EXPLORING CYBERBULLYING IN SASKATCHEWAN

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Krista R. Cochrane

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ABSTRACT

Cyberbullying is a problem that has emerged as a byproduct of modern day technologies. This novel form of peer aggression occurs when one or more individuals use a technological medium for the purposes of threatening or harming others (Belsey, 2004). Given that cyberbullying is a relatively new problem in Canada, research remains in its preliminary stages. Previous studies conducted in large urban centers in Alberta and Quebec have suggested that cyberbullying frequently occurs among middle years students (Beran & Li, 2005; Li, 2006, 2007; Shariff, 2008). However, the characteristics of cyberbullying among rural students and students from other Canadian provinces are yet to be determined. For these reasons, the purpose of this study was to explore cyberbullying amongst students from rural and urban schools in Saskatchewan. More specifically, this study investigated the following questions:

1. To what extent did youth experience cyberbullying?
2. What were the characteristics of cyberbullying?
3. How did students respond to cyberbullying?
4. To what extent did parents and teachers become involved with cyberbullying incidents? Furthermore, how did students think these adults should have responded?

To answer these questions, 396 students from a large public school division in central Saskatchewan completed an anonymous paper pencil questionnaire. Among the grades 7 to 9 students sampled, 34.6% admitted they cyber-bullied others and 49.5% said they were victims of cyberbullying. Further, the majority (69.4%) of the students reported that they knew someone who had been cyber-bullied. No significant differences were found between urban and rural students' experiences with cyberbullying. However, significant gender differences were found

as well as significant correlations between cyberbullying involvement and student grade level, frequency of computer use, school size, and school type.

Unfortunately, the majority of cyber-bully victims and bystanders chose not to report the incident to adults. They reported a variety of negative outcomes, especially anger and sadness. Students offered many suggestions for the prevention and intervention of cyberbullying. In particular, students thought teachers should educate their class about cyberbullying and parents should talk to their children about the issue.

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CHAPTER ONE: INTRODUCTION

Bullying is a well known, yet complex problem experienced by many school aged children and youth (Beran & Li, 2005; Li, 2006, 2007; Olweus, Limber, & Mihalic, 1999). Recent research conducted in Canada reveals that 34% of students in grades 4 to 11 have been bullied (Media Awareness Network, 2005). Sadly, ample evidence suggests that bullying can lead to many negative physical and psychological effects for those victimized. For example, in addition to being physically and/or emotionally painful, incidents of bullying leave victims humiliated, unhappy, worried, confused, and nervous (Olweus et al., 1999; Rigby, 2003). Consequently, victims of bullying are more likely than their peers to experience internalizing difficulties such as chronic anxiety, depression, and low-self-esteem (Craig, 1998; Gini & Pozzoli, 2006; Grills & Ollendick, 2002; Lyznicki, McCaffree, Robinowitz, 2004; Olweus et al., 1999; Rigby, 2003; Ybarra & Mitchell, 2004a; University of Florida, 2008). Psychosomatic symptoms such as headaches and stomach pains are also more likely to develop in bully victims (Gini & Pozzoli, 2006; Olweus et al., 1999; Rigby, 2003). Research has revealed moderate correlations between direct bullying and general health problems such as sore throats, coughs, and colds (Rigby, 2003). Students' academic and social achievements are also negatively impacted by bullying as numerous studies have shown that victims of bullying often experience one or more of the following symptoms: chronic absenteeism, reduced concentration and academic performance, increased apprehension, poor peer relations, and feelings of loneliness (Beale, 2001; Gini & Pozzoli, 2006; Olweus et al., 1999; Rigby, 2003; Roberts & Coursol, 1996; Smith & Brain, 2000; Smokowski & Kopasz, 2005; Ybarra & Mitchell, 2004a). In extremely severe circumstances, victims of bullying have responded with intense violence such as self-harm, physical assault, suicide, and homicide (Gamliel et al., 2003; Gini & Pozzoli, 2006;

Lyznicki et al., 2004; Olweus et al., 1999; Patchin & Hinduja, 2006; Rigby, 2003; Roberts & Coursol, 1996).

School bullies may also experience negative effects of bullying as they are at risk for maladjustment later in life (Olweus, 1993; Olweus et al., 1999). For example, in comparison to individuals who did not bully their peers as children, school bullies when adults are more likely to conduct criminal offenses, experience relationship difficulties, and have difficulty holding down jobs (Gamliel et al., 2003; Olweus, 1993; Olweus et al., 1999). As children and youth, school bullies are more likely than non-bullies to engage in delinquent behaviours (e.g., stealing) and to report frequent alcohol and drug use, cigarette smoking, fighting, below average academic achievement, and early school termination (Olweus, 1993; Olweus et al., 1999; Ybarra & Mitchell, 2004a). Other research has shown that childhood bullying is associated with anxiety disorders, conduct disorder, and adult anti-social behaviours (Bosacki, Marini & Dane, 2006; Loeber, Green, Lahey, & Kalb, 2000; Olweus, 1993; Smith, Cowie, Olaffson, & Leifooghe, 2002).

Indeed, school bullying can have a negative impact on victims as well as their perpetrators. However, the problem of school bullying does not stop here. Bystanders are also at risk for experiencing negative outcomes. For example, students belonging to classrooms with high levels of bullying problems often feel less safe and experience less satisfaction with school life (Olweus et al., 1999). For many of these students school is no longer a place where it is safe to concentrate and learn (Olweus et al., 1999). Furthermore, students who witness bullying at school often feel group pressure to join in (Craig, Peters, & Konarski, 1998). According to Campbell (2005), witnesses of bullying are frequently afraid that if they intervene they will become the next victim.

Society also pays a price for school bullying as it is associated with more extreme forms of aggression. For instance, a significant correlation exists between mild forms of mischief at school and more serious crime outside of school (National Centre of Educational Statistics, 1998). Research suggests that bullying among school aged children may lead to unhealthy male-female relationships in later life characterized by domination and hostility (Gamliel et al., 2003). Further, bullying is believed to play an important role in school shootings. For example, parents and classmates of the two teenage gunmen involved in the fatal shootings at Columbine High School in Littleton, Colorado, described them as ongoing victims of school bullying (Gamliel et al., 2003; Patchin & Hinduja, 2006).

Simply stated, bullying among school aged children and youth is a serious problem experienced by numerous students nationwide. The abundance of negative effects experienced by students and society suggests a strong need for proper school based and community based intervention. Unfortunately, as parents and school professionals struggle to come to grips with traditional forms of school bullying, a newer form of peer aggression remains under-recognized and under-reported (Beran & Li, 2005).

Unlike well known traditional forms of bullying, cyberbullying occurs in a virtual world, through the use of an electronic medium for the purpose of threatening or harming others (Strom & Strom, 2005). Cyberbullying is distinctive compared to traditional forms of bullying as it allows for limitless boundaries, lack of adult supervision, an infinite audience, and anonymity of the perpetrator (Patchin & Hinduja, 2006; Strom & Strom, 2005). Together these unique features make cyberbullying an extremely difficult problem for adults to address.

Sadly, students in Canada are no strangers to this new form of bullying. According to research conducted in Alberta, Canada, about 25% of students in grades 7 through 9 have been

cyber-bullied (Beran & Li, 2005; Li, 2006, 2007). When experienced by members of this highly impressionable adolescent population, cyberbullying has the potential to cause serious psychological, emotional, and social harm (Patchin & Hinduja, 2006). Even more devastating, some victims have responded physically, by hurting themselves or taking their own life (Fox, 2008).

Purpose and Importance of the Study

Given that cyberbullying is a relatively new problem to emerge in our communities, research of this phenomenon remains in its preliminary stages. Previous studies conducted in large urban centers in Alberta and Quebec have suggested that cyberbullying frequently occurs among middle years students (Beran & Li, 2005; Li, 2006, 2007; Shariff, 2008). However, the characteristics of cyberbullying among rural students and students from other Canadian provinces are yet to be determined. For these reasons, the purpose of this study was to explore cyberbullying amongst students from rural and urban schools in central Saskatchewan. More specifically, this study investigated the following questions:

1. To what extent did youth experience cyberbullying?
2. What were the characteristics of cyberbullying?
3. How did students respond to cyberbullying?
4. To what extent did parents and teachers become involved with cyberbullying incidents? Furthermore, how did students think these adults should have responded?

It is hoped that the information acquired from this research will help to guide future research of cyberbullying as well as prepare adults to work together to reduce the cases of cyberbullying in Canada.

Overview of Chapters

This thesis is organized into five chapters. Chapter one provides a brief introduction to the research study. Included within chapter two is a summary of the current literature surrounding bullying and cyberbullying. Chapter three outlines the research methodology of the present study and chapter four summarizes the results. Chapter five presents some important conclusions that can be drawn from the data collected and offers some suggestions for further research.

Definitions

The following working definitions will be used for the purposes of this thesis.

Bullying

Bullying occurs when a student or several students attempt to hurt or control another student in a harmful way. There are a lot of different kinds of bullying. Bullying can be carried out through physical contact (e.g., hitting, pushing, kicking, or pinching). Bullying can be verbal (e.g., using mean words or threats, calling someone names, or saying mean things behind their back). Bullying can also occur without use of words or physical contact, such as making faces or dirty gestures or deliberately excluding someone from a group (Olweus, 1993).

Cyberbullying

Cyberbullying is a form of bullying that occurs when a student, or several students, use information and communication technologies such as e-mail, cell phone or pager text messages, instant messaging, personal websites, social networking sites (e.g., Bebo, Facebook, and Nexopia), online personal polling websites, and online gaming, to support intentional, repeated, and unfriendly behaviour that is intended to harm others (Belsey, 2004; Lines, 2007).

Rural

Communities located more than 40 kilometers away from city limits.

Urban

Communities located within 40 km from city limits.

CHAPTER TWO: LITERATURE REVIEW

Chapter two is divided into three sections. The first part of this chapter provides an overview of the problem of bullying among school aged children and youth. Included within section two is a discussion of cyberbullying, the newest form of peer aggression to emerge in our communities. The last section of this chapter identifies gaps in current literature on cyberbullying and provides suggestions for future research.

The Problem of School Bullying

School bullying is a well known, yet complex problem experienced by many school aged children and youth (Beran & Li, 2005; Li, 2006, 2007; Olweus, 1993). This section will provide an overview of the problem of school bullying. First, the history of research on school bullying will be presented followed by definitions of bullying and related terms. Next, prevalence rates, gender differences, role players, and the associated negative outcomes of bullying will be described.

History of Research on School Bullying

Bullying among school aged children and youth is not a new trend; it is a well known phenomenon which has existed since the establishment of schools (Olweus, 1978; Olweus et al., 1999). In fact, most adults today can recall at least one personal experience with bullying (Olweus, 1978; Olweus et al., 1999). Though adults have been well acquainted with the issue of student bullying for decades, it was not until the 1970s that attempts were made to systematically define and research this phenomenon (Olweus, 1978, 1999b; Olweus et al., 1999). For many years, these research efforts were mainly limited to Scandinavian countries (Olweus, 1993; Olweus et al., 1999). Today, however, school bullying receives considerable interest from the

public and researchers in various countries such as Scotland, Ireland, England, Germany, Australia, Japan, the United States, and Canada (Olweus et al., 1999).

The first country to demonstrate a societal interest in bullying was Sweden during the late 1960s (Olweus, 1993, 1999b). Very quickly this interest in bullying spread to other Scandinavian countries (Olweus et al., 1999). In Norway, for instance, problems of school bullying received extensive media attention as it was considered to be a major concern by many teachers and parents (Olweus, 1993, 1999a; Olweus et al, 1999). In 1968, Swedish ethologist, Konrad Lorenz became the first author to write on the phenomenon of bullying. Lorenz (as cited by Olweus, 1999b) used his Swedish term "mobbning" to refer to the sudden onset of group violence directed towards a single deviant peer. Similar to the English word "mobbing", Lorenz's definition was limited to aggressive actions carried out by a group of people or animals against an individual (Olweus, 1999b). In 1978, Norwegian researcher, Dan Olweus, published his first book, *Aggression in the Schools: Bullies and Whipping Boys*. In his literature, Olweus (1978) expanded Lorenz's original definition of bullying to include repetitive one-on-one attacks of a stronger individual against a weaker individual.

Not very long after the publication of Olweus's first book, problems of school bullying appeared to become more serious. In 1982, newspapers reported that three adolescent boys in northern Norway had committed suicide as a response to relentless bullying by their peers (Olweus, 1993, 1999a; Olweus et al., 1999; Smith et al., 2002). These tragic deaths sparked uneasiness in the mass media and general public of Norway. Following a series of public debates, the first national campaign against bullying in schools was developed and launched by the Norwegian Ministry of Education during the fall of 1983 (Olweus, 1993, 1999a; Olweus et al., 1999). Smith and Brain (2000) cite this national bullying intervention as both the influence

and the inspiration for research and intervention models in other European countries such as Finland, the United Kingdom, and Ireland. In the United Kingdom and Ireland, for example, surveys and other forms of research were used to help develop numerous anti-bullying programs (Smith & Brain, 2000). Researchers in Finland focused their efforts on studying indirect bullying, a form of bullying often more prominent in females (Björkqvist, Lagerspetz & Kaukiainen, 1992).

By the 1980s and early 1990s researchers in North America began to focus their efforts on the phenomenon of bullying (Smith & Brain, 2000; Olweus, 1993). Their research has complimented previous research by addressing issues such as victimization, short-term and long-term consequences of bullying, and risk factors for becoming a bully or bully victim (Gini & Pozzoli, 2006; Smith & Brain, 2000).

In summary, bullying among children and youth is a well known problem that has existed as long as schools have. Systematic research of bullying began fairly recently, during the 1970s, and was largely confined to Scandinavian countries. Today, many other countries have began to research the phenomenon of bullying among school aged children and youth. This advancement in school bullying research has lead to the development of numerous definitions for the term "bullying".

Definitions of Bullying and Related Terms

Researchers do not presently agree on one universal definition for the term "bullying". Rather, there are numerous definitions presented throughout the literature. Though these definitions differ from one another semantically, most categorize bullying as a form of aggression (Espelage & Swearer, 2003). Presented below are definitions taken from leading authors of the subject of bullying.

Bullying. In 1989, Stephenson and Smith described bullying as "a form of social interaction in which a more dominant individual [the bully] exhibits aggressive behavior which is intended to and does, in fact, cause distress to a less dominant individual [the victim]" (p. 45). Olweus (1993) provided a similar but more specific definition which is often cited by other researchers (e.g., Roberts, 2006; Smith & Brain, 2000; Smith et al., 2002). Olweus's (1993) definition reads as follows:

> *A student is being bullied or victimized when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other student...* It is a *negative action* when someone intentionally inflicts, or attempts to inflict, injury or discomfort upon another … Negative actions can be carried out by words (verbally), for instance, by threatening, taunting, teasing, and calling names. It is a negative action when somebody hits, pushes, kicks, pinches or restrains another – by physical contact. It is also possible to carry out negative actions without use of words or physical contact, such as by making faces or dirty gestures, intentionally excluding someone from a group, or refusing to comply with another person's wishes. (p. 9, italics in original)

In his literature, Olweus (1993) further explained that under certain circumstances a single incident of "more serious" aggression could also be considered bullying. He clarified that the intention of the above definition's emphasis on actions that are carried out "repeatedly and over time" is to exclude rare, non-serious, negative behaviours that are directed towards one student on one occasion and another student at a different time. Olweus (1993) also referred to the concept of a power imbalance between the perpetrator(s) and the victim. In other words, bully victims often have difficulty defending themselves and are somewhat vulnerable to their aggressor(s) (Olweus, 1993, 1999b). According to this definition, conflicts between peers of approximately the same physical or mental strength are not considered bullying. Rather, bullying can be characterized by three criteria: (a) it involves an aggressive action or a behaviour that is intended to harm others (b) it is carried out "repeatedly and overtime"; and (c) it occurs within an interpersonal relationship characterized by a power differential (Olweus, 1999b).

Furthermore, bullying often occurs without any justifiable provocation (Olweus, 1999b). Evidently, these characteristics strongly suggest that bullying can be classified as peer abuse (Olweus, 1999b). Peer abuse can be distinguished from other forms of abuse (e.g., child abuse or domestic abuse) by the context in which it takes place and the relationship between the interacting role players (Olweus, 1999b).

Various studies on gender differences in bullying behaviours have resulted in a focus on less visible forms of bullying which exclude the use of physically aggressive behaviours. "Indirect aggression", "relational aggression" and "social aggression" are terms that have been used by various researchers to describe forms of bullying often evident in females (Owens, Shute, & Slee, 2000). According to Hawker and Boulton (2002), it is important to distinguish between each these styles of bullying.

Indirect aggression. The significance of indirect aggression was demonstrated by Björkqvist et al. (1992) in Finland. They defined indirect aggression as the manipulation or use of a third party to attack or harm the target, without being identified or personally involved in the harassment. Olweus (1993) used the term "indirect bullying" to represent a covert form of aggression, directed at social isolation and deliberate exclusion from a peer group. Examples of indirect bullying include gossiping, spreading rumors, and purposely hiding others' possessions (Beran & Li, 2005; Stephenson & Smith, 1989).

Relational aggression. Crick and Grotpeter (1995) introduced a concept similar to indirect bullying called relational aggression. According to these authors, relationally victimized children are verbally bullied through peers' attempts to damage and control their social relationships with others. Examples of relational aggression include purposely withdrawing friendship in an effort to control or hurt the individual, spreading rumors that cause others to

reject the targeted peer, and deliberately excluding someone from an important social event such as a birthday party (Beale, 2001; Crick, Casas, & Ku, 1999; Crick & Grotpeter, 1995).

Social aggression. Galen and Underwood (1997) used the term "social aggression" to refer to actions directed towards harming the self-esteem and/or social status of others. These actions may be both direct, such as verbal rejection or negative body language and facial expressions, and indirect, such as spreading rumors or deliberately excluding someone from their peer group (Galen & Underwood, 1997). This definition is more inclusive than relational aggression, which does not allow for non-verbal communication of disregard through facial expressions and/or body movements (Beale, 2001; Crick, Casas, & Ku, 1999; Crick & Grotpeter, 1995; Galen & Underwood, 1997).

To review, numerous definitions of the term "bullying" have been presented throughout the literature. Though they differ from one another semantically, most definitions recognize that bullying is a form of physical and/or verbal aggression that may be expressed directly and/or indirectly. Common elements of these definitions include a power differential and refer to persistent aggressive and harmful actions that are unjustified. In order to further understand the problem of bullying among school aged children and youth one should also consider the prevalence of its occurrence.

Prevalence

In 1993, Ryder reported that roughly three million bullying incidents per year, or 1,700 per day, were reported by students from the United States. This means that every 20 seconds a student was being harassed, ridiculed, or abused (Ryder, 1993). Other research has demonstrated that between 10% and 14% of American youth are harassed either frequently or seriously enough that it affects "self-reported social adjustment" (Gamliel et al., 2003, p. 406).

According to Craig and Pepler (2007), "the occurrence of bullying in Canada is greater than the majority of other countries" (p. 87). Research demonstrates that 34% of Canadian students in grades 4 to 11 have been bullied (Media Awareness Network, 2005). Typically, the prevalence of bullying amongst Canadian students peaks in junior high (Li, 2007). For example, recent research conducted in Alberta, Canada, found that over half (53.7%) of junior high students have been bullied and close to one third (31.1%) have bullied their peers (Li, 2007). Furthermore, bullying and teasing behaviours are most severe during the 8th and 9th grade, and begin to decline in grade10 (Roberts, 2006). When considering these prevalence rates, it is also important to be aware of the effect that gender differences may play in the occurrence of school bullying.

Gender Differences

It has been a commonly held belief that males are much more aggressive than females (Björkqvist, 1994). Olweus's (1978) early research on bullying actually excluded girls because it was believed that bullying among females was extremely rare, aggression being limited to males. His later research (1993) included females, but showed that males were more likely than females to be perpetrators and victims of direct bullying, especially during junior and secondary high school grades.

Björkqvist (1994) argued differently by suggesting that females are equally aggressive as males differing only in approach. Crick and Grotpeter (1995) noted that a possible explanation for the higher levels of bullying being displayed among males may lie in style of aggression, as the specific forms of aggression studied by researchers are more prominent in males than females. The same authors suggested that girls are more likely than boys to engage in relational aggression, an indirect style of bullying which had been ignored by many researchers. Various

studies have supported this assumption by demonstrating that males are significantly more likely to experience physical bullying, but females are more likely to be verbally victimized (Crick & Grotpeter, 1995; Crick et al., 1999; Totten, Quigley, & Morgan, 2004). Furthermore, research has shown that while boys often view physical aggression as being the most hurtful form of bullying, girls tend to view social aggression as the most hurtful (Besag, 2006; Galen & Underwood, 1997). Gender differences are also evident in student responses to bullying. For example, a large scale study of students in Australia (n > 30 000) found that victimized females were more likely than victimized males to stay home in response to bullying by their peers (Rigby, 2003).

The above studies demonstrate that gender is one important factor which contributes to the expression of bullying among school aged children and youth. Studies of the characteristics of students who are directly involved with bullying reveal other important factors to consider.

Role Players in Bullying

Typically, bullying involves two key players: the bully and the victim. An elaboration of each of these roles is provided below, followed by a discussion of their relationship to one another.

Bully. In general, bullies are characterized as being aggressive, impulsive, and low in empathy (Olweus, 1978, 1993, 1999b). These characteristics parallel those often presented in abusive parents (Sarason & Sarason, 2002), which provides additional information to suggest that school bullying shares a strong relationship with abuse. Many boys who bully have greater physical strength than their victims (Olweus, 1978, 1993, 1999b). Though some people believe students bully their peers because of their own anxieties and insecurities, research has shown that most bullies are generally average on these dimensions (Olweus, 1993, 1999b). In other words,

the majority of school bullies do not suffer from poor self-esteem. Research has also shown that the popularity of bullies, as rated by socio-metric choices by their male and female peers, is often at average or somewhat below average status (Olweus, 1978). Student bullies tend to have a small group of friends (two to three) who support them and enjoy their company (Olweus, 1978, 1993). However, the popularity of bullies tends to decline with increasing age. For example, Olweus (1993) reported that in the younger grades bullies' popularity seemed to be of an average or slightly below average status, but this popularity often decreased to less than average status in older grades (grade nine). Nevertheless, the popularity of bullies does not appear to reach the low level of popularity typically displayed by victims of bullying (Olweus, 1978, 1993).

Olweus (1993) classified bullies into three categories: the aggressive bully, the anxious bully, and the passive bully. The aggressive bully is the most common. Olweus described these individuals as having poor impulse control and a positive outlook on violence. They lack empathy and have a strong desire to dominate others. The anxious bully, according to Olweus, is the most troubled of the three types of bullies. These individuals have low self-esteem. They are often friendless, insecure, and emotionally unstable. The third type of bully, the passive bully, includes individuals who are followers of another bully. These individuals are not particularly aggressive and are able to empathize with others but they are easily led. They may feel regret after bullying their peers (Olweus, 1993). The typical characteristics common to these three types of bullies often differ greatly from those characteristics common to bully victims.

Victim. Early researchers described the prototypical victim as a weakling or "whipping boy" who submits to the aggressor's demands (Olweus, 1978). More recent labels for the typical bully victim have included the "passive victim" or "submissive victim" (Olweus, 1993, 1999b). According to Olweus (1978, 1993, 1999b), submissive victims are anxious, passive, reserved,

unpopular with other children, and have a low self-esteem. Further, they often view themselves as failures, feeling stupid, ashamed, and unappealing (Björkqvist, Ekman, & Lagerspetz, 1982; Olweus, 1993, 1999b). If boys, they are often physically weaker than their attackers (Olweus, 1978, 1993, 1999b). Due to their submissive nature, these types of individuals are often viewed as an easy target by bullies. For example, studies have shown that bullies often select victims who lack the confidence to defend themselves and will not tell (Beale, 2001).

Olweus (1993, 1999b) also described a second, far less common type of bully victim, called the "provocative victim". These individuals often display anxious and aggressive reactive behaviours. They tend to have problems with concentration and behave in a manner that irritates others. As a result, provocative victims often experience negative reactions from the majority of their peers (Olweus, 1993, 1999b).

More recent research has shifted to consider the effects of atypical characteristics and bullying victimization. According to Li (2006) "males with atypical gender related behaviours were at greater risk for peer assault than other young men. Also, females seen as less attractive than others were at the highest risk for harassment (p. 161)."

Roberts (2006) has suggested that students who are at risk for bullying victimization often fit within one or more of the following categories: social isolates or outcasts, students with transient school histories, students who display poor social skills, students who have an intense need to "fit in" no matter what the cost, students who are defensiveless, and those individuals viewed as "different" by their peers. Those students who are considered "different" from their peers may have a lower economic social status. They may be students with special needs, and/or students who have atypical gender behaviours and sexual orientations (Roberts, 2006).

As demonstrated above, research has revealed many characteristics common to students who are directly involved with bullying. Bullies tend to be aggressive, impulsive, and lack empathy. If male, they tend to be physically stronger than their victims. Victims of bullying tend to be passive, shy, and lack self-confidence. If male, they tend to be physically smaller than their attacker. Although the characteristics of bullies and their victims appear to differ from one another greatly, research has revealed some interesting findings regarding the relationship between these two role players.

Association between role players. Some researchers have suggested that there is a significant relationship between school bullies and their targets. Stephenson and Smith (1989) hypothesized that the hostility directed by many child bullies toward their victims is fuelled by their own experiences of victimization. Olweus (1978) argued there is no overlap between bullies and victims. However, his more recent research showed that 1 in 10 bullies were also victims and 1 in 18 victims were also bullies (Olweus, 1991). Roland (1989) reported that 20% of individuals who are bullied are also bullies themselves and that their bullying behaviours are directed towards children who did not bully them.

Researchers have identified various characteristics of individuals who are both bullies and victims. For example, bully/victims are more likely to be male, and are more apt to report academic difficulties, problems with alcohol and drugs, loneliness, and troubles maintaining relationships with their peers (Ybarra & Mitchell, 2004a, 2004b). These individuals have higher rates of depression, anxiety, somatization, co-occurring disorders, and behaviour problems in comparison to bullies only, targets only, or youth who are not involved in bullying (Ball, Arseneault, Taylor, Maughan, Caspi & Moffitt, 2008; Ybarra & Mitchell, 2004a, 2004b). Furthermore, these individuals are more apt to be referred to a psychiatrist and are more likely to

refuse school than any other group affected by bullying (Ball et al., 2008). Indeed, there are some children and youth who are involved with school bullying from both sides. However, is the relationship between bullying and victimization statistically significant?

In their study of Canadian students aged 4 to 11 years, Craig, Peters, and Konarski (1998) found no significant relationship between bullying and victimization. They stated "[c]hildren who bully others tend not to be victimized by others. Similarly, children who are victimized tend not to bully others" (p. 24). These authors suggested that anti-bullying programs in schools be created specifically for bullies and for bully victims because they are likely to display differing types of problematic behaviours. Furthermore, since there are different children who are bullies and who are victims, the amount of children that are involved in bullying and victimization in Canada is a major concern (Craig et al., 1998).

More recent research has revealed findings which may contradict Craig et al.'s research. Li (2007) surveyed 177 Canadian students in grade 7 and found a close relationship between bullying and victimization. He noted that 85.5% of school bullies were also targets of bullying. Li (2007) suggested that both bullies and victims may belong to very active social groups and said "students in those groups tend to bully others which includes bullying each other. Therefore, they are also likely to be victims themselves" (p. 1787).

To review, various researchers have examined the relationship between bullies and their targets. A significant relationship has been found between bullies and targets in junior high students, but not in elementary students. Nonetheless, whether students are bullies, victims, or both, they are likely to experience negative short-term and long-term effects.

The Impact of Bullying

There is a belief that bullying is normative; that it is character building and an essential part of growing up. A senior United Kingdom politician is quoted as saying that being bullied at school had not harmed him and that it was "preparation for life" (Smith & Brain, 2000, p. 3). Many teachers also have the misconception that bullying is a normal phase of student development (O'Moore, 2000). Fortunately, research has disproved these invalid and damaging beliefs. Smith and Brain (2000) clarify that bullying may only be considered normal "in the sense that it can routinely be expected to occur. However, normative in this sense does not mean [bullying] is socially acceptable" (p. 2). Numerous studies reveal that school bullying is simply unacceptable as it is often associated with negative short-term and long-term effects for the victims of bullying, their perpetrators, bystanders, and society. Some of the negative consequences experienced by each of these groups of people are described below.

Effects on the victim. Ample evidence suggests bullying can have negative mental and physical effects of those victimized. For example, in addition to being physically and/or emotionally painful, bullying experiences leave victims humiliated, unhappy, worried, confused, and nervous (Olweus et al., 1999; Rigby, 2003). Consequently, victims of bullying are more likely than their peers to experience internalizing difficulties such as chronic anxiety, depression, and low-self-esteem (Craig, 1998; Gini & Pozzoli, 2006; Grills & Ollendick, 2002; Lyznicki et al., 2004; Olweus et al., 1999; Rigby, 2003; Ybarra & Mitchell, 2004a; University of Florida, 2008). Psychosomatic symptoms such as headaches and stomach pains are also more likely to develop in bully victims (Gini & Pozzoli, 2006; Olweus et al., 1999; Rigby, 2003). Research has revealed moderate correlations between direct bullying and general health problems such as sore throats, coughs, and colds (Rigby, 2003). Students' academic and social achievements are also

negatively impacted by bullying as numerous studies have shown that victims of bullying often experience one or more of the following symptoms: chronic absenteeism, reduced concentration and academic performance, increased apprehension, poor peer relations, and feelings of loneliness (Beale, 2001; Gini & Pozzoli, 2006; Olweus et al., 1999; Rigby, 2003; Roberts & Coursol, 1996; Smith & Brain, 2000; Smokowski & Kopasz, 2005; Ybarra & Mitchell, 2004a). In extremely severe circumstances victims of bullying have responded with intense violence such as self-harm, physical assault, suicide, and homicide (Gamliel et al., 2003; Gini & Pozzoli, 2006; Lyznicki et al., 2004; Olweus et al., 1999; Patchin & Hinduja, 2006; Rigby, 2003; Roberts & Coursol, 1996).

Unfortunately, there is a stable tendency to be victimized. A three year follow-up study conducted by Olweus (1978) found that male youth who were identified as being victims of bullying by their peers at age 13 were also identified by their peers as being bully victims at age 16. Furthermore, children who are bullied in school often grow up to have children who are also victimized at school (Farrington, 1993).

In short, bullying has several negative mental and physical consequences for those victimized. Because victimization remains relatively stable throughout childhood and is often evident across generations, one can argue that these consequences are cyclical and long lasting. In addition to the harmful effects of bullying experienced by those who are victimized, research has also found various negative effects experienced by the bullies themselves.

Effects on the bully. School bullies may experience negative effects as they are at risk for maladjustment later in life (Olweus, 1993). In comparison to individuals who did not bully their peers as children, adult school bullies have an increased risk of experiencing difficulties in their relationships and holding down jobs (Gamliel et al., 2003; Olweus, 1993). Furthermore,

research by Olweus (1993) has shown that approximately 60% of boys who were described as bullies in grades 6 to 9 (on the basis of peer ratings and teacher selection) were convicted of at least one officially registered criminal offense by the age of 24, in comparison to only 23% of the students who were not considered to be bullies. As children and youth, school bullies are more likely than are non-bullies to report delinquent behaviours (e.g., vandalism and shoplifting), frequent alcohol and drug use, cigarette smoking, fighting, below average academic achievement, and early school termination (Olweus, 1993; Olweus et al., 1999; Ybarra & Mitchell, 2004a, 2004b). Other studies have documented that childhood aggression is associated with anxiety disorders, conduct disorder, and adult anti-social behaviours (Bosacki et al., 2006; Loeber et al., 2000; Smith et al., 2002; Ybarra & Mitchell, 2004a). Finally, children who are bullies tend to be bullies as adults and have children who are bullies (Farrington, 1993; Roberts, 2006).

Bullies, therefore, are at risk for experiencing various long lasting negative outcomes which can be passed from generation to generation. Still, the negative impact of bullying does not stop here. Bystanders and society are also at risk for experiencing negative outcomes.

Effects on bystanders and society. School bullying has been shown to negatively impact bystanders. For example, students belonging to classrooms with high levels of bullying problems often feel less safe and experience less satisfaction with school life (Olweus et al., 1999). For many of these students school is no longer a place where it is safe to concentrate and learn (Olweus et al., 1999). Furthermore, students who witness bullying at school often feel group pressure to join in (Craig et al., 1998). Campbell (2005) has found that witnesses of bullying are frequently afraid that if they intervene they will become the next victim.

Society also pays a price for school bullying as it is associated with more extreme forms of aggression. For instance, a significant correlation exists between mild forms of mischief at school and more serious crime outside of school (National Centre of Educational Statistics, 1998). Research suggests that bullying among school aged children may lead to unhealthy male-female relationships in later life characterized by domination and hostility (Gamliel et al., 2003). Further, bullying is believed to play an important role in school shootings. For example, parents and classmates of the two teenage gunmen involved in the fatal shootings at Columbine High School in Littleton, Colorado, described them as ongoing victims of school bullying (Gamliel et al., 2003; Patchin & Hinduja, 2006).

In summary, bullying among school aged children and youth is a serious problem experienced by numerous students nationwide. The abundance of negative short-term and long-term effects experienced by students and society suggest a need for prevention and intervention. Unfortunately, as parents and educators struggle to tame traditional bullying problems in our schools, a newer form of peer aggression remains under-recognized and under-reported (Beran & Li, 2005).

Cyberbullying: A New Method for an Old Problem

Cyberbullying, also known as electronic bullying, is the latest form of peer aggression to emerge in our communities. This novel form of bullying occurs in a virtual world, through the use of an electronic medium for the purpose of threatening or harming others (Strom & Strom, 2005). Canadian Teacher, Bill Belsey (2004) defined cyberbullying in his recently published Web site. His definition describes cyberbullying as:

> The use of information and communication technologies such as e-mail, cell phone and pager text messages, instant messaging (IM), defamatory personal Web sites, and defamatory online personal polling Web sites, to support deliberate, repeated, and hostile behaviour by an individual or group, that is intended to harm (p.1).

There are two types of cyberbullying: direct cyberbullying and cyberbullying by proxy. Direct cyberbullying includes messages sent directly from the bully to the victim (Aftab, 2006). In contrast, cyberbullying by proxy involves "using others to help cyber bully the victim, either with or without the accomplice's knowledge" (Aftab, 2006, n.p.). For example, a cyber-bully may hack into a victim's account and send out hateful or offensive messages to everyone on the victim's friend list, pretending to be the victim. The cyber-bully may also alter the victim's password so he or she cannot get back into the account and fix the problem. As a result, the victim's friends get very angry with the victim, thinking he or she had sent the hurtful messages (Aftab, 2006). Cyberbullying by proxy may also pull unknowing adults into the situation. For example, a cyber-bully may start a vulgar online argument with the victim. Once the victim becomes angry and says something mean back to the perpetrator the message is saved and sent to the victim's parents. Once these parents are notified, they punish the victim (Aftab, 2006).

Cyberbullying is very unique compared to traditional forms of bullying. As a result, it creates new, more challenging, hurdles for students, parents, and teachers to overcome. Following is an overview of the problem of cyberbullying. First, the use of communication technologies in Canada will be discussed followed by an explanation of the role they play in cyberbullying. Next, issues specific to cyberbullying and worldwide examples of this new form of student aggression will be described. Prevalence rates, gender differences, role players, expected negative effects, adult involvement with cyberbullying, and suggested prevention strategies will also be discussed.

Communication Technologies and Cyberbullying

The use of new communication technologies such as the Internet and cellular telephone have increased and continue to increase drastically (Beran & Li, 2005; Li, 2007). Although these

new communication technologies can have a beneficial impact on student learning, they also serve as tools for students to engage in cyber-harassment. Presented below are descriptions of Internet and cellular telephone use by Canadian students and an explanation of the role these communication technologies play in cyber-harassment.

Internet. The Internet is an extremely popular, rapidly growing communication technology used by millions of people worldwide (Beran & Li, 2005). Students in Canada are no stranger to the computer or the Internet. In fact, Canadian students rank among the highest in the world in terms of computer access from home and at school (Statistics Canada, 2000). For example, recent research conduced by the Media Awareness Network (2005) revealed that 94% of Canadian children and youth (grades 4 to 11) have Internet access in their home, indicating an increase from 79% in 2001. Further, over half of these Canadians (61%) have high-speed access. Surprisingly, over one third (37%) of 4th grade students in Canada can access the Internet through their own computer; by grade 11, over half (51%) of these students can (Media Awareness Network, 2005).

Even those students who come from homes without a computer are still very likely to receive access at school. Over 1 million computers are made accessible to students and teachers in Canada; approximately 90% of these computers have Internet access (Statistics Canada, 2004). Simply stated, there is one Internet connected computer at school for every six students in Canada. The majority of Canadian schools (86%) have the always-on method to access the Internet, leaving a small percentage (9%) that use regular dial-up Internet with a telephone and a modem (Statistics Canada, 2004). In approximately 60% of Canadian schools students are permitted to use the Internet outside of class time, such as after school hours or during lunch break, when there is less teacher supervision offered (Statistics Canada, 2004). In other words,

nearly every student in Canada has Internet access. Many times, this Internet access is unsupervised.

Due to this accessibility, it is not surprising that Canadian youth are extremely active Internet users. In fact, 99% of Canadian youth report they have used the Internet before and almost half (48%) say they use the Internet for at least one hour per day (Media Awareness Network, 2001). Furthermore, while most parents believe the most important benefit of the Internet is educational, children and youth report the most important benefit is for communicating with friends (Media Awareness Network, 2001). For example, a recent Canadian study indicated that when asked which way they used most often to converse with friends, secondary students were more likely to use Internet chat or MSN than to talk face-to-face or use a conventional telephone (Statistics Canada, 2006). Thus, the social networks of children and youth today have changed in ways that many adults are not yet able to identify with. Today, the Internet has become a frequently visited social community complete with its own unique set of conventions, behaviours, and etiquettes (Lines, 2007).

Due to its extreme popularity, the Internet has become a common platform for cyberbullying. Features such as instant messaging, e-mail, and social networking sites are the most commonly used mediums for cyberbullying (Beran & Li, 2005; Lines, 2007). While most adults are familiar with e-mail and instant messaging, social networking sites are less understood. Examples of social networking sites include Bebo, Facebook, MySpace, and Nexopia. These Web sites are designed to create online social communities centered on related interests (Lines, 2007). Within social networking sites, members can post personal profiles complete with pictures and special information about themselves. Further, they can connect with one another and communicate through message boards and/or direct messaging (Lines, 2007).

Currently, social networking sites are considered a cultural requirement by many North American children and youth (Shariff, 2008). MySpace, for example, has over 78 million registered accounts and Facebook has about 8 million (Shariff, 2008). Boyd (as cited by Shariff, 2008) quotes one adolescent as saying "If you're not on MySpace you don't exist" (p. 36).

Cellular telephones. Another communication technology which is rapidly increasing in popularity among Canadian students is the cellular telephone. In 2000, only 5% of North American youth ages 13 to 17 years had their own cellular telephone (Sullivan, 2004). More recent statistics have shown a drastic increase in cellular telephone usage by children and youth. According to the Census at School survey created by Statistics Canada (2006), 29% of elementary students and 53.7% of high school students own their own cellular telephone. Furthermore, the capabilities of cellular telephones are expanding. Children and youth are not using their cellular telephones for just talking to their friends and family. Instead, built in cameras and video recorders, rapid-fire "texting", and Internet access have made cellular telephones into portable computers for many children and youth.

Issues Specific to Cyberbullying

Certainly, computer use in the classrooms can enhance collaborative learning experiences and cellular telephones may facilitate student communication. However, certain characteristics inherent to these technologies increase the chances that they will be exploited for unexpected purposes (Patchin & Hinduja, 2006). Computers and cellular telephones offer student bullies many advantages. These advantages include anonymity, lack of supervision, an infinite audience, and limitless boundaries (Patchin & Hinduja, 2006; Strom & Strom, 2005). Following is a description of each of these advantages.

Anonymity. One advantage offered to cyber-bullies is their guarantee of anonymity. Li (2007) points out "the anonymity associated with electronic communication tools make it easier for cyberbullying to happen and more difficult to prevent" (p.1786). First, cyber-bullies can guarantee they are not identified by teachers, parents, and their victims, by making up fictitious screen names (Patchin & Hinduja, 2006; Shariff, 2005; Strom & Strom, 2005). For example, Kowalski and Limber (as cited by Chibbaro, 2007) surveyed 3,767 middle school students from several cities in the United States and found that 48% of the students who were cyber-bullied did not know the identity of their perpetrator(s).

The second way anonymity contributes to the problem of cyberbullying relates to the concept of courage building. For example, typing hurtful comments into a keyboard takes less energy than using one's voice. Therefore, anonymous cyber-bullies may be bolder with their comments and say things they may have not had the courage to say in person (Patchin & Hinduja, 2006). One Canadian student from Toronto, Ontario, stated "with the Internet, you can really get away with a lot more because I don't think a lot of people would have enough confidence to walk up to someone and be like, 'I hate you, you're ugly'" (Leishman, 2005, n.p.). Furthermore, because cyber-bullies lack face-to-face contact with their victim, they may not understand how harmful their comments or actions were. Willard (2003) suggests that lack of face-to-face contact results in decreased feelings of regret or sympathy of cyber-bullies towards their victim. Leishman (2005) provides evidence to support this claim; a Toronto student she interviewed stated "over the Internet you don't really see their face and they don't see yours, and you don't have to look in their eyes and see their hurt" (n.p.).

Lack of supervision. Another significant advantage offered to cyber-bullies is the absence of adequate adult supervision. The majority of students surveyed by the Kids Help

Phone (69%) selected "no supervision" as an important reason for why kids bully online (Lines, 2007). As previously mentioned, over half of the schools in Canada permit students to use the Internet outside of class time when there is less teacher supervision offered (Statistics Canada, 2004). At home, only 13% of Canadian children and youth (grades 4 to 11) are supervised while using the Internet (Media Awareness Network, 2005). Perhaps this lack of parental supervision stems from the increased presence of computers in private spaces such as children and youths' bedrooms (Patchin & Hinduja, 2006). Furthermore, because many children and teens believe they know more about communication technologies than their parents (Media Awareness Network, 2001), many are able to send and receive messages without worry or concern that a probing parent will be able to trace their steps (Patchin & Hinduja, 2006).

Infinite audience. A third advantage offered to cyber-bullies is the ability to have an audience composed of infinite members. Research has shown that 30% of student spectators of bullying support the bully rather than the victim (Shariff, 2005). The longer the bullying continues, the more spectators join in the abuse, creating a larger power imbalance between the target and the perpetrators (Shariff, 2005). While traditional forms bullying often take place before small groups of peers, hurtful texts or images can be communicated to an infinite audience in a shorter time period (Shariff, 2005; Strom & Strom, 2005). For this reason, many students believe cyberbullying is far more damaging than traditional bullying. For example, David Knight became a victim of cyberbullying when students from his school created a Web site that made fun of him. Knight explained:

> Rather than just some people, say 30 in a cafeteria, hearing them all yell insults at you, it's up there for 6 billion people to see. Anyone with a computer can see it … and you can't get away from it (Leishman, 2005, n.p.).

Limitless boundaries. Finally, cyber-bullies have the advantage of having limitless boundaries. In the past, victims of bullying were able to view their homes as a safe retreat, a sanctuary from their abusive peers at school (Strom & Strom, 2005). Unfortunately, communication technologies have allowed student bullies to extend their aggressive behaviours far beyond the boundaries of the school yard to invade their victims in their own homes (Lines, 2007; Strom & Strom, 2005). Cyberbullying victim, David Knight, explained:

> The one thing about being beaten up at school is that at least you know you're at school from 9 o'clock in the morning until 3 o'clock in the afternoon and then you can go home where it's safe…But when the bullies finally started to use the Internet to harass me it ruined my sense of safety that I had at home (Fox, 2008, n.p.).

Another important concern regarding limitless boundaries relates to the reluctance of some school professionals to step in and punish the bullies. When hurtful text or images are sent from home computers, many teachers feel unable to respond because the incident occurred outside their jurisdiction (Belsey, 2004; Shariff, 2005; Strom & Strom, 2005). As a result, many cyber-bullies are left undisciplined.

To review, the development of communication technologies has resulted in a new form of peer aggression called cyberbullying. Communication technologies offer many exploitable advantages to cyber-bullies such as anonymity, lack of supervision, an infinite audience, and limitless boundaries. These advantages add to the complexity of the problem of bullying. Consideration of cyberbullying examples helps to further demonstrate the complexity of this issue.

Worldwide Examples of Cyberbullying

The severity of online bullying varies with incidents ranging from irritating to dangerous with the occurrence of death threats. Numerous incidents of cyberbullying have been presented

in the news media. The following news reports of cyberbullying demonstrate its range and multifaceted nature.

While changing after gym class, high school freshman Shinobu, from Osaka, Japan, was secretly photographed by a classmate using a cell phone. Immediately, the revealing picture was sent through instant messaging to other classmates. By the time the next class began, Shinobu was the laughing stock of the school (Paulson, 2003).

A 15 year old boy from Quebec, Canada, became of victim of cyberbullying when a video he made of himself imitating a Star Wars fighting scene was posted on the Internet by some of his fellow students (Snider & Borel, 2004). Millions of people were able to download his embarrassing two minute video clip. The student was so humiliated that he dropped out of school and sought personal counselling. Eventually, his family launched a lawsuit against the perpetrators (Snider & Borel, 2004).

In Dallas, Texas, numerous humiliating messages about a high school student, Lauren Newby, were posted anonymously to an online message board associated with a local high school (Benfer, 2001). Messages posted by the unknown perpetrator or perpetrators included hurtful comments about Lauren's weight, her multiple sclerosis, and encouraged her boyfriend to stop seeing her. They included statements such as "people don't like you because you are a suicidal cow who can't stop eating" and "I guess I'll have to wait until you kill yourself which I hope is not long from now, or I'll have to wait until your disease kills you" (Benfer, 2001, ¶ 9). Eventually, the victimization crossed over from the virtual world to the physical world when the victim's car was egged, insults were scribbled in shaving cream on the sidewalk in front of her house, and a container filled with acid was thrown into her front door resulting in minor burns on her mother (Benfer, 2001).

In Saskatoon, Saskatchewan, 14 year old Jessica Beamish was walking with her friend when she was physically attacked by two other girls who repeatedly punched and kicked her. In Jessica's estimation there were at least 100 spectators, one of these bystanders happened to have a video camera. Soon after her attack, a video of the fight was posted on the Internet for all to see (CBC News, 2005). Similar to the above example of Lauren Newby's victimization, Jessica Beamish endured physical bullying as well as cyberbullying.

In Halifax, Canada, a professor from Dalhousie University became a victim of cyberbullying when a video was posted on YouTube.com among other websites. The video of the professor and his family included a voice of someone who was impersonating the professor, background pornographic sounds, and altered photographs of his wife and children. Racist comments about Muslims were also included throughout the video clip. Even more disturbing, the video was e-mailed to thousands of university students and faculty from a fake account created in the professor's name ("Dalhousie Prof Victim", 2008).

The above news reports of cyberbullying demonstrate the wide range and complexity of this issue. For example, cyberbullying involves many different communication mediums. Individuals of any age can be targeted through cyber-harassment. Communication technologies allow bullies to victimize their targets quickly during any time of the day. Further, cyberbullying can easily cross over from virtual harassment to physical bullying. In addition to the numerous reports of cyber-harassment being presented in the news, researchers have explored the prevalence of cyberbullying in school aged children and youth.

Prevalence

Several surveys have been used to explore the prevalence of cyberbullying in school aged children and youth. Ybarra and Mitchell (2004b) conducted telephone surveys of 1,501 regular

Internet users between the ages of 10 and 17 and found that 15% of the respondents harassed others online and 7% were harassed online in the past year. An alarming 79% of respondents knew someone that had been harassed online (Ybarra & Mitchell, 2004b). A more recent study conducted by Patchin and Hinduja (2006) revealed higher prevalence rates. They conducted and online survey of 384 regular Internet users who were under the age of 18. Results from the study revealed that 29% of the respondents were targeted through cyberbullying and 11% bullied others online. The same study found that almost half (47%) of regular Internet users under the age of 18 witnessed online bullying.

The prevalence of cyberbullying among university students has also been researched. A recent study of undergraduate students at the University of New Hampshire showed that approximately 10% to 15% of students admitted to being threatened or harassed repeatedly via e-mail or instant messenger communications (Finn, 2004). Of the student victims, 14.1% reported receiving harassing e-mails even after they asked the sender to stop. The same study reported that over half (58.7%) of the students received unwanted pornography, which could also be considered a form of harassment (Finn, 2004).

Cyberbullying in Canada has also been explored. Various surveys conducted in Alberta found that about one in four (25%) students in grades 7 through 9 have been cyber-bullied and 15% to 22% have used an electronic communication tool to bully others (Beran & Li, 2005; Li, 2006, 2007). Over half of these students knew someone who was cyber-bullied (Li, 2006, 2007). In Montreal, Quebec, about 34% of students surveyed (n>500) in grades 6 through 9 admitted to being called a bad name online or harassed because of the way they look (Shariff, 2008). Recently, the Kids Help Phone conducted an online survey with 2, 474 Canadian children and youth. Data from this study demonstrated that 70% of respondents (the majority of which were

13 to 15 years of age) were cyber-bullied and 44% cyber-bullied someone else (Lines, 2007). The most common online bullying experiences reported by respondents included "being called names/being made to feel bad" (76%), and "having rumours spread about them" (52%; Lines, 2007). Sadly, the majority of the cyber-bully victims chose not to talk to an adult about their victimization because they believed it would not help or that the harassment would get worse (Lines, 2007). In addition to studying the prevalence of cyberbullying, various authors have also considered gender differences.

Gender Differences

With respect to gender differences amongst cyber-bully victims, research has revealed somewhat discrepant findings. In her study of 177 grade 7 students from Alberta, Canada, Li (2007) found that the majority (59.1%) of self-identified cyber-bully victims were female. Likewise, Kowalski and Limber (as cited by Kowalski, Limber, & Agatston, 2008) surveyed 3,767 students in grades 7 and 8 and found that the prevalence of electronic victimization among females was twice as high as the prevalence among males (25% and 11% respectively). Other researchers have argued differently by demonstrating that males are equally as likely as females to be victimized through electronic mediums (Finn, 2004; Li, 2006; Totten et al., 2004). In terms of student responses to online victimization, female cyber-bully victims are much more likely than males to inform adults about the incident (Li, 2006).

Current literature has also revealed discrepant findings regarding gender differences amongst cyber-bullies. According to Ybarra and Mitchell (2004b) and Li (2007), males and females are equally as likely to cyber-bully others. Li (2006), however, surveyed 264 junior high students from Alberta, Canada, and found that males were significantly more likely to report being cyber-bullies in comparison to their female counterparts. Kowalski and Limber (as cited

by Kowalski et al., 2008) found that 13% of girls verses 9% of boys cyber-bullied others at least once in the past two months. The same study found twice as many males (0.8%) as females (0.4%) reported cyberbullying others several times a week. Breguet (2007) has suggested that girls are less direct in their approaches to cyberbullying. For example, female cyber-bullies often spread unpleasant rumors and gossip as a means to negatively impact the reputations of others. One female cyber-bully explained, "I recently picked on an old friend of mine… I was disappointed she was not my friend any longer so I spread her deepest secrets to everyone" (Breguet, 2007, p. 24). Male cyber-bullies, on the other hand, tend to be more aggressive in their approach. They are more likely threaten and intimidate others through name calling and malicious teasing, steal passwords and hack into other peoples' computer systems, and are more likely to seek revenge online (Breguet, 2007).

In summary, current research of cyberbullying gender differences has revealed some discrepant findings. A few studies have suggested that females are more likely to report being cyber-bullied than their male peers. Others have suggested there are no significant gender differences among cyber-bully victims. With respect to cyber-bullies, the research has been inconclusive. Some professionals have suggested gender differences are evident in style of harassment and reactions to being cyber-bullied. These findings may help us to understand some of the common characteristics of cyber-bullies and their targets. Researchers have identified some other important characteristics of these role players as well.

Role Players in Cyberbullying

Cyberbullying involves two key players: the bully and the victim. In contrast to traditional forms of bullying, research on cyberbullying has consistently revealed a significant association between cyber-bullies and those individuals who are victimized through cyberspace

(Li, 2007; Raskauskas & Stoltz, 2007; Totten et al., 2004; Ybarra & Mitchell, 2004b). In other words, students who bully their peers through cyberspace are more likely to be cyber-bullied themselves, as compared to those individuals who do not engage in cyberbullying behaviours. Following is a description of the characteristics of cyber-bullies and their targets along with an elaboration of their relationship to one another.

Cyber-bullies. Research on the characteristics of cyber-bullies has revealed some interesting patterns in relation to race and familial income. In the United States, Ybarra and Mitchell (2004b) conducted a large scale telephone survey involving 1,501 regular Internet users, along with one parent or guardian in the same household. They found that individuals who lived in a household with an annual income of $75,000 or greater were 45% more likely to cyber-bully others than those who came from households with a lower annual income. Perhaps, children and youth who lived in higher income households were more likely to engage in cyberbullying because they were more apt to have home computers and cellular telephones complete with Internet capabilities. Another possibility is that these children and youth came from dual working homes and, therefore, were offered less supervision of their computer and cellular telephone use.

Researchers have also explored the relationship between ethnicity and cyberbullying. Finn (2004) examined online harassment behaviours among students from the University of New Hampshire and found no significant differences between students of different ethnic backgrounds. Likewise, Li (2007) researched cyberbullying among junior high students in Alberta, Canada, and found no significant differences amongst students of different races. Ybarra and Mitchell (2004b), however, found that young people from the United States who self-identified as being members of the White race were 46% more likely than Non-White students to

cyber-bully others. It is important to point out the possibility that the race and ethnicity relate to cyberbullying only insofar as they correspond to socioeconomic factors. As demonstrated above, participation in cyberbullying by citizens of the United States is strongly associated with a higher socioeconomic status (annual household incomes of $75,000 or higher). During 2006, the Census Bureau of the United States reported that members of the White race were more likely than any other race to report annual incomes of $75,000 or greater (DeNavas-Walt, Proctor, & Smith, 2007). Thus, because members of the White race were more likely to come from higher income homes, they were also more likely to participate in cyberbullying. Further research is strongly needed in Canada to determine if similar relationships exist amongst race, familial income, and cyberbullying.

In addition to studying the relationship between ethnicity, household incomes, and cyberbullying, studies have also demonstrated that other factors, such as high levels of computer usage and age are significantly related to cyberbullying. For example, Ybarra and Mitchell (2004b) found that adolescents who spent an average of four or more days a week on the Internet were significantly more likely to engage in cyber-harassment than those who did not use the Internet as often. They also discovered that children and youth between the ages of 13 and 17 were significantly more likely to engage in online harassment than children between the ages of 10 and 12 years (Ybarra & Mitchell, 2004b). Research conducted by the Canadian Public Health Association (Totten et al., 2004) found that students in grades 8 to 12 were more likely to engage in cyberbullying than students in younger grades.

In terms of caregiver-child relationships, Ybarra and Mitchell (2004b) found "a poor emotional bond is associated with two-fold increased odds of online harassment behaviour" (p.335). Perhaps, the association between caregiver-child emotional bonds and cyberbullying

stems from supervision issues. For example, it is highly possible that caregivers who are less connected with their children emotionally are also less likely offer adequate supervision of their children's Internet activities. As a result, these children may be more likely to engage in cyberbullying. Further research is needed to support or disclaim this hypothesis.

Finally, recent research has revealed a significant correlation between traditional bullies and cyber-bullies (Li, 2007; Raskauskas & Stoltz, 2007). In other words, those students who bully others in school tend to also bully others over the Internet. As a result, one can argue that many of the common characteristics of traditional school bullies may also apply to cyber-bullies. Some of these characteristics include being aggressive and impulsive and having low levels of empathy for others (Olweus, 1978, 1993).

Cyber-bully victims. Overall, research on the characteristics of cyber-bully victims is sparse. A couple studies (Li, 2007; Raskauskas & Stoltz, 2007) have found a significant correlation between cyber-victims and victims of traditional forms of bullying. In other words, bully victims are more apt to be bullied in cyberspace than those individuals who are not victimized by their peers. This correlation suggests previous research on the characteristics of bully victims may also be applied to cyber-victims. Some of these characteristics include being passive, weak, insecure, reserved, lacking self confidence, unpopular with other children, and having a low self-esteem (Olweus, 1978, 1993).

A few authors have put forth some other suggestions regarding the population of individuals who are targets for cyberbullying. For example, researchers have demonstrated that youth who engaged in numerous online activities are more apt to be cyber-bullied than those who do not (Patchin & Hinduja, 2006). Nonetheless, the relationship between cyber-bullies and computer usage has been found to be much stronger than the relationship between cyber-victims

and computer usage (Li, 2007). Other research has focused on the relationship between atypical characteristics and cyberbullying. One study involving university students found that gay and lesbian students were at greater risk for being harassed online than those students who were heterosexual (Finn, 2004). Parry Aftab, executive director of WiredSafety.org, an online safety group, has suggested that "[v]ictims are often targeted because they are considered different — usually those considered overweight, small, with a learning disability or overly sensitive" (Swartz, 2005, n.p.). However, no empirical research has been conducted to support or disclaim this hypothesis.

Association between role players. Recent research has shown a significant relationship between cyber-bullies and targets of cyberbullying. Li (2007) surveyed 177 Canadian students in grade 7 and found a close tie between cyber-bullies and cyber-victims (29.8% and 27.3% respectively). Kendall's correlation analysis of the data revealed the relationship between cyber-bullies and cyber-bully victims within the sample was statistically significant ($\tau = 0.305$, $p<.0001$). A previous study conducted by Ybarra and Mitchell (2004b) found a similar pattern. They found that almost 20% of cyber-bullies versus 4% of those who were not involved with cyberbullying had also been harassed online. Further, the odds of being a cyber-bully were almost four times as high for adolescents who had been targets of cyber-harassment than for adolescents were not victimized (Ybarra & Mitchell, 2004b). Finally, Totten et al. (2004) surveyed 1795 students attending Canadian schools and found a positive correlation ($\chi^2 =207.61$, $p<0.0001$; Cramer's Phi = 0.3437) between cyberbullying and cyber-victimization. In other words, cyber-bullies were also likely to be cyber-bully victims. Furthermore, those individuals who were victimized in cyberspace may have responded by engaging in cyber-harassment themselves. Li (2007) believes the close relationship between cyber-bullies and cyber-bully

victims should be considered when developing cyberbullying prevention and intervention programs. He has suggested that we consider "cyber-bullies, and their victims as an integrated whole rather than the current common practice of treating them as separate groups" (Li, 2007, p.1787).

Indeed, cyberbullying is a complex issue in strong need of proper parental, school based, and community based intervention. Researchers have been able to identify a few common characteristics of role players of cyberbullying; however, more research in this area is needed. Another area in need of further research is the effects that cyberbullying can have school aged children and youth.

The Impact of Cyberbullying

Since cyberbullying is a relatively new problem, research on associated negative effects is very limited. Nonetheless, many parents, teachers, and researchers anticipate there will be several negative outcomes of cyberbullying. Below is a brief description of expected negative consequences and current research findings.

Effects on the victim. Victims of electronic bullying are left feeling lonely, insecure, and humiliated (Breguet, 2007). As a result of these negative feelings cyber-victims may suffer from lowered self-esteem, depression, feelings of hopelessness, and withdrawal (Patchin & Hinduja, 2006; Strom & Strom, 2005). Cyberbullying may also lead to psychological disorders. For example, in their qualitative study of a female adolescent diagnosed with anorexia nervosa, Gáti, Tényi, Túry, and Wildmann (2002) found that sexual harassment on the Internet played a key role in the development of her disorder. In a recent Canadian Television (CTV) interview, Tianna Kusano admitted to starving and cutting herself after being repeatedly bullied on a popular social networking Web site called Facebook (Fox, 2008).

A few research studies have systematically examined the typical emotions experienced by individuals who have been cyber-bullied. In their recent study of regular Internet users, Patchin and Hinduja (2006) demonstrated that common emotions experienced by those who are victimized through cyberbullying include frustration and anger (Patchin & Hinduja, 2006). A recent survey involving 432 students from Alberta, Canada, indicated that more than half of cyber-bully victims (57%) felt angry on numerous occasions, and about one third (36%) felt sad and hurt (Beran & Li, 2005). Beran and Li (2005) have suggested that these feelings of anger, sadness, and hurt will affect students' abilities to concentrate in school and succeed academically (Beran & Li, 2005). The Kids Help Phone survey (Lines, 2007) provided evidence to support this claim; one of the survey participants responded, "I was really uncomfortable going to school and often skipped just so I wouldn't have to be there. Mostly because I would cry a lot and didn't want to end up crying in class or during break" (Lines, 2007; p.8).

Sadly, the effects of cyberbullying have surpassed the emotional level. There have been various reports in the news of children and youth who have committed suicide in response to extreme cases of cyberbullying. In 2005, for example, a 13 year old boy took his own life after being continually teased about his short height through instant messaging (Breguet, 2007). Dawn Marie was a 14 year old girl from British Columbia, Canada, who hung herself with her dog's leash after she was threatened by three of her school mates via cellular telephone text messaging (Fox, 2008). Dawn Marie was too scared to ask adults for help. Her suicide note read:

> I can't live anymore. D.W. has too many people coming after me that are going to kill me anyway. I never knew it would get this far, but I am so depressed it's killing me mom. If I tried to get help it would have gotten worse. They are always looking for someone to beat up and these are the toughest girls. If I ratted I would get them kicked out of school and there would be nothing stopping them (Fox, 2008, n.p.).

Effects on the bully. Research involving the effects of electronic bullying on the cyber-bully is extremely sparse. One survey based study reported that 32% of Internet harassers have engaged in frequent substance use as compared to only 10% of non-harassers (Ybarra & Mitchell, 2004b). Delinquency (e.g., property damage, police involvement) was also significantly correlated with online harassment; 37% of harassers versus 13% of non-harassers have reported engaging in delinquent behaviour within the past year (Ybarra & Mitchell, 2004b).

Further research of the effects cyberbullying for both the victim and the perpetrator is needed. Another area in need of more consideration is adult involvement with incidents of cyberbullying.

The Extent of Adult Involvement

Though many adults are aware of traditional forms of school bullying, much less are aware of cyberbullying (Beran & Li, 2005). Those adults who are aware of cyberbullying may be reluctant to respond. For example, Hazler, Miller, and Carney (2001) found that "people are less likely to show concern, attempt to prevent or act to intervene in situations involving potential social/emotional or verbal harm, while they are likely to overreact in situations involving potential physical harm" (p. 142). Thus, many adults may ignore incidents of cyberbullying because they do not involve physical contact between the victim and the perpetrator and, as a result, are not considered to be a form of aggression or abuse. Results from a recent survey (Li, 2007) may support this claim. According to the survey results, a small 34% of Canadian students in grade 7 admitted to reporting cyberbullying to an adult. Of this group of students, an alarming 33% believed that the adult they informed did not make any attempt to stop the cyberbullying from continuing (Li, 2007).

Another reason that adults may avoid dealing with cyberbullying relates to jurisdiction and the right to freedom of speech. For example, many teachers may believe that they should not discipline their students for cyberbullying if the incident took place outside of school and, therefore, is out of their jurisdiction (Belsey, 2004; Shariff, 2005; Strom & Strom, 2005). School staff may also fear that if they do intervene with cyberbullying among students, they might face legal repercussions for infringement of Section 29(b) of the *Charter of Rights and Freedoms* (Shariff, 2005). This section provides all Canadians with freedom of expression, thought, and opinion (Shariff, 2005).

Despite issues of jurisdiction and freedom of speech, some schools have responded strongly to issues of online harassment. For example, after being insulted by 10 students over the Internet, the principal from a Roman Catholic high school in Caledon East, Ontario, suspended each of the offenders for 10 days (Rusk, 2007). In Sherwood Park, Alberta, four students were expelled and 20 others received out-of-school suspensions for posting derogatory comments on the Internet (CanWest News Service, 2007). Thus, some school leaders are responding strongly to problems of cyberbullying. Nonetheless, cyberbullying remains a complex problem in Canada, that is often misunderstand and under-recognized.

To review, cyberbullying is a new problem emerging in our schools, homes, and communities. As a result, many parents and school professionals remain unaware of the nature and extent of this new form of aggression. Unfortunately, those adults who are aware of cyberbullying may be reluctant to respond because of issues of jurisdiction and freedom of speech. Furthermore, many adults may choose not to respond to cyberbullying because it often involves no physical contact between the perpetrator and the victim and, as a result, is not considered to be a form of aggression or abuse. It is also possible that adults would like to

respond to issues of cyberbullying, but do not know how they can help. Hopefully, as researchers are able to provide parents, teachers, and administrators with more information about cyberbullying, they will be better prepared to effectively reduce this problem. Some authors have already provided suggestions for how to do so.

Suggested Prevention Strategies

Numerous suggestions have been put forth for the prevention of cyberbullying. Some of these proposed solutions are inappropriate or too simplistic. For example, one popular response to cyberbullying has been to have the victims turn off their computers and cellular telephones. However, many children and youth view these electronic devices as an essential connection to their social network. If adults force these students into giving up their electronic communication tools, they will also be preventing these victims from having positive contact with their friends. As a result, this solution would be punishing the victim rather than the perpetrator(s) (Fox, 2008). Another inadequate solution to cyberbullying has been the installment of online filters onto computers. These online filters may appear reasonable because they block the reception of unwanted messages, however, cyber-bullies can alter their screen names to easily override these obstructions (Strom & Strom, 2005). Provided below is an overview of some reasonable cyberbullying prevention strategies put forth by various individuals. The first few suggestions can be applied at a local level while the latter suggestions require participation at the provincial or federal level. Though each of these suggestions appears to be a practical and reasonable solution to cyberbullying, more research is needed to support their effectiveness.

Local prevention strategies. Numerous authors have suggested that cyberbullying among school aged children and youth can be addressed at a local level through public awareness building and education (Belsey, 2004; Campbell, 2005; Chibbaro, 2007; Kowalski et

al., 2008; Strom & Strom, 2005; Trolley, Hanel, & Shields, 2006). For example, school newsletters featuring information about cyberbullying could be sent home to parents (Kowalski et al., 2008; Trolley et al., 2006). Further, school staff could offer parents information seminars on cyberbullying (Kowalski et al., 2008). Curriculum delivery in schools could include topics such as Internet safety and Netiquette (Internet etiquette) (Belsey, 2004; Campbell, 2005; Kowalski et al., 2008; Strom & Strom, 2005; Willard, 2003). In doing so, students should be taught to never answer an e-mail from someone they do not know and to avoid giving out their password to anyone other than their teachers or parents. Students should also be instructed to avoid sharing personal information over the Internet such their address or telephone number (Belsey, 2004; Strom & Strom, 2005). Further, students should be encouraged not to respond to hurtful postings online. Instead they should save their message as evidence and report the incident to an adult, their Internet service provider, and/or the police (Belsey, 2004; Chibbaro, 2007; Kowalski et al., 2008; Willard, 2003). Specific strategies for reporting cyberbullying from an e-mail account and/or a chat room are provided on Bill Belsey's (2004) cyberbullying website. Each of these strategies could be directly taught to students during their computer course at school.

Teachers could also encourage student bystanders to speak out against cyberbullying. In doing so, students should be encouraged to express their disappointment with the bully's behaviour, support the victim by sending positive messages, print of the message as evidence, and inform an adult about the incident (Kowalski et al., 2008). Students could be reminded of legislation that pertains to cyberbullying. For example, according to the Criminal Code of Canada, it is considered illegal to repeatedly communicate with someone if your interaction causes them to fear for the safety of themselves or others (Belsey, 2004). Furthermore,

"Defamatory Libel", posting a message that is deigned to insult another person or likely to damage their reputation through exposure to hate, contempt, or ridicule is also considered illegal in Canada (Besley, 2004). Netiquette is another important topic for teachers to address with their students. For example, writing in all capitals is considered yelling on the Internet, and is very rude. Another example of Netiquette involves avoiding sending messages online when you are angry (Belsey, 2004).

In addition to educating students about cyberbullying, the Kids Help Phone has provided a few other school based suggestions. For example, schools can promote student-to-student solution building by creating anti-bully committees (Lines, 2007). i-SAFE.org offers a free mentorship program where students can work with their peers and younger students to teach lessons and lead outreach activities pertaining to cyberbullying (Kowalski et al., 2008). The Kids Help Phone has also suggested that schools provide some sort of an anonymous anti-bullying reporting system (e.g., an e-mail where children can report cyber-bullying) and promote existing help lines (e.g., Kids Help Phone).

In addition to the suggestions above, Belsey (2004) has recommended that schools update their computer and Internet Acceptable Use Policies (AUP) to include harassment via communication technologies. He has suggested that schools and school boards collaborate with their parent councils to reinforce the idea that students are responsible for their online behaviour and actions away from school, just as they are responsible for their behaviours and actions while at school. Furthermore, he suggested that there be clear and severe consequences established for any students who do not follow the AUP. According to Brooks et al. (2006), school Internet-use policies should specifically inform students that they will be disciplined for any violations of the agreement. These documents can be signed by students and their parents. If signed, these

agreements will "likely be upheld in court" (Brooks et al., 2006, p.54). Thus, updated AUPs may help school personal to feel comfortable with disciplining cyber-bullies in their school as they will have less fear of facing legal repercussions for their actions.

A final local suggestion for the prevention of cyberbullying relates to the issue of supervision. Indeed, increased supervision of technology used by students in their homes and schools may help to reduce the occurrence of cyberbullying (Campbell, 2005). Parents should be informed that they are legally responsible for monitoring their child's online activities (Chibbaro, 2007). Simple strategies for parental supervision of their child's Internet activities include keeping home computers in a commonly used space such as living room (Besley, 2004) and limiting the amount of time that their child spends on the computer (Aftab, 2006). Parents should also be encouraged to watch out for warning signs that their child is involved with cyberbullying. Some of these warning signs include long hours on the computer, secretive behaviours around the computer (e.g., rapidly switching the computer screen when someone enters the room), unexplained behavioural changes, drop in marks at school, headaches, and stomachaches (Belsey, 2004). In terms of supervision at school, teachers can limit student use of computers during times when proper adult supervision is unavailable. Specialized software is also available to help principals and teachers supervise students' computer usage while at school.

In response to children and youth who are experiencing cyberbullying, school counsellors will need to offer support for both the cyber-bully and the cyber-victim. Chibbaro (2007) has suggested that interventions with cyber-bullies include activities that educate them about the negative legal and personal consequences of cyberbullying, promote the development of a healthy self-esteem and self concept, increase their ability to empathize with others, and further develop their anger management skills and social problem solving abilities. Victims of

cyberbullying may benefit from assertiveness training, social skills training to reduce their feelings of isolation, and numerous opportunities to practice safe behaviours that will decrease their chances of being victimized. Furthermore, they will need to take part in self-esteem building activities to build a more positive self-concept (Chibbaro, 2007). In any event, it is hoped that efforts taken to prevent the occurrence of cyberbullying will decrease the likelihood that children and youth will encounter this form of peer abuse and require some sort of counselling intervention. To effectively do so, changes will also need to be made to school legislation at the provincial and federal level.

Provincial prevention strategies. At the provincial level, educational legislation can be adapted to include specific guidelines for dealing with cyberbullying among children and youth. One such example was demonstrated recently when Ontario Premier Dalton McGuinty's government proposed alternations to the province's Safe Schools Act to help prevent students from posting harmful comments, pictures, or videos of another student or teacher online (Leslie, 2007). Existing legislation had given Ontario principals authority to deal with problems occurring during school or a school related event. The proposed changes added to the list any event that has a negative impact on school environment, clearly giving principals authority to deal with Internet related incidents (Leslie, 2007). Thus, students in Ontario could face suspension or expulsion if caught cyberbullying. Other Canadian provinces may benefit by similar adjustments to their educational legislation.

Fortunately the Canadian Teachers' Federation (CTF) has recently approved an action plan to address cyberbullying in Canadian schools ("CTF Adopts", 2007). Activities adopted into this action plan include developing a national policy on acceptable behaviours in cyberspace, lobbying for legislative protection against cyberbullying at the federal level, and

creating publications, articles, and Web resources for teachers, parents, and students. While doing so, the CTF hopes to collaborate with other teacher organizations worldwide ("CTF Adopts", 2007).

In summary, various authors have suggested numerous strategies for the prevention of cyberbullying. While some of these strategies can be applied locally, others require involvement at the provincial and/or federal level. Although many of these strategies have the potential to be successful, research is needed to support their use. Other important areas in need of research are described in the following section.

Directions for Future Research

Since cyberbullying is a relatively new problem emerging in our communities, research remains in its preliminary stages. Some Canadian researchers have explored the prevalence and characteristics of cyberbullying (Beran & Li, 2005; Li, 2006, 2007; Lines, 2007; Shariff, 2008). However, when considering the results from these studies it is important to evaluate the context from which they were generated. For example, the majority of Canadian research on cyberbullying has been conducted in large urban centers in Alberta and Quebec (Beran & Li, 2005; Li, 2006, 2007; Shariff, 2008). The Canada wide research conducted by the Kids Help Phone (Lines, 2007) is one exception to this pattern. However, because this research involved an online survey posted on the Kids Help Phone Website, respondents were limited to only those individuals who visited the Website. In other words, students who were not exposed to the Kids Help Phone Website were not invited to participate in the study. Also, data from this study was presented in summative form. Thus, there were no specific findings presented for rural and urban students or for each Canadian province.

Due to the above mentioned limitations of the current Canadian literature on cyberbullying, there are many gaps for future researchers to explore. Possible areas to explore include cyberbullying in each of the Canadian provinces and rural students' experiences with cyberbullying.

Cyberbullying in Other Canadian Provinces

Since the majority of cyberbullying surveys have been collected in Alberta, Canada, cyberbullying characteristics among students from other Canadian provinces have not yet been considered. In his discussion of his research limitations, Li (2007) admitted, "we need to be cautious when generalizing findings to other regions" (p. 1789). Therefore, by surveying other Canadian provinces, researchers would be more able to generalize previous research findings regarding gender differences, characteristics of role players, cyberbullying outcomes, and adult involvement with cyberbullying to other provincial districts. Research also needs to be conducted to determine if there are any significant provincial differences in relation to cyberbullying and, if so, why these differences exist.

Rural Students' Experiences with Cyberbullying

Another limitation of current research has been its lack of consideration for rural students. Canadian research has indicated that cyberbullying frequently occurs among students who attend schools within large urban centers (Beran & Li, 2005; Li, 2006, 2007; Shariff, 2008). However, it is unclear whether students from isolated settings, such as rural schools, are having similar experiences with cyberbullying. In general, students who attend rural schools have less access to current Internet technologies than students who attend urban schools. For example, the typical number of students per computer has been found to be larger in rural schools than in urban schools (Statistics Canada, 2004). In 2004, over 20% of rural schools did not have high

speed Internet and were still using dial up connections. In comparison, only 5% of urban schools reported using dial-up Internet connections (Statistics Canada, 2004). Perhaps, these differences in Internet accessibility will reflect differences in the occurrence of cyberbullying among rural students. On the other hand, increased access to home computers and cellular telephones may counterbalance limited computer access at school making cyberbullying just as common in rural communities. If so, parents and teachers from rural communities will also have to take a strong stance to address this issue. They will not be able to take comfort in the assumption that cyberbullying is simply a "city problem" that does not affect students from their small community.

Summary

In summary, bullying among school aged children and youth is an old and well known problem experienced by numerous children and youth nationwide. Several definitions for the term "bullying" have been presented throughout the literature. Though they differ from on another semantically, most definitions categorize bullying as a form of physical and/or verbal aggression. Some researchers (e.g., Olweus et al., 1999) argue that bullying should be considered a form of abuse, peer abuse, which is set apart from other forms of abuse (e.g., child abuse), by the context in which it occurs and the relationship of the perpetrator and the victim. Not surprisingly, ample evidence has been gathered to suggest that bullying can have negative side effects for both students and society. As a result, there is a strong need for the development of proper prevention and intervention strategies.

Unfortunately, as parents and educators scramble to respond to traditional forms of school bullying, a newer form of bullying remains under-recognized and under-reported (Beran & Li, 2005). Unlike the well known traditional forms of bullying, cyberbullying occurs in a

virtual world, through the use of an electronic medium for the purpose of threatening or harming others (Strom & Strom, 2005). Cyberbullying is unique compared to traditional forms of bullying as it allows for limitless boundaries, lack of adult supervision, an infinite audience, and anonymity of the perpetrator (Patchin & Hinduja, 2006; Strom & Strom, 2005). These unique features create new challenges for students, parents, and teachers.

Recent research suggests that the majority (70%) of Canadian teens have been cyber-bullied (Lines, 2007). When experienced by this highly impressionable population, cyberbullying has the potential to cause serious psychological, emotional, and social harm to those involved (Patchin & Hinduja, 2006). As a result, there is an intense need for adults to address the problem of cyberbullying in Canada. However, before they will be able to respond to the problem of cyberbullying effectively, parents and school professionals will need to develop a clear understanding of the issue. Thus, further research of cyberbullying in Canada is needed. Important areas for future exploration include cyberbullying in each of the Canadian provinces and rural students' experiences with cyberbullying. These suggestions helped to guide the development of the following study.

CHAPTER THREE: METHODOLOGY

Following is a description of the study's research methodology. First, the research questions are described and reasons for choosing these questions are given. Next, a description of the research setting, participants, measurement instrument, and steps that were followed to conduct the study is provided. Finally, important ethical considerations are identified and explained.

Research Questions

Since cyberbullying is a relatively new problem to emerge in our communities, research of this phenomenon remains in its preliminary stages. Previous studies conducted in large urban centers in Alberta and Quebec have suggested that cyberbullying frequently occurs among middle years students (Beran & Li, 2005; Li, 2006, 2007; Shariff, 2008). However, the characteristics of cyberbullying among rural students and students from other Canadian provinces are yet to be determined. For these reasons, the purpose of this study was to explore cyberbullying amongst students from rural and urban schools in central Saskatchewan. More specifically, this study investigated the following questions:

1. To what extent did youth experience cyberbullying?
2. What were the characteristics of cyberbullying?
3. How did students respond to cyberbullying?
4. To what extent did parents and teachers become involved with cyberbullying incidents? Furthermore, how did students think these adults should have responded?

It is hoped that the information acquired from this research will help to guide future research of cyberbullying as well as prepare adults to work together to reduce the cases of cyberbullying in Canada.

Setting

This study took place in the Canadian province of Saskatchewan. This particular province was very beneficial in answering the research questions. First, Saskatchewan has a diverse student population composed of Aboriginal and Non-Aboriginal Peoples. According to the Government of Saskatchewan (2007), 13.5% of Saskatchewan residents identified themselves as being Aboriginal in 2001, indicating an increase from 11.4% reported in 1996. Second, Saskatchewan contains numerous urban and rural communities. To become a city in Saskatchewan, a town must have a population over 5,000 people and make a request for a change in status (Government of Saskatchewan, 2007). For the purposes of this study, communities located more than 40 kilometers away from city limits were considered to be rural regions while communities located within 40 kilometers from city limits were considered to be urban regions.

Participants

Participants selected for this study were students belonging to a large public school division in Saskatchewan. The participating school division was the third largest in the province, with an enrolment of approximately 9,000 students. The school division was also very large geographically, with many schools located in a major Saskatchewan city, as well as in rural areas in all four directions from the city. A total of six urban schools and four rural schools were sampled.

Similar to previous studies conducted in Canada (Beran & Li, 2005; Li, 2006, 2007; Shariff, 2008), students in grades 7 to 9 made up the sample. This particular age group of students was selected because adolescence is often a time when bullying behaviours peak (Li, 2006). For example, recent research has shown that bullying and teasing behaviours are most severe during grade 8 and grade 9, and begin to decline in grade 10 (Roberts, 2006).

Furthermore, research conducted by the Canadian Public Health Association (Totten et al., 2004) has shown that students in grades 8 to 12 are more likely to engage in cyberbullying than students in younger grades. Another benefit of applying the current research to students in grades 7 to 9 was that it facilitated comparison with recent studies conducted in Canada (Beran & Li, 2005; Li, 2006, 2007; Shariff, 2008).

Measurement Instrument

An anonymous, paper pencil questionnaire, compiled of survey questions from previous Canadian studies (Beran & Li, 2005; Li, 2006, 2007; Lines, 2007), was used for this research (see Appendix A). Minor revisions were made to some of the survey questions used by other researchers. These revisions were made to accurately reflect current trends in computer use by Canadian students and to assist in answering the specific research questions posed by this study. For example, the answer stems for the question which was intended to determine the frequency of computer use were adjusted. Previous studies (Li, 2006, 2007) categorized this question into "rare," "1-3 times per month," and "over four times a month." However, these answer stems did not appropriately reflect the current trend of computer usage by students (Li, 2007). As a result, the researcher adjusted the computer usage question to include "less than once a week," "weekly," and "daily." Second, to ensure more standardized responses from students, number descriptors were added to the answer stems for the question addressing academic achievement. Adjusted answer stems included above average (80% or higher), average (60% to 79%), and below average (below 60%). Previous studies (Li, 2006, 2007) left the answer stems for this question much more subjective (above average, average, below average). Finally, various questions were created by the researcher specifically for this survey. For example, the questions which inquired about student access to a home computer and adult supervision of computer

usage were specifically added to the survey by the researcher. The purpose for these additions was to explore the relationship between computer accessibility and cyberbullying as well as the relationship between adult supervision of computer usage and the occurrence of cyberbullying. It was hypothesized that students who were supervised by an adult while using a computer would be less likely to engage in cyberbullying than those students who were not supervised. Furthermore, it was assumed that students who had a computer at home would be more likely to participate in cyberbullying than students who did not have a computer at home.

All together, the survey was composed of 33 questions and included four major areas: students' demographic data, their experiences related to bullying, their experiences related to cyberbullying (being cyber-bullied, cyberbullying others, and witnessing cyberbullying), and cyberbullying prevention. Definitions of both bullying (Olweus, 1993) and cyberbullying (Belsey, 2004; Lines, 2007) were included on the front page of the survey to help clarify their meanings. Contact information for the Kids Help Phone and other related services was provided at the end of the questionnaire for any students in need of further support (see Appendix A).

Both open-ended and closed-ended questions were used throughout the survey. Closed-ended questions were used to gather information about student demographics, as well as the frequency of cyberbullying, student reactions to cyberbullying, and the relationships between cyberbullying and other important variables. Open-ended questions were used to ask students about details of their cyberbullying experiences and for student suggestions for how to address the problem of cyberbullying. Some of the questions relating to students' emotional and behavioral responses to cyberbullying were rated on a Likert scale from "Never" to "Almost Every Day." The total Cronbach's alpha coefficient of reliability for these questions was .88.

According to Aron and Aron (2002), a Cronbach's alpha coefficient of reliability of .70 or higher is considered to be sufficient reliability for a study.

Participant Recruitment

Participant recruitment began with the inclusion of a brief overview of the upcoming student survey within each of the participating schools' monthly newsletters (see Appendix B). Included within this overview was a reminder for parents/guardians that detailed Parental Consent Forms would be sent home with their child in the near future. Shortly after the school newsletters had been sent home, the researcher visited various grades 7 to 9 classrooms from the participating schools. During this visit, students were informed of the proposed research and were invited to participate. Next, the Parental Consent Forms (See Appendix C) were distributed to each student. Students who were interested in participating in the study were asked to have their parent or legal guardian sign their Parental Consent Form and then return it to their school within the next two weeks. Students had the option of giving their signed Parental Consent Form to their classroom teacher or placing it in a sealed box with a slot at the front office of their school.

As an incentive to participate, students were notified that those who returned their Parental Consent Forms to school would receive an entry for a draw to win a 30 dollar gift certificate for their nearest cinema. Students were informed that the draw would be made after all participants for this study had been surveyed and that the winner of the draw would be contacted by telephone. Draw entries for this incentive were included within the bottom portion of the Parental Consent Form.

One week after the initial recruitment visit, the researcher returned to each of the participating schools for two purposes: to remind students who were interested in participating in

the study to return their Parental Consent Forms and to distribute extra copies of the Parental Consent Form to students who needed them. As well, most of the participating classroom teachers reminded their students periodically about the upcoming survey and the need to return their Parental Consent Forms to school if they wanted to participate.

Survey Administration

Following a two week time period for students to return their signed Parental Consent Forms, the researcher returned to each participating school to administer the cyberbullying survey. The paper pencil surveys were administered during one of the students' regularly scheduled classes. The surveys took most students about 15 minutes to complete. Prior to survey administration, classroom teachers were consulted to determine an appropriate time and location for their students to complete the survey. Regardless of the specific location chosen, efforts were taken to ensure desks or tables were spread out from one another to help ensure participant confidentiality. Furthermore, the students' classroom teachers were not present while the survey is being administered and collected.

At the commencement of the survey, the researcher distributed the Participant Assent Forms (see Appendix D) to the students and then hosted an informal discussion to answer any questions the students had. Following the discussion, interested students were invited to sign their Participant Assent forms (see Appendix D). Students who objected to participating or whose parents did not wish for them to participate were provided with an alternative activity in the same location. For example, informational cyberbullying brochures with related activities were distributed to each of these students (see Appendix G).

Once surveys were completed, they were collected by having the participants drop their completed booklets into a sealed box with a slot. None of the surveys were removed from this box until all surveys from the entire school had been collected.

Analysis

Survey data was analyzed using the 2008 edition of the Statistical Package for the Social Sciences (SPSS). Surveys were coded according to school location (urban or rural), school type (elementary, high school, or elementary/high school), and school size (student population). This information was entered into SPSS along with the students' responses to each survey question. All data entries were checked by the researcher to ensure accuracy.

Both descriptive and inferential statistics were used to examine Saskatchewan students' experiences with cyberbullying. Descriptive statistics helped to make the survey data more understandable while inferential statistics helped to draw conclusions from the data (Aron & Aron, 2002). Due to categorical nature of the majority of the survey questions, descriptive analysis involved frequency distributions. Inferential data analysis with the non-parametric variables included the Chi-Square Test for Independence, to determine if there were significant differences between groups of students, and the Spearman Rank-Order Correlation, to determine if there were significant relationships between variables of interest. For continuous data, an Independent Samples t-Test was used to explore significant differences between variables of interest. For all data analysis the Alpha level was set at 0.05. The reason for selecting this alpha level was to balance the chances of conducting a Type I or Type II error.

Ethical Considerations

Prior to conducting the research, the following issues were considered.

School Board Permission

Before recruiting any participants for this study, written school board permission was sought. A Letter of Invitation (see Appendix E) was hand delivered to the Director of Education employed by a large public school division in Saskatchewan. The Letter of Invitation explained the proposed study and method of data collection. Following a discussion between the Director of Education and the researcher, written school board approval was granted. Individual principals from that division were then contacted and asked for their written permission to recruit students from within their school (see Appendix F).

Issue of Informed Consent and Assent

Written parental consent and assent from all participants was needed before any students could participate in the study. Parental Consent Forms (see Appendix C) were distributed to students during the researcher's initial visit at their school. These consent forms were collected throughout the following two weeks. Student Assent Forms (see Appendix D) were completed immediately prior to students filling out their survey.

Voluntary Participation

All participants were informed that their participation in this study was completely voluntary and that they had the right to withdraw at any time without penalty of any sort. Students were informed of this right verbally during the researchers' first visit at their school as well as in writing on their Parental Consent Forms and Participant Assent Forms (see Appendices C and D).

Confidentiality

All participants had the right to confidentiality. Various factors were considered to ensure the privacy of each participant. These factors included physical setting, design of the student questionnaire, survey administration, coding, and data representation.

Physical setting. Prior to completing their surveys students were asked to spread their desks to give them maximum space. Classroom teachers, along with any other school staff, were not present when the students completed their surveys.

Design of the student questionnaire. The questionnaire was presented in booklet form with a cover so that students can fold a page back, not leaving completed pages exposed. Also, questions were not included on the cover of the survey so that when they were being collected the answers would not be visible.

Survey administration. Students were directly asked not to include their names on their surveys. Surveys were collected by having the participants drop their completed booklets into a sealed box with a slot. None of the surveys were removed from this box until all surveys from the entire school had been collected.

Coding. Each of the surveys was coded so that the researcher was able to determine the school location (rural or urban), school type (elementary, high school, and elementary/high school), and school size (student population), but was not able to determine the identity of any of the participants. The student researcher and research supervisor were the only people to see the completed surveys.

Data representation. Although the data from this research project may be published and presented at conferences, the data will be reported in summative form, so that it will not be possible to identify individuals.

Participant debriefing. Participants and their parents/guardians were not individually debriefed, but they were offered the chance to contact the researcher for a copy of any publication that arose from the study. Also, contact information for the Kids Help Phone and other related supports was included at the bottom of the survey for any students in need (see Appendix A). Summative results of the study were provided to the school board and to the principals of each participating school.

CHAPTER FOUR: RESULTS

This chapter provides a description of the survey's response rate and participant characteristics followed by a report of the study's findings as they relate to the research questions.

Response Rate

Participants for this study were recruited from 10 schools belonging to a large public school division in central Saskatchewan. A total of 840 students in grades 7 through 9 were invited to participate in the study. Of these eligible participants, 396 or 47.1% responded to the survey. Participants were limited to student volunteers who had written parental consent to participate and who were present at school on the day of survey administration.

Participant Characteristics

Table 4.1 displays various characteristics of the survey participants. Among the total population sampled, 58.8% were female and 40.4% were male. Further, 78% were White and were 17.7% Aboriginal. For the purposes of this research, the term "Aboriginal" included those participants who identified themselves as being Métis, Inuit, or First Nations. The ages of the participants ranged from 11 to 17 years.

Almost half of the survey participants were in grade 9 (49%), leaving roughly one quarter who were in grade 7 (26.8%) and grade 8 (24%). Among these students, 63.1% reported above average grades at school, 30.6% reported average grades, and 3.5% reported below average grades. Further, 55.1% of the students attended a high school (grades 9 to 12), 27.5% attended an elementary school (kindergarten to grade 8), and 17.4% attended a school with all grade levels.

For the purposes of this study, students from schools located more than 40 kilometers away from city limits were considered to be rural students while students from schools located within 40 kilometers from city limits were considered to be urban students. The majority (62.4%) of the participants came from urban schools.

With respect to computer use, nearly all (93.4%) of the participants reported that they had a computer at home and almost half (47.5%) reported using computers daily. Only 11.1% of the participants reported that they were supervised while using a computer.

Table 4.1: Demographic Profile

Characteristic	Percent of Respondents (n)
Gender	
Female	58.8 (233)
Male	40.4 (160)
Race	
White	78 (309)
Aboriginal	17.7 (70)
Other	2.1 (8)
Grade	
Seven	26.8 (106)
Eight	24 (95)
Nine	49 (194)
Academic achievement	
Above average (80% or higher)	63.1 (250)
Average (60% to 79%)	30.6 (121)
Below average (Below 60%)	3.5 (14)
School Location	
Rural	37.6 (149)
Urban	62.4 (247)
School Type	
High School (Grade 9-12)	55.1 (218)
Elementary (K-8)	27.5 (109)
Elementary/High School (K-12)	17.4 (69)
Home Computer	
Yes	93.4 (370)
No	5.8 (23)
Frequency of computer use	
Less than once of week	15.4 (61)
Weekly	36.4 (144)
Daily	47.5 (188)
Supervision	
Yes	11.1 (44)
No	87.9 (348)

Note. Some percentages do not add up to 100 due to missing values.
n = 396.

Extent of Bullying and Cyberbullying

The extent of cyberbullying was explored from two perspectives. First, the prevalence of bullying and cyberbullying was calculated (see Table 4.2). The reason for investigating both forms of bullying stemmed from the understanding that they share a significant relationship with one another (Beran & Li, 2005; Li, 2007; Totten et al., 2004; Ybarra & Mitchell, 2004b). Among the total population of students sampled, 62.9% reported that they were bullied and 49.5% reported that they were cyber-bullied. Over half (55.1%) of the students admitted they bullied others and over one third (34.6%) admitted they cyber-bullied others. The majority of the students (69.4%) reported that they knew someone who was cyber-bullied.

Table 4.2: Percentages of Students Involved with Bullying and Cyberbullying

Type of Involvement	Percent of Respondents (n)
Bully	
Yes	55.1 (218)
No	43.7 (173)
Bully victim	
Yes	62.9 (249)
No	36.6 (145)
Cyber-bully	
Yes	34.6 (137)
No	59.1 (59.1)
Cyber-bully victim	
Yes	49.5 (196)
No	50.3 (199)
Bystander	
Yes	69.4 (275)
No	27.8 (110)

Note. Percentages do not add up to 100 due to missing values.
n = 396.

As expected because of previous research findings, significant correlations were found between bullies and cyber-bullies ($r_{ranks} = .532$, $p<.0001$), bully victims and cyber-bully victims ($r_{ranks} = .392$, $p<.0001$), and cyber-bullies and cyber-bully victims ($r_{ranks} = .450$, $p<.0001$; see

Table 4.3). There were also significant correlations found between bullies and cyber-bully victims (r_{ranks} = .357, p<.0001), bully victims and cyber-bullies (r_{ranks} = .149, p<.005), and bullies and bully victims (r_{ranks} = .382, p<.0001). These findings suggest that bullying and cyberbullying share a strong relationship with one another. Furthermore, students who were victimized through bullying or cyberbullying were also likely to bully others.

Table 4.3: The Relationship Between Bullying and Cyberbullying

	n	**Spearman's Rank Order**	***p***
Bully and cyber-bully	368	.532**	<.0001
Bully and cyber-bully victim	390	.357**	<.0001
Bully and bully victim	391	.382**	<.0001
Bully victim and cyber-bully	369	.149*	<.005
Bully victim and cyber-bully victim	393	.392**	<.0001
Cyber-bully and cyber-bully victim	370	.450**	<.0001

* $p<0.005$.
** $p<0.0001$.

The next analysis investigated the frequency of students' bullying and cyberbullying experiences (see Table 4.4). The majority (58.7%) of the cyber-bully victims reported that they were victimized one to three times, leaving 30.1% who were victimized 4 to 10 times, and 10.2% who were victimized over 10 times. This pattern was similar than the one displayed amongst the victims of traditional forms of bullying; 45.8% of the victims reported that they were bullied one to three times, 29.3% were bullied 4 to 10 times, and 24.5% were bullied more than 10 times.

The majority (67.2%) of the cyber-bullies admitted that they victimized others one to three times, leaving 18.2% who cyber-bullied others 4 to 10 times, and 13.8% who cyber-bullied others more than 10 times. Again, a similar pattern was displayed with traditional forms of

bullying; 58.3% of bullies admitted that they victimized others one to three times, 24.3% bullied others 4 to 10 times, and 16.5% bullied others over 10 times.

Table 4.4 Frequency of Bullying and Cyberbullying Incidents

Frequency	Percent of Respondents (n)	
	Cyber-Bully[a]	**Cyber-Bully Victim[b]**
1-3 times	67.2 (92)	58.7 (115)
4-10 times	18.2 (25)	30.1 (59)
Over 10 times	13.8 (19)	10.2 (20)
	Bully[c]	**Bully Victim[d]**
1-3 times	58.3 (127)	45.8 (114)
4-10 times	24.3 (53)	29.3 (73)
Over 10 times	16.5 (36)	24.5 (61)

Note. Percentages do not add up to 100 due to missing values.
[a] n = 137. [b] n = 196. [c] n = 218. [d] n = 249.

Characteristics of Cyberbullying

The second research question focused on the characteristics of cyberbullying. The sources and methods of cyberbullying were explored followed by important personal factors, school factors, and technological factors.

Sources and Methods

The majority (66.8%) of the cyber-bully victims reported that they were victimized by their school mates, followed by those who were victimized by people outside of school (39.3%) and those who were victimized by multiple sources (28.6%). Over one quarter (28.6%) of the cyber-bully victims reported that they did not know the identity of their aggressor. By far, the most popular method of cyberbullying was through instant messaging (e.g., MSN). Descriptive data analysis revealed that 81.1% of the cyber-bully victims were harassed via instant messaging,

35.7% via e-mail, 35.2% via cellular telephone text messaging, and 21.5% via social networking sites. Over half (51%) of the students said they were victimized using more than one method of communication.

For cyber-bullies, the pattern was quite similar; 75.9% of the cyber-bullies reported that they victimized others via instant messaging, 40.1% via cellular telephone text messaging, 22.6% via e-mail, and 17.5% via social networking sites. Just under half (41.6%) of the students said they victimized others using more than one method of communication.

Personal Factors

The relationship between cyberbullying involvement and various personal factors, such as gender, grade level, and academic standing, were explored systematically (see Table 4.5). Descriptive data analysis revealed that the majority of self-identified cyber-bullies and cyber-bully victims were female (65.7% and 69.9% respectively). Further analysis using the Chi-Square Test for Independence indicated that the difference between the portion of male and female cyber-bullies was not statistically significant, χ^2 (1, N = 369) = 3.053, p = .081. However, females were significantly more likely to identify themselves as being victims of cyberbullying than their male peers, χ^2 (1, N = 392) = 19.912, p<.0001.

Descriptive analysis also indicated that the majority of the cyber-bullies and their victims were 9th grade students (64.2% and 57.7% respectively). Further inspection using the Spearman Rank-Order Correlation revealed a significant positive association between grade level and cyber-bullies (r_{ranks} = .218, p <.0001) as well as grade level and cyber-bully victims (r_{ranks} = .194, p <.0001). In other words, 9th grade students were significantly more likely to report that they were involved with cyberbullying than students in the grades 7 or 8.

Table 4.5: Personal Factors and Cyberbullying

Characteristic	Percent of Respondents (n)		
	Cyber-Bully[a]	Cyber-Bully Victim[b]	Total[c]
Gender			
Female	65.7 (90)	69.9 (137)	58.8 (233)
Male	34.3 (47)	29.1 (57)	40.4 (160)
Grade level			
Seven	15.3 (21)	18.9 (37)	26.8 (106)
Eight	20.4 (28)	23 (45)	24 (95)
Nine	64.2 (88)	57.7 (113)	49 (194)
Academic achievement			
Above average	62 (85)	56.6 (111)	63.1 (250)
Average	29.2 (40)	33.7 (66)	30.6 (121)
Below average	5.1 (7)	4.6 (9)	3.5 (14)

Note. Percentages do not add up to 100 due to missing values.
[a] n = 137. [b] n = 196. [c] n = 396.

Finally, the importance of academic standing was explored. The majority of the students involved with cyberbullying reported having above average grades at school (62% of cyber-bullies and 56.6% of cyber-bully victims). This pattern, however, was very similar to the distribution of marks displayed amongst the population sampled and was not suggestive of any significant differences in academic standing between students who were involved with cyberbullying and those who were not involved.

School Factors

The relationship between cyberbullying involvement and various school related factors, such as school location, school type, and school size, were explored systematically (see Table 4.6). Descriptive analysis revealed that the majority of the students who were directly involved with cyberbullying attended an urban school (66.4% of cyber-bullies and 66.3% of cyber-bully victims). These percentages, however, were very similar to the entire population of students

sampled. Further analysis using the Chi-Square Test for Independence revealed no statistically significant differences between the portion of rural students and the portion of urban students who were cyber-bullies (χ^2 (1, N = 371) = 1.403, p = .236) or cyber-bully victims (χ^2 (1, N = 395) = 2.391, p = .122). In other words, rural students were just as likely as urban students to be involved with cyberbullying.

While no significant cyberbullying differences were found between rural students and urban students, there were significant differences found between high school students, elementary school students, and students attending schools that contained all grade levels. Amongst the cyber-bully victims, 62.8% attended a high school, leaving only 21.4% who attended an elementary school, and 15.8% who attended a school containing all grade levels. Similarly, 65.7% of the cyber-bullies attended a high school, 18.2% attended an elementary school, and 16.1% attended a school containing all grade levels. Further analysis using the Chi-Square Test for Independence showed that the portion of cyber-bully victims who attended a high school was significantly higher than the portion of cyber-bully victims who attended other types of schools, χ^2 (1, N = 395) = 10.297, p < .005. Further, the portion of cyber-bullies who attended a high school was significantly higher than the portion of cyber-bullies who attended other types of schools, χ^2 (1, N = 371) = 8.531, p < .05. In other words, cyberbullying was more common among students who attended high school.

Finally, the relationship between cyberbullying and school size was investigated. Almost half of the cyber-bullies (41.6%) and the majority of the cyber-bully victims (57.7%) came from a large school setting (600 students or more). No significant association was found between school size and cyber-bullies (r_{ranks} = .450, p=.146). However a significant positive correlation was found between school size and cyber-bully victims (r_{ranks} = .152, p <.005). Thus, students

who attended large schools (600 or more students) were significantly more likely to be cyber-bullied than students who attended smaller schools.

Table 4.6: School Factors and Cyberbullying

Characteristic	Percent of Respondents (n)		
	Cyber-Bully[a]	Cyber-Bully Victim[b]	Total[c]
School location			
Rural	33.6 (46)	33.7 (66)	37.6 (149)
Urban	66.4 (91)	66.3 (130)	62.4 (247)
School type			
Elementary	18.2 (25)	21.4 (42)	27.5 (109)
Elementary/High school	16.1 (22)	15.8 (31)	17.4 (69)
High school	65.7 (90)	62.8 (123)	55.1 (218)
School size			
1-200 students	10.9 (15)	9.7 (19)	11.1 (44)
201-400 students	44.5 (61)	44.9 (88)	51.0 (202)
401-600 students	2.9 (4)	5.1 (10)	5.6 (22)
600 or more students	41.6 (7)	57.7 (79)	32.3 (128)

Note. Some percentages do not add up to 100 due to missing values.
[a] n = 137. [b] n = 196. [c] n = 396.

Technological Factors

The relationship between cyberbullying involvement and various technological factors, such as the frequency of computer use, computer accessibility, and adult supervision of computer use, was investigated (see Table 4.7). Over half of the students directly involved with cyberbullying reported that they used a computer daily (52.6% of cyber-bully victims and 51.8% of cyber-bullies). No significant correlations were found between frequency of computer use and cyber-bullies (r_{ranks} = .09, p=.08). However, a Spearman Rank-Order Correlation revealed a weak but significant positive relationship between the frequency of computer use and electronic victimization (r_{ranks} = .15, p <.005). Simply stated, students who used computers daily were more likely to report being cyber-bullied than those students who used computers less frequently.

Almost all (93.4%) students directly involved in cyberbullying reported that they had a computer at home. This pattern, however, was identical to the actual population sampled and was not suggestive of any significant cyberbullying differences amongst students who had computers at home and students who did not have computers at home.

With respect to supervision, an alarming 89.3% of cyber-bully victims and 90.5% of cyber-bullies reported that they were not supervised while using a computer. Surprisingly, these proportions were very similar to the amount of students who reported that they were not supervised from the overall sample (87.9%). As a result, further analysis using the Chi-Square Test for Independence yielded no significant cyberbullying differences between students who were supervised while using a computer and those who were not supervised. Thus, students who were supervised while using a computer were just as likely to be involved with cyberbullying as students who were not supervised.

Table 4.7: Technological Factors and Cyberbullying

Characteristic	**Percent of Respondents (n)**		
	Cyber-Bully[a]	**Cyber-Bully Victim[b]**	**Total[c]**
Computer at home			
Yes	93.4 (128)	93.4 (183)	93.4 (370)
No	5.8 (8)	5.1 (10)	5.8 (23)
Frequency of computer use			
Less than once a week	9.5 (13)	9.2 (18)	15.4 (61)
Weekly	38.0 (52)	36.7 (72)	36.4 (144)
Daily	51.8 (71)	52.6 (103)	47.5 (188)
Supervised when using a computer			
Yes	9.5 (13)	9.7 (19)	11.1 (44)
No	90.5 (124)	89.3 (175)	87.9 (348)

[a] n = 137. [b] n = 196. [c] n = 396.

Students' Responses to Cyberbullying

Students' responses to cyberbullying were explored using three questions. First, students were asked to indicate how they reacted after they had been cyber-bullied. Next, students were asked how they reacted if someone they knew was being cyber-bullied. Finally, cyber-bully victims were asked about the impact of their victimization.

Reactions of Victims

Table 4.8 displays student reactions to cyberbullying. Almost half (44.4%) of the cyber-bully victims indicated that they did nothing about their victimization. Other common reactions of the victims included confronting the cyber-bully (35.7%) and talking to a friend about it (33.2%). Though seeking revenge was not specifically included as an answer stem on the survey, 11.7% of the cyber-bully victims specifically added this response to the "other" category on their surveys. Sadly, only 17.3% of the victims told a parent about their mistreatment and only 4.6% talked to a teacher about it. When the cyber-victims were asked why they chose not to tell an adult about their online mistreatment, 41.4 % indicated that they did not think it would help, 18.4% said they thought the cyberbullying would get worse, and 15.8% said it was because they did not know the identity of the bully.

Further data analysis revealed some interesting gender differences amongst those students who chose to tell someone about their mistreatment. While 6.6% of the female cyber-bully victims indicated that they told a teacher about their victimization, not one (0%) of the male cyber-bully victims indicated that they talked to a teacher. Chi-Square Tests for Independence revealed that females were significantly more likely than males to inform a parent about their victimization (χ^2 (1, N = 193) = 7.993, $p < .05$) and to talk to a friend about it (χ^2 (1, N = 193) =

13.350, $p < .0001$). There were no significant differences found between urban and rural students with respect to their responses to being electronically victimized.

Reactions of Bystanders

The majority (69.4%) of the students surveyed reported that they knew someone who had been cyber-bullied. When asked how they responded, 40.4% of the bystanders said they tried to get the cyber-bully to stop, 18.9% said they watched but did not participate, and 17.5% told a friend about it. Only 7.6% of the bystanders reported the incident to an adult (see Table 4.8).

Further analysis using the Chi-Square Test for Independence revealed that males were significantly more likely than females to watch the cyberbullying without participating (χ^2 (1, N = 266) = 5.110, $p < .05$) while females were significantly more likely than males to tell a friend about the incident (χ^2 (1, N = 266) = 4.641, $p < .05$). Furthermore, while 4.7% of female bystanders indicated that they talked to a teacher about the incident, not one (0%) of the male bystanders indicated that they talked with a teacher. There were no significant differences found between the responses of rural and urban students who knew someone who was cyber-bullied.

Table 4.8: Student Reactions to Cyber-Bullying

Reaction	Percent of Respondents (n)
Cyber-bully victims[a]	
Nothing	44.4% (87)
Confronted the cyber-bully	35.7% (70)
Told a friend	33.2% (65)
Told a parent	17.3% (34)
Sought revenge online	11.7% (23)
Told someone online	6.6% (13)
Told a teacher	4.6% (9)
Bystanders[b]	
Tried to get the bully to stop	40.4 (111)
Watched but did not participate	18.9 (52)
Told a friend	17.5 (48)
Left the online environment	11.6 (32)
Joined in	8.4 (23)
Told a parent	4.7 (13)
Told a teacher	2.9 (8)
Told someone online	2.2 (6)

Note. Percentages do not add up to 100 because participants could select more than one answer.
[a] n = 196. [b] n = 275.

Impact of Cyberbullying

To investigate how students' emotions and behaviours were impacted by online bullying, responses to 10 Likert scale questions were examined (see Table 4.9). The percentages of the students' responses to these questions are reported separately to help show the range of impact. Overall, about half of cyber-bully victims (50.5%) felt angry on more than one occasion and about one third (34.7%) felt sad and hurt.

Next, an Independent Samples t-Test was conducted to determine possible gender differences and differences between rural and urban students using the entire sum of the ten impact questions. No significant differences were found between rural and urban students. However, females were significantly more likely to admit to being negatively impacted by electronic victimization than their male peers (t (190) = 4.084, $p < .0001$).

Table 4.9: The Impact of Cyberbullying

	Percent of Cyber-Bully Victims[a]				
	Never	**Once/ Twice**	**Few Times**	**Many Times**	**Almost Everyday**
Emotions					
Sad and hurt	23	41.3	23.5	9.2	2
Angry	16.8	31.6	31.6	16.3	2.6
Embarrassed	48.5	25	18.4	6.1	1
Afraid	60.7	24	9.7	3.1	1.5
Anxious	4	31.1	15.8	3.6	0
Self-blame	58.2	24.5	10.2	4.1	1.5
Behaviours					
Absenteeism	86.7	7.7	2.6	2	0
Cried	63.3	18	9.8	6.2	2.1
Poor concentration	52	24	11.7	9.7	1.5
Marks dropped	85.2	7.1	4.6	2	0

Note. Percentages may not add up to 100 due to missing data.
[a] n =196.

Adult Involvement

The last research question focused on the prevention of cyberbullying. Students were asked questions about the extent of adult involvement with their cyberbullying experiences and how they believed teachers and parents should be responding to the problem.

Extent of Adult Involvement

Almost half (47.8%) of the students sampled believed that school professionals tried to stop cyberbullying when they knew about it. Unfortunately, only 32.8% of these students believe that the efforts school professionals took to stop cyberbullying were actually helpful. In comparison, about 40% of students sampled believed that their parents tried to stop bullying when they knew about it. Fortunately, the majority of these students (71.2%) believed that their parents' efforts to stop cyberbullying were helpful.

Student Suggestions for Adult Involvement

Table 4.10 outlines students' beliefs about what teachers and parents should be doing to reduce the occurrence of cyberbullying. The majority of students felt that parents and teachers should take a preventative and restorative approach to dealing with cyberbullying, rather than a punishment based approach. For example, 65.4% of students felt that teachers should educate students about cyberbullying and its effects and 59.6% believed parents should talk to their children about cyberbullying. School suspensions and expulsions, and police involvement were the least popular adult responses selected by the student participants. "Other" answers specifically added by student participants to their surveys included talking with the bullies and the victims about their experiences, providing counselling services for both parties, self-esteem building activities for the victim, facilitating reconciliation between the bully and the victim (e.g., saying sorry to the victim, creating an apology letter), and providing adequate supervision of computer use at home and at school.

Table 4.10: Student Suggestions for Cyberbullying Prevention/Intervention

Student Suggestions	Percent of Respondents (n)
Teacher	
Cyberbullying education	65.4% (259)
Involve the parents	61.4% (243)
Punish cyber-bullies (E.g., detention)	43.7% (173)
Anonymous reporting system	41.9% (166)
Remove technology privileges from cyber-bully	29.3% (116)
Expel or suspend cyber-bullies	27.3% (108)
Involve the police	21.5% (85)
Did not specify	2% (8)
Parent	
Talk to their children about cyberbullying	59.6% (236)
Remove technology privileges from cyber-bully	52.3% (207)
Punish children if they are cyber-bullies	50.5% (200)
Tell parents of other students involved	42.9% (170)
Involve the school	32.1% (127)
Involve the police	11.4% (44)
Did not specify	2.3% (9)

Note: Percentages do not add up to 100 because participants could select more than one answer.

CHAPTER FIVE: DISCUSSION

This chapter presents a discussion of the research results. First, the research purpose and procedures are summarized. Next, the results of the study are presented along with a comparison of these findings to previous research. Last, the importance of the research, limitations of the study, and suggestions for future research are articulated.

Purpose and Procedures

The purpose of this study was to explore cyberbullying amongst students from rural and urban schools in central Saskatchewan. More specifically, this study investigated the following questions:

1. To what extent did youth experience cyberbullying?
2. What were the characteristics of cyberbullying?
3. How did students respond to cyberbullying?
4. To what extent did parents and teachers become involved with cyberbullying incidents? Furthermore, how did students think these adults should have responded?

To answer these questions, an anonymous, paper pencil questionnaire was used with students in grades 7 through 9. The survey was an adapted version of those used by previous Canadian researchers (Beran & Li, 2005; Li, 2006, 2007; Lines, 2007). Overall, 840 students from a large public school division in central Saskatchewan were invited to participate. Of these eligible participants, 396 or 47.1% completed the questionnaire. Participants were limited to student volunteers who had written parental consent to participate and were present at school on the day of survey administration.

Once the survey data was collected, it was entered into the SPSS (2008) statistical package. Both descriptive and inferential analyses were used to answer the research questions.

Due to categorical nature of the majority of the variables, data analysis generally involved frequency distributions, to explore prevalence rates, the Chi-Square Test for Independence, to explore significant differences between groups of students, and the Spearman Rank-Order Correlation, to explore significant relationships between interested variables. For non-categorical data, the t-Test for Independence was used to explore significant differences between interested variables. For all data analysis the alpha level was set at 0.05.

Findings

The major findings from this study include:

1. Almost half of the participants reported that they were cyber-bullied and over one-third of the participants admitted to cyber-bullying others. The majority of the students reported that they knew someone who was cyber-bullied. The largest portion of students directly involved with cyberbullying reported that it had occurred one to three times.
2. The majority of cyber-bully victims said they were victimized by their school mates, followed by those who were victimized by people outside of school, and those who where victimized by multiple sources. Over one quarter of the cyber-bully victims did not know the identity of their aggressor(s). The most common modes of cyberbullying included instant messaging, cellular telephone text messaging, and e-mail.
3. No significant differences were found between urban and rural students' experiences with cyberbullying. However, significant gender differences were found as well as significant correlations between cyberbullying involvement and student grade level, frequency of computer use, school size, and school type.

4. The majority of cyber-bully victims and bystanders chose not to report the incident to adults. Most of the students felt that their teachers' efforts to address the problem were unsuccessful. However, the majority of the students believed that talking with their parents was helpful.
5. Victims of cyberbullying reported a variety of negative outcomes, especially anger and sadness. Females were more likely than males to report being negatively impacted by their electronic victimization.
6. Students offered many suggestions for the prevention and intervention of cyberbullying. In particular, students thought teachers should educate their class about cyberbullying and parents should talk to their children about the issue.

Extent of Bullying and Cyberbullying

The first research question inquired about the extent of cyberbullying. To answer this question, two approaches were taken. First, the percentage of students involved with bullying and cyberbullying was investigated. The reason for investigating both forms of bullying stemmed from the understanding that bullying and cyberbullying share a significant relationship with one another (Beran & Li, 2005; Li, 2007; Totten et al., 2004; Ybarra & Mitchell, 2004b). Previous research conducted in Alberta (Li, 2006, 2007) found that over half of students in grades 7 to 9 reported that they were bullied and about one-third reported bullying others. With respect to cyberbullying, about one in four middle years students reported that they were cyber-bullied and 15% to 22% admitted to cyberbullying others (Beran & Li, 2005; Li, 2006, 2007). Over half of these students said they knew someone who was cyber-bullied (Li, 2006, 2007). Other research conducted in Montreal, Quebec, revealed that about 34% of students in grades 6

through 9 said that they were called a bad name online or harassed because of the way they look (Shariff, 2008).

In the current study, the majority (62.9%) of grades 7 to 9 students reported that they were bullied and close to half (49.5%) reported that they were cyber-bullied. Over half (55.1%) of the students sampled admitted to bullying others and over one third (34.6%) admitted to cyberbullying others. The majority (69.4%) of the students reported that they knew someone who was cyber-bullied. Similar to previous research conducted in Alberta (Li, 2007), significant correlations were found between bullies and cyber-bullies ($r_{ranks} = .532$, $p<.0001$), bully victims and cyber-bully victims ($r_{ranks} = .392$, $p<.0001$), cyber-bullies and cyber-bully victims ($r_{ranks} = .450$, $p<.0001$), and bullies and bully victims ($r_{ranks} = .382$, $p<.0001$). There were also significant correlations found between bullies and cyber-bully victims ($r_{ranks} = .357$, $p<.0001$) and bully victims and cyber-bullies ($r_{ranks} = .149$, $p<.005$). These correlations suggest that there is a strong relationship between bullying and cyberbullying. Furthermore, middle years students who were victimized by their peers are also likely to victimize others.

The prevalence rates reported from this research support the belief that bullying is a significant problem in Canadian schools (Craig & Pepler, 2007). Furthermore, the prevalence rates obtained for cyberbullying amongst students from rural and urban Saskatchewan schools clearly surpass those that were obtained from previous research conducted in Alberta (Beran & Li, 2005; Li, 2006, 2007) and Quebec (Shariff, 2008). This discrepancy may suggest that the prevalence of cyberbullying among middle years students is higher in the province of Saskatchewan than it is in Alberta and Quebec. Alternatively, this discrepancy may suggest that the prevalence of bullying and cyberbullying is on the rise across the middle provinces of Canada and is becoming an increasingly significant area of concern.

The next analysis focused on the rate of cyberbullying occurrence. According to previous research conducted in Alberta (Li, 2006, 2007), the largest portion of students (grade 7 to 9) who were directly involved with cyberbullying had only experienced it a few times. Likewise, the current study found that the majority of students who were directly involved with cyberbullying reported that they had only experienced it one to three times (58.7% of the cyber-bully victims and 67.2% of cyber-bullies). For bullying, the pattern was somewhat different. While the majority (58.3%) of bullies indicated that they harassed others one to three times, the majority (53.8%) of bully victims indicated that their victimization occurred more than three times. When compared directly to incidences of cyberbullying, bullying occurred more often.

The current survey results, combined with Li's (2006, 2007) findings, suggest that the majority students who were directly involved with cyberbullying had only experienced it a few times. Furthermore, middle years students from urban and rural Saskatchewan schools had more experiences with traditional forms of bullying than they had with cyberbullying. Perhaps these patterns are evident because cyberbullying is a relatively new problem to emerge in our communities. Thus, middle years students have had more opportunities to engage in traditional forms of bullying than they have had to engage in cyberbullying. As time passes, the amount of student encounters with cyberbullying is expected to rise and become more comparable to the amount of student encounters with traditional forms of bullying. Future researchers are encouraged to explore this issue further.

Characteristics of Cyberbullying

The next research question inquired about the characteristics of cyberbullying. The sources and methods of cyberbullying were explored along with important personal factors, school factors, and technological factors.

Sources and methods. Previous research conducted in Alberta (Li, 2007) found the largest portion of cyber-bully victims were victimized by their school mates. Furthermore, almost half of cyber-bully victims did not know the identity of their aggressor (Li, 2007). Likewise, the current study found the majority (66.8%) of the cyber-bully victims were victimized by their school mates, followed by those who were victimized by people outside of school (39.3%) and those who were victimized by multiple sources (28.6%). In comparison to Li's (2007) research, fewer (28.6%) cyber-bully victims reported that they did not know the identity of their aggressor(s). Perhaps this difference has occurred because more students are becoming aware of cyberbullying and, as a result, are more familiar with strategies to determine the identity of the perpetrator or perpetrators (e.g., copying e-mail headers, reporting to Internet providers, contacting cellular telephone companies). Research is needed to support or dispute this hypothesis.

Common modes for cyberbullying were also explored by the researcher. Previous Canadian studies (Beran & Li, 2005; Li, 2007; Lines, 2007) found that instant messaging, e-mail, and social networking sites were the most commonly used mediums for cyberbullying. Furthermore, about half of grade 7 students surveyed by Li (2007) reported that they used more than one technological medium to support their involvement with cyberbullying. The present study found a similar pattern. Instant messaging was by far the most popular form of communication chosen by the students surveyed; 81% of cyber-bully victims and 75.9% of cyber-bullies reported that the harassment occurred through instant messaging. Other popular methods included cellular telephone text messaging (selected by 35.2% of the cyber-bully victims and 40.1% of the cyber-bullies), e-mail (selected by 35.7% of cyber-bully victims and 22.6% of cyber-bullies), and social networking sites (selected by 21.5% of cyber-bully victims

and 17.5% of cyber-bullies). Finally, about half of the students reported that more than one method of technology was used for cyberbullying (41.6% of cyber-bullies and 51% of cyber-bully victims).

When comparing these findings to previous research results (Beran & Li, 2005; Li, 2007; Lines, 2007), it appears that the use of cellular telephones is increasing in popularity amongst students who are involved with cyberbullying. Perhaps this finding relates to the fact that the majority (53.7%) of Canadian youth now own their own cellular telephone (Statistics Canada, 2006). Furthermore, the capabilities of cellular telephones are expanding to include rapid text messaging along with built in cameras and video recorders (Sullivan, 2004) making cyberbullying more possible. Researchers are encouraged to further explore the relationship between cellular telephones and cyberbullying.

Personal factors. The relationship between cyberbullying and various personal factors, such as grade level, gender, and academic standing, were also explored by the researcher. Level of education was shown to share a significant relationship with cyberbullying involvement. A significant positive association was found between grade level and cyber-bullies as well as grade level and cyber-bully victims. In other words, 9th grade students were significantly more likely to be involved with cyberbullying than students in the grades 7 or 8. These results support research conducted by the Canadian Public Health Association (Totten et al, 2004) which found that students in grades 8 to 12 were more likely to engage in cyberbullying than student in younger grade levels. Since cyberbullying was more common among older students, it is very important that the nature of cyberbullying among Canadian high school students and students from post secondary institutions be researched.

Another personal factor that shared a strong relationship with cyberbullying was gender. Survey data revealed that females were significantly more likely to report being cyber-bullied than their male peers. These results parallel results from previous studies. Li (2007), for example, found that the majority (59.1%) of grade 7 students who self-identified themselves as cyber-bully victims were female. Likewise, Kowlaski and Limber (as cited by Kowlaski et al. 2008) found that the prevalence of cyberbullying among female students in grades 7 and 8 was twice as high as the prevalence among male students (25% and 11% respectively). In terms of cyber-bullies, the present survey results revealed no significant gender differences. Again, these results parallel Li's (2007) study which found that males were equally as likely as females to identify themselves as being cyber-bullies. Li's (2007) research combined with the current study provide evidence to suggest that while males and females are equally as likely to cyber-bully others, females are significantly more likely to report being electronically victimized. Future researchers are encouraged to inquire into the reasons that females were more likely than males to view themselves as being targeted through cyberbullying.

The final personal factor to be explored by the current study was academic standing. Similar to Li's (2007) survey results, no significant academic differences were found between students who were involved with cyberbullying and students who were not involved. It can be stated that the marks students obtained at school were not are not associated with an increased or decreased risk for cyberbullying involvement.

School factors. This was the first study to explore the relationship between cyberbullying involvement and various school related factors, such as school location, school type, and school size. There were no significant differences between the portion of rural students and the portion of urban students who were directly involved with cyberbullying. Thus, adults

from rural communities will not be able to take comfort in the assumption that cyberbullying is a "city problem" that does not pertain to their students. Similar to urban schools, rural schools will require the implementation of prevention and intervention strategies for cyberbullying problems.

Another interesting finding was that cyberbullying was more common amongst students who attended high schools than students who attended elementary schools or schools containing all grade levels. Perhaps this finding is directly related to the fact that cyberbullying was more prevalent among 9th grade students than students in grades 7 or 8. The 9th grade was not offered in the elementary schools that were sampled for this study, thus, making cyberbullying less likely to occur in those settings. Future researchers are encouraged to explore this issue further.

Finally, the relationship between cyberbullying and school size was investigated. While no significant relationship was found between school size and cyber-bullies, a positive correlation was found between school size and cyber-bully victims. In other words, students attending large schools (600 or more students) were significantly more likely to be cyber-bullied than students attending smaller schools. This finding may stem from the fact that all the large schools included within this study were high schools. As previously mentioned, cyberbullying was more common among students attending high school. Due to the above mentioned limitation, further research is needed in this area.

Technological factors. The relationship between cyberbullying involvement and various technological factors, such as the frequency of computer use, computer accessibility, and adult supervision of computer use, was investigated. Almost half (47.5%) of the students from the current study indicated that they use a computer daily. In comparison, 51.8% of cyber-bullies and 52.6% of cyber-bully victims reported using a computer daily. A significant positive relationship was found between frequency of computer use and being cyber-bullied. That is,

students who used computers daily were more likely to be cyber-bullied. No significant relationship was found between frequency of computer use and cyber-bullying others. These findings contradict Li's (2007) research which found that frequent computer usage was more associated with cyber-bullies than it was with cyber-bully victims; 88.6% of cyber-bully victims verses 100% of cyber-bullies reported using a computer four or more times a month. It is important to consider that Li's (2007) research included less descriptive answer stems (rarely, 1-3 times/month, and at least 4 times/month) for this survey question than the current study (less than once a week, weekly, and daily) making her results much less conclusive. It is also possible that the frequency of computer use among Canadian students is increasing making it more difficult to differentiate between students who use computers frequently and those who do not. It may be more beneficial for researchers to explore what types of online activities (e.g., e-mail, instant messaging, social networking sites, etc.) increase a student's risk for being cyber-bullied.

With respect to computer accessibility, almost all (93.4%) students directly involved in cyberbullying reported having a computer at home. This proportion, however, was identical to the actual population sampled and was not suggestive of any significant cyberbullying differences amongst students who had computers at home and students who did not have computers at home. Perhaps this findings stems from the fact that there is one Internet connected computer for every six students who attend a Canadian school (Statistics Canada, 2004). Thus, the small percentage of students who do not have a computer at home can easily access the Internet while at school. Another reason for this finding may be the increasing incidences of cellular telephone text messaging being used as a medium for cyberbullying.

Finally, the researcher was surprised to learn that there were no significant cyberbullying differences between students who were supervised while using a computer and those who were

not supervised. Perhaps this finding stems from the fact that many students believed that they knew more about computers than their parents and, therefore, were unafraid that their parents would discover that they were cyberbullying. Another possibility could be that the adult supervision offered to Saskatchewan students was inadequate. Finally, it is possible that many students' parents and teachers began to supervise their computer use once they had already become involved with cyberbullying, thus, blurring the survey results. Due to this limitation, further research is needed.

Student Responses to Cyberbullying

The third research question inquired about students' responses to cyberbullying. The reactions of cyber-bully victims and bystanders were examined along with the emotional and behavioural impact of electronic victimization.

Student reactions to cyberbullying. Previous studies conducted in Canada (Li, 2006, 2007; Lines, 2007) found that majority of students did not to talk to adults when they were cyber-bullied or knew someone being cyber-bullied. The most frequent reason that cyber-bully victims did not talk to adults was because they did not think it would help and because they believed the harassment would get worse (Lines, 2007). Finally, research revealed that female cyber-bully victims were significantly more likely than males to tell an adult about their victimization (Li, 2006).

Similar to the above mentioned studies, only 17.3% of the cyber-bully victims in the current study told a parent about their victimization and only 4.6% talked to a teacher. For those 275 students who knew someone being cyber-bullied, only 7.6% told an adult. Rather than confiding to an adult, almost half (44.4%) of the cyber-bully victims chose to nothing about their victimization, followed by 35.7% who confronted the cyber-bully, and 33.2% who talked to a

friend about it. When the cyber-victims were asked why they chose not to tell an adult about their online mistreatment, almost half (41.4 %) said that they did not think it would help and 18.4% said they thought the cyberbullying would get worse. Finally, females were significantly more likely than males to inform adults about cyberbullying and were more likely to talk to a friend about it.

These findings, together with the previously mentioned studies (Li, 2006, 2007; Lines, 2007), strongly suggest that most students remain quiet about cyberbullying. Friends of the cyber-bully victim were much more likely to be informed of the incident than adults. This data supports the use of the student centered intervention strategies outlined by Lines (2007). These strategies include the establishment of student to student solutions (e.g., anti-cyberbullying committees) and the promotion of existing help lines (e.g., Kids Help Phone). Since most students are not talking to adults about their cyberbullying experiences, it is essential that they have other safe places to go for help.

The impact of cyberbullying. A few researchers have examined the typical emotions experienced by victims of cyberbullying. An online survey conducted by Patchin and Hinduja (2006) demonstrated that common emotions experienced by those who were victimized through cyberbullying included frustration, anger, and sadness (Patchin & Hinduja, 2006). Likewise, Beran and Li (2005) examined cyberbullying amongst grades 7 to 9 students from Alberta and found that more than half of cyber-bully victims (57%) felt angry on numerous occasions, and over one-third (36%) felt sad and hurt. The current study found a similar pattern. About half of cyber-bully victims (50.5%) felt angry on more than one occasion and over one-third (34.7%) felt sad and hurt. Together, these three studies provide data that the majority of students who were victimized electronically responded with anger. Perhaps this anger is the reason that 11.7%

of the cyber-bully victims specifically added "revenge" to their surveys as a response to cyberbullying. This information suggests that all intervention strategies used for cyberbullying should include some components of anger management.

The current study also explored the impact of gender differences. Previous research found that while males tend to view physical aggression as being the most hurtful form of bullying, females view social aggression as most hurtful (Besag, 2006; Galen & Underwood, 1997). This information would suggest that females are the most impacted by cyber-bullying, as it is a form of social aggression. As expected, the current survey study found that females were significantly more likely to report being negatively impacted by electronic victimization than their male peers (t (190) = 4.084, $p < .0001$). This data also supports Li's (2006) research which found that females were more negatively affected by cyberbullying than males. Together, these findings suggest that female students who have been victimized through cyberbullying are more likely to require and seek out support services than males. School social workers/counsellors should ensure that they have resources available that specifically appeal to the female audience.

Adult Involvement

The final research question explored adult involvement with cyberbullying.

Extent of adult involvement. According to Li's (2006) study, only 64.1% of students surveyed in Alberta believed that school professionals attempted to stop cyberbullying when informed. In comparison, fewer students from the current study believed that adults attempted to stop cyberbullying when informed; 47.8% of the sample thought teachers tried to help and 40% thought parents tried to help. With these percentages in mind, it is no surprise that the majority of the students sampled chose not to talk to adults when they were cyber-bullied. Furthermore,

the small percentage of adults who responded to cyberbullying problems suggests a clear need for increased public awareness building and appropriate adult education about cyberbullying.

To explore this issue further, students were also asked if the efforts adults took to help the situation were actually supportive. Sadly, only 32.8% of the sample thought the efforts made by their teachers were helpful. The results for parents were more encouraging; 71.2% of the students sampled believed that their parents' efforts were helpful. This data strongly supports the need for parent involvement in cyberbullying prevention and intervention. Kowalski et al. (2008) has suggested that school letters featuring information about cyberbullying be sent home to parents. Further, school staff can offer parents informational seminars on cyberbullying (Kowalski et al., 2008). Hopefully, as parents become more informed about cyberbullying they will be more comfortable talking with their children about it.

Student suggestions for adult involvement. Students were asked how they believe adults should be responding to problems of cyberbullying. The researcher was surprised that the majority of the students sampled supported a preventative and restorative approach to dealing with cyberbullying, rather than a punishment based approach. For example, 65.4% of students felt that teachers should educate students about cyberbullying and its effects and 59.6% believed parents should talk to their children about cyberbullying. School suspensions and expulsions, and police involvement were the least popular responses selected by the participants. These findings are very interesting considering the fact that the majority of the literature on cyberbullying promotes police involvement (e.g, Belsey, 2004; Chibbaro, 2007; Kowlaski et al., 2008; Willard, 2003). "Other" answers specifically added by student participants to their surveys also followed a preventative and restorative theme (e.g., talking with the bullies and the victims about their experiences, providing counselling services for both parties, self-esteem

building activities for the victim, facilitating reconciliation between the bully and the victim, and providing adequate supervision of computer use at home and at school). Parents and teachers are encouraged to follow the advice from our students and take a preventative and restorative approach to cyberbullying problems. Following are some suggestions consistent with this theme.

Implications for Schools and Communities

Numerous authors have provided suggestions for the prevention and intervention of bullying problems. Since cyberbullying shares a strong relationship with bullying, it is expected many of these strategies will also be helpful with cyberbullying. Following are a few cyberbullying prevention and intervention strategies that are supported by the current study. The strong relationship between student bullies and their victims suggests that parents and school professionals apply these strategies to all students, rather than treating bullies and victims as separate groups.

Public Awareness Building and Education

The high numbers of students who were involved with cyberbullying demonstrates a clear need for public awareness building and education to be implemented throughout urban and rural communities. As suggested by Bill Belsey (2004), students should be taught about Internet safety and Internet etiquette. Students may also benefit from learning about the negative effects of cyberbullying (e.g., legal implications, emotional impact, suicide, etc.). This educational approach is hopeful, as the majority of students sampled selected it as a method for addressing the problem of cyberbullying.

Students Helping Each Other

Since most students choose not to talk to adults about cyberbullying, school professionals are encouraged to provide students with more opportunities to help one another. For example,

student to student solutions could be encouraged through the establishment of anti-cyberbullying committees (Lines, 2007). Online mentorship programs are available for students to help them teach lessons and lead outreach activities pertaining to cyberbullying (Kowaslski et al., 2008). Schools professionals are also encouraged to post contact information for existing help lines (e.g., Kids Help Phone) throughout their school. In doing so, adults could ensure that students have a safe place to go for help, despite not wanting to talk to a teacher.

Anger Management Training

Since many cyber-bully victims feel anger and frustration in response to their victimization, it is recommended that anger management skills be taught to all students. Teachers could approach this topic during their Health class. School social workers/counsellors could provide additional assistance to students through individual or small group intervention. Hopefully, as students become more skilled in managing their anger the incidences of electronic revenge seeking will decrease.

Parent Involvement

Finally, parent involvement is strongly encouraged. The majority of student participants who talked with their parents about cyberbullying indicated that it helped their situation. Not surprisingly, many of students sampled recommended parent-child communication as an effective approach to dealing with problems of cyberbullying. Schools can help to promote parent involvement by offering them current information about cyberbullying (e.g., informational newsletters, seminars, hosting parent support groups). In doing so, parents could be reminded that it is their responsibility to appropriately supervise their children's computer and cellular telephone activities. Effective supervision may help to decrease the opportunities for children and youth to engage in cyberbullying.

Limitations of the Study

Similar to other research, this study had limitations. First, the data was collected through self-report surveys. The accuracy of data collected through a self-report measurement instrument may be limited by social stigma and/or participants' fears of facing repercussions for telling the truth. However, by using anonymous questionnaires the validity of the data collected for this study was enhanced. Furthermore, student participants were informed that their teachers would not see their completed surveys.

Perceptions of the participants created another limitation. For example, students may have had different understandings of the terms "bullying" and "cyberbullying," thus, affecting their answers to the survey questions. In response to this limitation, definitions for bullying and cyberbullying were included on the front of the surveys to help clarify their meanings. Furthermore, the researcher reviewed the meanings of these two terms with the students prior to survey completion.

A third limitation of this study was that it restricted participants to answering only those questions posed in the questionnaire, instead of being able to talk about what they felt were the most significant aspects of their experiences with cyberbullying. Open-ended questions were included within the survey to help alleviate some of the restrictions posed by a survey based research design.

The characteristics of the participants created another limitation. The sample was limited to grades 7 to 9 students from a large public school division in central Saskatchewan. Consequently, the data collected from this study is only applicable to aforementioned age group, school system, and geographical region. Furthermore, the sample for this study was not selected randomly. Participants were limited to student volunteers who had written parental consent to

participate and were at school on the day of survey administration. As a result, data collected for this study is missing important input from students who did not participate.

Finally, this study investigated the different experiences of rural and urban students' experiences with cyberbullying. Results may have been impacted by the fact that there are multiple ways to define the term "rural."

Directions for Future Research

Further research is required to increase our understanding of cyberbullying in Canada. It is suggested that the same research questions be applied to students of different age ranges, especially those in high school and post secondary institutions. In doing so, separate school systems and band schools should also be considered. Researchers are also encouraged to explore cyberbullying in the western and eastern most provinces of Canada. Finally, researchers are invited to take a qualitative approach to data collection by conducting in-depth interviews with various students, parents, and teachers who have been directly affected by cyberbullying. In particular, questions could focus on the reasons that females are more likely to report being targeted through cyberbullying, revenge seeking through cyber-space, and the reluctance of students to talk to adults about the issue. The information obtained from the above mentioned studies will help to provide a more comprehensive picture of cyberbullying in Canada.

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Appendix A: Student Survey

Exploring Cyberbullying in Saskatchewan

Student Survey

Thank you for participating in this survey.

Bullying occurs when a student or several students attempt to hurt or control another student in a harmful way. There are a lot of different kinds of bullying. Bullying can be carried out through physical contact (E.g., hitting, pushing, kicking, or pinching). Bullying can be verbal (E.g., using mean words or threats, calling someone names, or saying mean things behind their back). Bullying can also occur without use of words or physical contact, such as making faces or dirty gestures or deliberately excluding someone from a group (Olweus, 1993).

Cyberbullying is a form of bullying that occurs when a student, or several students use information and communication technologies such as e-mail, cell phone or pager text messages, instant messaging, personal websites, social networking sites (E.g., Facebook, My Space), online personal polling websites, and online gaming, to support intentional, repeated, and unfriendly behavior that is intended to harm others (Belsey, 2004; Lines, 2007).

Research Supervisor: Dr. Laurie Hellsten, Ph.D.
Student Researcher: Krista Cochrane, M.Ed. Candidate
28 Campus Drive, University of Saskatchewan
Saskatoon, SK, S7N 0X1
Phone: (306) 966-7723

Part One: About You

Please Check One.

1. I am:
   - ☐ Male
   - ☐ Female

2. I am in grade:
   - ☐ 7
   - ☐ 8
   - ☐ 9

3. I was born in the year: _____

4. I describe myself as:
   - ☐ Aboriginal
   - ☐ Asian
   - ☐ Black
   - ☐ Hispanic
   - ☐ White
   - ☐ Other, please Specify _____

5. My school grades are usually:
   - ☐ Above average (80% or higher)
   - ☐ Average (60% to 79%)
   - ☐ Below average (Below 60%)

6. I use computers:
   - ☐ Less than once a week
   - ☐ Weekly
   - ☐ Daily

7. I have a computer at home:
   - ☐ Yes
   - ☐ No

8. Most of the time I am supervised when I use a computer:
   - ☐ Yes
   - ☐ No

Part Two: Bully

Please Check One.

1. I have been **bullied** during school:
   - ☐ Yes
   - ☐ No

2. If yes, I have been **bullied**:
   - ☐ Less than 4 times
   - ☐ 4-10 times
   - ☐ Over 10 times

3. I have **bullied** others:
   - ☐ Yes
   - ☐ No

4. If yes, I **bullied** others:
   - ☐ Less than 4 times
   - ☐ 4-10 times
   - ☐ Over 10 times

Part Three: Experiences Being Cyber-bullied

1. I have been **cyber-bullied** (check one):
   - ☐ Yes
   - ☐ No

2. If yes, I was **cyber-bullied** via (check **all** that apply):
   - ☐ Email
   - ☐ Instant messaging (E.g., MSN messenger)
   - ☐ Text message by a cell phone
   - ☐ Internet game
   - ☐ Pictures or webcam
   - ☐ Social networking sites (E.g., Facebook, My Space)
   - ☐ Other, please specify_____

3. If yes, I was **cyber-bullied** by (check all that apply):
   - ☐ School mates
   - ☐ People outside school
   - ☐ I don't know who cyber-bullied me

4. If yes, I have been **cyber-bullied** (check one):
   - ☐ Less than 4 times
   - ☐ 4-10 times
   - ☐ Over 10 times

5. If yes, what did you do about it? (check **all** that apply)
   - ☐ Nothing
   - ☐ Confronted the person who did it
   - ☐ Told a parent
   - ☐ Told a teacher
   - ☐ Told a friend
   - ☐ Told someone online (like a moderator or web support person)
   - ☐ Other, please specify_____

6. Did it help? (check **all** that apply)
   - ☐ Yes, it made me feel better
   - ☐ Yes, it stopped the person from doing it again
   - ☐ No, it didn't do anything about it
   - ☐ No, it made me feel worse

7. If you decided to tell someone, what were your reasons? (check **all** that apply)
   - ☐ I thought it would help
   - ☐ I had proof
   - ☐ I knew who the bully was
   - ☐ Other (please specify) _____
     _____

8. Why didn't you tell someone? (check **all** that apply)
   - ☐ I didn't think it would help
   - ☐ I didn't have any proof
   - ☐ I didn't know who the bully was
   - ☐ I thought I wouldn't be allowed to use the computer any more
   - ☐ I didn't think I could handle telling anyone

☐ I thought it would get worse
☐ Other (please specify) _____
_____

9. If you have been **cyber-bullied**, how have you been impacted? (circle one)

I felt sad and hurt

1	2	3	4	5
never	once/twice	a few times	many times	almost every day

I felt angry

1	2	3	4	5
never	once/twice	a few times	many times	almost every day

I felt embarrassed

1	2	3	4	5
never	once/twice	a few times	many times	almost every day

I felt afraid

1	2	3	4	5
never	once/twice	a few times	many times	almost every day

I felt anxious

1	2	3	4	5
never	once/twice	a few times	many times	almost every day

I missed school because of it

1	2	3	4	5
never	once/twice	a few times	many times	almost every day

I cried

1	2	3	4	5
never	once/twice	a few times	many times	almost every day

I had difficulty concentrating

1	2	3	4	5
never	once/twice	a few times	many times	almost every day

My marks have dropped because of it

1	2	3	4	5
never	once/twice	a few times	many times	almost every day

I blamed myself

1	2	3	4	5
never	once/twice	a few times	many times	almost every day

10. If you have been **cyber-bullied**, do the people who cyber-bullied you also harass you in other ways (not using technology)?

0	1	2	3	4	5
I don't know	never	once/twice	a few times	many times	almost daily

Part Four: Experiences as a Cyber-Bully

1. I have **cyber-bullied** others (check one):
   - ☐ Yes
   - ☐ No

2. If yes, I **cyber-bullied** others via (check **all** that apply):
   - ☐ Email
   - ☐ Instant messaging (e.g., MSN messenger)
   - ☐ Text message by a cell phone
   - ☐ Internet Game
   - ☐ Pictures or webcam
   - ☐ Social networking sites (e.g., Facebook, My Space)
   - ☐ Other, please specify_____

3. If yes, I have **cyber-bullied** others (check one):
   - ☐ Less than 4 times
   - ☐ 4-10 times
   - ☐ Over 10 times

Part Five: Experiences Seeing Someone Cyber-Bullied

1. I know someone who has been **cyber-bullied** (check one):
   - ☐ Yes
   - ☐ No

2. If yes, what did you do about it?
   - ☐ I watched but didn't participate
   - ☐ I joined in
   - ☐ I left the online environment
   - ☐ I tried to get the bully to stop
   - ☐ I told a parent
   - ☐ I told a teacher
   - ☐ I told a friend
   - ☐ I told someone online (like a moderator or web support person)
   - ☐ Other, please specify_____

Part Six: Preventing Cyberbullying

1. When adults at school know about cyberbullying, they try to stop it (check one):
   - ☐ Yes
   - ☐ No
   - ☐ Not sure

2. If yes, are their efforts to stop cyberbullying helpful? (check one)
   - ☐ Yes
   - ☐ No

3. When my parents know about cyberbullying, they try to stop it: (check one):
   - ☐ Yes
   - ☐ No
   - ☐ Not sure

4. If yes, are their efforts to stop cyberbullying helpful? (check one)
   - ☐ Yes
   - ☐ No

5. What do you think teachers and principals can do to help stop and prevent cyberbullying? (check **all** that apply)
   - ☐ Punish students who participate in cyberbullying (e.g., detention)
   - ☐ Expel or suspend cyber-bullies
   - ☐ Involve parents of bullies and victims
   - ☐ Involve the police
   - ☐ Teach students at school about cyberbullying and its effects

☐ Set up an anonymous line at school (e.g., e-mail) where students can report cyberbullying
☐ Remove computer or cell phone privileges from bullies at school
☐ Other, please specify_____
_____
_____

6. What do you think parents can do to help stop and prevent cyberbullying?
☐ Punish their children if they participate in cyberbullying
☐ Tell the parents of the other students involved
☐ Tell the school
☐ Tell the police
☐ Talk to their children about cyberbullying
☐ Remove computer or cell phone privileges from bullies at home
☐ Other, please specify_____
_____
_____

7. Are there any other important comments you would like to make regarding bullying or
cyberbullying?_____
_____
_____
_____

IMPORTANT!!!

If completing this survey brings up any feelings that you need to talk about, there are many places you can go for help.

You can…

- Talk to an adult you can trust (e.g., your teacher, principal, parents, or school counsellor)
- Contact the Kids Help Phone for FREE at 1-800-668-6868 or http://kidshelpphone.ca/en

Appendix B: School Newsletter Write Up

Cyberbullying in Saskatchewan: A Call for Research

My name is Krista Cochrane. I am a former elementary teacher who has returned to the University of Saskatchewan to obtain my Master's of Education degree in School and Counselling Psychology. As part of my requirements for graduation, I will complete a research project. I am focusing my research the phenomenon of student cyberbullying.

To date, nearly all cyberbullying research in Canada has been conducted in large urban centers in Alberta. Researchers have not yet provided information regarding cyberbullying among rural students or students from other Canadian provinces. Therefore, I would like to distribute a short, anonymous survey to students who attend rural and urban Saskatchewan schools. The general purpose of my study will be to describe the characteristics of cyberbullying in urban and rural Saskatchewan. This knowledge should help to prepare parents and school professionals to develop effective strategies to reduce the occurrence of cyberbullying in our schools.

I will be visiting (insert name of school here) this month to recruit student participants from grades seven to nine classrooms. During this visit, I will distribute detailed Parental Consent Forms. **If you are interested in having your child participate in this study, please sign the Parental Consent Form and have your child return it to school.** I will be returning to administer the survey to all eligible participants in the near future.

Thanks for your time!

Research Supervisor: Dr. Laurie Hellsten, Ph.D.
Student Researcher: Krista Cochrane, B.Ed., M.Ed. Candidate
Educational Psychology and Special Education, University of Saskatchewan
(306) 966-7723

Appendix C: Parent Consent Form

Your child is invited to participate in a study entitled ***Exploring Cyberbullying in Saskatchewan.*** Please read this form carefully, and feel free to contact me and ask questions you might have.

Research Supervisor: Dr. Laurie Hellsten, Ph.D.
Student Researcher: Krista Cochrane, B.Ed., M.Ed. Candidate
Educational Psychology and Special Education, College of Education, University of Saskatchewan, (306) 966-7723, krb013@mail.usask.ca

Purpose and Procedure: The purpose of this study is to describe the characteristics of cyberbullying in Saskatchewan. This task will be accomplished by administering a short, anonymous survey to grades seven to nine students within urban and rural Saskatchewan schools. It is anticipated that students will take 10 to 15 minutes to complete this paper pencil survey.

Potential Benefits: The results of this survey will be presented in summative form to your Principal and School Board. These results may help parents and school professionals to increase their understanding of Saskatchewan students' experiences with cyberbullying. Compensation will be provided to each participant in the form of an entry to a draw for a 30 dollar gift certificate for their nearest movie theater (E.g., Galaxy Cinemas).

Potential Risks: There is a small possibility that some students may feel uncomfortable answering some of the survey questions. However, all student participants are free to choose not to answer any question that makes them feel uncomfortable. There is also a risk that some students may realize that they are at risk of encountering cyberbullying and, therefore, may experience a negative emotional reaction. As a precaution, contact information for the toll free Kids Help Phone and other related services are provided on the survey for any students in need.

Storage of Data: Throughout the study period, the researcher will keep all surveys and consent forms in a safe and secure place. Following completion of the study, research materials, including all consent forms and surveys will be safeguarded for a period of five years at the University of Saskatchewan under the care of my thesis supervisor, Dr. Laurie Hellsten, in accordance to the University of Saskatchewan guidelines. After five years, the consent forms and surveys will be destroyed.

Confidentiality: Although the data from this research project will be published and presented at conferences, the data will be reported in summative form, so that it will not be possible to identify individuals. Moreover, the Consent Forms will be stored separately from the survey, so that it will not be possible to associate a name with any given set of responses. Your child will be asked **NOT** to record his/her name on the survey.

Right to Withdraw: Participation in this study is voluntary. Participants are not required to answer any survey questions that they are uncomfortable with and may withdraw from the study for any reason, at any time up to the point that their questionnaire is submitted. Withdrawal from this study will not cause anyone to become angry or upset. There will be no penalty of any sort

for withdrawal. If a participant chooses to withdraw from the study during survey administration, any identifiable data that he/she has contributed will be destroyed at his/her request. Once participants submit their completed survey, however, it will not be possible to remove their information from the study.

Questions: You will be informed of any new information that may affect your decision to allow your child to participate in this study. If you have any questions concerning the study, or would like a copy of the survey results, please feel free to contact the researcher at the numbers provided above. This study has been approved on ethical grounds by the University of Saskatchewan Behavioural Research Ethics Board on November 14, 2007. Any questions regarding your child's rights as a participant may be addressed to that committee through the Ethics Office (966-2084). Out of town participants may call collect.

Consent to Participate: I have read and understood the description provided above; I have been provided with an opportunity to ask questions and my questions have been answered satisfactorily. I consent to my child participating in the study described above, understanding that he/she may withdraw at any time, up to the point that the questionnaire has been submitted. A copy of this consent form has been given to me for my records.

_____ _____

(Name of Participant) (Grade and Teacher)

_____ _____

(Signature of Parent/Guardian) (Date)

Draw entry for a $30.00 gift certificate for your local cinema (e.g., Galaxy Cinemas).

Contact Name:_____

Phone Number: _____

Appendix D: Participant Assent Form

You are invited to participate in a study entitled ***Exploring Cyberbullying in Saskatchewan.*** Please read this form carefully, and feel free to ask questions you might have.

Researcher: Krista Cochrane, University of Saskatchewan, (306) 966-7723

Purpose and Procedure: The purpose of this study is to examine the characteristics of cyberbullying in Saskatchewan. This task will be accomplished by administering a short, anonymous survey to grades seven to nine students attending Saskatchewan schools. It is anticipated that it will take 10 to 15 minutes to complete this survey.

Potential Benefits: Being part of this study may help others increase their understanding of Saskatchewan students' experiences with cyberbullying. Compensation will be provided to each participant in the form of an entry to a draw for a 30 dollar gift certificate for your local cinema (e.g., Galaxy Cinemas).

Potential Risks: Since this is a simple paper pencil survey, there are minimal risks to participants. Your answers are completely anonymous. You are **NOT** required to answer any of the survey questions that you are uncomfortable with. If completing this survey brings up feelings you need to talk about there are places you can go for help. For example, you can tell an adult you trust, you can contact the Kids Help Phone Line at 1-800-668-6868 or http://kidshelpphone.ca/en, or you can call your local Mental Health Services Provider (just look up Mental Health in your local phone book).

Confidentiality: Your friends, parents, and teachers will not be able to find out what answers you gave for the questions on this survey. Please, **DO NOT** record your name on the survey.

Right to Withdraw: Participation in this study is voluntary. It is not required for any of your class work. You may withdraw from this study at any time up to the point that your survey has been submitted, for any reason, and that this will not cause anyone to be upset or angry. Withdrawal from this study will NOT result in any type of penalty. If you decide to withdraw while completing your survey, any identifiable data that you have contributed to your survey will be destroyed at your request. Once your completed survey has been submitted, however, it will not be possible to remove your information from the study.

Consent to Participate: I have read and understood the description provided above; I have been provided with an opportunity to ask questions and my questions have been answered satisfactorily. I consent to participating in the study described above, understanding that I may withdraw at any time, up to the point that my survey has been submitted.

_____ _____

(Signature of Participant) (Date)

Appendix E: Request for School Board Permission

Krista Cochrane, M.Ed. Candidate
(Address)

(Date)

(School Division Address)

Attention: (Name of the Director of Education)

Subject: School Board Permission to Administer Student Cyberbullying Survey

My name is Krista Cochrane. I am a former elementary teacher who has returned to the University of Saskatchewan to obtain my Master's of Education degree in School and Counselling Psychology. This is a two year Master's program which includes a thesis requirement. **I am writing this letter to request your permission to collect my thesis data from students within Saskatchewan Rivers School Division.** If you grant me permission to do so, I will contact individual Principals within this school division and request their written permission as well.

My research will focus on the phenomenon of student cyberbullying. To date, nearly all cyberbullying research in Canada has been conducted in large urban centers in Alberta. Researchers have not yet provided information regarding cyberbullying among rural students or students from other Canadian provinces. Therefore, I would like to distribute a short, anonymous survey to at least 100 grades seven to nine students within rural and urban Saskatchewan schools. The purpose of this study is to describe the characteristics of cyberbullying in rural and urban Saskatchewan. More specifically, this study will explore the prevalence of cyberbullying in Saskatchewan, common characteristics of cyber-bullies and their victims, students' and adults' responses to cyberbullying, and possible ways for adults to address the problem of cyberbullying. Following is a brief overview of my research methodology.

Survey Administration: The student cyberbullying survey will take approximately 15 minutes to complete. Written parental consent and student assent will be sought before students participate in this study. Students who object to participating or whose parents do not wish them to participate will be provided with an alternative activity in the same location. All participants will be able to choose to leave out any survey questions they are uncomfortable with as well as to decide to discontinue their participation in the

survey at any time during its administration. Withdrawal from this study will result in no penalty of any sort.

Potential Benefits: Information gained from this survey will be provided in summative form to each participating School Board and Principal. These results may help parents and school professionals to increase their understanding of Saskatchewan students' experiences with cyberbullying. Students will be compensated for their participation in the form of an entry to a draw for a 30 dollar gift certificate for their local cinema.

Potential Risks: There is a small possibility that some students may feel uncomfortable answering some of the survey questions. However, as previously indicated, all student participants are free to choose not to answer any question that makes them feel uncomfortable. There is also a risk that some students may realize that they are at risk of encountering cyberbullying and, therefore, may experience a negative emotional reaction. As a precaution, contact information for the toll free Kids Help Phone and other related services are provided on the survey for any students in need.

Questions: You will be informed of any new information that may affect your decision to allow your school division to participate in this study. If you have any questions concerning the study, please feel free to contact the researcher at the numbers provided below. This research has been approved on ethical grounds by the University of Saskatchewan Behavioural Research Ethics Board on November 14, 2007.

If you are interested in having your school division participate in this study please sign the attached permission slip.

Thank-you for your time and consideration.

Sincerely,

_____
Krista Cochrane, B.Ed, M.Ed. Candidate
Student Researcher
University of Saskatchewan
(306) 966-7723

_____
Laurie Hellsten, Ph.D.
Research Supervisor
University of Saskatchewan
(306)966-7723

I, (Name of Director of Education), grant student researcher, Krista Cochrane, permission to recruit students from (Name of School Division) to participate in her study entitled ***Exploring Cyberbullying in Saskatchewan***.

_____ _____

(Signature) (Date)

Appendix F: Principal Permission Form

(Name of school) is invited to participate in a study entitled ***Exploring Cyberbullying in Saskatchewan*.** Written permission to involve (Name of school division) in this study has been obtained from your Director of Education, (Name of the Director of Education). Please read this form carefully, and feel free to ask questions you might have.

Research Supervisor: Dr. Laurie Hellsten, Ph.D
Student Researcher: Krista Cochrane, M.Ed. Candidate
Educational Psychology and Special Education, College of Education, University of Saskatchewan, (306) 966 7723, krb013@mail.usask.ca

Purpose and Procedure: The purpose of this study is to describe the characteristics of cyberbullying in Saskatchewan. This will be accomplished by administering a short, anonymous survey to grades seven to nine students within urban and rural Saskatchewan schools. Written parental consent and student assent will be sought before students participate in this study. Students who object to participating or whose parents do not wish them to participate will be provided with an alternative activity in the same location. All participants will be able to choose to leave out any survey questions they are uncomfortable with as well as to decide to discontinue their participation in the survey at any time during its administration.

Potential Benefits: The results of this survey will be presented in summative form to each participating School Board and Principal. These results may help parents and school professionals to increase their understanding of Saskatchewan students' experiences with cyberbullying. Compensation will be provided to participants in the form of an entry to a draw for a 30 dollar gift certificate for their nearest movie theater (E.g., Galaxy Cinemas).

Potential Risks: There is a small possibility that some students may feel uncomfortable answering some of the survey questions. However, as previously indicated, all student participants are free to choose not to answer any question that makes them feel uncomfortable. There is also a risk that some students may realize that they are at risk of encountering cyberbullying and, therefore, may experience a negative emotional reaction. As a precaution, contact information for the toll free Kids Help Phone and other related services are provided on the survey for any students in need.

Confidentiality: All surveys will be completely anonymous. Students will be asked NOT to record their names on their surveys.

Right to Withdraw: Participation in this study is voluntary. Students may withdraw from this study at any time during its administration, for any reason without penalty of

any sort**.** Once surveys have been submitted, however, it will not be possible to remove any participants' data from the study.

If you are interested in having your school participate in this study please sign the permission slip below and return it to the researcher using the envelope provided.

Thank-you for your time and consideration.

I, (Name of principal), grant student researcher, Krista Cochrane, permission to recruit students from (Name of School) to participate in her study entitled ***Exploring Cyberbullying in Saskatchewan***.

_____ _____

(Name) (Date)

_____

(Signature)

Appendix G: Informational Cyberbullying Handout

www.stopcyberbullying.org

Are you a cyberbully?

Often, people who are victims are also bullies. Before you feel too bad for yourself, take the quiz below to find if you, too, are part of the cyberbullying problem! Rate yourself on the following point scale according to if, and how many times, you have done the below activities. Give yourself 0 points if you've never done it, 1 point if you have done it 1 or 2 times, 2 points if you have done it 3-5 times, 3 points if you have done it more than 5 times.

Have you ever...

___Signed on with someone else's screen name to gather info?

___Sent an e-mail or online greeting card from someone's account?

___Impersonated someone over IM or online?

___Teased or frightened someone over IM?

___Not told someone who you really are online, telling them to "guess"?

___Forwarded a private IM conversation or e-mail without the permission of the other person?

___Changed your profile or away message designed to embarrass or frighten someone?

___Posted pictures or information about someone on a Web site without their consent?

___Created an Internet poll, either over IM or on a Web site, about someone without their consent?

___Used information found online to follow, tease, embarrass or harass someone in person?

___Sent rude or scary things to someone, even if you were just joking?

___Used bad language online?

___Signed someone else up for something online without their permission?

___Used an IM or e-mail address that looked like someone else's?

___Used someone else's password for any reason without their permission?

___Hacked into someone else's computer or sent a virus or Trojan horse to them?

___Insulted someone in an interactive game room?

___Posted rude things or lies about someone online?

___Voted at an online bashing poll or posted to a guestbook saying rude or mean things?

Now calculate your total score:

0 – 5 Points: Cyber Saint
Congratulations! You're a cyber saint! Your online behavior is exemplary! Keep up the good work!

6-10 Points: Cyber Risky
Well, you're not perfect, but few people are. Chances are you haven't done anything terrible and were just having fun, but try not to repeat your behaviors, since they are all offenses. Keep in mind the pain that your fun might be causing others!

11-18 Points: Cyber Sinner
You're online behavior needs to be reproached! You have done way too many cyber no-no's! Keep in mind that these practices are dangerous, wrong, and punishable and try to clean up that cyber record!

More than 18: Cyber Bully
Put on the breaks and turn that PC/MAC/text-messaging device around! You are headed in a very bad direction. You qualify, without doubt, as a cyberbully. You need to sign off and think about where that little mouse of yours has been clicking before serious trouble results for you and/or your victim(s), if it hasn't happened already!

Permission to reproduce this quiz has been obtained. Please read….

This Web site has been designed as an interactive resource, delivering information on cyberbullying quickly and, by preference. Each item available for download in either Microsoft Word Document or Adobe Portable Document Format (PDF) so that **our visitors can build information packs or handouts**, according to what they need to teach or research.