male and Female	
Male <i>N</i>	16.0	2.0	6.0	24.0
<i>Expected N</i>	7.2	9.7	7.2	24.0
% of Gender	66.7	8.3	25.0	100.0
% of Bully Gender	69.6	6.5	26.1	31.2
Female <i>N</i>	7.0	29.0	17.0	53.0
<i>Expected N</i>	15.8	21.3	15.8	53.0
% of Gender	13.2	54.7	32.1	100.0
% of Bully Gender	30.4	93.5	73.9	68.8
Total <i>N</i>	23.0	31.0	23.0	77.0
<i>Expected N</i>	23.0	31.0	23.0	77.0
% of Gender	29.9	40.3	29.9	100.0
% of Bully Gender	100.0	100.0	100.0	100.0

Note. $\chi^2 = (2, N = 77) = 24.91, p = .000.$

In order to determine the general characteristic of a victim of electronic bullying, participants were asked to describe the characteristics of the person they bullied, if they had bullied someone, in terms of gender, grade level, physical proximity, and quality of relationship (see Table 13). Consistent with victim reports, bullies most often described their victims as being in their grade and school, as well as being someone that they had met in “real life”. Interestingly, 26.9% of bullies reported not knowing who it was that they were bullying online, although the majority reported bullying someone they did know. A two-way contingency table analysis examining gender differences in bullying someone that was unknown to them (yes, when I bullied someone I didn’t know who it was or no, I have never bullied someone whom I didn’t know) found a significant relationship between gender and bullying an unknown person (Pearson $\chi^2 (1, N = 70) = 7.81, p < .01$, see Table 14). An examination of the standardized residuals found that males were more likely than expected by chance to bully an unknown person ($SR = 2.0$). When questioned on the quality of relationship that the bully had with the victim, 27.7% saw the victim as an acquaintance, while 8.6% reported bullying their best friend.

Two-way contingency table analyses examining differences between male and female bullies on the gender of their victims (male, female, or both) found a significant relationship between gender and gender of the victim of electronic bullying (Pearson $\chi^2 (2, N = 66) = 25.17, p < .001$, see Table 15). An examination of the standardized residuals found that males were significantly more likely than expected by chance to bully other males ($SR = 2.6$) and significantly less likely than expected by chance to bully females ($SR = -2.9$). Interestingly, contrary to victim reports, females were significantly more likely than would be expected by chance to bully other females ($SR = 2.1$).

Table 13

Characteristics of Victims of Electronic Bullying as Reported by Bullies

Characteristic of Victim	Overall % (N)	Male % (N)	Female % (N)
Gender			
<i>Male</i>	28.4 (19)	59.1 (13)	13.3 (6)
<i>Female</i>	46.3 (31)	4.5 (1)	66.7 (30)
<i>Group of Males</i>	0.0 (-)	0.0 (-)	0.0 (-)
<i>Group of Females</i>	1.5 (1)	0.0 (-)	2.2 (1)
<i>Males and Females</i>	23.9 (16)	36.4 (8)	17.8 (8)
Grade			
<i>Same Grade as Bully</i>	56.3 (36)	60.0 (12)	54.5 (24)
<i>Higher Grade Level</i>	12.5 (8)	5.0 (1)	15.9 (7)
<i>Lower Grade Level</i>	9.4 (6)	5.0 (1)	11.4 (5)
<i>More Than Once of the Above</i>	21.9 (14)	30.0 (6)	18.2 (8)
Physical Proximity			
<i>Same School as Bully</i>	44.6 (29)	42.9 (9)	45.5 (20)
<i>Different School than Bully</i>	20.0 (13)	19.0 (4)	20.5 (9)
<i>Same School and Different School</i>	35.4 (23)	38.1 (8)	34.1 (15)
<i>Someone They Met Online</i>	20.8 (11)	33.3 (5)	15.8 (6)
<i>Someone They Met in "Real Life"</i>	79.2 (42)	76.7 (10)	84.2 (32)
<i>They Did Not Know Who it Was</i>	18.6 (13)	36.0 (9)	8.9 (4)
Quality of Friendship			
<i>Someone They Did Not Know at All</i>	21.8 (26)	28.9 (11)	18.8 (15)
<i>An Acquaintance</i>	27.7 (33)	28.9 (11)	27.5 (22)
<i>Someone From Class</i>	22.7 (27)	15.8 (6)	26.3 (21)
<i>A Friend</i>	13.4 (16)	10.5 (4)	15.0 (12)
<i>A Good/Close Friend</i>	9.2 (11)	7.9 (3)	8.9 (7)
<i>A Best Friend</i>	5.0 (6)	7.9 (3)	3.8 (3)

Note. Percentages may exceed 100% due to the ability to give multiple responses to character questions.

Table 14

Results of Two-Way Contingency Table Analysis Examining Gender Differences on Bullying Someone When Unaware of Who the Person Being Bullied Was

Gender	Bullied Someone When They Didn't Know Who it Was		Total
	No	Yes	
Male <i>N</i>	16.0	9.0	25.0
<i>Expected N</i>	24.4	4.6	25.0
% of Gender	64.0	36.0	100.0
% of Bullied	28.1	69.2	35.7
Female <i>N</i>	41.0	4.0	45.0
<i>Expected N</i>	36.6	8.4	45.0
% of Gender	91.1	8.9	100.0
% of Bullied	71.9	30.8	64.3
Total <i>N</i>	57.0	13.0	70.0
<i>Expected N</i>	57.0	13.0	70.0
% of Gender	81.4	18.6	100.0
% of Bullied	100.0	100.0	100.0

Note. $\chi^2 = (1, N = 70) = 7.81, p = .005.$

Table 15

Results of Two-Way Contingency Table Analysis Examining Gender Differences on Bully Accounts of Gender of the Victim When They Electronically Bullied Someone

Gender	Gender of the Victim			
	Male	Female	Both Male and Female	Total
Male <i>N</i>	13.0	1.0	8.0	22.0
<i>Expected N</i>	6.3	10.3	5.3	22.0
% of Gender	59.1	4.5	36.4	100.0
% of Victim Gender	68.4	3.2	50.0	33.3
Female <i>N</i>	6.0	30.0	8.0	44.0
<i>Expected N</i>	12.7	20.7	10.7	44.0
% of Gender	13.6	68.2	18.2	100.0
% of Victim Gender	31.6	96.8	50.0	66.7
Total <i>N</i>	19.0	31.0	16.0	66.0
<i>Expected N</i>	19.0	31.0	16.0	66.0
% of Gender	28.8	47.0	24.2	100.0
% of Victim Gender	100.0	100.0	100.0	100.0

Note. $\chi^2 = (2, N = 77) = 25.17, p = .000.$

Prior research has illustrated that often the victim of one bullying incident can go on and become the bully in another incident. Analyses were thus conducted to determine the extent to which participants were identified as both bully and victim in the questionnaire. Participants were identified as bully/victims if they had reported using any type of electronic medium to bully at any time in the last school year as well as reporting being the victim of electronic bullying, through any medium, in the last school year. Results showed that 24.5% ($N = 57$) of participants could be classified as bully/victims, having electronically bullied and been bullied in the last school year. More females were found to be bully/victims than were males (28.7% versus 17.3%), however a two-way contingency table analysis found this relationship to be non-significant (Pearson $\chi^2 (1, N = 231) = 3.67, p = \text{n.s.}$). Examining the distribution of bully/victims by grade found that 66.7% were in grade 9, 31.6% in grade 10, and 1.8% in grade 12. No participants in grade 11 reported being both a bully and a victim.

Reactions to Electronic Bullying.

In order to test the hypothesis that witnesses and victims react differently to traditional bullying situations than they do to electronic bullying situations, it was first necessary to establish how adolescents dealt with electronic bullying situations. To evaluate reactions to electronic bullying, participants were asked to indicate the variety of reactions they have had both to witnessing or hearing about electronic bullying and to being the victim of electronic bullying. Table 16 summarizes the reactions of both witnesses and victims.

Table 16

Witness and Victim Reactions to Electronic Bullying

Reaction to Bullying	Witness % (N)	Victim % (N)
Ignored It	52.4 (119)	28.2 (64)
Told Their Parents	4.0 (9)	6.6 (15)
Told an Adult at School	1.3 (3)	1.8 (4)
Told Another Student at School	27.8 (63)	17.2 (39)
Immediately Helped the Person Being Bullied	7.0 (16)	n.a.
Later Helped the Person Being Bullied	4.0 (9)	n.a.
Stood By and Watched	14.1 (32)	n.a.
Made a Joke of It	4.0 (9)	6.6 (15)
Joined In With the Bullying	4.0 (9)	n.a.
Got Someone to Stop It	3.1 (7)	1.8 (4)
Stood Up to the Bully	7.0 (16)	13.7 (31)
Got Back at the Bully Later	4.8 (11)	7.9 (18)
Fought Back	n.a.	17.2 (39)

Note. Percentages may exceed 100% due to the ability to give multiple responses to reaction questions. n.a. = not applicable.

Theoretically, it was thought that witness responses to bullying could be summarized into five distinct response types: no reaction (“ignored it”), passive reaction (“told parents”, “told an adult”, “told a student”), active reaction (“helped at the time”, “helped later on”, “got someone to stop it”, “stood up to the person”, “got back at the bully later”), bystander (“stood and watched”, “made a joke of it”), and joining in (“joined in”). To confirm these theoretical response types, a maximum likelihood factor analysis was conducted on the 12 response items using a varimax rotation. The analysis resulted in 4 significant factors (factors with Eigenvalues greater than 1), which accounted for 58% of the variance. The factors, their loadings, and their corresponding estimates of reliability (Cronbach’s alphas) are presented in Table 17.

The theoretical factors postulated were somewhat supported, with all of the elements of the active reaction response type loading as hypothesized. The passive reaction response type contained two of the three hypothesized items (“told a parent” and “told an adult”). The joining in response type was supported, although the “made a joke of it” response fit into the same category. The bystander and no reaction response types seemed to be contained in one overall inactivity factor, made up of “ignored it”, “stood by and watched”, and “told another student”.

The reliabilities of the factors ranged from .344 for the inactivity factor to .705 for the active reaction factor. Lower reliabilities could be explained by several causes. First, the set of responses to electronic bullying were not theoretically meant to be factor analyzed, they were instead designed to gain descriptive information about reactions to bullying. Second, the type of data presented by the items (dichotomous, categorical data) are not entirely suitable for factor analyses (Green, Salkind, & Akey, 2000), thus the

Table 17

Varimax Rotated Loadings and Reliability Estimates for Witness Reactions to Electronic Bullying

Response	Active Reaction	Passive Reaction	Did Nothing	Joined In
Ignored It			.580	
Told Their Parents		.654		
Told an Adult at School		.829		
Told Another Student at School			.654	
Immediately Helped the Person Being Bullied	.689			
Later Helped the Person Being Bullied	.594			
Stood By and Watched			.622	
Made a Joke of It				.769
Joined In With the Bullying				.858
Got Someone to Stop It	.672			
Stood Up to the Bully	.695			
Got Back at the Bully Later	.593			
Reliability (α)	.705	.490	.344	.600

Note. $N= 227$.

results should be interpreted with caution. Third, the factors themselves do not meet the theoretical requirements of reliable variables as outlined by Stevens (2002) in that they do not contain enough items per factor, the factor loadings are not high enough for the number of items that do load on a factor, and the sample size ($N = 227$) does not meet the requirements for reliable factors when the number of items that load per factor is so minimal. However, since the nature of this study was exploratory, the factors obtained were retained for later comparisons with responses to traditional bullying.

Similarly, it was hypothesized that victim responses could be summarized into three distinct response types: active reaction (“fought back”, “got someone to stop it”, “made a joke of it”, “stood up to the person”, “got back at them later”), passive reaction (“told parents”, “told an adult”, “told a student”) and did nothing (“ignored it”). Again, to confirm these response types, a maximum likelihood factor analysis was conducted on the 9 response items using a varimax rotation. The analysis confirmed the existence of three distinct factors (with Eigenvalues greater than 1), which accounted for 57% of the variance. The factors, their loadings, and their corresponding estimates of reliability (Cronbach’s alphas) are reported in Table 18.

The passive reaction response type was mostly supported (containing the “told a parent” and “told an adult” responses), however, the other two factors took on different compositions. One factor contained more retaliatory responses (“fought back”, “stood up to the bully”, “told another student”, and “made a joke of it”) and the other factor illustrated an avoidance of the bullying situation (“ignored it”, “got someone to stop it”, and “got back at the bully later”). Reliabilities for the factors ranged from .305 to .652. Again, factors and the resulting low reliabilities should be interpreted with caution

Table 18

Varimax Rotated Loadings and Reliability Estimates for Victim Reactions to Electronic Bullying

Reaction	Passive Reaction	Retaliation	Avoidance
Ignored It			.616
Told Their Parents	.746		
Told an Adult at School	.817		
Told Another Student at School		.618	
Made a Joke of It		.608	
Got Someone to Stop It			.683
Stood Up to the Bully		.686	
Got Back at the Bully Later			.581
Fought Back		.766	
Reliability (α)	.652	.467	.305

Note. $N = 232$

considering the limitations of using factor analysis with the type of data available. Consistent with witness reactions to electronic bullying, the exploratory nature of the study was taken into account and factors were retained for later comparisons with traditional bullying.

Witnesses and victims of electronic bullying were asked to further comment on the reasons why they had not acted on an electronic bullying incident. The majority of both witnesses (48.8%, $N = 73$) and victims (43.7%, $N = 38$) reported simply not wanting to get involved with the bully as being the primary reason for inaction (see Table 19). Interestingly, the next most popular reason for not reacting in a bullying situation was being unable to act because the victim (13.8%, $N = 12$) or witness (13.2%, $N = 20$) was not sure who the bully was in the bullying incident, a characteristic unique to electronic bullying.

Form of Electronic Bullying.

To test the hypothesis that the majority of electronic bullying would be verbal or social/relational, the researcher further inquired into the nature of electronic bullying by asking participants what form electronic bullying incidents typically took: physical, verbal, or relational. Since it is technically impossible to physically bully someone over an electronic medium, the threat of physical violence was in this case considered equivocal.

Table 20 summarizes participant reports of form of electronic bullying incidents, both from the perspective of the bully and of the victim. Results supported the hypothesis that the majority of electronic bullying would be verbal or social/relational in

Table 19

Witness and Victim Reasons for Ignoring an Electronic Bullying Incident

Reason for Inaction	Witness % (N)	Victim % (N)
Did Not Want to Get Involved	48.8 (73)	43.7 (38)
Were Afraid to React	3.3 (5)	5.8 (5)
Did Not Know What to Do/Who to Talk To	3.3 (5)	1.1 (1)
Nobody Would Do Anything Anyway	3.3 (5)	5.8 (5)
It Is Not Right To Tell On Others	1.3 (2)	2.3 (2)
The Bully Was Not So Bad	3.3 (5)	8.0 (7)
The Victim Deserved It	4.7 (7)	n.a.
It Was Not Their Business/Not Their Problem	7.4 (11)	1.1 (1)
Did Not Want to Get in Trouble for Telling	1.3 (2)	2.3 (2)
Would Not Have Made a Difference	6.6 (10)	10.3 (9)
Did Not Want to Lose Their Friends	4.0 (6)	5.8 (5)
Was Not Sure Who the Bully Was Because it was Online	13.2 (20)	13.8 (12)

Note. n.a. = not applicable.

Table 20

Bully and Victim Reports Regarding Form of Electronic Bullying

Form of Bullying	Bully Account % (N)	Victim Account % (N)
Physical		
<i>Threatened Physical Harm</i>	9.0 (16)	10.6 (29)
<i>Threatened Physical Harm to Family/Friends</i>	2.8 (5)	2.2 (6)
Physical Total	11.8 (21)	12.8 (35)
Verbal		
<i>Called the Victim Names</i>	32.2 (57)	25.5 (70)
<i>Made Fun of Physical Attributes</i>	14.7 (26)	9.9 (27)
<i>Attacked Their Personal Character</i>	13.6 (24)	15.7 (43)
Verbal Total	60.5 (107)	51.1 (140)
Relational		
<i>Started Rumours/Lies About Victim</i>	10.2 (18)	14.6 (40)
<i>Tried to Turn Their Friends Against Them</i>	6.8 (12)	10.2 (28)
<i>Tried to Ruin Their Reputation</i>	10.7 (19)	11.3 (31)
Relational Total	27.7 (49)	36.1 (99)

nature. Overall, the majority of both bullies (60.5%, $N = 107$) and victims (51.5%, $N = 140$) reported verbal bullying to be the most frequent form that electronic bullying took. More specifically, the bullies most often used electronic media to call the victims names. Relational bullying was also common, with 27.7 % of bullies ($N = 49$) claiming to use this form and 36.1% of victims ($N = 99$) claiming to have this form used against them. Physical bullying (or the threat of it), was the least utilized form of electronic bullying, although bullies and victims both reported it being used at least 10% of the time.

Two-way contingency table analyses were conducted to determine if gender differences existed in terms of the form that electronic bullying took. Analyses were initially conducted on the three forms in general (physical, verbal, and relational), finding that no gender differences existed in terms of using or being the victim of physical, verbal or relational bullying at the .01 level. Thus, there was no evidence that the frequency of bullying at each form was dependent on gender. Further analyses conducted on each of the particular acts in each form again showed no significant relationships between gender and the acts of bullying, indicating that there was no difference in the proportion of males and females using or experiencing any of the acts which make up physical, verbal, and relational bullying.

Relationship Between Severity of Bullying and Quality of Friendship.

Of interest in this study was the relationship between the severity of bullying and the quality of friendship between the bully and the victim. In order to evaluate this relationship, the quality of relationships were divided, from the various degrees of friendship (see Table 11), into four distinct categories: no relationship at all, acquaintance, friend, or more than one of these groups. Categorization was conducted for

both bullies (to determine their relationship with victims) and victims (to determine their relationship to those that bullied them). Table 21 summarizes the distribution of relationship types for both bullies and victims. Both bullies and victims were asked to rate, on a scale from 1 to 5, how harsh or cruel they would consider the bullying episode to be (with 1 being “not harsh at all” to 5 being “very harsh”), as well as, on a scale from 1 to 5, how much of an impact the bullying episode had on the victim’s life (with 1 being “no impact at all” to 5 being a “huge impact”).

Two one-way multiple analyses of variance (MANOVA) were conducted in order to determine if the two dependant variables (severity of bullying and harshness of bullying) varied as a function of relationship type (no relationship at all, acquaintance, friend, or more than one of these groups) according to bully and victim accounts. When looking at victim accounts, no significant differences were found, suggesting that the severity and impact of bullying as seen by the victim does not vary as a function of the type of relationship they had with the bully. However, MANOVA analyses of the bully accounts found that the group of dependant variables (severity and impact of bullying) did vary as a function of type of relationship (Wilks’ $\lambda = .78$, $F(6, 126) = 2.66$, $p = .018$). Univariate analyses of variances (ANOVA) found that level of severity differed significantly as a function of type of relationship at the .025 level ($F(3) = 5.19$, $p = .003$). Multiple comparisons found that the level of severity of bullying was significantly higher for those bullies who targeted several friendship groups than for those that targeted only their friends ($M = 2.70$ vs. $M = 1.29$, respectively, $p = .002$).

Table 21

Categorized Relationship Types Between Bullies and Victims

Category of Friendship	Bully Account % (N)	Victim Account % (N)
No Relationship at All	18.2 (14)	20.0 (16)
Acquaintance	35.1 (27)	22.5 (18)
Friend	20.8 (16)	17.5 (14)
More Than One Group	26.0 (20)	40.0 (32)

Secondary Goal: Similarities and Differences Between Traditional Bullying and Electronic Bullying

The secondary goal also had several areas of focus which sought to distinguish electronic bullying from traditional schoolyard bullying. The secondary goal focused on differences in frequency between the two types of bullying, differences in victim and witness reaction to the two types of bullying, and differences between the two types of bullying in terms of severity and impact. For clarity, each of these areas of focus will likewise be discussed separately.

Electronic Bullying vs. Traditional Bullying: Frequency of Bullying.

A comparison of frequencies of electronic and traditional bullying was carried out in two ways. First, frequencies were compared using the Safe School Student Survey only, which collected limited data on “computer bullying”. Frequency of computer bullying was compared to an overall traditional bullying variable created as a composite (average) of the three forms of bullying (physical, verbal, and relational). A composite traditional bullying variable was calculated for bully, victim, and witness accounts. As a measure of frequency, participants were asked to indicate, on a scale from 0 to 4 (with 0 indicating “not at all” and 4 indicating “many times a week”), how many times in the last school year they had been the victim of, taken part in, or witnessed a bullying incident. To facilitate interpretation and to adjust cell frequencies so that gender analyses could be completed, frequency of electronic bullying was transformed into a 3-point scale (“not at all”, “sometimes”, and “regularly”), where “sometimes” represented being bullied or being the bully once or a few times in the last school year and “regularly” represented being bullied or being the bully every month or more. These scales were

transformed to be identical to those scales used in the primary goal analyses, allowing for the comparison between electronic and traditional bullying. Table 22 outlines the frequency (and percent) of participants (bullies, victims, and witnesses) who reported the occurrence of physical, verbal, relational, or computer bullying.

Wilcoxon signed rank tests (for repeated measures designs) were conducted for each group of actors in the bullying situations (the bully, victim, and witness) to evaluate whether significant differences existed between median reports of traditional bullying and median reports of electronic bullying as reported by the Safe School Student Survey. Thus, median scores for physical, verbal, and relational bullying were compared to median scores for electronic bullying for the bully, the victim, and the witness.

Results indicated that for all forms of bullying, and for all actors in the bullying situation, median frequency of traditional bullying was significantly higher than median frequency of electronic bullying. The summary of these results, by actor, is presented in Table 23. Identical analyses conducted by gender found that while results for males replicated those for the entire sample (with traditional bullying occurring significantly more frequently than electronic bullying), the results differed slightly for females. Median frequency of electronic bullying did not differ significantly from median frequency of physical bullying for victim accounts or for bully accounts. Similarly, median frequency of electronic bullying did not differ significantly from median frequency of physical bullying for victim accounts or for bully accounts for participants in grade 10, although participants in grade 9 differed significantly on all comparisons.

Table 22

Frequency (and %) of Bullying in The Last School Year According to Bullies, Victims, and Witnesses of Bullying

Form of Bullying	Not At All This Year % (N)	Sometimes % (N)	Regularly % (N)
Physical			
<i>Bully</i>	70.3 (163)	22.8 (53)	6.9 (16)
<i>Victim</i>	69.8 (162)	26.3 (61)	3.9 (9)
<i>Witness</i>	15.1 (35)	33.6 (78)	51.3 (119)
Verbal			
<i>Bully</i>	38.1 (88)	43.3 (100)	18.6 (43)
<i>Victim</i>	25.4 (59)	53.4 (124)	21.1 (49)
<i>Witness</i>	3.4 (8)	25.0 (58)	71.6 (166)
Relational			
<i>Bully</i>	45.0 (104)	42.0 (97)	13.0 (30)
<i>Victim</i>	39.6 (91)	45.2 (104)	15.2 (35)
<i>Witness</i>	10.8 (25)	26.8 (62)	62.3 (144)
Traditional Bullying Overall			
<i>Bully</i>	47.8 (110)	43.0 (99)	9.1 (21)
<i>Victim</i>	37.0 (85)	55.7 (128)	7.4 (17)
<i>Witness</i>	4.8 (11)	35.9 (83)	59.3 (137)
Electronic			
<i>Bully</i>	86.8 (198)	8.3 (19)	4.8 (11)
<i>Victim</i>	84.5 (196)	12.5 (29)	3.0 (7)
<i>Witness</i>	62.5 (145)	24.6 (57)	12.9 (30)

Table 23

Results of Wilcoxon Signed Rank Tests Evaluating Median Differences Between Frequency of Traditional and Electronic Bullying for Bullies, Victims, and Witnesses using the Safe School Student Survey

Comparison for Bully Account	Mean Negative Rank (N)	Mean Positive Rank (N)	z
Electronic vs. Physical	33.3 (51)	34.1 (15)	-4.08***
Electronic vs. Verbal	63.4 (123)	82.3 (4)	-9.60***
Electronic vs. Relational	59.2 (110)	69.8 (9)	-8.43***
Comparison for Victim Account	Mean Negative Rank (N)	Mean Positive Rank (N)	z
Electronic vs. Physical	38.3 (55)	39.1 (21)	-3.69***
Electronic vs. Verbal	77.5 (149)	60.0 (4)	-10.97***
Electronic vs. Relational	59.5 (113)	58.8 (5)	-9.23***
Comparison for Witness Account	Mean Negative Rank (N)	Mean Positive Rank (N)	z
Electronic vs. Physical	81.7 (146)	52.6 (12)	-10.15***
Electronic vs. Verbal	91.3 (177)	41.0 (3)	-11.84***
Electronic vs. Relational	84.0 (159)	55.8 (6)	-10.94***

Note. *** $p < .001$.

A secondary comparison of bullying frequencies was carried out by comparing median frequencies of traditional bullying as reported in the Safe School Student Survey to median frequencies of electronic bullying as reported in the Electronic Bullying Survey. To do this, the composite measure for traditional bullying (the average of the three forms) was compared to a composite of Electronic Bullying for each actor: bully, victim, and witness. The composite measure of electronic bullying was created by averaging out the frequencies reported for each electronic bullying medium. Wilcoxon signed rank tests were then used to determine if significant median differences existed between traditional and electronic bullying for bully, victim, and witness accounts.

Results corroborated those found with the Safe School Student Survey; median reports for frequency of traditional bullying were again significantly higher than median reports for frequency of electronic bullying for all sources (see Table 24). Again, Wilcoxon signed rank tests conducted separately for males and females replicated the results found for the entire sample, as did tests conducted separately for grades 9 and 10.

Electronic Bullying vs. Traditional Bullying: Witness' and Victims' Responses.

The hypothesis that victims would be more likely to retaliate or stand up for themselves when electronically bullied was tested by asking participants to indicate how they responded to bullying situations in the last school year. Identical multiple-response questions were asked of traditional (in the Safe School Student Survey) and electronic bullying (in the Electronic Bullying Survey), where participants could select any number of responses that best described their reactions. In examining these reactions for electronic bullying, maximum likelihood factor analyses were used to group the reactions

Table 24

Results of Wilcoxon Signed Rank Tests Evaluating Median Differences Between Frequency of Traditional and Electronic Bullying for Bullies, Victims, and Witnesses using the Electronic Bullying Survey

Source of Comparison	Mean Negative Rank (N)	Mean Positive Rank (N)	z
Bully	54.7 (104)	49.5 (4)	-9.32***
Victim	66.2 (127)	61.0 (4)	-10.44***
Witness	99.5 (195)	51.0 (2)	-12.44***

Note. *** $p < .001$.

into theoretically logical response types. Before responses to traditional and electronic bullying could be compared, it was first necessary to conduct similar analyses on the traditional bullying responses.

It was hypothesized that witness responses to traditional bullying could be summarized into the same five distinct response types as were hypothesized for electronic bullying: no reaction (ignored it), passive reaction (told parents, told an adult, told a student), active reaction (helped at the time, helped later on, got someone to stop it, stood up to the person, got back at the bully later), bystander (stood and watched, made a joke of it), and joining in (joined in). To confirm these theoretical response types, a maximum likelihood factor analysis was conducted on the twelve response items using a varimax rotation. The analysis resulted in five significant factors (factors with Eigenvalues greater than 1), which accounted for 57% of the variance. The factors, their loadings, and their corresponding estimates of reliability (Cronbach's alphas) are presented in Table 25. The theoretical response types were supported to some degree, but less so than in the Electronic Bullying Survey response items. "Helped the person" and "stood up to the bully" loaded on the active reaction response type, as hypothesized. The passive reaction response type contained two of the three hypothesized items ("told a parent" and "told an adult"). The joining in response type was supported, as was the bystander response type. The "ignored it" reaction did not fit into a response type onto itself, as hypothesized, but was instead negatively related to the active reaction factor. An additional response factor was created which seemed to explain an indirect type of reaction where witnesses responded at a later time ("told a student", "helped later on", and "got back at the bully later"). An additional factor analysis conducted in order to force the factors into four

Table 25

Varimax Rotated Loadings and Reliability Estimates for Witness Reactions to Traditional Bullying

Response	Active Reaction	Passive Reaction	Indirect Reaction	Joined In	Bystander
Ignored It	-.489				
Told Their Parents		.596			
Told an Adult at School		.726			
Told Another Student at School			.537		
Immediately Helped the Person Being Bullied	.766				
Later Helped the Person Being Bullied			.589		
Stood By and Watched					.682
Made a Joke of It					.731
Joined In With the Bullying				.920	
Got Someone to Stop It		.647			
Stood Up to the Bully	.784				
Got Back at the Bully Later			.673		
Reliability (α)	.314	.162	.232	-	.322

Note. N= 227. Reliability could not be calculated for the “Joined In” factor as it only contained one item.

categories (as was the result with the items in the Electronic Bullying Survey) found no changes in item loadings.

Reliabilities for the response items pertaining to traditional bullying were lower in general than those pertaining to electronic bullying, ranging from .162 to .314. As in the results for electronic bullying, these factors should be interpreted with caution in that they do not thoroughly meet the theoretical and statistical requirements for factors or factor analysis.

As in electronic bullying, it was hypothesized that victim responses to traditional bullying could also be summarized into three distinct response types: active reaction (“fought back”, “got someone to stop it”, “made a joke of it”, “stood up to the person”, “got back at them later”), passive reaction (“told parents”, “told an adult”, “told a student”) and did nothing (“ignored it”). Again, to confirm these response types, a maximum likelihood factor analysis was conducted on the nine response items using a varimax rotation. The analysis confirmed the existence of three distinct factors (with Eigenvalues greater than 1), which accounted for 57% of the variance. The factors, their loadings, and their corresponding estimates of reliability (Cronbach’s alphas) are reported in Table 26.

The passive reaction response type was supported (containing the “told a parent”, “told an adult”, and “told a student responses”), however, the other two factors took on compositions similar to those found in the electronic bullying survey. One factor contained more retaliatory responses (“fought back”, “stood up to the bully”, and “got back at them later”) and the other factor illustrated an avoidance of the bullying situation

Table 26

Varimax Rotated Loadings and Reliability Estimates for Victim Reactions to Traditional Bullying

Reaction	Passive Reaction	Retaliation	Avoidance
Ignored It			.764
Told Their Parents	.753		
Told an Adult at School	.781		
Told Another Student at School	.605		
Made a Joke of It			.598
Got Someone to Stop It	.748		
Stood Up to the Bully		.732	
Got Back at the Bully Later		.603	
Fought Back		.774	
Reliability (α)	.668	.558	.246

Note. N = 232

(“ignored it”, and “made a joke of it”). The reliabilities for the traditional bullying factors were similar to those found with the electronic bullying factors, ranging from .246 to .668.

An important hypothesis in this study was that the victims and witnesses of electronic bullying would be more likely to stand up for themselves (and others) in the face of electronic bullying rather than traditional bullying. In order to examine this hypothesis, it was necessary to compare the response items in the electronic bullying survey to those in the traditional bullying survey. Since conducting item-by-item comparisons could lead to spurious results due to capitalization on chance (Stevens, 2002), comparisons were planned between the factored response types in traditional and electronic bullying. However, as previously outlined, factor analyses concluded that different response types existed for traditional and electronic bullying, with only a few items loading on similar response types. Thus, comparisons between the factors could only be conducted on those items which were common to the same response type in both traditional and electronic bullying.

Consequently, the comparison of witnesses responses to electronic and traditional bullying included a comparison on active reactions (made up of “immediately helping the victim” and “stood up to the bully”), passive reactions (made up of “told their parents” and “told an adult”), indirect reaction (made up of “told another student at school”), and joined in with the bully (made up of “joined in with the bully”). The comparison of victim responses to electronic and traditional bullying included a comparison on passive reaction (made up of “told their parents” and “told an adult”), retaliation (made up of “fought back” and “stood up to the bully”) and avoidance (made up of “ignored it”).

A within-subjects multiple analysis of variance (MANOVA) was conducted to evaluate the effect of type of bullying on the use of a response type by witnesses. The dependant variables were the response types (active reaction, passive reaction, indirect action, and joined in). The within-subjects factor was the type of bullying with two levels (traditional or electronic). Examination of multivariate main effects (conducted at the .05 level) found a main effect of type of bullying (Wilks' $\Lambda = .642$, $F(4, 223) = 31.05$, $p = .000$) on the set of dependant variables.

Univariate tests of within-subjects contrasts conducted at the .013 level found that all of the dependant variables (active reaction, passive reaction, indirect action, and joined in) differed significantly according to type of bullying. Table 27 summarizes the results of the univariate analyses for differences in response types for electronic and traditional bullying. Witnesses were more likely to react using active and passive reactions in the event of traditional bullying than they were in the event of electronic bullying, however, they were significantly more likely to use indirect reactions when faced with electronic bullying. No significant differences were found in witness reactions using the "joining in" response type.

Similarly, a within-subjects multiple analysis of variance (MANOVA) was conducted to evaluate the effect of type of bullying on the use of a response type by victims. The dependant variables were the response types (passive reaction, retaliation, and avoidance). The within-subjects factor was the type of bullying with two levels (traditional or electronic). Examination of multivariate main effects (conducted at the .05 level) found a main effect of type of bullying (Wilks' $\Lambda = .710$, $F(3, 223) = 30.41$, $p = .000$) on the set of dependant variables.

Table 27

Results of Univariate Tests Evaluating Differences Between Responses to Electronic and Traditional Bullying for Witnesses and Victims

Witness Response	Traditional Bullying <i>M (SD)</i>	Electronic Bullying <i>M (SD)</i>	<i>F</i>
Active Reaction	0.32 (0.62)	0.14 (0.43)	15.36***
Passive Reaction	0.18 (0.44)	0.05 (0.26)	16.32***
Indirect Reaction	0.04 (0.21)	0.28 (0.45)	51.20***
Joined In	0.04 (0.18)	0.04 (0.20)	0.08
Victim Response			
Passive Reaction	0.33 (0.61)	0.08 (0.30)	44.59***
Retaliation	0.63 (0.76)	0.31 (0.59)	38.21***
Avoidance	0.42 (0.50)	0.27 (0.45)	13.20***

Note. $p < .001$

Univariate tests of within-subjects contrasts conducted at the .017 level found that all of the dependant variables (passive reaction, retaliation, and avoidance) differed significantly according to type of bullying. Table 27 also summarizes the results of the univariate analyses for differences in response types for electronic and traditional bullying. Victims were more likely to react using each response type in the event of traditional bullying than they were in electronic bullying.

Electronic Bullying vs. Traditional Bullying: Severity and Impact.

To test the hypothesis that electronic bullying would be more severe or harsh and would inflict more harm than traditional bullying, both bullies and victims were asked to rate, on a scale from 1 to 5, how cruel or harsh they would consider the bullying incident to have been and how much of an impact it had on the victims' (or their own, in the case of the victim), life⁵. These scales were completed for both traditional bullying (using the Safe School Student Survey) and electronic bullying (using the Electronic Bullying Survey).

A two-way within-subjects multiple analysis of variance (MANOVA) was conducted to evaluate the effect of type of bullying and source of report on severity and impact of bullying. The dependant variables were severity of bullying and impact of bullying. The within-subjects factors were type of bullying with two levels (traditional or electronic) and source of report with two levels (bully report and victim report). The between-subjects variable was gender (male and female). All interactions were found to be non-significant. Examination of multivariate main effects (conducted at the .05 level) found a main effect of gender (Wilks' $\Lambda = .897$, $F(2, 75) = 4.31$, $p = .017$), a main effect

⁵ The item which asked bullies to rate the impact of their bullying on the victim contained a error in wording. This error was brought to the attention of participants during survey administration.

of type of bullying (Wilks' $\Lambda = .776$, $F(2, 75) = 10.83$, $p = .000$) and a main effect for source of bullying report (Wilks' $\Lambda = .921$, $F(2, 75) = 3.22$, $p = .045$) for the set of dependant variables.

Univariate tests of within-subjects contrasts conducted at the .025 level found that both dependant variables (severity and impact of bullying) differed significantly according to type of bullying. Traditional bullying was reported as being more severe than electronic bullying, ($M = 2.31$ vs. $M = 2.03$, $F(1, 76) = 7.38$, $p = .008$) and as having more of an impact than electronic bullying ($M = 2.22$ vs. $M = 21.81$, $F(1, 76) = 21.83$, $p = .000$). Traditional bullying was reported as having a more significant impact than electronic bullying when reported by the bully, although when taking into consideration the Bonferroni adjustment, this finding is just approaching significance ($M = 2.17$ vs. $M = 1.86$, $F(1, 76) = 5.10$, $p = .027$). Univariate tests of between subjects effects found that overall, females were significantly more likely than males to report their bullying experiences as both more severe ($M = 2.43$ vs. $M = 1.91$, $F(1, 76) = 7.21$, $p = .009$) and as having a larger impact on their lives ($M = 2.27$ vs. $M = 1.76$, $F(1, 76) = 8.40$, $p = .005$).

Additional Analyses

In uncovering the nature of electronic bullying, a number of questions came to mind regarding the relationships between the electronic bullying elements. Additional analyses were conducted to investigate these questions further and to supplement current findings. Of interest was whether speaking to friends the participant has met online was more likely to be associated with electronic victimization than speaking with "real life" friends.

A two-way contingency table analysis was conducted to determine if frequency of victimization (no, not bullied at all this year or yes, bullied at least once this year) varied as a function of who the victim spoke online with most often (“real life” friend or “online” friend). No significant differences were found between speaking to “online” friends and speaking to “real life” friends in terms of frequency of victimization on the various electronic media. Thus, frequency of victimization, as well as mode of victimization, are independent of the type of friend spoken to most frequently when online.

Also of interest was whether the location of the participants’ computer would effect the degree to which they were victimized by electronic bullying, specifically, if participants were more likely to be bullied if they had a computer in their bedroom. Results of a two-way contingency table analyses comparing having a computer in the bedroom (yes or no) and overall victim accounts of frequency of being bullied found no significant difference between the two groups (Pearson $\chi^2(1, N = 227) = 3.02, p = n.s.$). Thus, participants who had a computer in their bedroom were no more likely to be electronically bullied than those who had a computer elsewhere in their home.

While the Safe School Student Survey and the Electronic Bullying Survey collected a significant amount of information regarding traditional and electronic bullying, it was beyond the scope of this study to evaluate all of the items and areas included. Further research that may utilize the outstanding data collected will be discussed presently.

Discussion

In light of the paucity of academic research on the subject area, the aim of the present research was to uncover the nature of electronic bullying and to distinguish it from traditional schoolyard bullying. Of particular interest within these goals were the frequency, severity, and gender distribution of electronic bullying. The following will discuss these elements of electronic bullying, along with additional findings of the study, and outline their implications and limitations.

In order to investigate the nature of electronic bullying, it was first important to establish that the sample had adequate access to electronic media. In terms of access to the internet, the sample was found to be reasonably technologically sophisticated. Research on a Canadian sample by the Media Awareness Network (2000) found that 99% of students aged 6-16 had used the internet, and 86% had used it on a regular basis. All but a few individuals in the present sample had used the internet in the last school year, and three-quarters used it often or always. However, in terms of access to cellular phone technology, only one-third of the sample owned a cellular phone. These lower rates of electronic medium accessibility may be a result of the rural settings where sampling occurred. Often, effective internet and cellular connections are difficult to obtain in these areas.

When they were online, the majority of the sample spent the largest portion of their online time speaking to their friends, and communication media (instant messaging and e-mail) were the most frequently used media. These trends were especially true for females, who used significantly more e-mail than boys. Similar findings were reported by the Media Awareness Network (2000). They found that females were more likely to

use the internet for communication and males were more likely to engage in entertainment and games online. It was especially important to establish the use of the internet, specifically the use of electronic communication media, with participants, as communication media is the vehicle for electronic bullying.

Nature of Electronic Bullying

Overall, findings supported the hypothesis that electronic bullying would occur commonly (as often or more often than prior reports of traditional bullying) among rural youth, with one third of participants reporting being the victim or perpetrator of electronic bullying on at least one occasion in the last school year. Half of the participants reported bearing witness to an electronic bullying incident on at least one occasion in the last school year, and an overwhelming two-thirds reported hearing rumours or gossip about an electronic bullying incident occurring in their school.

The disparity between frequency of bullying as reported by bullies or victims and frequency of bullying as reported by witnesses or hearsay accounts could be explained in a number of ways. It is possible that both bullies and victims are under-reporting their frequency of bullying and victimization in order to avoid the stigma that accompanies being labeled a “bully” or “victim”. Alternatively, it could be the case that more people witness electronic bullying incidents than originally anticipated. It could be hypothesized that the opportunity to witness a bullying incident online would be less than that afforded in a traditional playground environment, where large crowds of people could gather to watch the incident. However, it could be the case that a large number of people witnessed a single chat room conversation or saw an e-mail that was sent from one person to another, thus this possibility cannot be discounted.

Likewise, the high rate of hearing rumours or gossip about the occurrence of electronic bullying would at first lead one to believe that it is occurring more often than reported by bullies or victims, however this could just as easily be a reflection of the type of social networks which exists in this particular sample. Perhaps belonging to a small school in a rural environment enables individuals to develop cohesive social networks where the majority of the students speak with one another, allowing rumours or gossip about a bullying incident to proliferate.

Results found that, overall, males and females are victimized at the same rate, a finding consistent with previous traditional bullying research (Rys & Bear, 1997; Bidwell, 1997). However, they failed to find support for previous findings that females were more likely than males to be the victims of verbal and relational bullying (Crick & Grotpeter, 1995). This may have occurred for several reasons. First, as hypothesized, verbal and relational aggression were found to be the predominant methods of bullying through electronic means for both males and females. Also, research by Rys and Bear (1997) illustrates that as they age, both males and females tend to use more relational bullying and less physical bullying. Considering the age of the present sample (14 to 18), it would not be unrealistic to assume that both males and females had outgrown physical bullying and had progressed to the more covert relational bullying.

Participants reported that instant messaging and e-mail were the most frequently used media for electronic bullying, a finding that was corroborated by bullies, victims, witnesses, accomplices, and hearsay reports alike. This was not surprising, considering these were also the media which were used most often by the participants. Chat rooms, however, appeared to pose a particularly significant threat for females. Females were

significantly more likely than males to be victimized and to act as a bullying accomplice using this medium. This may be due to the unique types of relationships which females form. Underwood (2004) explains that female social relationships often involve high levels of intimacy and self-disclosure. The chat room medium is particularly suited for these types of interactions. It is more intimate than e-mail or web logs in that the conversation is in “real time” and involves direct conversation (rather than reading a general posting).

Additionally, females witnessed and heard rumours and gossip about electronic bullying more frequently than did males. These findings can be explained by several characteristics of female social relationships. According to Leckie (1997), a central aspect of female relationships is communication, and gossip in particular appears to facilitate these relationships by developing trust, loyalty, and disclosure. However, once these relationships are bonded, they are jealously guarded and protected, often leading to aggressive interactions. These social dynamics of female relationships would lend an explanation to the findings of the present study, which suggest that the majority of the time, bullies victimize people that they know, most often people they are acquaintances with. In fact, a third of the victims in this study reported being electronically bullied by a friend, and 10% reported being bullied by their best friend. Perhaps it is the case that these instances of bullying against a friend or a best friend are attempts to guard and protect the friendship from intruders (Leckie, 1997).

An alternative explanation is posited by Champion et al., (2003), who found that female victims of bullying tended to report more conflict in their friendships than did non-victims. Thus, it may be that the social relationships of those girls victimized by

electronic bullying were not as strong and supportive as non-victim's relationships, and that these weaker social bonds left the victims more vulnerable to bullying behaviour by their friends and acquaintances.

This study corroborates much of the previous research on bully and victim characteristics. Results confirmed that, just as in traditional bullying, males and females bully at the same rate (Rys & Bear, 1997) and that they tend to bully those in their grade and school (Boulton & Underwood, 1992; Zindi, 1994). An interesting finding in this study was that bullies tended to victimize people of their own gender. Much of the previous research on bullying has illustrated that boys are more likely to bully girls, generally in an effort to establish or maintain dominance (Smith & Sharp, 1994), while Pepler and Craig (1997) reported that girls were more likely to bully boys than they were to bully girls. However, results of this study indicated that both males and females were more likely to bully their own gender. This may have occurred for several reasons. Perhaps the quest for the establishment and maintenance of dominance is outgrown by the time children reach adolescence. Alternatively, it could be that when the participants were communicating with each other through electronic mediums, they were mainly communicating with people of their own gender, limiting the opportunity for bullying of the opposite gender.

Electronic Bullying vs. Traditional Bullying: Frequency and Severity

Interestingly, results failed to support many of the hypotheses regarding differences between electronic and traditional bullying. Findings failed to support the hypothesis that electronic bullying would occur more frequently than traditional bullying. In fact, findings actually suggested that traditional bullying occurred with significantly

more frequency than did electronic bullying. This was the case for all accounts: bully, victim, and witness.

While this study found that traditional bullying occurred more frequently in the sample than did electronic bullying, an examination of these results against previous research provides a different view. Research on an American sample in a similar age range as the present sample (12 to 18 year-old students) found that 5.1% of the sample reported being bullied (traditionally) at school in the last 6 months (Addington, Ruddy, Miller, & DeVoe, 2002). A Canadian study of 4,211 students in a similar sample (grades 7 through OAC) reported that 18.8% of students described being bullied (traditionally) monthly or less (Adlaf, Paglia, & Beitchman, 2001). These rates are markedly lower than those reported by victims of electronic bullying (39%). It would appear that, in contrast to prior research on the frequency of bullying, electronic bullying does occur very frequently, if not more frequently than traditional bullying.

It should be noted, however, that while the rates of electronic bullying in the current sample are higher than rates of traditional bullying in comparative samples, the rate of traditional bullying in this sample is unusually high. Two-thirds of the present sample reported being the victim of traditional bullying at least once in the last year. These high rates may be explained by the particular sample used in this study. As previously mentioned, only one-third of students who were given the opportunity to participate in the study (were given parental consent forms to take home) actually consented to participate. It is possible that those who opted to participate were also those who were frequently bullied, and thus wanted to share their thoughts and experiences on the issue. However, since no comparative data was collected for those who participated

and those who did not participate, it is impossible to confirm that those students who consented to participate were among those that were frequently bullied.

The lack of prior research on electronic bullying makes it impossible to evaluate the disparity between frequencies of traditional and electronic bullying against past findings. Several explanations may exist for the current studies' findings that traditional bullying occurs significantly more frequently than does electronic bullying. First, this may in fact be the case for this particular sample. The participants were from several rural farm towns in Eastern Ontario. In their research on the well-being of Ontario students, Adlaf, Paglia, and Beitchman (2001) found that a metropolis area (Toronto) had significantly less bullying behaviour than did Eastern Ontario (13.7% vs. 26.6%). The incidence of traditional bullying found in this sample (63%) is higher than that reported for Eastern Ontario by the Adlaf, Paglia, and Beitchman (2001) study, suggesting that the rate of bullying in this sample may be above average for the area surveyed and genuinely greater than the incidence of electronic bullying.

Another consideration for this sample is the implications of the rural setting for electronic media. It may have been the case that limited access to electronic media caused an under-estimate of the actual frequency of electronic bullying compared to what might have been expected in a more urban area. Critical in this regard is participant accessibility to cellular phone use. The only statistics currently available for electronic bullying report that text messages (sent through cellular phones) are the most commonly used method of electronic bullying (BBC, 2002). However, among this sample, only one third of participants owned their own cellular phone, and the majority had not sent a text message in the last school year. Thus, it would not be unreasonable to hypothesize that

the frequency of electronic bullying as reported by this sample may be an under-representation of the actual frequency of electronic bullying which may occur in more urban centres, and especially in more affluent neighbourhoods.

The hypothesis that electronic bullying would be regarded as more severe and as having a greater impact than traditional bullying was also not supported. Again, the exact opposite was found to be true, with traditional bullying being reported as significantly *more* severe, and as having a significantly greater impact, than electronic bullying. This finding may have been a function of the proportion of participants that were bullied traditionally as opposed to bullied electronically. It would stand to reason that a participant that had been regularly bullied through traditional means would rate the bullying as more severe and as having a greater impact than when they are bullied only occasionally through electronic means. Alternatively, it may be that traditional bullying is in fact more severe and has a greater impact on participants. Traditional bullying often occurs in front of many people and involves a very public shaming. This is devastating to the majority of bullying victims.

While the severity and impact of traditional bullying was found to be significantly greater than the severity and impact of electronic bullying, this is not to imply that electronic bullying is not severe nor that it has no impact on victims. Very few victims of electronic bullying reported that the bullying was not severe at all, and almost half admitted that the bullying incident had at least some impact on their lives. Researchers have speculated that the impact of electronic bullying is more pronounced due to its covert nature (Leishman, 2002). As a third of the victims of electronic bullying reported

that they were unaware of who their bully was, this anonymity, coupled with the intrusive nature of electronic bullying, may have contributed to the impact on the victims' life.

The severity and impact of electronic bullying should be cause for concern. Previous research on traditional bullying has illustrated that victims of bullying tend to suffer from depression and suicidal ideation (Van der Wal, De Witt, & Hirasing, 2003), and that they tend to pass on their victim status to their children (Farrington, 1993). The impact of bullying is equally as threatening to bullies themselves. Bullies are likewise apt to suffer from depression (Van der Wal, De Witt, & Hirasing, 2003), and bullying behaviour has been found to shift from the classroom to the streets, often leading to involvement in criminal behaviour (Hamalainen and Pulkkinen, 1995). In addition, Nansel et al. (2003) reported that both bullies and victims were more likely to be involved in violent behaviour, the severity of which increased when the bullying was done outside of school property. It would not be unreasonable to hypothesize that those individuals involved in electronic bullying would suffer from similar consequences, bringing to light the importance of appropriate reactions to electronic bullying.

Reactions to Electronic and Traditional Bullying

In general, the hypothesis that victims and witnesses of bullying would be more likely to stand up for themselves (and others) in the face of electronic bullying than in the face of traditional bullying was not supported. Instead, results indicated that witnesses were significantly more likely to react in an active and passive way to traditional bullying rather than electronic bullying, the exact opposite of what was expected. However, witnesses were significantly more likely to react to electronic bullying in an indirect manner. Victims of electronic bullying were significantly more likely to react in a

passive, retaliatory, and avoidance manner when faced with traditional bullying than when faced with electronic bullying, again the exact opposite of what was expected.

These findings may be a reflection of several factors. It may have been that responses to traditional bullying were more frequently used due to the sheer frequency of traditional bullying. If the amount of traditional bullying far outweighed the amount of electronic bullying, witnesses and victims would have greater opportunity to react to traditional bullying than they did to electronic bullying. However, it is also possible that the nature of electronic bullying makes it difficult to react to. Often, victims were faced with a bullying situation where they had no idea who the person was that was bullying them, a situation unique to electronic bullying. How does one stand up to or report a bully if the identity of the bully is unknown? In addition, the novelty of the electronic bullying phenomenon results in a lack of information or education about what an effective reaction to electronic bullying would be. While Canada has adopted a nationwide initiative to address the traditional bullying issue (Government of Canada, 2002), information on addressing electronic bullying is lacking. If a victim is not educated about the options for reacting to electronic bullying, they can not be expected to know how to react.

A particularly interesting, but not surprising, finding in this study was that witnesses and victims tended to react in different ways to each type of bullying. That is, where one particular response was seen as a form of active reaction in electronic bullying, it may have been seen as a passive or indirect reaction in traditional bullying. For example, witnesses indicated that “getting someone to stop the bullying” was an active response in the case of electronic bullying, but a passive response in the case of

traditional bullying. This lends support to the idea that, not only are traditional and electronic bullying distinct and unique issues, but also that the manner in which the two types of bullying should be addressed differ in scope. This also illustrates that although one particular response may be especially effective in one type of bullying situation (and used more often or used in conjunction with another response), it may not be as effective for another type of bullying.

While it may be disheartening that half of the witnesses of electronic bullying did not intervene in (but instead ignored) the bullying incident, research by Pepler and Craig (2000) asserts that the majority of witnesses to bullying in fact do not intervene. While the reasons for non-intervention can vary, the majority of the participants in this study who failed to intervene in the bullying incident simply did not want to get involved. This common reaction can be explained in several ways. First, research has shown that the likelihood of peers coming to the aid of a bullying victim decreases with age (O'Connell et al., 1997; Rigby & Slee, 1992). Since the age range considered in this study is quite old (14-18), perhaps the inaction of witnesses is due in part to a function of their age. Second, peers often do not intervene in bullying situations for fear of becoming the next target of the bully (O'Connell et al., 1999). Interestingly, many witnesses and victims of electronic bullying chose to ignore the bullying because, due to the anonymity of the internet, they did not know who the perpetrator of the bullying was. This is a problem unique to electronic bullying which should be addressed.

In their research on bullying, Pepler and Craig (2000) have commented that peer intervention in a bullying situation can be the most effective way of stopping bullying incidence, however, electronic bullying witnesses are failing to do this. These results

should provide impetus for the education of children and their parents about the effective responses to an electronic bullying incident. These responses may not be the same as those responses typically used for traditional bullying, as the internet poses specific legal and technological challenges to intervening with bullying. However, victims and witnesses of bullying should not be left to simply ignore an electronic bullying incident for lack of an effective (or accessible) response. Perhaps information could be integrated into existing anti-bullying programming which would suggest avenues for reacting to electronic bullying. Information could include such things as lists of contact information for “cyber crime” units in local police forces, information on tracking down the physical location of computers from which messages or e-mails were sent, and legal information about laws pertaining to freedom of speech, internet harassment, and defamation. Even providing simple tips such as changing (and not giving out) an e-mail address, blocking out participants on a chat room, and reporting bullying to e-mail service providers could go a long way in helping witnesses and victims of bullying respond in an effective way.

Limitations and Directions for Future Research

This study was one of the first of its kind to address the issue of electronic bullying. Prior to this study, very little (if any) academic literature existed on the nature of electronic bullying. This was due in part to the lack of a comprehensive tool which measured electronic bullying through the various media. This study introduced a new measure of electronic bullying while providing ground-breaking information on the problem of electronic bullying, how it was happening, and what was being done about it. As with any preliminary examination of a new phenomenon, several complications transpired in the course of this study.

As previously mentioned, a technical problem in the process of data collection was experienced which limited the study methodologically. Questions 25-50 of the Electronic Bullying Survey (see Appendix B) were omitted from the questionnaire package during printing, an omission which was not detected until after survey administration. The theoretical questions on the attitudes toward, and fear of, electronic bullying were consequently not available for analyses. The omission of these questions also nullified the intent to conduct a factor analysis on this set of scales. Future research should consider examining adolescent attitudes toward electronic bullying and comparing them to those held toward traditional bullying to determine if electronic bullying is seen as being particularly threatening, serious, or pervasive.

The other measure in this study, the Safe School Student Survey, presented some challenges to the study. The lack of interval-scale measurements made the examination of many constructs difficult, as it limited the types of statistical procedures which could be utilized. Also, the lack of psychometric data available for the measure was problematic, especially since the Electronic Bullying Survey was based entirely on the item structure and content of the Safe School Student Survey. Although the Safe School Student Survey contained good content validity, the reliability of the factors created from the response items were low. Perhaps future research should look at adjusting the levels of measurement in the Safe School Student Survey (and consequently the Electronic Bullying Survey) to interval-level data and validating the measures in general.

This study was also limited in its exclusive use of a rural sample of adolescents. As previously mentioned, a rural sample could possess certain characteristics, such as lower socio-economic status or limited access to technological media, that may perhaps

restrict its generalizability to other populations. Future research should look at electronic bullying in an urban sample or compare the rates of electronic bullying in urban and rural samples to determine if current findings present an under-representation of actual bullying frequencies.

Future research should also consider using younger age groups in its sample. Researchers have reported that bullying occurs at its highest levels in the elementary school years, only to taper off in high school (Rigby & Slee, 1991; Bentley & Lee, 1995; Adlaf, Paglia, & Beitchman, 2001). Although this was certainly not the case with the sample used in this study, perhaps different frequencies, trends, and characteristics exist for younger children than for older. This study likewise suffered from an unequal representation of participants at each grade level. Perhaps more grade differences could have been uncovered if the elder grades (11 and 12) were more fully represented. Future research should aim to adequately sample these older grades to confirm the present findings.

Missing from the present study was a qualitative sense of how electronic bullying was undertaken, why it was done, and what it was like to be the victim of this type of bullying. Future research should consider, on the basis of this research, a qualitative analysis of electronic bullying. Included in this analysis could be examples of e-mails or posts on web-logs that help researchers get a sense of the tone and reality of the incidents. Qualitative research could further explore witness and hearsay accounts of electronic bullying, and learn more about being victimized by a close or best friend.

As previously mentioned, the Safe School Student Survey and the Electronic Bullying Survey contained a number of items which were not analyzed in the present

study. Although these items were of interest, it was well beyond the scope of this study to examine them all. Future research could use this data to evaluate the reactions of teachers and other authority figures to traditional bullying situations, the feelings of safety that students have while at (or around) school, and the extent to which their fear of being bullied affects their day to day lives.

Finally, future research should delve further into examining the characteristics of electronic bullies and victims. This study only scraped the surface, describing general demographic and friendship qualities. Research should focus on many areas which have been examined in traditional bullies and victims to determine if the same type of person bullies through electronic means as does through traditional means. These areas could include looking at personality characteristics of bullies and victims, psychological issues such as depression, parenting styles of bullies and victims, and elements which may be co-morbid with extended/excessive use of the internet.

New developments in communication and interaction facilitate the movement of socially-based phenomenon such as bullying into new frontiers. The rapid advent of the internet, and all of the technologies that have come with it, have allowed bullying to move from a playground activity to a cyber trend. This study sought to uncover the nature of electronic bullying and determine if, and how, it was different from traditional bullying. Findings illustrated that electronic bullying is in fact a reality. Results also demonstrated that adolescents do not know how to effectively respond or take action to stop such bullying. Much work should be done in the future to learn more about this phenomenon and to educate parents and children about appropriate actions and reactions to electronic bullying.

to electronic bullying.

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Appendix A: Safe School Student Survey

SAFE SCHOOL STUDENT SURVEY

FEBRUARY, 2004

Schools need to be safe places for students to learn.
This purpose of this survey is to find out about student safety at your school.

Do not put your name on this survey.
We want to keep your individual responses anonymous (private and confidential).
We are only interested in what students, as a group, tell us.

**This is your chance to give us feedback about what things are like at school,
so please answer honestly.**

Student Information

*All responses to this questionnaire are anonymous,
so you do not have to put your name on it.*

*But we do want to know something about the students who complete this survey,
so please answer the following questions.*

1. What grade are you in? Check one: 7 8 9 10 11 12

2. Are you male or female? Check one: male female

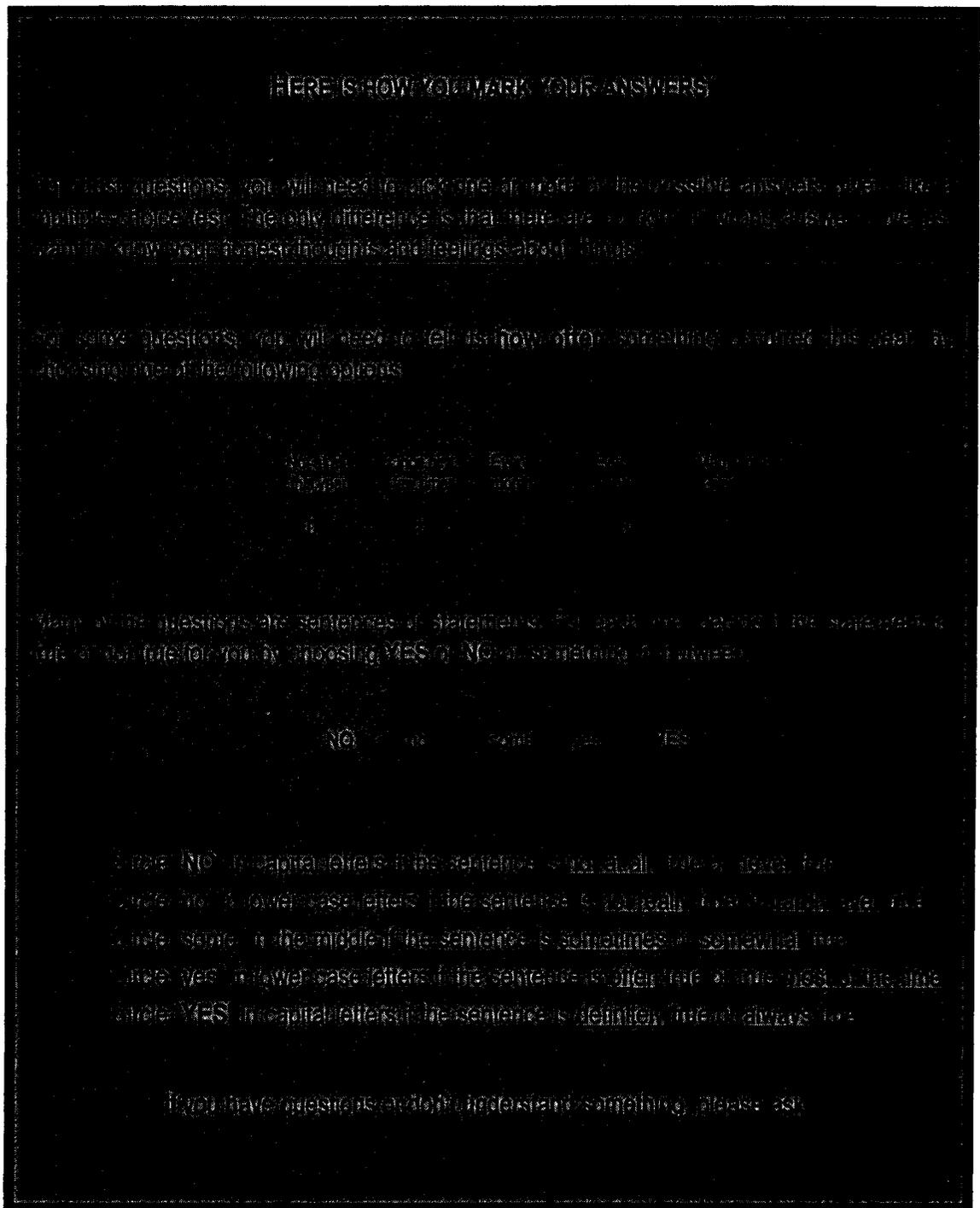
3. What is your first language (the first one you learned to speak)? _____

4. Can you read and write easily in English? Yes No Somewhat

5. How many years have you lived in Canada? All my life Part of my life: _____ years

6. What is the postal code for your present home address? _____

7. People sometimes identify themselves by race or the colour of their skin.
How do you identify yourself? (Check more than one if appropriate.)
 - African/Caribbean (Black)
 - Asian (Chinese, Japanese, Vietnamese, Korean, etc.)
 - Caucasian (White)
 - First Nations (Native, Indian, Aboriginal)
 - South Asian (Indo-Canadian, East Indian, Pakistani, etc.)
 - Other (please describe) _____
 - I don't know



For each question, circle one answer that tells what things are like for you at school this year, since September.

8. I feel safe at school. (Make one answer) NO no some yes YES

9. I feel safe on my way to and from school. NO no some yes YES

10. I feel safe from neighbours or a community. NO no some yes YES

11. Much publicity has been given to the serious problems teens face these days. Based on your experiences at school, please indicate how concerned or afraid you are that you might be:

a) ...physically attacked or hit by a student or group of students. NO no some yes YES

b) ...have rumors or gossip spread about you. NO no some yes YES

10. I feel safe from harassment or intimidation at school. NO no some yes YES

*This section asks about **BULLYING**..*

There are lots of different ways to bully someone, but a bully wants to hurt the other person (it's not an accident), and does so repeatedly and unfairly (the bully has some advantage over the victim). Sometimes a group of students will bully another student.

- Bullying takes many forms:*
- *Physical bullying –*
 - *when someone hits, shoves, kicks, spits, or beats up on others*
 - *when someone damages or steals another student's property*
 - *Verbal bullying –*
 - *name-calling, mocking, hurtful teasing*
 - *humiliating or threatening someone*
 - *making people do things they don't want to do*
 - *Social bullying –*
 - *excluding others from the group*
 - *gossiping or spreading rumors about others*
 - *setting others up to look foolish*
 - *making sure others don't associate with the person*
 - *Computer bullying –*
 - *using computer or email messages or pictures to*
 - *threaten or hurt someone's feelings*
 - *single out, embarrass or make someone look bad*
 - *spread rumours or reveal secrets about someone*

WHEN YOU ANSWER THESE QUESTIONS, THINK ABOUT THIS SCHOOL YEAR.

	Not at all this year	Once or a few times	Every month	Every week	Many times a week
12. Have you been....					
a) ...physically bullied at school?	0	1	2	3	4
b) ...verbally bullied by insults, put downs, or threats at school?	0	1	2	3	4
c) ...socially bullied by exclusion, rumours, or someone making you look bad?	0	1	2	3	4
d) ...bullied using computer or email messages or pictures?	0	1	2	3	4
13. Have you taken part in ...					
a) ...physically bullying other students?	0	1	2	3	4
b) ...verbally bullying other students by insults, put downs, or threats?	0	1	2	3	4
c) ...socially bullying another student by exclusion, rumours, or making someone look bad?	0	1	2	3	4
d) ...bullying using computer or email messages or pictures?	0	1	2	3	4
14. Have you seen other students getting...					
a) ...physically bullied at school?	0	1	2	3	4
b) ...verbally bullied by insults, put downs, or threats at school?	0	1	2	3	4
c) ...socially bullied by exclusion, rumours, or someone making them look bad?	0	1	2	3	4
d) ...bullied using computer or email messages or pictures?	0	1	2	3	4
15. Have you stayed away from school in order to avoid being bullied?					
	0	1	2	3	4

20. When are students most at risk for bullying?

a) Before school?	NO	no	some	yes	YES
b) During classes?	NO	no	some	yes	YES
c) Between classes?	NO	no	some	yes	YES
d) During break periods (spaces, lunch, recess)?	NO	no	some	yes	YES
e) After school?	NO	no	some	yes	YES
f) On the weekends?	NO	no	some	yes	YES

21. Think of the last time that you **saw or heard** another student being bullied.

What did you do? (Check any that are true for you.)

- (a) I ignored it.
- (b) I told my parents about it.
- (c) I told an adult at school about it.
- (d) I told another student about it.
- (e) At the time, I helped the person being bullied.
- (f) Later on, I helped the person being bullied.
- (g) I stood and watched.
- (h) I made a joke of it.
- (i) I joined in with the bullying.
- (j) I got someone to help stop it.
- (k) I stood up to the person who was doing it.
- (l) I got back at the bully later.

22. Think of the last time that **you** were bullied. What did you do?
(Check any that are true for you.)

- (a) I ignored it.
- (b) I told my parents about it.
- (c) I told an adult at school about it.
- (d) I told another student about it.
- (e) I fought back.
- (f) I got someone to help stop it.
- (g) I stood up to the person who was doing it.
- (h) I made a joke of it.
- (i) I got back at them later.
- (j) I have not been harassed.

23. Think of the last time you were bullied or saw someone being bullied. If you did not do anything, what was the reason? (Pick one.)

- I didn't want to get involved.
- I was afraid.
- I did not know what to do or who to talk to.
- Nobody would do anything about it if I told someone.
- It isn't right to tell on other people.
- The bullying wasn't so bad.
- The person being bullied deserved it.
- It wasn't my business; not my problem.
- I didn't want to get in trouble for telling.
- It wouldn't have made a difference

24. If bullying **happened to you**, how harsh or cruel would you consider the bullying to be? Was it....

Not Applicable	Not harsh at all	2	Pretty harsh	4	Really harsh
0	1	2	3	4	5

25. If bullying **happened to you**, how much of an impact did the bullying have on your life?

Not Applicable	No impact, my life was not affected	2	Some impact, it changed my life a little bit	4	A huge impact, it has totally changed my life
0	1	2	3	4	5

26. If **you bullied** someone else, how harsh or cruel would you consider the bullying to be? Was it....

Not Applicable	Not harsh at all	2	Pretty harsh	4	Really harsh
0	1	2	3	4	5

27. If **you bullied** someone else, how much of an impact would you say your bullying had on the other person's life?

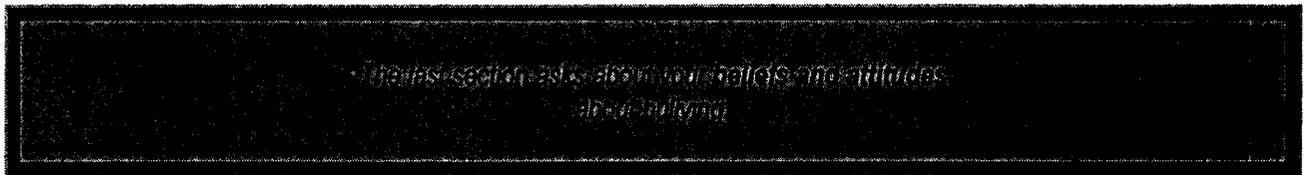
Not Applicable	No impact, my life was not affected	2	Some impact, it changed my life a little bit	4	A huge impact, it has totally changed my life
0	1	2	3	4	5

	Not at all this year	Once or a few times	Every month	Every week	Many times a week
28. How often have you been left out or treated badly ...					
a) ...because of your religion?	0	1	2	3	4
b) ...because of the colour of your skin?	0	1	2	3	4
c) ...because of the country you or your ancestors came from?	0	1	2	3	4
d) ...because of your ethnicity?	0	1	2	3	4
e) ...because of how well you do in school?	0	1	2	3	4
f) ...because of how well you do in sports?	0	1	2	3	4
g) ...because you do well in school?	0	1	2	3	4
h) ...because of how well you do in sports?	0	1	2	3	4
e) ...because of your weight?	0	1	2	3	4
f) ...because of your physical appearance or body shape?	0	1	2	3	4
g) ...because of how you dress?	0	1	2	3	4
h) ...because of how much or how little money you have?	0	1	2	3	4
i) ...because of how your physical strength or weakness?	0	1	2	3	4

29. How much do **adults** at your school (teachers, administrators, support staff).....

a) ...try to stop bullying?	Never	Sometimes	Often	Always
b) ...ignore bullying?	Never	Sometimes	Often	Always
c) ...talk openly about bullying?	Never	Sometimes	Often	Always
d) ...make excuses for those who do it?	Never	Sometimes	Often	Always
e) ...defend the victim?	Never	Sometimes	Often	Always
f) ...discipline those who do it?	Never	Sometimes	Often	Always
g) ...discipline the victims?	Never	Sometimes	Often	Always
h) ...listen to both sides of the story?	Never	Sometimes	Often	Always
i) ...harass students themselves?	Never	Sometimes	Often	Always
j) ...harass other adults?	Never	Sometimes	Often	Always

30. How often are rules related to conduct and behavior consistently enforced in your school? Never Sometimes Often Always
31. If a student complained to an adult at school about bullying, how often would something be done about it? Never Sometimes Often Always
32. How often do you report bullying? Never Sometimes Often Always
33. I am satisfied with the steps my school has taken to prevent bullying. NO no some yes YES
34. Overall, how would you rate the efforts of adults at your school to make your school a safe place in which to learn? Very poor Poor Good Very good



35. [Illegible text] NO no some yes YE

36. It bothers me that some people get bullied by other students. NO no some yes YE

37. [Illegible text] NO no some yes YE

38. If you just stand and watch, you encourage bullying. NO no some yes YE

39. [Illegible text] NO no some yes YE

40. If you report bullying, people will think you are a "rat" or "loser". NO no some yes YE

41. [Illegible text] NO no some yes YE

42. My friends bring weapons to school to intimidate others. NO no some yes YE

43. We have some weapons at school (e.g. for protection).	NO	no	some	yes	YE
44. It's my responsibility to stop bullying even if it's not my friends being bullied.	NO	no	some	yes	YE
45. Some students need to be picked on just to learn from a lesson.	NO	no	some	yes	YE
46. I don't let people know how much it bothers me to be bullied.	NO	no	some	yes	YE
47. It's better not to get involved when other kids are being bullied.	NO	no	some	yes	YE
48. In my group of friends, bullying is common and not a big deal.	NO	no	some	yes	YE
49. Students' ideas are listened to and valued in this school.	NO	no	some	yes	YE
50. Students who bully others have power and are often leaders in our school.	NO	no	some	yes	YE
51. Some bullies are doing it because they deserve it.	NO	no	some	yes	YE
52. It's not my problem that some students get picked on.	NO	no	some	yes	YE
53. Some of the coolest kids in school are the ones who bully others.	NO	no	some	yes	YE
54. I feel like I matter in this school.	NO	no	some	yes	YE
55. It's important to report bullying to school authorities.	NO	no	some	yes	YE
56. I know what I can do to stop bullying.	NO	no	some	yes	YE
57. When I see other students getting bullied, I'm just glad it's not me.	NO	no	some	yes	YE
58. In this school, I feel like I belong.	NO	no	some	yes	YE
59. Students' mistakes are often the next victim's.	NO	no	some	yes	YE
60. The teachers in this school treat students with respect.	NO	no	some	yes	YE

Appendix B: Electronic Bullying Survey

Electronic Bullying Survey

Now that you have told us about your experiences with bullying in general, we would like to know more about electronic bullying in specific.

The purpose of this survey is to find out about the different ways that people use electronic devices to bully.

**This survey is completely private and confidential.
Please do not identify yourself in any way.**

Directions

Answer each question as honestly as you possibly can.

Most questions are set up like multiple choice questions, except there are no right answers. Just choose the answer which is most applicable to you and that reflects what happens to you in the most accurate way.

Some questions will ask how often something happens. For these, choose how often that thing has occurred this SCHOOL YEAR, since SEPTEMBER.

Not at all this year	Once or a few times	Every month	Every week	Many times a week
0	1	2	3	4

Some questions will ask how true a particular statement is for you. For these, circle the response that best reflects how you feel.

Not at all or Never	Not really or Hardly Ever	Sometimes or Somewhat	Often or Most of the time	Definitely or Always
0	1	2	3	4

Thanks! If you have any questions, just ask!

What is Electronic Bullying?

ELECTRONIC BULLYING is when one person or a group of people tries to hurt another person repeatedly (more than one time) in order to gain power over them using their computer or cellular phone. Electronic bullying is unfair because the bully usually has some advantage over the victim, and it is done on purpose to hurt someone, not like an accident or like teasing between friends.

There are lots of ways to bully electronically, including:

E-mail: Using programs like Hotmail and Yahoo, people set up e-mail accounts so that they can send mail, pictures, or files to other people online.

Chat Rooms: These are areas of a web site that you can go to to talk to lots of different people by typing them messages. You make up an id name to represent yourself and talk with people about common interests.

Instant Messaging: These are like chat rooms, except you only talk to people that you know, usually one at a time. Common instant messaging programs include MSN Messenger, Yahoo Messenger, and ICQ.

Personal Web Pages: Some people set up their own web sites and post information about themselves and things that they are interested in on it. They can include pictures, stories, movies, and anything else that the person wants to place on the site. Anyone can go visit these pages and view what is on the site.

Web Logs (Diaries): Other people set up online diaries called web logs or "blogs". It is like a normal diary except that it is online for everyone to read, so people read what other people wrote in their diaries and can comment on the entries.

Text Messaging: Text messaging is done through cellular phones. Lots of cell phones let you type in messages and then send those messages to other cell phones. All you need is the other person's cell phone number and you can send them text messages.

Electronic Use Information

1. In my home, there is a computer with internet access
(check all that apply):

- In my bedroom
- In my parents' bedroom
- In my sibling(s)' bedroom
- In the living room/family room
- In the kitchen
- In the basement

2. In my family, the following members have a cellular phone
(check all that apply):

- Myself
- My mother
- My father
- My sibling(s)

	None, I never use this	Less then 1 hour a month	A few hours a month	Less then 1 hour a week	A few hours a week	Less then 1 hour a day	More then 1 hour a day
--	------------------------------	-----------------------------------	---------------------------	----------------------------------	--------------------------	---------------------------------	---------------------------------

3. On average, I spend _____ hours....
(check the most accurate)

	0	1	2	3	4	5	6
a) on the internet							
b) in chat rooms							
c) instant messaging							
d) using e-mail							
e) on my web log (diary)							
f) on my personal web page							

4. On average, I send _____ text messages on my cell phone:
(check the most accurate):

- More than 1 a day
- Less than one a day
- A few a week
- One a week
- A few a month
- One a month
- None, I never use text messaging

5. When I am online, I spend **the most time**.....
(check the one that is most true for you)

- Doing schoolwork
- Playing games
- Reading news about the world
- Reading news about movies and actors/actresses
- Listening to or downloading music
- Talking to friends I met in "real life"
- Talking to friends I met online

Electronic Bullying Questions

Remember! When you fill out these questions think about your experiences since September.

	Not at all this year	Once or a few times	Every month	Every week	Many times a week
6. Have you been electronically bullied....					
a) Through e-mail?	0	1	2	3	4
b) Through chat rooms?	0	1	2	3	4
c) Through instant messaging?	0	1	2	3	4
d) Through a web page?	0	1	2	3	4
e) Through a web log (diary)?	0	1	2	3	4
f) Through text messaging?	0	1	2	3	4
7. Have you taken part in electronic bullying.....					
a) Through e-mail?	0	1	2	3	4
b) Through chat rooms?	0	1	2	3	4
c) Through instant messaging?	0	1	2	3	4
d) Through a web page?	0	1	2	3	4
e) Through a web log (diary)?	0	1	2	3	4
f) Through text messaging?	0	1	2	3	4

Not at all
this year Once or a
few times Every
month Every
week Many times
a week

8. Have you heard rumours/gossip about electronic bullying happening in your school.....

a) Through e-mail?	0	1	2	3	4
b) Through chat rooms?	0	1	2	3	4
c) Through instant messaging?	0	1	2	3	4
d) Through a web page?	0	1	2	3	4
e) Through a web log (diary)?	0	1	2	3	4
f) Through text messaging?	0	1	2	3	4

9. If you used electronic bullying to bully someone, did you do it....

a) Through e-mail?	0	1	2	3	4
b) Through chat rooms?	0	1	2	3	4
c) Through instant messaging?	0	1	2	3	4
d) Through a web page?	0	1	2	3	4
e) Through a web log (diary)?	0	1	2	3	4
f) Through text messaging?	0	1	2	3	4

10. Have you ever witnessed, but not taken part in, electronic bullying.....

a) Through e-mail?	0	1	2	3	4
b) Through chat rooms?	0	1	2	3	4
c) Through instant messaging?	0	1	2	3	4
d) Through a web page?	0	1	2	3	4
e) Through a web log (diary)?	0	1	2	3	4
f) Through text messaging?	0	1	2	3	4

11. If you have **witnessed or heard about** electronic bullying happening, what did you do about it? (Check all the ones that are true for you)

- a) I ignored it
- b) I told my parents about it
- c) I told an adult at school about it
- d) I told another student about it
- e) At the time, I helped the person being bullied
- f) Later on, I helped the person being bullied
- g) I stood by and watched
- h) I made a joke of it
- i) I joined in with the bullying
- j) I got someone to stop it
- k) I stood up to the person that was doing it
- l) I got back at the bully later
- m) I have not witnessed or heard about electronic bullying

12. If you have **witnessed or heard about** electronic bullying happening, and you **did not do anything**, what was the reason? (Pick one)

- a) I didn't want to get involved
- b) I was afraid
- c) I did not know what to do or who to talk to
- d) Nobody would do anything about it if I told someone
- e) It isn't right to tell on other people
- f) The bully wasn't so bad
- g) The person being bullied deserved it
- h) It wasn't my business; not my problem
- i) I didn't want to get in trouble for telling
- j) It wouldn't have made a difference
- k) I didn't want to lose my friends
- l) I wasn't sure who it was because it was online
- m) I have not witnessed or heard about electronic bullying

13. If electronic bullying **happened to you**, what did you do? (Check all the ones that are true for you)

- a) I ignored it
- b) I told my parents about it
- c) I told an adult at school about it
- d) I told another student about it
- e) I fought back
- f) I got someone to stop it
- g) I stood up to the person that was doing it
- h) I made a joke of it
- i) I got back at the bully later
- j) I have not been electronically bullied

14. If electronic bullying **happened to you**, and you **did not do anything**, what was the reason? (Pick one)

- a) I didn't want to get involved
- b) I was afraid
- c) I did not know what to do or who to talk to
- d) Nobody would do anything about it if I told someone
- e) It isn't right to tell on other people
- f) The bully wasn't so bad
- g) I deserved it
- h) It wasn't my business; not my problem
- i) I didn't want to get in trouble for telling
- j) It wouldn't have made a difference
- k) I didn't want to lose my friends
- l) I wasn't sure who it was because it was online
- m) I have not been electronically bullied

15. If electronic bullying **happened to you**, was the bully.....
(Check all the ones in each category that are true for you)

- a) a boy a girl a group of boys a group of girls
- b) in your grade in an older grade in a younger grade
- c) from your school from a different school
- d) someone I met online someone I met in "real life"
- e) I don't know who it was
- f) I have not been electronically bullied

16. If electronic bullying **happened to you**, how well **did you know** the bully? Where they....
(Check all the ones that are true for you)

- a) someone you didn't know at all?
- b) an acquaintance?
- c) someone from your class?
- d) your friend?
- e) your close/good friend?
- f) your best friend?
- g) I have not been electronically bullied

17. If **you electronically bullied** someone else, was the person you bullied.....
(Check all the ones in each category that are true for you)

- a) a boy a girl a group of boys a group of girls
- b) in your grade in an older grade in a younger grade
- c) from your school from a different school
- d) someone I met online someone I met in "real life"
- e) I don't know who it was
- f) I have not electronically bullied anyone

18. If **you electronically bullied** someone else, how well did you know the person you bullied? Where they.....
(Check all the ones that are true for you)

- a) someone you didn't know at all?
- b) an acquaintance?
- c) someone from your class?
- d) your friend?
- e) your close/good friend?
- f) your best friend?
- g) I was not the bully in electronic bullying

19. If electronic bullying **happened to you**, did the bully.....
(Check all the ones that are true for you)

- a) threaten to hurt you physically?
- b) call you names?
- c) start rumours and lies about you?
- d) make fun of the way you look (your body or clothes)?
- e) threaten to hurt your family or friends?
- f) try to make your friends not like you any more?
- g) try to hurt your reputation?
- h) try to make you feel bad about yourself (say you are stupid or worthless etc)?
- i) I was not the victim of bullying

20. If you **electronically bullied** someone else, did you.....
 (Check all the ones that are true for you)

- a) threaten to hurt the victim physically?
- b) call the victim names?
- c) start rumours and lies about the victim?
- d) make fun of the way the victim looks (their body or clothes)?
- e) threaten to hurt the victim's family or friends?
- f) try to make the victim's friends not like them any more?
- g) try to hurt the victim's reputation?
- h) try to make the victim feel bad about themselves (say they are stupid or worthless etc)?
- i) I was not the bully in electronic bullying

21. If electronic bullying **happened to you**, how harsh or cruel would you consider the bullying to be? Was it.....

Not Applicable	Not harsh at all		Pretty harsh		Really harsh
0	1	2	3	4	5

22. If electronic bullying **happened to you**, how much of an impact did the bullying have on your life?

Not Applicable	No impact, my life was not affected		Some impact, it changed my life a little bit		A huge impact, it has totally changed my life
0	1	2	3	4	5

23. If you **electronically bullied** someone else, how harsh or cruel would you consider the bullying to be? Was it....

Not Applicable	Not harsh at all		Pretty harsh		Really harsh
0	1	2	3	4	5

24. If you **electronically bullied** someone else, how much of an impact would you say your bullying had on the other person's life?

Not Applicable	No impact, my life was not affected		Some impact, it changed my life a little bit		A huge impact, it has totally changed my life
0	1	2	3	4	5

**For these questions, please indicate how the statement reflects
how you feel or how true that statement is for you.**

	Not at all or Never	Not really or Hardly Ever	Sometimes or Somewhat	Often or Most of the time	Definitely or Always
	0	1	2	3	4
25. It is easier to bully people over the internet than in real life.	0	1	2	3	4
26. It is less hurtful to bully over the internet because you are not doing it to their face.	0	1	2	3	4
27. Electronic bullying is a problem in our school.	0	1	2	3	4
28. Electronic bullying is scarier than regular bullying.	0	1	2	3	4
29. The school can't do anything about electronic bullying because it is outside of school.	0	1	2	3	4
30. Web sites that make fun of people are funny.	0	1	2	3	4
31. It is easier to stand up for myself against bully's on the internet.	0	1	2	3	4
32. Electronic bullying is just as common as bullying in the school.	0	1	2	3	4
33. I feel anxious about being bullied when I am doing things online.	0	1	2	3	4
34. I have visited web sites or web logs (diaries) to read mean things that others have posted.	0	1	2	3	4
35. It is hard to know who the person is that is doing the electronic bullying.	0	1	2	3	4
36. If you report electronic bullying, you will be the next one bullied.	0	1	2	3	4
37. My friends from school are not as nice to me when I am speaking to them online.	0	1	2	3	4

38. It's none of my business if someone is being bullied in a chat room that I am visiting.	0	1	2	3	4
39. The people who bully electronically are some of the most popular people in the school.	0	1	2	3	4
40. Nobody can do anything to stop electronic bullying.	0	1	2	3	4
41. It is worse to hit or punch a person then to send them a rude e-mail, instant message, or text message.	0	1	2	3	4
42. I often don't want to go to school because of electronic bullying.	0	1	2	3	4
43. When I chat with people online, I use another person's id name so they don't know it's me.	0	1	2	3	4
44. I have posted an electronic reply standing up for someone who has been electronically bullied.	0	1	2	3	4
45. I have more online friends (friends that I met online) then "real life" friends.	0	1	2	3	4
46. I am concerned about being electronically bullied in the future.	0	1	2	3	4
47. I use my cell phone to send text messages more often then I do to speak to others.	0	1	2	3	4
48. The people that are being electronically bullied deserve it.	0	1	2	3	4
49. I find it easier to make friends online than in person.	0	1	2	3	4
50. People should be allowed to say whatever they want about others on their own personal web pages.	0	1	2	3	4

☺ Thank you for completing the survey!! ☺

Appendix C: Parental Permission Form

Dear Parents:

We are graduate students from Carleton University, and we are conducting a study that looks at the network structures of children. The choices, interactions and exchanges that children make in social situations have long term implications for all aspects of his/her life. I hope that this project will lead to a better understanding of how children and youth deal with conflict, friendship and leadership opportunities. We would like to include your child in this study.

For a one hour session in April, we will ask participants to fill out a questionnaire booklet inquiring about their social world (examining specifically the areas of pro-social and aggressive behaviour, school safety, bullying and friendship). Your child's responses will not be identified by name and we will not use information from school records.

This study has been officially approved by your child's school Principal, the Upper Canada School Board, as well as Carleton University's Ethics committee. When the study is complete a report on the findings will be available to interested parents in the school library.

Please complete the form at the bottom of this letter and return it to your child's teacher by March 31, 2004.

We sincerely appreciate your co-operation. If you would like to receive more information about the study, please contact us through the school Principal.

Thank you.

Julia Peters and Yvonne Stys
Graduate Students
Department of Psychology
Carleton University

School Name _____

Child's Name _____

Check Here

_____ I give permission for my child to participate in the Carleton University study conducted by Julia Peters and Yvonne Stys.

_____ I do **NOT** give permission for my child to participate in Carleton University's study conducted by Julia Peters and Yvonne Stys.

Signature of parent/guardian _____ Date _____

Please return to your child's class teacher by April 30, 2004

Appendix D: Participant Consent Form

Name _____
 Birth date _____

Student Permission Form

In order to participate in any research study, the researchers first have to have your permission to allow them to include you in their research. In order to get this permission, just read the following statements below. If you agree with the statements and want to participate, simply fill out the information above and sign and date below. If you have any questions about the study or research at Carleton in general, some phone numbers are provided for you at the bottom of the sheet. Thanks!

Please read and sign the following statement if you wish to be in our study:

I understand that I have been asked to be in a research study that graduate students from Carleton University are doing about the social relationships of children and youth.

I know that if I agree to be in the study I will be asked to fill in some questionnaires about myself, and my daily social experiences.

I know that I do not have to be in the study and that even if I start to take part in it, I can quit any time.

I know that I can ask any questions about the study before I participate.

I also know that my answers will be kept secret and will not be shown to anyone, not even my teachers or my parents. Only the research team from Carleton University will know what I say on the questionnaire.

Signature: _____ Date: _____

Researchers:

Yvonne Stys (613) 943-3175
 Julia Peters (613) 447-1479
 Dr. Tina Daniels (613) 520-2600 ex. 2686

Carleton Personnel:

John Logan (613) 520-2600 ex.2648
 Mary Gick (613) 520-2600 ex.2664

Appendix E: Amended Analyses Resulting from Omitted Data

Table 1

Aim #1: Areas of Focus and Corresponding Items on the Electronic Bullying Survey

Area of Focus	Related Items in the Electronic Bullying Survey
Frequency and types of electronic use	1, 2, 3, 4, 5, 34, 38, 43, 44, 47
Frequency of electronic bullying and medium used	6, 7, 8, 9, 10, 27, 32
Characteristics of an electronic bully and victim	15, 16, 17, 18, 37, 39, 45, 49
Level of endorsement of electronic bullying	25, 26, 30, 41, 48, 50
Reactions to electronic bullying by witnesses and victims	11, 12, 13, 14, 36
Form electronic bullying takes (physical, verbal, Social/relational) and its severity	19, 20, 21, 22, 23, 24
Level of fear of electronic bullying	28, 29, 31, 33, 35, 40, 42, 46

Table 2

Aim #2: Areas of Focus and Corresponding Items on the Electronic Bullying Survey and the Safe School Student Survey

Area of Focus	Items in the Safe School Student Survey	Items in the Electronic Bullying Survey
Comparison of frequencies	12, 13, 14, 48, 50, 51	6, 7, 8, 9, 10, 27, 32
Comparison of victim's responses	22, 23	13, 14
Comparison of witness responses	21, 23, 32	11, 12
Comparison of severity of bullying and impact on victims	24, 25, 26, 27	21, 22, 23, 24
Comparison of levels of endorsement	35, 36, 39, 41, 45	25, 26, 30, 41, 48, 50

Table 3

Aim #1: Amended Areas of Focus and Corresponding Items on the Electronic Bullying Survey

Area of Focus	Related Items in the Electronic Bullying Survey
Frequency and types of electronic use	1, 2, 3, 4, 5
Frequency of electronic bullying and medium used	6, 7, 8, 9, 10
Characteristics of an electronic bully and victim	15, 16, 17, 18
Reactions to electronic bullying by witnesses and victims	11, 12, 13, 14
Form electronic bullying takes (physical, verbal, Social/relational) and its severity	19, 20, 21, 22, 23, 24
Differences between quality of friendship for electronic bullies and victims of electronic bullying	16, 18
Relationship between the severity and impact of bullying and quality of friendship between bully and victim	16, 18, 19, 20, 21, 22, 23, 24
Disparity between witnessing/hearing about electronic bullying and being an actively involved	6, 7, 8, 9, 10

Table 4

Aim #2: Amended Areas of Focus and Corresponding Items on the Electronic Bullying Survey and the Safe School Student Survey

Area of Focus	Items in the Safe School Student Survey	Items in the Electronic Bullying Survey
Comparison of frequencies	12, 13, 14	6, 7, 8, 9, 10
Comparison of victim's responses	22, 23	13, 14
Comparison of witness responses	21, 23, 32	11, 12
Comparison of severity of bullying and impact on victims	24, 25, 26, 27	21, 22, 23, 24
Comparison of levels of endorsement	35, 36, 39, 41, 45	-

Appendix F: Frequency (in Hours) of Electronic Medium Use

Electronic Medium	None % (N)	< 1 Hour/Month % (N)	A Few Hours/Month % (N)	< 1 Hour/Week % (N)	A Few Hours/Week % (N)	< 1 Hour/Day % (N)	> 1 Hour/Day % (N)
Internet in General	3.5 (8)	6.2 (14)	12.3 (28)	4.4 (10)	20.7 (47)	10.6 (24)	42.3 (96)
Chat Rooms	55.8 (126)	17.7 (40)	9.7 (22)	4.0 (9)	7.1 (16)	2.7 (6)	3.1 (7)
Instant Messaging	19.4 (44)	8.4 (19)	9.3 (21)	6.2 (14)	16.3 (37)	7.9 (18)	32.6 (74)
E-Mail	10.2 (23)	15.9 (36)	10.6 (24)	16.4 (37)	16.8 (38)	19.0 (43)	11.1 (25)
Web Log	77.9 (176)	6.2 (14)	2.7 (6)	5.3 (12)	4.0 (9)	1.8 (4)	2.2 (5)
Personal Web Page	79.2 (179)	5.3 (12)	4.0 (9)	2.7 (6)	4.9 (11)	1.8 (4)	2.2 (5)