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1-1-2010

Cyberbullying: The Role Of Family And School

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Recommended Citation

CYBERBULLYING: THE ROLE OF FAMILY AND SCHOOL

by

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DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

2010

Major: EDUCATIONAL PSYCHOLOGY

Approved by:

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Advisor   Date

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DEDICATION

To my husband Dino and sons Jake, Nick and Joey,

and my mother, father and brother

your love, patience and gentle prodding

made the journey worthwhile.

Thank you for allowing me to pursue a dream.

Dr. Bernadette Kovach, friend and confidant, your words of encouragement and wisdom always came at the right time.

Dino, Jake, Nick and Joey, my boys, for their understanding and love. I am a better person because of them. Thank you for giving of yourselves so I may give to so many others.

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Introduction

Background

"Did you guys hate me?" was a question asked in a note left by a sixth grade girl who was found hanging in her classroom in Nagano, Japan (Detroit Free Press, 12/8/06). In Littleton, Colorado in 1999 two students opened fire in their high school, killing a number of students and a teacher (Stein, 2005). Two high school students in southeastern Michigan exchanged threatening text messages, which lead to a face-to-face confrontation. One of the students was subsequently air-lifted to a local trauma hospital (The Detroit News, 11/23/2006). All of these students had been victims of bullying.

There is ample research addressing a number of negative correlates with bullying (Olweus, 1993), not only with the victim (Stanley & Arora, 1998), but also with the bystander (Rodkin, Pearl, & Van Acker, 2003), the bullies themselves (Perry, Hodges, & Egan, 2001) and the overall school climate (Limber, 2002). Physical bullying is one form of bullying that has been thoroughly researched (Olweus, 1993). It involves the intent to harm another's body. It includes such actions as hitting, pushing, poking, tripping and slapping. Physical bullying may also involve the intent to humiliate another. For example, Lyznicki, McCaffree, and Robinowitz (2004) indicate sexual touching, defacing personal property and performing acts in order to humiliate (e.g. pushing another's head into a toilet) are forms of physical bullying.

The prevalence of physical bullying and the negative consequences associated with physical bullying are both numerous and serious. There are many research studies

that provide percentages of victimization as well as the prevalence of physical bullying. The most common prevalence rates are around 8% to 46% for victimization and 3% to 23% for physical bullying incidents in school (Smith et al., 1999). Björkqvist (1994) speculated these high prevalence rates may be due to a developmental reason: the lack of development in the verbal domain of young students. On the other hand, Woods and Wolke (2004) found in a study of 1,016 primary school age children that boys with teacher-reported behavior problems as well as emotional health problems were the most likely to be physical bullies.

Children who bully other students in the early primary school years are more likely to exhibit continued violent behavior well into the secondary school years (Craig & Pepler, 1999). These early offenders are more likely to join groups that consist of other aggressive children (Cairns, Cairns, Neckerman, Gest, & Gariepy, 1988). Research has also shown these young aggressive students to be more likely than non-aggressive students to repeat a grade (Beebe-Frankenberger, Bocian, MacMillan, & Gresham, 2004) and exhibit conduct problems in adolescence (Broidy et al., 2003). Bullying continues to exist even for incarcerated youth offenders. According to Viljoen, O'Neill, and Sidhu (2005), out of 193 male and 50 female adolescents who were locked up in a youth offender facility, 32% described themselves as being a bully.

Children who bully others have been found to lack a sense of family and school connectedness (Berdondini & Smith, 1996; Haynie et al., 2001). Bullies are also more likely than non-bullies to exhibit externalizing disorders such as conduct disorder and drug use (Nansel et al., 2001). Victims of physical bullying have been associated with internalizing behaviors from depression and anxiety (Craig, 1998) to suicidal behavior

(Blaauw, Winkel, & Kerkof, 2001). The constant fear of being bullied or becoming the victim of bullying (bystanders) has also been found to be significantly related to illness due to stress (Rigby, 2003).

Physical bullying is not the only way to threaten or harm another individual. According to Crick and Grotpeter (1995), relational aggression is an attempt to inflict harm on peers by manipulating and damaging peer relationships. Some of the most common forms of indirect relational aggression are social alienation (giving peers the silent treatment), rejection (telling rumors or lies about a peer so the others in the group will reject him or her), and social exclusion (excluding a peer from play or a social group). Direct relational aggression may involve maltreatment such as "You can't be my friend unless…" or refusing to select a peer as a team member for a class project or gym class (Crick, Casas, & Nelson, 2002). Rumor spreading, "getting even" and giving the silent treatment have been determined to be indirect ways to manipulate or control another member of the relationship (Crick et al., 2002). More recently, forms of relational aggression have been found in boy-girl romantic relationships (Crick et al., 2002) and the enlistment of peers to assault another peer (Limber, 2002).

The consequences of relational bullying are far-reaching and have been found to be indicative of poor future outcomes. Although physical bullying is a more overt form of bullying with perhaps visible indicators of abuse, relational aggression also has its scars. Galen and Underwood (1997) reported that girls in the seventh grade who were victims of indirect aggression perceived their victimization to be just as hurtful as physical aggression. Studies have found victims of bullying tend to be less happy, lower in self-esteem, and lonelier at school (e.g., O'Moore & Hillery, 1991; Rigby & Slee,

1993; Stanley & Arora, 1998). Rigby (1999) found both boys and girls to experience negative health outcomes, with girls more likely to also experience poor mental health. In addition to these findings, Casey-Cannon, Hayward, and Gowen (2001) found that victimized seventh grade girls reported feelings of social isolation. Prinstein, Boergers, and Vernberg (2001) found that adolescent girls in ninth through twelfth grades who were relationally aggressive toward their peers were more likely to experience externalizing symptoms associated with oppositional defiant disorder (ODD) and conduct disorder (CD). Prinstein et al. (2001) also found that for both boys and girls relational victimization was associated with higher levels of loneliness and depression and lower global self-worth. Children who are frequent targets of relational aggression may be more likely to experience adjustment difficulties such as peer rejection, internalizing problems and antisocial personality features (Crick et al., 2002). According to Rigby (2001), children who are victimized by peers are more anxious, more socially dysfunctional, less physically well, and more prone to suicidal ideation.

Bullying presents significant concerns because it not only affects the individual, but also extends to the school climate and society as a whole. Researchers have posited that bullying may be the gateway for the development of other more serious crimes such as gang affiliation, shoplifting, drugs, and rape (Kelley, Loeber, Keenan, & DeLamatre, 1997). As these individuals become more involved with these serious antisocial behaviors the justice system and the mental health system may become more taxed. Some victims of childhood bullying are at an increased risk for depression and anxiety as adults (Olweus, 1993; Roth, Coles, & Heimberg, 2002), while other victims may retaliate in a violent manner (US Department of Education, 2008). Bullying may

also have a negative impact on the classroom environment. Bully-victims are more likely to be reported by teachers as off-task, with lower overall academic achievement scores (Schwartz, 2000), and are more likely to be truant from school (Kumpulainen et al., 1998). Bullying in the classroom takes up instructional time (Fonagy, Twemlow, Vernberg, Sacco, & Little, 2005), as well as being linked to reading and language problems (Tomblin, Zhang, Buckwalter, & Catts, 2000) and grade retention (Rodney, Crafter, Rodney, & Mupier, 1999). Repeated victimization may also lead to truancy, failure in school and dropping out of school (Kelley et al., 1997). Fonagy et al. (2005) argued that the negative effect of school violence on the educational process "depletes the value of the human capital of the town, state, and nation" (p. 318).

With all the research available on bullying, there is little research addressing the growing number of methods by which bullying occurs. Bullies have moved beyond the playground, hallways and classroom and have recently adapted their delivery style to include electronic technologies.

Problem

Technology has permeated many aspects of daily life for children and adolescents. According to the National Telecommunications and Information Administration [NTIA] (in Patchin & Hinduja, 2006), home computers are used for "social, entertainment, academic, and productivity needs" (p. 148). Adolescents have moved beyond the landline communication system to instant messaging via a computer to socialize with their friends outside of the school day. More and more children and adolescents have cell phones, which have text messaging, email, and picture-taking capabilities. Cell phones are used not only for their technological advances, but also

because they facilitate instant communication among friends and allow for social networking to occur at a distance. In addition, cell phones may also be preprogrammed with global positioning tracking services for parents to keep track of their children's whereabouts (Patchin & Hinduja, 2006). Lee (2005) predicted that the number of adolescents using the Internet and cell phones would significantly increase in the future.

In a survey by Pew Internet and American Life Project (2009), 87% of adolescents aged 12 to 17 surveyed used the Internet, with 24% using instant messaging and 5% email. Twelve percent of the sample used cell phones, with 3% having used text-messaging. In a study by Patchin and Hinduja (2006), 90% of adolescents between the ages of 12 and 17 used computers, with 73% accessing the internet. Roberts and Foehr (2004) found that the first activity for most adolescents after arriving home from school involved going online. This is not just a phenomenon of adolescence. According to the NTIA (2002), 29% of children go online, a percentage that surpasses adult use (Pew Internet and American Life Project, 2009). With this growing number of children and adolescents using advanced technology, social relationships may likely morph into faceless interactions.

Little is known about the effects of communication technology on social relationships. Relevant to this study is a significant concern that communication technologies are used as a tool to manipulate social relationships and hurt others. Cyberbullying is the most recent form of bullying being researched. According to Belsey (2005), cyberbullying is defined as, "the use of information and communication technologies such as email, cell phone, and pager text messages, instant messaging, defamatory personal web sites, and defamatory online personal polling web sites, to

support deliberate, repeated, and hostile behavior by an individual or group, that is intended to harm others" (p. 3). Campbell (2005) argues that the speedy nature of communication technology and immediate accessibility of information may increase the breadth and power of cyberbullies.

Physical bullying and relational bullying typically involve a face-to-face confrontation where there is an imbalance in power between the bully and the victim (Bitney & Title, 1997; Nansel et al., 2001; Witted & Dupper, 2005). Cyberbullying involves a different form of power. Technologically savvy youth are able to manipulate technology (e.g., cell phone cameras, instant messaging) to exert power over another (Patchin & Hinduja, 2006). Knowledge of technology may serve the same function in relation to their relative standing on the dominance hierarchy as physical strength (Olweus, 1978), physical attractiveness (Gilbert, 1992), social prowess such as social skills and popularity (Weisfeld, 1999) or a sense of humor (Pierce, 1990).

Cyberbullies can exert their power within close proximity or miles away from their victim and with a shield of anonymity. Li (2005) found that 40.9% of adolescents who had been cyberbullied had no idea who the perpetrator was. Bullying typically occurs within a peer group, often outside of adult awareness and physical presence (Hawkins, Pepler, & Craig, 2001). When it comes to cyberbullying, the location of adolescents' computers can afford even more secrecy. Patchin and Hinduja (2006) found that a substantial number of adolescents used their computers in the privacy of their own bedrooms, thereby reducing or even eliminating the presence and supervision of a parent.

According to Pew Internet and American Life Project (2005), 46% of parents had no monitoring or filtering device on their home computers, and 36% had no established rules for their adolescent's computer use. The National Center for Missing and Exploited Children (2006) found that 1 million children and adolescents have received an aggressive sexual email, and fewer than one in five of those harassed had confided in a parent. In fact, most adolescents are more knowledgeable about technology than their parents and may use that knowledge to prevent or hinder parental awareness of bullying by erasing evidence of their actions (NTIA, 2002; cited in Patchin & Hinduja). This presents a significant concern because in general bullying is highly correlated with a lack of parental monitoring (Ybarra & Mitchell, 2004).

The speed of the Internet and user's immediate access to others' email/cell phones also allows the number of bystanders to grow exponentially. Communication via cell phones may be perceived by one user as contained within a two-person conversation. However, with the advanced capabilities of non-land-line devices, the ability for a significant number of "others" to be privy to the conversation can be immediate and devastating (Strom, 2005).

> Shinobu is a high school freshman in Osaka, Japan. When his gym period was over, Shinobu got dressed in what he believed was the privacy of the school changing room. However, a classmate who wanted to ridicule Shinobu for being overweight secretly used a cell phone to photograph him. Within seconds, the picture of the naked boy was sent wirelessly by instant messaging for many students to see. By the time

Shinobu finished dressing and went to his next class, he had already

become a laughing stock of the school (Paulson, 2003, p. 2).

Another example involved a high school freshman who sent a picture, via cellphone, of

herself nude to a few of her friends. The photo was forwarded to over a hundred

students (The Detroit News, 10/16/2008).

Although cyberbullying is a relatively recent phenomenon, the number of

incidents as indicated by the most current research is frighteningly high. A recent study

of 384 children and adolescents by Patchin and Hinduja (2005) found that 29% had

been bullied online. Those who reported being bullied online were asked to report the

types of cyberbullying tactics they had experienced while online. Respondents cited

being ignored (60.0%) and being disrespected (50.0%) as their most frequent

experience of online bullying. Other occurrences reported on the survey include being

called names (30.0%), being made fun of (19.3%) and having their physical safety

threatened (21.4%). Forty-seven percent of the respondents reported being a

bystander, while 11% reported being an online bully, with online chat rooms as the

playground of choice. MindOH! (2005) conducted an online survey of 5,500

adolescents, and found that 80% had read or spread a rumor online, while 50% had

seen a website posting that ridiculed a peer (retrieved 12/28/2006). In a study of

children and adolescents Ybarra and Mitchell (2004) found 19% of the sample had

reported a cyberbullying experience (12% bully, 4% victim, and 3% bully/victim). Of

significant note in this research is the finding that of those 19% who reported

cyberbullying almost one-half were also involved in traditional bullying in some form,

suggesting that cyberbullying may be a part of broader social problems for some children and adolescents.

Cyberbullying, like physical and relational bullying, appears to be a global and nondiscriminating problem. Li (2005) found in a Canadian adolescent sample that 24.9% of seventh grade students had been cyberbullied, while 52.4% were aware of a peer being cyberbullied. Females made up 60% of the victims and males 52% of the perpetrators. The National Children's Home (2002) surveyed 856 children and adolescents in London and found 16% reported receiving threatening text messages, with 7% and 4% of those surveyed reporting instances of bullying in internet chat rooms and in email messages respectively.

Cyberbullying research, although in its infancy, has found similar deleterious effects for the victim, bystander, and bully as compared to traditional bullying (physical or relational). In Patchin and Hinduja's study (2006), 42.5% of adolescents who were cyberbullied reported feeling frustrated, 40% felt angry, and 27% felt sad. More than one quarter of the victims stated that the online aggression affected them at home, while more than one third asserted that being cyberbullied affected them at school. Ybarra and Mitchell (2004) found a similar pattern of findings. In their study, a significant amount of victims (9.1%), bystanders (3.8%), and cyberbullies (10.2%) endorsed depressive symptoms. Marr and Field (2001) found in the United Kingdom that sixteen children commit suicide every year due to cyberbullying.

Theoretical Framework

With only a few empirical studies of cyberbullying, it is difficult to understand who engages in cyberbullying and what factors are involved in its development and

maintenance. In the literature, the bullying phenomenon has been conceptualized using an ecological framework, understanding bullying as "encouraged and/or inhibited as a result of the complex relationships between the individual, family, peer group, school, community, and culture" (Swearer & Espelage, 2004, p. 3). The premise of this study is that cyberbullying, even with its relative anonymity, occurs within the context of the child, family, and the school community.

Most children do not have the option to alter their environment by changing family living arrangements or mandatory policies on school attendance. With 42% of adolescents reporting bullying in the home and 10-15% of students bullied in school on a regular basis, the influence and understanding of the adolescents' world becomes critical (Dulmus, Theriot, Sowers, & Blackburn, 2004; Kochenderfer-Ladd & Wardrop, 2001).

Bullying and Family Context

The family may be one of the most consistent and influential contexts in children's environments. The relationship between parents and children has been extensively researched in relation to behavioral outcomes and aggression. Parenting quality has been previously explained by Maccoby and Martin (1983) as including the variables of responsiveness (level of parental sensitivity in response to a child's behavior) and demandingness (supervision and discipline style). Shek (2005) also suggested that parenting quality includes parental behavioral control such as parental monitoring, knowledge, expectations, discipline and parental psychological control. These family variables have been shown to be related to childhood aggression (Katz & Gottman, 1996; McHale, Johnson, & Sinclair, 1999). For example Baldry and

Farrington (1998) found parents of bullies and victims lacked responsiveness toward their children while Bowers, Smith and Binney (1994) characterized parents of bully/victims as neglectful with little or no monitoring of their children's activities. Current research tends to support previous research findings that family variables such as parental involvement are associated with children's involvement in bullying (e.g. Espelage, Bosworth, & Simon, 2000; Haynie et al., 2001; Jankauskiene, Kardelis, Sukys, & Kardeliene, 2008).

Roth and Brooks-Gunn (2000) suggest family cohesion and parental monitoring serve as protective factors for adolescents, as these concepts provide a level of connectedness, which leads to one's sense of security. Kliewer et al. (2006) also found cohesive families were more likely to monitor their children, which may prevent children from exposure to negative behaviors and/or association with a deviant peer group. Conversely, Rigby (1993, 1994) found poor family functioning (low cohesion and low responsiveness) was directly related to children's bully status. Family cohesion has also been shown to be a protective factor for adolescent risk taking behavior. In a recent study of homophobic teasing in a sample of 13,921 high school students (Espelage, Aragon, & Birkett, 2008), parental support was found to be a protective factor against the negative effects of bullying for adolescents who identified themselves as either lesbian, gay, or bisexual (LGB).

Competent parenting has been associated with achievement and prosocial skills, while incompetent parenting has been shown to promote problematic behaviors in children and adolescents (Belsky, 1990; Guidubaldi & Cleminshaw, 1989; Maccoby & Martin, 1983). In a study of 8th-12th grade students and their parents Bogenschneider,

Small and Tsay (1997) found parents with a responsive parenting style had adolescents who perceived them as more competent. Competent parenting was also significantly related to an adolescent's socialization. Research suggests parents with childrearing competence have children who are better at establishing peer relationships (Guidubaldi & Cleminshaw, 1985). Two characteristics of parenting, support and control, are common factors described as having a significant role in childhood outcomes (Crick & Nelson, 2002; Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998). Parke and Ladd (1992) looked at family variables as a framework in which parent-child interactions function as a reciprocal mechanism through which children learn positive or negative peer interaction skills. For example, parenting styles (authoritarian, authoritative, indulgent, and indifferent [Maccoby & Martin, 1983]) have been associated with the quality of children's and adolescent's peer relationships. Marchant, Paulson, and Rothlisberg (2001) found authoritative parenting and teaching styles were positively associated with prosocial development in adolescents. In a recent study by Hines and Paulson (2007) the researchers found parental responsiveness was inversely related to adolescents' involvement in conflict, while teachers' responsiveness was found to be insignificant in relation to adolescents' conflict. Olweus (1994) suggested parents with a permissive parenting style were less likely to address their children's aggression (bullying) of other children.

Family structure has also been shown to have an effect on children's status as a bully or a victim. For example, Fosse and Holen (2002) found male victims were less likely to have been raised in an environment that included both parents or the biological father. It was theorized that fatherless boys do not benefit from male-to-male social

modeling and interactions. These early interactions with a father have been shown to be related to a boy's popularity (MacDonald & Parke, 1984).

Bullying and School Environment

The family environment is not the only context that may have a significant impact on children's outcomes. Children are exposed to a social climate of a classroom and learn a plethora of social skills in the classroom environment. Bullying is also considered a product of social processes in the school environment (Woods & Wolke, 2004) and may be maintained by the dynamics of victims, bullies and bystanders alike (Smith, Schneider, Smith, & Ananiadou, 2004). For example, bystanders (Craig, Pepler, & Atlas, 2000) and teachers and staff (Smith et al., 2004) may knowingly or unknowingly affect bullying. In a study of 7th and 8th grade students San Antonio and Salzfass (2007) found most students were not confident that staff would notice bullying, take action, and provide protection. Moreover, teachers and staff often erroneously believe that students can effectively deal with bullying on their own (Newman, 2003), and that bullying is a part of life that students must get through (Bradshaw, Sawyer, & O'Brennen, 2007).

Understanding and navigating the social aspect of school is often difficult to achieve for those students who are not victimized, let alone those who are chronic victims of bullies. Students who are negatively affected by bullies in their school are more likely to be victims of other forms of maltreatment (Holt, Finkelhor, & Kantor, 2007), and may continue to suffer throughout their school careers. Olweus' (1995) longitudinal research of adolescents who had been chronically bullied in school showed

that by age 23 these young adults were more depressed, with lower self-esteem than their nonvictimized peers.

These studies seem to highlight the importance of the individual's school context as well as the context of family and home in bullying and victimization. Given this evidence for an ecological framework for bullying, cyberbullying is conceptualized as a phenomenon that involves the interplay of peer-to-peer contact via technology that may be perpetuated in the social context including peers, family and school.

Children and adolescents are using technology more than ever before and in ways that may be harmful to others, it is critical to better understand the extent to which cyberbullying affects our students and develop effective interventions that target cyberbullying in school and at home. The purposes of this study are to investigate the prevalence of cyberbullying as well as other types of bullying (verbal, social, and physical), to examine the association between bullying and school adjustment, and to explore the role of parental and family characteristics and school climate on cyberbullying. Furthermore, the study will contribute to identifying family and school variables that may be important in cyberbullying.

Research Questions and Hypotheses:

Research Question 1. Are there gender and grade differences in the different types of bullying (physical, social, verbal and cyber) and experiences (perpetration, victimization and witnessing)?

> Hypothesis 1.1: Females will report more social bullying and cyberbullying than males for victimization and perpetration.
>
> Hypothesis 1.2: Males will report more physical bullying for victimization, perpetration and witnessing than females.
>
> Hypothesis 1.3: Seventh graders will report more bullying experiences than eighth graders.

Hypothesis 1.4: There will be positive correlations among four types of bullying in terms of victimization, perpetration and witnessing.

Hypothesis 1.5: There will be positive correlations among cyberbullying in terms of victimization and perpetration.

Research Question 2. Are types of bullying (physical, social, verbal and cyber) related to school adjustment?

Hypothesis 2.1: Perpetration and victimization (physical, social, verbal and cyberbullying) and witnessing (physical, social and verbal) will predict poor school adjustment.

Research Question 3. Which family variables (parental monitoring, parental responsiveness and family cohesion) are most predictive of bullying experiences (perpetration, victimization and witnessing)?

Hypothesis 3.1: Family variables (parental monitoring, parental responsiveness and family cohesion) will predict perpetration (verbal, physical, cyber and social).

Hypothesis 3.2: Family variables (parental monitoring, parental responsiveness and family cohesion) will predict victimization (verbal, physical, cyber and social).

Hypothesis 3.3: Family variables (parental monitoring, parental responsiveness and family cohesion) will predict witnessing (verbal, physical and social).

Hypothesis 3.4: Cyber perpetration and victimization will differ by students' location of his/her computer (private vs. public).

Hypothesis 3.5: Cyber perpetration and victimization will differ by students with and without monitoring software on his/her computer.

Research Question 4. Do perpetration, victimization and witnessing experiences (physical, social, verbal and cyber) predict school climate?

Hypothesis 4.1: Students' perpetration and victimization (physical, verbal, social and cyber) and witnessing (physical, verbal and social) experiences will predict negative and positive school climate.

Research Question 5. What is the prevalence of communicative technology?

Hypothesis 5.1: Eighth graders will report greater use of communicative technology than seventh graders.

Hypothesis 5.2: Females will report greater use of communicative technology than males.

Definition of Terms

Physical bullying: Physical bullying has been defined as "direct aggressive acts such as hitting, kicking, pinching, taking belongings or money, or pushing or shoving" (Woods, & Wolke, 2004, p. 136).

Social bullying: Social bullying involves social exclusion or damage to a peer's reputation or group status in order to manipulate others into socially alienating that peer (Crick & Gropeter, 1995).

Verbal bullying: Verbal bullying involves "name-calling, insults, put-downs, racist remarks, and constant teasing to hurt or humiliate another person" (Lyznicki, McCaffree, & Robinowitz, 2004, p.3).

Cyberbullying: The concept of cyberbullying according to Belsey (2005), "involves the use of information and communication technologies such as email, cell phone, and pager text messages, instant messaging, defamatory personal web sites, and defamatory online personal polling web sites, to support deliberate, repeated, and hostile behavior by an individual or group, that is intended to harm others" (p. 3).

Parental Monitoring: Monitoring involves parents having the knowledge of where their adolescents are and whom they are with when they are not at home including communication tool usage (DiClemente et al., 2001).

Responsiveness: The level of parental sensitivity and adaptation exhibited in response to the child's concurrent needs, desires, and behaviors (Maccoby & Martin, 1983).

Cohesion: Family cohesion as described by Bloom (1985) and Bloom and Naar (1994) is the extent of emotional bonding family members have with one another and the degree of personal autonomy an individual experiences within the family.

School Adjustment   School adjustment is indicated by grade point average (GPA), tardiness, suspensions, fights and number of school absences (Juvonen, Nishina, & Graham, 2001).

School Climate   School climate is described by Tagiuri (1968) as, "the total environmental quality within an organization" (cited in Espelage and Swearer, 2004, p. 124).

Chapter 2

Review of Related Literature

Aggression

Although aggressive behavior dates back to early humans, it continues to play a significant role in children's development today. Bullying (physical, verbal, and social) has been thoroughly researched from the preschool-primary years to the secondary school years. Children and adolescents alike exhibit patterns of aggression, are victims of aggression, and are witnesses to the cruelties of bullies. For example, Pellegrini, Bartini, and Brooks (1999) in a study of 5th graders found 14% were classified as bullies, 11.4% as victims, and 5% as bully/victim. According to Salmivalli (2001) an overwhelming number of children studied (60-70%) were witnesses to acts of bullying.

Aggression has been seen in children as young as two years old. Some of these young children are exposed early on to formal education. Formal educational settings provide a social environment through which children need to learn to navigate the intricacies of social relationships. They need to learn how to make friends and share resources such as toys and attention from teachers. Most children are able to enter the social world of peers and education with minimal difficulty. However, there are some who exhibit behavioral difficulties at a young age and are classified as bullies by both peers and teachers.

The U.S. Department of Health and Human Services [USDHHS] (2001) suggests that preschool aged children as compared to older children exhibit similar rates of behavioral problems. Crick et al. (2006) found both relational and physical aggression in children as young as 2 ½ years old. Stauffacher and DeHart (2005) looked at

relationally and physically aggressive behaviors between peers and siblings of preschool age children and found that both types of aggression exist. A study conducted with Russian preschoolers and their parents by Hart et al. (1998) found a link between parenting style and physical and relational aggression in nursery-school age children. Hart et al. (2000), after further examination of their primary research, found preschool age children were more likely to be aggressive if their mothers self-reported they engaged in psychological control of their children. Alsaker (1993) found that preschool children were able to categorize their classroom peers as either a victim or a perpetrator of aggression, whereas Crick, Casas, and Ku (1999) showed children as young as three years old were able to self-report being a victim of a relationally aggressive act by a peer.

Young children who enter the educational environment (e.g., preschool, primary school) and exhibit aggressive tendencies have been shown to be at higher risk for continued aggression and violence well into adolescence as compared to their less aggressive peers (Olweus, 1979; Rutter, Giller, & Hagell, 1998; Tremblay, 1992). Crick et al. (2006) found young children who are characterized as physically aggressive are more likely to exhibit difficult behaviors throughout childhood in addition to poor academic achievement (Ladd, 1990; Olweus, 1978; Schwartz, 2000; Schwartz, Farver, Chang, Lee-Shin, 2002). In a study by Johnson and Foster (2005) 74 kindergarten children ages 5 and 6 who were nominated by their peers as relationally aggressive were reported to have fewer friends as well as stable friendships.

Bullying in Secondary Education Level

The continuity of bullying throughout childhood and into adolescence has been thoroughly researched (Olweus, 1979). In 2005 the National Center for Education Statistics reported 28% of U.S. students ages 12-18 reported at least one instance of bullying in the past six months. Furthermore, the report contends that bullying is more prevalent in primary school (37% of sixth graders report bullying) as compared to secondary school (28% of ninth graders and 20% of twelfth graders report bullying). However, it should be noted that bullying does not cease to exist in the latter school days of secondary school. A longitudinal study conducted by Sourander, Helstela, Helenius, and Piha (2000) found that children aged eight who were reported to be either a bully or a victim were associated with bully and victim status at age sixteen. In a recent study by Chapell et al. (2006), the results of the Sourander et al. (2000) study were replicated, in addition to showing a positive relationship between bully status in elementary school and bully status in high school and college.

Adolescence is a period of great change. In the U.S. educational system it involves not only physical and cognitive changes, but a transition to middle school as well. In some geographical areas, middle schools are composed of a number of students from surrounding elementary schools. This, according to Pellegrini (2002), requires students to navigate their way up (or down) the yet-to-be-established dominance hierarchy. Therefore, this particular developmental period may be a prime time for bullying and victimization.

In a study of middle and high school aged students by Hoover, Oliver, and Hazler (1992), 77% of those surveyed reported being a victim of bullying, while 88% reported having been a bystander. A more recent study found 29.9% of 15,686 adolescents

surveyed were involved in some form of bullying (i.e., bully, victim, or bully-victim) (Nansel et al., 2001). Bullying, unfortunately, is pervasive in both big cities and small rural towns. San Antonio and Salzfass (2007) found relational bullying among 7th and 8th grade girls at both a big city and small city school. Schoolgirls from the rural area as compared to the big city reported experiencing the most significant abuse (72%).

Ecological Perspective on Bullying

Children and adolescents do not live in a vacuum. They are constantly sharing and altering experiences with those within their microsystem: parents, peers, and school personnel. Research has shown, "the interrelated effects of parenting, nonfamilial influences, and the role of the broader context in which families live" on children and adolescent outcomes (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000, p. 228).

Family Context

The parent-child relationship is one multifaceted and complex component of a microsystem. The relationship may be shaped by both genetic and environmental variables. One such example is the ample research in the area of temperament, for which significant genetic effects have been found (Kagan, 1998). However, children are social beings and thus susceptible to change (either for the better or worse) via interactions with their environment, including parents (Collins et al., 2000).

Thomas and Chess (1977) described difficult temperamental infants as irritable and unpredictable. In a longitudinal study, Bates, Pettit, and Dodge (1995) found children identified with difficult temperaments were more likely to exhibit an externalizing disorder in later years. However, parents may exacerbate or minimize behavioral

difficulties. Children with certain temperamental characteristics may have different behavioral outcomes depending on environmental characteristics (Campbell, 2000).

There is a plethora of additional research that has looked at the relationship of a variety of other individual variables and effects on aggression. Early attachment styles have been shown to have a significant effect on aggressive behaviors. For example, attachment style has been found to be related to peer victimization. Perry, Perry, and Kennedy (1992) and Finnegan, Hodges, and Perry (1996) found resistant attachment styles to be linked with peer victimization in later childhood and adolescence.

Parent Cohesion and Responsiveness

Child rearing and parenting practices also play a significant role in a child's development within his or her own microsystem. These facets of parenting have been shown to have a significant effect on children and adolescents' peer relationships. For example, Olweus (1980) found boys with mothers who were overprotective were more likely to be victims of bullying, while Bowers, Smith, and Binney (1994) found both victimized boys and girls reported having overprotective parents. A responsive parenting style has been associated with fewer aggressive peer interactions in preschoolers (Mize & Pettit, 1997), while Patterson's (1982) coercive family process explains an important facet of the development of aggressive behavior in children. It is described as learned aggression that is maintained through daily negative reciprocal interactions of the family (child, parent, siblings). Therefore, as the parent continues to ineffectively manage his or her child's negative behavior, the child develops a reinforcement history for aggression, which may extend to the school environment (Larson, 1994).

Hart et al. (1998), in a study of parents of 207 Russian preschool-age students, found that high levels of maternal coercion and lack of paternal responsiveness were the two most important contributors to overt and relational aggression. Yang et al. (2001) found parental psychological control to be related to the development of relationally aggressive tendencies in Chinese preschoolers. Nelson, Hart, Yang, Olsen and Jin (2006), in a study of 215 preschoolers from Beijing, China, supported the previous research and found both coercive and controlling parenting practices predicted children's aggression. Aunola and Nurmi (2005), in a study of 210 five and six year-old students transitioning from Kindergarten to first grade, showed that mothers' levels of psychological control, affection and behavioral control played a significant role in their children's externalizing behaviors over time as compared to fathers' roles. Crick and Nelson (2002) established that maternal coercive control and maternal corporal punishment were significantly associated with relational aggression for boys. For girls, Crick and Nelson (2002) ascertained that paternal psychological control was positively associated with relational aggression. Eisenberg et al. (2005) found parental warmth and positive expressivity predicted low externalizing problems in a longitudinal study of 186 adolescents with a mean age of 13.4 at the study's conclusion.

Parental Monitoring

Parental characteristics in relation to childhood and adolescence outcomes have been thoroughly researched (for reviews, see Baumrind, 1989, 1991). Parental monitoring is one such characteristic that has been linked to a plethora of outcomes in both children and adolescents. Although there is no one definition of parental monitoring (DiClemente et al., 2001), most researchers agree that one component of

monitoring involves parents having the knowledge of where their children/adolescents are and whom they are with when they are not at home (Crouter & Head, 2002; DiClemente et al., 2001; Kerr & Stattin, 2000). Dishion and McMahon (1998) argue that monitoring also involves parental surveillance and tracking of their child(ren)'s acitivities/friends.

Parental monitoring is also directly related to the age of the child or adolescent. According to Patterson and Stouthamer-Loeber (1984), the number of hours of parental monitoring decreases with age of the adolescent. For example, this research reported a 10.1 year old was unsupervised an average of 0.78 hours per day while a 16.3 year old was unsupervised an average of 2.06 hours per day. However, gender research by Laird, Pettit, Dodge, and Bates (2003) found this decline in parental monitoring to be true for girls, but not for boys.

Adolescents, in general, spend more time with their peer group and less time under direct parental supervision. Hence, peer groups more than parents may influence adolescents' values (Bjorklund & Pellegrini, 2002). Patterson, Capaldi, and Bank (1991) found a lack of parental monitoring predicted children's involvement with a deviant peer group, while French and Dishion (2003) found parental monitoring to be a protective factor for initial introduction into a deviant peer group.

Parental monitoring has been linked to a number of prosocial (Dishion & McMahon, 1998) and antisocial (Laird et al., 2003) behaviors in children and adolescents. For example, adolescents who perceived a lack of parental monitoring were more likely to test positive for a sexually transmitted disease, have multiple sex partners, and have a history of marijuana use and alcohol use than those who reported

higher levels of parental monitoring (DiClemente et al., 2001; Mulhall, Stone, & Stone, 1996). Specifically, DiClemente et al. (2001) found females who reported low levels of parental monitoring were 1.7 times more likely to have a sexually transmitted disease and 3.0 times more likely to have multiple sex partners in a month's time. Rai et al. (2003) surveyed 1,279 African American adolescents and found those who reported lower levels of parental monitoring were more likely to engage in drug use and sexual activity. Parental monitoring has also been linked to internalizing disorders. For example, low parental monitoring has been found to be significantly related to an increase in symptoms of depression (Gil-Rivas, Greenberger, Chess, & Montero, 2003).

Parental monitoring has also been linked to aggression. Bowers, Smith, and Birney (1992, 1994) revealed bully/victims were more likely to report his or her parents engaged in inconsistent monitoring. Borawski, Ievers-Landis, Lovegreen, and Trapl (2003) concluded low monitoring to be associated with higher levels of aggression. Colder, Lochman, and Wells (1997) found boys age 9-11 labeled as high in activity level were more likely to display aggression if parental monitoring was low. Farrington (1991) also found a lack of parental supervision to be associated with aggressive behavior in youth. Olweus (1980, 1993b), in a Scandinavian sample, found boys who were classified as bullies were more likely to have parents who failed to monitor their children's activities. Olweus (1993) established children's parents who set consistent and appropriate limits were less likely to engage in bully behaviors, while parental monitoring of children's school-based activities (e.g., academics) was associated with better overall grades (Griffith, 1996; Sui-Chu & Willms, 1996).

Marini, Dane, Bosacki, and YLC-CURA (2006) found in a sample of 7,430 adolescents that parental knowledge was significantly linked to indirect bully-victim status, whereas parental tracking/surveillance was not. It may be that parents who monitor their children's behavior may have more opportunities to ask pertinent questions regarding their children's whereabouts and question whom they are with (Jang & Smith, 1997). Parental monitoring may therefore allow parents to play the role of facilitator when their child makes a decision to join a peer group or participate in peer-driven antisocial behaviors (Rubin, Bukowski, & Parker, 1998).

Peers

Peers serve many of the same functions as siblings: they help children learn social skills as well as provide a context in which to build self-esteem (Boivin, Hymel, & Hodges, 2001). However, peers are not always considered friends. Peers may be bystanders and reinforcers, perpetrators, and/or victims of bullying (Juvoven & Graham, 2001). Many theories have been developed to explain peer group inclusion, such as social dominance, homophily and social process.   A variety of child factors such as age, gender, social standing, victim status, and temperamental aspects (i.e., passively withdrawn) may also affect one's ability to be part of a group. However, even bullies are part of a peer group, albeit typically an aggressive one (Bukowski & Sippola, 2001).

Peers play a large part in who bullies and who gets bullied. According to Asher (1995), 4% of children do not have a friend in their classroom and may be at risk for being a victim of bullying.   Espelage, Holt and Henkel (2003) found peers who were part of a group in which bully behavior was prevalent reported an increase in their own bullying to a level similar to that of the original bullies.   Additionally, peers are more

likely to target a non-group member or member of another group rather than a member of the group (Kenrick, Neuberg, & Cialdini, 1999). The power of the peer group has been seen as early as toddlerhood. A study by Merei (1994) of toddler-age children removed the "leaders" from one group and placed them in another group. The "leaders" attempted to bully the other students into doing what they wanted.

Bullying does not always occur solely between a bully and a victim. At times, there may be multiple persons in the vicinity of the act: bystanders. Hoover et al. (1992) in a student of junior and high school aged adolescents, found an astonishing 88% reported witnessing an act of bullying. With the knowledge that almost all students have witnessed an act of school violence and Janson and Hazler's (2004) report that found bystanders of bullying are just as susceptible to negative outcomes as the victims themselves, the inclusion of bystanders in research is crucial to understanding the context within which bullying occurs.

Teachers and School Climate

According to Bronfenbrenner's (1979) microsystem, teachers also play a significant role in the development and maintenance of aggressive behaviors of children and adolescents outside of the home environment. Bullying behaviors are evident in schools (Olweus, 1993b), and adults within the school community contribute to students' bullying (Smith et al., 2004).

Teachers spend a large amount of time in the classroom with students and have ample opportunities to observe behavior. Hence, in school-based research, teachers play an important role in identifying children and adolescents who may be a bully or a victim of bullying (Leff, Kupersmidt, Patterson, & Power, 1999). However, research

shows that teachers are not always aware of bullying in their immediate surroundings, nor do they always intervene. Boulton (1997) found 25% of teachers surveyed did not perceive behavioral items related to relational aggression (i.e., social exclusion, rumor spreading) as bully behavior. In an observational study of recess behavior by Craig and Pepler (1997) only 4% of bully instances observed on the playground were addressed by staff. In a study of eight schools in Western Australia by Forlin and Chambers (2003) it was found that staff from one school endorsed the view that bullying was not a problem, while the other seven schools' staff endorsed that bullying was a problem for children. Even Olweus' (1984) survey found the majority of students surveyed indicated that their teachers would intervene "once in a while" or "never" in a case of bullying. When adults in the school ignore bullying or lack an overall awareness of school violence, it creates an environment where students are allowed to harass other students without fear of consequences (Lyznicki et al., 2004). However, research has found that teachers may not often be their students' confidants when it comes to bullying. Whitney and Smith (1993) found only 50% of students report instances of bullying, with the majority of those students informing someone at home rather than at school. It should be noted that teachers are not just passive bystanders when it comes to bullying in the schools. According to Johnston, O'Malley, and Bachman (1993) teachers were also victims of bullying in schools. This research found 28% of teachers surveyed had been victims of verbal abuse, 15% had their personal safety threatened, and 3% were attacked. The perpetrators in these cases of bullying were students.

These studies underscore the importance of teachers' understanding of bullying on their willingness to intervene and subsequent student well-being. Teacher

intervention becomes even more important given that Lumsden (2002) reported that one in four U.S. students are victims of bullying and Vail (1999) reported that approximately 160,000 U.S. students miss school every day due to issues surrounding bullying. Hence the inclusion of teachers in an ecological perspective on bullying is critical primarily due to the fact that teachers are deemed responsible for the education, training and safety of society's children (James, 1994), and secondarily as the primary facilitators of bully prevention efforts in the schools. Even more important is that schools with a positive climate can help children from dysfunctional families (Garbarino, Dubrow, Kostolny, & Pardo, 1992). Students with access to at least one positive adult relationship were more resilient in the face of a troubled home (Hill, 1996).

School in general is where most acts of aggression occur (Hanish, Kochenderfer-Ladd, Fabes, Martin, & Denning, 2004). However, it is not just the physical inclusion and proximity of children and adolescents within a building that supports bullying; it is also the beliefs, values and attitudes of all students, staff, family and the community that together sustain aggression. In a study of 3,147 youth by Langdon and Preble (2008) a lack of respect between teachers and students was positively related to the number of bullying incidents reported in school. Low social support and a lack of school community and membership were related to poor school climate and increased numbers of bullying and victimization reports (Demaray & Malecki, 2003; Morrison, 2006). School climate may be even more important if students engage in school-related risky behaviors that threaten school attachment and attendance.

Bullying and School Adjustment

Bullying at school has been associated with characteristics of internalizing and externalizing disorders such as depression and conduct disorder (Menesini, Modena & Tani, 2009). Bullying has also been shown to have a significant impact on academic achievement and grade retention (Rodney, Crafter, Rodney, & Mupier, 1999; Schwartz & Gorman, 2003). For most students, just attending school can be a huge feat, with both bullying and repeated victimization positively associated with skipping classes, school attendance and school drop-out (Lyznicki et al., 2004). Bullying, in addition to poor academic achievement, has also been shown to be a predictor of less than desirable future outcomes. For example, under-achievement in school and a history of school aggression have been linked to long-term involvement with the criminal justice system (Farrington, 1991). However, school-wide programs have been shown to increase school adjustment and reduce rates of aggression. In a longitudinal study of elementary aged students, increases in academics in reading, language, and math were noted for children attending a school in which a bully prevention program was initiated compared to a control school with no bully prevention program (Fonagy et al., 2005). This school also reported fewer suspensions and behavior referrals.

Kupersmidt and Coie (1990) reported the number of school absences and school grades were predictors of overall school functioning and were found to be significantly related to peer acceptance and school dropout. Truancy and low grade point average (GPA) have also been shown to be predictors of students' poor school attachment and association with a deviant peer group (Hallfos et al., 2002). Cook, Deng, and Morgano (2007) found GPA significantly influenced friendships and was inversely related to negative social behavior that impact school achievement while Espelage, Holt and

Henkel (2003) found low GPA predicted adolescents' friends who engage in bullying and fighting. Smith-Khuri et al. (2004) in a cross-cultural survey found adolescents who engaged in frequent fighting at school were more likely to be victims of bullying in school. School-related adjustment plays a significant role in the future outcomes of students. Students' with excessive absences, suspensions and low GPA are associated with negative outcomes such as adolescent delinquency, aggression and school dropout (Kupersmidt & Coie, 1990). These students may develop a pattern of negative behaviors that emerge as adult externalizing problems. With 9.3% of high-school students leaving high school prior to graduation (U.S. Department of Education, 2008), the importance of school-related adjustment for future success is significant.

Evolutionary Perspective

Social affiliation has its roots in evolution (MacDonald and Leary, 2005; Vaillancourt et al., 2008; Williams, 2007). Evolution has shaped human beings to exist in social groups; however, the species as a whole, children in particular, do not come programmed with responses to chronic social conflict (Bjorklund & Pellegrini, 2002). Because of the great variability in human social environments, people must develop flexible ways of dealing with others with whom they interact frequently. As early as infancy and toddlerhood, humans seek to belong and interact with those in their environment. Children are taught prosocial skills that help them make and maintain friendships and share with siblings and peers. When children develop and maintain these prosocial skills, they develop a social competency that allows for flexibility in functioning in different social situations. However, It should be kept in mind that, "humans are among those species that compete for dominance or social status"

(Weisfeld, 1999, p. 47). Therefore, when competition for attention or resources exists (e.g. friends or members of the opposite sex), difficulties and aggressive behaviors may arise (deCantanzaro, 1999).

Aggressive behavior can be a means to an end in relation to securing mates (friends) or resources. Aggression is also a trait that has been naturally selected for in individuals (Bjorklund & Pellegrini, 2002). Those who were better able to traverse the social world using aggressive behaviors only when necessary had greater access to resources (see Hawley, 1999 for a review). Individuals who had good control of his/her aggressive behaviors and cooperative behaviors toward both related and non-related individuals not only were selected for, but also placed higher on the hierarchy of social standing and dominance. Conversely, individuals who were aggressive to such an extent that a devastating injury was sustained were less likely to be favored from an evolutionary perspective.

Dominance is described as social roles that facilitate group processes (Bjorklund & Pellegrini, 2002). One's relative position along a dominance hierarchy is determined by a variety of factors throughout one's early development. Dominance hierarchies are formed via a variety of social and physical interactions in which the winners are higher on the social ladder than the losers (Bjorklund & Pellegrini, 2002). Dominance is also based on leadership qualities (Hawley, 1999 in Bjorklund & Pellegrini, 2002, p. 289), rates of aggression in preschool (Vollenweider, Vaughn, Azria, Bost, & Krzysik, 1998), and the use of prosocial behaviors and aggression in adolescence (Bjorklund & Pellegrini, 2002). Children with the greatest access to resources are more likely to exhibit dominance in the classroom (Miller, 2002).

One of the first forms of aggression between peers and an indicator of social status is instrumental aggression. It occurs at approximately the beginning of the second year of life (Coie & Dodge, 1998). This aggressive behavior involves the "taking" of another peer's toy or object of desire. Hawley (1999) posits that this is an appropriate form of aggressive behavior in that the child learns an adaptive approach at gaining resources. As children develop and age, boys begin to engage in more physical play and aggressive behaviors in general.

The establishment of dominance hierarchies in childhood involves a very common component of youth: play. Play involves children interacting with one another with the underlying goal of learning roles (Bjorklund & Pellegrini, 2002). The physical interactions during play may be harmless and help establish skills that will benefit participants in future social and physical encounters. For example, rough and tumble play described as spirited-type behaviors such as wrestling and grappling (Pellegrini & Smith, 1998) provide boys with information regarding social competition (Bjorklund & Pellegrini, 2002). Although aggression and rough and tumble play may appear similar, it is when the participants do not stay together after a "play" encounter that the behavior is deemed aggressive (Bjorklund & Pellegrini, 2002).

Adolescence is a period when peers become more important than parents and members of the opposite sex become more attractive as potential mates. According to Bjorklund and Pellegrini (2002), males may engage in more risky, attention-seeking behavior in adolescence as they seek out females. Boys who are successful fighters or display dominance over their peer group have also been found to be more attractive to

girls (Weisfeld, 1999). Pellegrini and Bartini (2001) found adolescent girls, in a hypothetical scenario, preferred dominant adolescent boys as their dates.

Even though boys are the more competitive sex, girls also engage in aggressive behaviors during adolescence as they too compete for social standing. Girls may engage in more verbal, covert forms of aggression such as social manipulation, rumor spreading, and/or exclusion from a peer activity (Crick & Nelson, 2002). Friendships are often sought and often fought over via acts of relational aggression (Hawley, 2003). In addition, some researchers suggest that adolescent girls who engage in relationally aggressive behaviors may raise their status or gain access to romantic partners by damaging other females' reputations (Bjorklund & Pellegrini, 2000; Maccoby, 1990; Underwood, 2003).

Cyberbullying

Due to technological advances, bullying no longer requires the physical presence of a bully and victim in a similar locale. Now, bullying and victimization can occur from afar. As previously stated, cyberbullying involves the use of electronics (e.g., cell phones, cameras and/or text messaging and computers with instant messaging, chat rooms, and web sites such as facebook.com or myspace.com) (Brady & Conn, 2006) to harm another individual. i-safe America conducted a study of 1,566 fourth through eighth grade students and found that an overwhelming 60% of those surveyed had had a cyberbullying experience, with approximately a third of those students reporting a threat (e-bully, 2006, retrieved 2/15/2006). In a study by Sun et al. (2005) 2,373 adolescents aged 11 to 16 years were surveyed regarding their internet use. Results indicated 57% had used email and 46% had used internet chatrooms. Ninety percent

were able to access the internet at school, while 79% could access the internet at home. Thirty-seven percent of adolescents surveyed reported using the internet for at least one hour per day. The potential for cyberbullying is immense.

Cyberbullying is not limited to email, but includes popular web sites deemed social networking sites. MySpace.com is a social site where children and adolescents are able to post personal pictures, facts, and stories, presumably for friends to see and, in addition, to make new friends.   Students use these websites to climb social ladders by disparaging others (Stover, 2006).   According to Nielsen/NetRatings (2006), MySpace.com was visited by over 55 million viewers in the United States alone. More than 12 of the 55 million were aged two to seventeen (Detroit Free Press, 1/22/2007). These numbers are significant, as current research has found approximately 5% of adolescents aged 11-19 reported at least one instance of cyberbullying in chat-room type web sites (National Children's Home, 2005, retrieved 11/21/2006). According to Slee (1993), 13-14% of physical and/or social bullying episodes lasted six months or more. Websites may allow the bullying to go on in perpetuity.

One of the special characteristics of cyberbullying is the ability to bully other students in the confines of their home. Children and adolescents may no longer be safe from bullies in their own homes (Anderson & Sturm, 2007). Cyberbully instances that are initiated outside of the school may still have a negative impact on students while they are in school. Students may not know who has been bullying them online and may fear that it is a best friend or group of friends (Anderson & Sturm, 2007). Bullies can hide behind false screen names or stolen email addresses and rest relatively assured that they will not be caught. Victims of cyberbullying often suffer in silence for fear of

losing the privilege and social ties inherent nowadays in cell phones and computers. In the event that a cyberbully does get caught, the laws have yet to catch up to the technological advances that define cyberbullying.

Online Parental Monitoring

Parental monitoring is just as important when children and adolescents are online perusing websites or email. For example, the National Center for Missing and Exploited Children [NCMEC] (2006) found that 71% of adolescents have been approached online by a stranger, with 21% of those approached receiving a solicitation for sex. Even more worrisome are the 14% of adolescents who have actually gone to meet a stranger first introduced to them online. This information goes hand in hand with the fact that 65% of parents trust that their adolescents are being safe online (Pew Internet & American Life Project, 2005). The NCMEC also found that approximately 50% of parents are unaware of monitoring devices for their computers and a similar percentage of parents do not monitor their children's email accounts, who appears on their children's buddy list, or what they write and receive on instant messages (e-bully, 2006).

Children and adolescents are familiar with a dictionary of acronyms that most parents could not decipher. For example, the NCMEC found 57% of parents did not know the cyber-lingo BRB (be right back) or LOL (laughing out loud). Children and adolescents may therefore be able to not only send degrading emails or instant messages, but to do so in front of parents who think they are monitoring their children's online activities.

Given that bullying and victimization can begin early in a child's school career and lead to many negative consequences over time, research is sorely needed in the

middle education years so as to implement effective behavior change in the child's social milieu (e.g. students, teachers, and parents) prior to the transition to the more socially challenging high school. In addition, with the fast-paced, technologically advanced social world in which our students are growing up, research needs to keep pace in order to educate administrators and lawmakers who can forge school policies and programs and those empowered to make laws that protect our students. Interventions that do not specifically address all areas of a child's context, including the internet, will not be as effective as those that target the social ecology of the whole child (Kerns & Prinz, 2002).

Chapter 3

Methodology

This chapter details the methods that were used to collect and analyze data needed to address the research questions. The topics included in this chapter are a restatement of the problem, research design, research questions, participants, instrumentation, data collection procedures, and data analysis.

Restatement of the Problem

The study examined the prevalence of cyberbullying as well as other types of bullying (physical, verbal and social), examined the association between bullying and school adjustment, and explored the role of parental characteristics and school climate on cyberbullying.

Research Design

A nonexperimental, cross-sectional, correlational research design was used for this study. This type of design is appropriate when examining relationships among variables and no treatment or intervention is provided to participants. Data were collected from students at two middles schools located in a suburb in Southeastern Michigan. The purpose of using a cross-sectional research design was to examine developmental changes across middle school grade levels.

Participants

The data in this study was collected in one school district located in southeastern Michigan. The sample was drawn from two public middle schools that housed students in grade seven and eight. Student samples were based on enrollment during the 2007/2008 academic school year. According to community demographics, it was

expected that 95.5% of students are Caucasian, 0.9% African-American, 1.9% Asian, and 0.5% other. Based on community data, 27% of residents have a high school diploma, with a median family income of $72,720. As an indicator of socioeconomic status, 13.9% of students received free or reduced lunch during the 2006/2007 school year. Table 1 presents the sample demographics. The current sample was comprised of 257 students: 140 males and 117 females; 129 in the seventh grade and 128 in the eighth grade. Eighty six percent of participants lived with both mother and father.

Table 1

Description of Categorical Demographic Personal Variables

Variable	n	%
Student Gender (n= 257)		
Male	140	54.5
Female	117	45.5
Student Grade (n= 257)		
7th Grade	129	50.1
8th Grade	128	49.9
Residence (n= 257)		
Mother and Father	223	86.8
Mother	24	9.3
Father	6	2.3
Grandparent(s)	1	.4
Other	3	1.2

Eighty one percent of participants reported satisfactory or higher citizenship with approximately 96% of participants reporting a grade of a C or higher in English, Math and History. Table 2 presents these results.

Table 2

Description of Categorical Grade/Citizenship Variables

Variable	n	%
English Grade (n= 257)		
A	189	73.5
B	47	18.3
C	13	5.1
D	4	1.6
E	4	1.6
Math Grade (n= 257)		
A	152	59.9
B	71	27.6
C	24	9.3
D	6	2.3
E	2	.8
History Grade (n= 257)		
A	149	58.0
B	75	29.2
C	22	8.6
D	9	3.5
E	2	.8
Citizenship (n= 257)		
Outstanding	97	37.7
Above Average	112	43.6
Satisfactory	45	17.5
Needs to Improve	3	1.2

Fifty-seven percent of students reported never being tardy to a class while 43% percent reported being tardy at least once a month. Thirty-five percent of students reported perfect attendance with the majority of students (44.7%) reporting less than one absence a month. Most students (95%) indicated never receiving a suspension with only 4.7% reporting a suspension. Ninety-five percent of students reported

engaging in zero fights while almost 5% of students reported engaging in at least one fight. Table 3 presents these results.

Table 3

Description of Categorical Risky School Behavior Variables

Variable	n	%
Tardy (n= 257)		
Never	148	57.6
Less than once a month	77	30.0
Once/few times a month	23	8.9
Once/few times a week	6	2.3
Daily/almost every day	2	.8
Several times a day	1	.4
Absent (n= 257)		
Never	91	35.4
Less than once a month	115	44.7
Once/few times a month	48	18.7
Once/few times a week	3	1.2
Suspended (n= 257)		
Never	245	95.3
Less than once a month	12	4.7
Fight (n= 257)		
Never	245	95.3
Less than once a month	11	4.3
Several times a day	1	.4

Measures

Six instruments were administered to all participants in a single packet along with a demographic survey. The variables measured for this study included: a self report survey on bullying, a family climate scale including parental responsiveness and family cohesion, a parental monitoring survey, and a perceived school climate survey.

Demographic Survey. A demographic survey was designed to gather information on students' grade, gender, living arrangements, grade point average (GPA) and

citizenship. Information regarding computer and communication technology use was also obtained.

School Adjustment. School adjustment was measured using grade point average (GPA) and risky school behaviors (tardiness, absences, suspensions and fights). Students were asked to report the type of letter grade they received on their most current progress report in their core academic classes (History, English and Math). An overall GPA was calculated by converting the letter grades into a metric scale with scores ranging from 0 to 4. Responses were summed to yield a total GPA, with a total score of 4 representing the highest GPA. Student reports of grades have been shown to be highly correlated with their report card grades (Fetters, Stowe, & Owings, 1984). Risky school behaviors were measured with four items from the Risky School Behavior Scale (Somers & Gizzi, 2001). Students' responses to 4 questions were made on a Likert-type scale ranging from 0 "Never" to 5 "Several Times a Day". Responses were summed to yield a total Risky School Behavior score, with higher scores indicating greater risky behavior. Sample items include, "I am tardy for class" and "I fight in school." Cronbach's alpha was .67 (Somers & Gizzi, 2001).

Bullying. Bullying was measured using Vernberg, Jacobs, and Hershberger's (1999) Peer Experiences Questionnaire (PEQ). This questionnaire included a definition of bullying as defined by Olweus (1999) "It is aggressive behavior or intentional harmdoing which is carried out repeatedly and over time in an interpersonal relationship characterized by an imbalance of power" (p. 11). The 27-item measure was used to assess the experiences of bullying (perpetration, victimization, and witnessing) among students in the areas of physical, social and verbal bullying in the past year. Nine items

assessed experiences of perpetration broken down by three questions for each bullying experience: physical perpetration (e.g., "have you hit, kicked, or pushed a peer in a mean way?), verbal perpetration (e.g. "have you teased a peer in a mean way?") and social perpetration (e.g. "have you spread rumors or put downs about a peer?). Nine items assessed experiences of victimization broken down by three questions for each victimization experience: physical victimization (e.g., "has a peer hit, kicked, or pushed you in a mean way?), verbal victimization (e.g. "has a peer teased you in a mean way?") and social victimization (e.g. "has a peer spread rumors or put downs about you?). Nine items assessed experiences of witnessing broken down by three questions for each witnessing experience: physical witnessing (e.g., "have you witnessed a peer hit, kicked, or pushed by another student in a mean way?), verbal witnessing (e.g. "have you witnessed a peer teased in a mean way?") and social witnessing (e.g. "have you witnessed a peer spread rumors or put downs about another student?).

Twenty-nine additional questions were developed by this author specifically related to cyberbullying in regards to perpetration and victimization. These questions are similar to those used in Li's (2005) study of cyberbullying (e.g., "I have been cyberbullied", "I have cyberbullied", "I cyberbullied via: email, chat room, cell phone").

Students' responses to the 56 item questionnaire were made on a 5-point Likert-type scale ranging from 1 "never" to 5 "several times a week". An overall score was computed for perpetration and victimization (physical, verbal, social and cyber), and witnessing (physical, verbal and social).

Internal consistency for the student measure has been reported by Vernberg et al. (1999) (Cronbach's α = .85) and Dill et al. (2004) (Cronbach's α = .91). In related

studies with children and adolescents, Prinstein et al., (2001) reported good validity of the initial version of the Peer Experiences Questionnaire. Pearce, Boergers, and Prinstein (2002) reported good internal consistency with Cronbach's alphas between .76 and .80 and significant correlations with peer reports of victimization and aggression (r = .34 to 40; p < .001) and self report and parent reported victimization (r = .36 to .39; p < .001). Vernberg (in press) indicated "the survey was appropriate for use in elementary, junior high, and high school. The majority of the scales on the survey held together well across different ages, indicating that constructs measured were stable" (p. 11).

Technology Use. Technology use questions were used from the existing questionnaires. Li (2005), Dehue, Bolman, and Vollink (2008) and Aricak et al. (2008) developed specific questions related to use and location of computer in house and access to cell phones and text messaging. Reliability was assessed by computing prevalence estimates and comparing them to earlier research (Juvonen & Gross, 2008). Sample questions "Do you have a cell phone?" and "Do you text message?" were answered on a two-point scale (1= yes or 2=no). Responses were summed to yield a total technology use score, with higher scores indicating greater technology use.

Family Cohesion. The level of family cohesion (i.e. extent to which family members help and support one another) was measured using a five-item subscale taken from Bloom's Family Functioning Scales. These 5 items assess the emotional bonding between family members (Bloom & Naar, 1994). Sample items are: "Family members really help and support one another," "Our family doesn't do things together," and "We really get along well with each other." Each item was rated on a five-point Likert-type scale ranging from one (very true) to five (very untrue). Responses were

summed to yield a total cohesion score, with lower scores indicating greater agreement with each of the presented statements, and therefore greater family cohesion.

Good psychometric properties of Bloom's five-item subscale have been reported with Cronbach's alpha of .84, a mean inter-item correlation of .53 and an interscale correlation of .94 (Bloom, 1985). The factor loadings for the five items constituting family cohesion ranged from .38 to .78 with test-retest reliability of .88 (Bloom, 1985). Mandleco, Olsen, Dyches, and Marshall (2003) in a study of 78 parents and their children reported Cronbach's alpha of .75 for mothers and .74 for fathers.

Bronstein, Fox, Kamon, and Knolls (2007) reported Cronbach's alpha of .81 for a normative sample of parents and their children in grade five while Manzi, Vignoles, Regalia, and Scabini (2006) in a normative sample of 223 Italian and U.K. adolescents reported Cronbach's alphas of .78 and .88 respectively using the Cohesion subscale of Bloom's Family Functioning Scale. Duff (1996) reported concurrent validity (.50 to .85) with subscales of the Self-Report Family Inventory and FACES-II.

Parental Responsiveness. Perceived parental responsiveness (i.e. warm and engaging interactions) was measured using five items from the Parenting Behavior Questionnaire. The original questionnaire was developed using 1,251 parents of pre-school and school-age children in the United States. The five items were used to assess students' perception of their parents' level of responsiveness. On a five-point Likert scale (1=very untrue to 5 = very true), participants were asked to rate each statement for their parents. Sample items include: "When I am upset my parents comfort me," "My parents show patience with me," and "My parents joke around and play with me." Negative items were recoded to reflect positive perceptions. Responses

were summed to yield a total responsiveness score, with higher scores indicating greater agreement with each of the presented statements, and therefore greater parental responsiveness.

Factor loadings for the five-item responsiveness scale ranged from .59 to .70, with a Cronbach's alpha of .71. According to Hart et al. (1998) the original questionnaire demonstrated good factorial validity and internal reliability. Darling and Steinberg (1993) reported the measure was appropriate for assessing parenting behaviors. Hart et al. (1998) reported the use of the five-item parenting responsiveness scale found significant correlations with overt and relational aggression in a sample of 207 children.

Parental Monitoring. The six item Parental Monitoring Scale (Small & Kerns, 1993) measures the extent to which parents are knowledgeable about their child or adolescents' activities, whereabouts and friends. On a five-point Likert scale (1=never to 5=always) participants were asked to rate their perception of their parents' monitoring. Sample items are: "My parents usually know what I am doing after school" and "My parents know who my friends are". Responses were summed to yield a total score with higher scores indicating greater agreement with each of the presented statements, and therefore greater parental monitoring.

Original Cronbach's alpha from a sample of 1,141 adolescent females was reported to be .87 (Small & Kerns, 1993). In a sample of 752 Bahamian elementary aged students and their parents Yu et al. (2006) reported Cronbach's alphas of .86 for males and .82 for females using the Parental Monitoring Scale. Luster and Small (1994) reported a Cronbach's alpha of .90 in a sample of 2.567 adolescents ages 13 to

19 from the Midwest. In a later study of 10,868 female adolescents grades 7-12 Luster and Small (1997) reported a Cronbach's alpha of .77.

School Climate. The Thoughts About School – Student measures students' perception of positive and negative school climate. Based on a scale by Kasen, Johnson, and Cohen (1990), Song and Swearer (1999) developed this measure to describe aspects of school climate relative to the student's emotional and behavioral development.

A four point Likert scale was used to rate a statement from 1 "Totally False" to 4 "Totally True", yielding two subscales; positive and negative student-teacher interactions. Positive and negative student-teacher interactions have been found to be an important component of overall school climate (Brand & Felner, 1996). Sample items include "Teachers and other school staff do not try to stop bullying" and "Students are friends with teachers or other school staff". These items are similar to those on the Inventory of School Climate-Student (ISC-S). Internal consistency reported for these two scales are .73 and .70 for negative and positive interactions respectively (Brand, Felner, Shim, Seitsinger, & Dumas, 2003).

According to Song and Swearer (1999), the TAS-S items showed acceptable levels of internal consistency (alpha=.80). Construct validity was established using exploratory / confirmatory analyses with 20 TAS items. Split half reliability procedures were used to determine the internal consistency of the overall scale with reported Cronbach's alpha of .81 (Song & Swearer, 1999) while a more recent analysis by Miller (2006) indicated similar Cronbach's alpha (.80).

Procedures

Permission was obtained from Livonia's superintendent and principals of two middle schools (Appendix B). The study was also reviewed and approved by the Human Investigation Committee at Wayne State University (Appendix C). A list of potential student participants for this study was derived from enrollment data from two middle schools.

An informed consent form (Appendix D) was mailed to the homes of all students in attendance at two middle schools. The researcher also provided a contact e-mail address, a mailing address, and a phone number if the parent/guardian wished to learn more about the study. Approximately 1,855 letters were mailed. Of this number, 287 parents signed and returned the informed consent form indicating they had agreed to allow their children to participate in the study. All students with consent completed the survey. Participants with missing data or highly questionable response patterns (i.e., had indicated a single response choice for all items) on any of the measures used in the present study were dropped from analyses, leaving a total of thirteen percent of the available sample (257 out of 1,855 students) with complete data on all measures.

The surveys were administered at two different middle schools, on two separate days, in classrooms by the teacher. The primary investigator was on site in case of any questions. All 287 students provided assent to participate in the study (see Appendix E). Those students whose parents did not return an informed consent sheet were allowed to work on assignments or silently read in their classrooms during administration of the surveys. The teacher read aloud a script describing directions for the survey and that student participation was voluntary and responses were anonymous

(see Appendix F for the script). Students' name did not appear on any forms, nor was any one person able to be traced back to a particular survey. Administration of the surveys took approximately 20 minutes. Following completion of the surveys, students placed their surveys in a sealed envelope to further safeguard their confidentiality. All surveys are kept in a locked cabinet at the investigator's office.

Data Analysis

The resulting data set were analyzed using SPSS-Windows version 17.0 and STATA version 10.0.   The data analysis was divided into three sections. The first section used descriptive statistics to provide information on each of the selected scales and subscales. The purpose of this analysis was to provide the reader with baseline data to understand the extent to which students are positive or negative about each of the scales. The second section provided a profile of the students by grade and gender using measures of central tendency and dispersion. The third section addressed each of the research questions using inferential statistical analyses that include factorial analysis of variance, Pearson product moment correlations and multiple linear regression analyses. All decisions on the statistical significance of the findings were made using a criterion alpha level of .05. Figure 1 presents the statistical analyses that were used to address each research question.

Figure 1

Research Questions, Hypotheses, and Statistical Procedures

1) Are there gender and grade differences in the different types of bullying (physical, social, verbal and cyberbullying) and experiences (perpetration, victimization and witnessing)?		
Research Questions & Hypotheses	Variables	Statistical Analysis
$H_{1.1}$: Females will report more social bullying and cyberbullying than males for victimization and perpetration. $H_{1.2}$: Males will report more physical bullying for victimization, perpetration and witnessing than females. $H_{1.3}$: Seventh graders will report more bullying experiences than eighth graders.	Criterion Variables: Bullying experiences -Physical, social, verbal and cyber -Perpetration -Victimization -Witnessing Predictor Variables: Gender Grade	A 2x2 multivariate analysis of variance (MANOVA) was used to determine if bullying experiences differed by gender and grade. When statistically significant differences were obtained for gender or grade than appropriate a posteriori tests were used to compare all possible pairwise comparisons to determine which variables contributed to the significant result.
Research Questions & Hypotheses	Variables	Statistical Analysis
$H_{1.4}$: There will be positive correlations among four types of bullying in terms of victimization, witnessing and perpetration.	Variables to be correlated: Perpetration, witnessing and victimization -Physical -Verbal -Social -Cyber	An intercorrelation matrix was constructed using Pearson product moment correlations to measure the strength and direction of the relationships between (physical, social, verbal and cyber) victimization, witnessing and perpetration

2) Are types of bullying (physical, social, verbal and cyber) related to school adjustment?		
Research Questions & Hypotheses	Variables	Statistical Analysis
$H_{2.1}$: Perpetration and victimization (physical, social, verbal and cyber) and witnessing (physical, social and verbal) will predict poor school adjustment (risky school behavior and GPA).	Criterion Variable: School adjustment (risky school behavior and GPA) Predictor Variable: Perpetration and victimization (physical, verbal, social and cyber) and witnessing (physical, verbal and social)	Multivariate regression analyses were used to determine if bullying experiences predicted school adjustment. If significance was found, appropriate a posteriori analyses were conducted to determine which variables contributed to the significant result.
3) Which family variables (parental monitoring, parental responsiveness and family cohesion) are most predictive of bullying experiences (perpetration, victimization and witnessing)?		
Research Questions & Hypotheses	Variables	Statistical Analysis
$H_{3.1}$: Family variables (parental monitoring, parental responsiveness and family cohesion) will predict perpetration (verbal, physical, social and cyber).	Criterion Variable: Perpetration (physical, social, verbal and cyber) Predictor Variable: Parental Responsiveness Family Cohesion Parental Monitoring	A multivariate regression analysis was used to determine if family variables (parental responsiveness, family cohesion and parental monitoring) predicted perpetration experiences.

H$_{3.2}$: Family variables (parental monitoring, parental responsiveness and family cohesion) will predict victimization (verbal, physical, social and cyber).	Criterion Variable: Victimization (physical, social, verbal and cyber) Predictor Variable: Parental Responsiveness Family Cohesion Parental Monitoring	A multivariate regression analysis was used to determine if family variables (parental responsiveness, family cohesion and parental monitoring) predicted victimization experiences.
Research Questions & Hypotheses	Variables	Statistical Analysis
H$_{3.3}$: Family variables (parental monitoring, parental responsiveness and family cohesion) will predict witnessing (verbal, physical and social).	Criterion Variable: Witnessing (physical, social and verbal) Predictor Variable: Parental Responsiveness Family Cohesion Parental Monitoring	A multivariate regression analysis was used to determine if family variables (parental responsiveness, family cohesion and parental monitoring) predicted witnessing experiences.
H$_{3.4}$: Cyber perpetration and victimization will differ by students' location of his/her computer (private vs. public). H$_{3.5}$: Cyber perpetration and victimization will differ by students with and without monitoring software on his/her computer.	Criterion Variable: Cyber 　-Perpetration 　-Victimization Predictor Variable: -Location of computer (private vs. public) -Parental monitors (yes, no, don't know)	A 2x3 multivariate analysis of variance (MANOVA) was used to determine if there is a difference in cyber perpetration and victimization by the location of the computer and installed monitoring software. When significance was found, appropriate a posteriori analyses were conducted to determine which variables contributed to the significant result.

4) Do perpetration, victimization and witnessing experiences (physical, social, verbal and cyber) predict school climate?		
Research Questions & Hypotheses	Variables	Statistical Analysis
$H_{4.1}$: Students' perpetration and victimization (physical, social, verbal and cyber) and witnessing experiences (physical, social and verbal) will predict negative and positive school climate.	Criterion Variables: School climate -Negative -Positive Predictor Variable: Perpetration (physical, social, verbal and cyber) Victimization (physical, social, verbal and cyber) Witnessing (physical, social and verbal)	A multivariate regression analysis was used to determine if perpetration, victimization and witnessing experiences predicted negative and positive school climate.
5) What is the prevalence of communicative technology?		
Research Questions & Hypotheses	Variables	Statistical Analysis
$H_{5.1}$: Eighth graders will report greater use of communicative technology than seventh graders. $H_{5.2}$: Females will report greater use of communicative technology than males.	Criterion Variable: Communicative technology use Predictor Variable: Grade Gender	A 2x2 multivariate analysis of variance (MANOVA) was used to determine if communicative technology use differed by grade and gender. If statistically significant differences were obtained for grade or gender, appropriate a posteriori tests were used.

Chapter 4

Results

This chapter presents results of the data analyses that were used to address each of the research questions posed for this study. The primary purpose of this study was to examine the influence of family and school in relation to different types of bullying (physical, social, verbal and cyberbullying). Inferential statistical analyses were used to test the research questions, with statistical significance determined using a criterion alpha level of .05. The first research question addressed the differences by gender and grade on different types of bully experiences. Higher scores were indicative of more experiences (perpetration, victimization, witnessing) across each type of bullying (physical, social, verbal and cyberbullying). See Table 4 for the descriptive statistics for gender and see Table 5 for the descriptive statistics for grade.

Table 4

Descriptive Statistics – Gender (n=140 for males; n=117 for females)

	Mean	SD	Range	
			Minimum	Maximum
Physical-perpetration				
Male	3.50	.80	3	15
Female	3.26	.85	3	15
Social-perpetration				
Male	3.90	.98	3	15
Female	3.91	1.20	3	15
Verbal-perpetration				
Male	4.10	1.06	3	15
Female	3.74	1.13	3	15
Cyber-perpetration				
Male	10.51	1.79	10	50
Female	10.62	1.43	10	50
Physical-victimization				
Male	4.01	1.53	3	15
Female	3.77	1.54	3	15
Social-victimization				
Male	4.74	1.91	3	15
Female	5.05	2.20	3	15
Verbal-victimization				
Male	4.72	1.74	3	15
Female	4.52	1.75	3	15
Cyber-victimization				
Male	10.71	1.87	10	50
Female	11.74	3.11	10	50
Physical-witnessing				
Male	4.99	2.04	3	15
Female	4.83	1.98	3	15
Verbal-witnessing				
Male	5.48	1.85	3	15
Female	5.35	1.89	3	15
Social-witnessing				
Male	6.00	2.26	3	15
Female	6.48	2.46	3	15

Table 5

Descriptive Statistics – Grade (n=129 for 7th; n=128 for 8th)

	Mean	SD	Range	
			Minimum	Maximum
Physical-perpetration				
7th	3.28	.67	3	15
8th	3.50	.96	3	15
Social-perpetration				
7th	3.84	1.05	3	15
8th	3.96	1.12	3	15
Verbal-perpetration				
7th	3.78	.98	3	15
8th	4.09	1.21	3	15
Cyber-perpetration				
7th	10.41	1.09	10	50
8th	10.70	2.02	10	50
Physical-victimization				
7th	3.75	1.37	3	15
8th	4.05	1.68	3	15
Social-victimization				
7th	4.78	1.93	3	15
8th	4.99	2.17	3	15
Verbal-victimization				
7th	4.59	1.72	3	15
8th	4.67	1.78	3	15
Cyber-victimization				
7th	10.98	2.35	10	50
8th	11.38	2.75	10	50
Physical-witnessing				
7th	4.77	2.11	3	15
8th	5.07	1.90	3	15
Verbal-witnessing				
7th	5.19	1.70	3	15
8th	5.66	1.99	3	15
Social-witnessing				
7th	6.10	2.37	3	15
8th	6.34	2.35	3	15

The mean cumulative GPA for students in the study was 3.48 (SD=.67). Risky School Behavior was based on tardiness from class, absences, suspension and number of fights in school. The mean number of class periods students were tardy for was .60 (SD=.86). The mean number of absences from school was .86 (SD=.75). The mean number of suspensions from school was .05 (SD=.21). The mean number of fights in school was .06 (SD=.37). See Table 6 for descriptive statistics.

Table 6

Descriptive Statistics - School Adjustment

School Adjustment (n= 257)	Number	Mean	SD	Range	
				Minimum	Maximum
Cumulative GPA	257	3.48	.67	0	4
Risky School Behavior	257	.39	.36	0	20

The mean for positive school climate of 12 (SD=2.88) indicated positive perceptions of school climate. Overall possible scores on this subscale ranged from 5 to 20. The mean for negative school climate of 13.64 (SD=2.17) indicated negative perceptions of school climate. Overall possible scores on this subscale ranged from 4 to 16. See Table 7 for descriptive statistics.

Table 7

Descriptive Statistics – School Climate

School Climate (n= 257)	Number	Mean	SD	Range	
				Minimum	Maximum
Positive	257	12.00	2.88	5	20
Negative	257	13.64	2.17	4	16

The mean for parental monitoring was 26.45 (SD=4.12). Overall scores on this subscale ranged from 6 to 30. To calculate overall family responsiveness and family cohesion, negative items measuring responsiveness were recoded to reflect positive perceptions. Overall possible scores on this subscale ranged from 5 to 25. The mean for family cohesion was 20.43 (SD=3.45). The mean for family responsiveness was 21.23 (SD=3.61). See Table 8 for descriptive statistics.

Table 8

Descriptive Statistics – Family Variables

Family Variables (n=257)	Mean	SD	Range	
			Minimum	Maximum
Parental Monitoring	26.45	4.12	6	30
Cohesion	20.43	3.45	5	25
Responsiveness	21.23	3.61	5	25

Reliability

The internal consistency reliability of the instruments with the students in the sample was determined by calculating Cronbach's alpha coefficients for each subscale and overall scores. The alpha coefficients obtained for the scales and associated subscales ranged from .53 for the negative school climate subscale to .86 for the witnessing and parental monitoring subscales. These results provided evidence of adequate internal consistency of the instruments with the students in the sample. The reliability coefficients attained in this study were consistent with the results found by the authors of the instruments that are specified in Chapter 3. The results of these analyses are presented in Table 9.

Table 9

Cronbach's Alpha Coefficients-Scaled Variables

Scales	Number of items	α Coefficient
Perpetration/Victimization/Witnessing Questionnaire		
Perpetration	9	.69
Victimization	9	.84
Witnessing	9	.86
Cyberbullying (Perpetration/Victimization)		
Cyber-Perpetration	10	.77
Cyber-Victimization	10	.82
Parental Monitoring	6	.86
Parental Cohesion	5	.64
Parental Responsiveness	5	.78
School Climate		
Positive	5	.54
Negative	4	.53
Overall School climate	9	.59

Research Questions

      Five research questions were developed for this study. These questions were answered using inferential statistics, with a criterion alpha level of .05 used to determine the statistical significance of the findings.

      Research question 1: Are there gender and grade differences in the different types of bullying (physical, social, verbal and cyber) and experiences (perpetration, victimization and witnessing)?

      Hypothesis 1.1: Females will report more social bullying and cyberbullying than males for victimization and perpetration.

      Hypothesis 1.2: Males will report more physical bullying for victimization, perpetration and witnessing than females.

      Hypothesis 1.3: Seventh graders will report more bullying experiences than eighth graders.

      A multivariate analysis of variance (MANOVA) was run to examine whether the study variables differed by gender and grade. Because of the unequal number of males and females a test of the underlying assumption of homogeneity of variance was run. This test was statistically significant, indicating that the assumption was violated (Box's M=625.00, F=2.91, df=198, 126247.01, p< .000). Although the F test is known to be robust despite these violations, results should be interpreted with this in mind. Gender and grade differences for bullying experiences were analyzed with a 2 x 2 MANOVA. A Pillai's trace of .98 was obtained on the multivariate analysis of variance for gender. The associated F ratio of 3.57 was statistically significant at an alpha level of .000 with 11 and 243 degrees of freedom. Statistically significant gender differences were found for physical perpetration, verbal perpetration and cyber-victimization. Grade differences were found for physical and verbal perpetration and verbal witnessing. No gender and grade interaction results were significant.

Gender Differences in Bullying Experiences

To determine which type of bullying experience contributed to the significant result for gender, the univariate F tests were examined. Table 10 summarizes the results.

Physical (perpetration, victimization and witnessing) bullying experience and gender. The results of the univariate F tests comparing gender in physical bullying experiences was statistically significant providing evidence that male and female physical bullying differed. Males reported having higher physical perpetration scores than females (F=4.93, df=1, p<.05, eta²=.02), and but no statistical significance was found for victimization (F=.71, df=1, ns) or witnessing (F=.30, df=1, ns).

Social (perpetration, victimization and witnessing) bullying experience and gender. This result of the univariate F tests comparing gender in social bullying experiences was not statistically significant (perpetration F=.01, df=1, ns; victimization F=1.65, df=1, ns; witnessing F=2.94, df=1, ns).

Verbal (perpetration, victimization and witnessing) bullying experience and gender. The results of the univariate F tests comparing gender in verbal bullying experiences was statistically significant, providing evidence that levels of verbal bullying experiences differed between male and female students. Males reported having higher verbal perpetration scores than females (F=6.44, df=1, p<.05, eta²=.03), but no statistical significance was found for victimization (F=.76, df=1, ns) or witnessing (F=.15, df=1, ns).

Cyber (perpetration and victimization) bullying experience and gender. The results of the univariate F tests comparing gender was statistically significant, indicating

that levels of cyberbullying experience differ between female and male students. Females reported higher cyberbullying victimization than males (F=11.40, df=1, p<.001, eta²=.04). There was no difference between females and males for cyber perpetration (F=.40, df=1, ns). Table 10 presents results of these analyses.

Table 10

Univariate F Tests
Physical, Social, Verbal and Cyber Experiences by Gender (n=140 for males; n=117 for females)

	Male		Female		F Ratio	
Type of Bullying	Mean	(SD)	Mean	(SD)	df=1	Eta²
Perpetration						
Physical	3.50	(.80)	3.26	(.85)	4.95*	.02
Social	3.90	(.98)	3.90	(1.20)	.01	.00
Verbal	4.10	(1.06)	3.74	(1.13)	6.44*	.03
Cyber	10.51	(1.79)	10.62	(1.43)	.40	.00
Victimization						
Physical	4.01	(1.53)	3.77	(1.54)	.71	.00
Social	4.74	(1.91)	5.05	(2.20)	1.65	.00
Verbal	4.72	(1.74)	4.52	(1.75)	.76	.00
Cyber	10.71	(1.87)	11.74	(3.11)	11.40*	.04
Witnessing						
Physical	4.99	(2.04)	4.83	(1.98)	.30	.00
Social	6.00	(2.26)	6.48	(2.46)	2.94	.01
Verbal	5.48	(1.85)	5.35	(1.89)	.15	.00

Note: *p<.05

Grade Differences in Bullying Experiences

Physical (perpetration, victimization and witnessing) bullying experience and grade. The results of the univariate F tests comparing grade in physical bullying experiences were statistically significant, suggesting that 7th and 8th grader physical bullying experiences differed. Eighth graders reported having higher physical perpetration scores than 7th graders (F=4.23, df=1, p<.05, eta²=.02) but no statistical

significance was found for victimization (F=3.11, df=1, ns) and witnessing (F=1.78, df=1, ns).

Social (perpetration, victimization and witnessing) bullying experience and grade. The results of the univariate F tests comparing social (perpetration, victimization and witnessing) bullying experiences of both grades were not statistically significant (perpetration F=.83, df=1, ns; victimization F=1.09, df=1, ns; witnessing F=1.14, df=1, ns).

Verbal (perpetration, victimization and witnessing) bullying experience and grade. The results of the univariate F tests comparing verbal bullying experiences for both grades were statistically significant, providing evidence that 7th and 8th grade verbal bullying experiences differed. Eighth graders reported having higher verbal perpetration scores than 7th graders (F=4.04, df=1, p<.05, eta²=.02). Eighth graders also reported higher verbal witnessing scores than 7th graders (F=4.57, df=1, p<.05, eta²=.02), but no statistical significance was found for victimization (F=.19, df=1, ns).

Cyber (perpetration and victimization) bullying experience and grade. The results of the univariate F tests comparing cyber (perpetration and victimization) bullying experiences of both grades were not statistically significant (perpetration F=2.24, df=1, ns; victimization F=2.72, df=1, ns). Table 11 presents the results.

Table 11

Univariate F Tests
Physical, Social, Verbal and Cyber Experiences by Grade (n=129 for 7th; n=128 for 8th)

Type of Bullying	7th grade Mean	(SD)	8th grade Mean	(SD)	F Ratio df=1	Eta²
Perpetration						
Physical	3.28	(.67)	3.50	(.96)	4.23*	.02
Social	3.84	(1.05)	3.96	(1.12)	.83	.00
Verbal	3.78	(.98)	4.09	(1.21)	4.04*	.02
Cyber	10.41	(1.09)	10.70	(2.02)	2.24	.01
Victimization						
Physical	3.75	(1.37)	4.05	(1.68)	3.11	.01
Social	4.78	(1.93)	4.99	(2.17)	1.09	.00
Verbal	4.59	(1.72)	4.67	(1.78)	.19	.00
Cyber	10.98	(2.35)	11.38	(2.75)	2.72	.00
Witnessing						
Physical	4.77	(2.11)	5.07	(1.90)	1.78	.01
Social	6.10	(2.37)	6.34	(2.35)	1.14	.01
Verbal	5.19	(1.70)	5.66	(1.99)	4.57*	.02

Note: *p<.05

Hypothesis 1.4: There will be positive correlations among four types of bullying in terms of victimization, perpetration and witnessing.

An intercorrelation matrix using Pearson product moment correlations was created to test the hypothesis that there will be positive correlations among three types of bullying experiences (perpetration and victimization) for all types of bullying (cyber, physical, social and verbal) and witnessing for three types of bullying (physical, social and verbal). When considering the relationships among individual pairs of variables, several themes were observed.

Most of the correlations among bully experience variables were in the low (0-.30) to low-moderate (.30-.70) range. However, all correlations were statistically significant (p<.001). In addition, the directions of the correlations were in the expected direction.

For example, social victimization was positively correlated with physical victimization (r=.53), verbal victimization (r=.66) and cyber victimization (r=.32). Perpetration experiences were also positively correlated. For example, social perpetration was positively correlated with physical perpetration (r=.38), verbal perpetration (r=.38) and cyber perpetration (r=.30). Verbal witnessing had the strongest correlation (r=.73) with physical witnessing. The lowest correlation (r=.17) was between social witnessing and cyber perpetration. Table 12 presents the results for these analyses.

Table 12

Intercorrelation Matrix –Bullying

	1	2	3	4	5	6	7	8	9	10
1. Cyber Victimization										
2. Cyber Perpetration	.54									
3. Physical Victimization	.46	.45								
4. Physical Perpetration	.28	.37	.61							
5. Physical Witnessing	.44	.31	.50	.35						
6. Social Victimization	.48	.27	.53	.31	.50					
7. Social Perpetration	.32	.30	.33	.38	.30	.46				
8. Social Witnessing	.32	.17	.26	.21	.62	.51	.48			
9. Verbal Victimization	.46	.33	.70	.43	.53	.66	.34	.39		
10. Verbal Perpetration	.22	.32	.47	.62	.29	.22	.38	.19	.41	
11. Verbal Witnessing	.42	.28	.46	.30	.73	.52	.36	.68	.58	.32

Note: all correlations are significant at the .01 level (2-tailed)

Research question 2: Are types of bullying (physical, social, verbal and cyber) related to school adjustment?

Hypothesis 2.1: Perpetration and victimization (physical, social, verbal and cyber) and witnessing (physical, social and verbal) will predict poor school adjustment.

Six separate multivariate regression analyses were run. The two school adjustment variables (risky school behavior and GPA) were used as criterion variables.

The predictor variables were: perpetration (physical, social, verbal and cyber), victimization (physical, social, verbal and cyber) and witnessing (physical, social and verbal).

In the first analysis, different types of bullying perpetration scores were regressed on two school adjustment variables. The perpetration scores accounted for 14% of the variance of GPA (R^2=.14, F=10.53, p<.001) while accounting for 17% of the variance of risky school behavior (R^2=.17, F=12.99, p<.001). For GPA, physical perpetration (β=-.16, p<.05) and verbal perpetration (β=-.27, p<.001) significantly contributed to the model, but social perpetration (β=.11, ns) and cyber perpetration (β=-.07, ns) did not. For risky school behaviors, physical perpetration (β=.24, p<.001) and cyber perpetration (β=.18, p<.001) significantly contributed to the model, but social perpetration (β=-.02, ns) and verbal perpetration (β=.11, ns) did not. Table 13 presents the results of the multivariate regression analysis.

Table 13

Regression Analysis Summary for Four Perpetration Scores Predicting GPA and Risky School Behavior

	GPA R²=.14, F=10.53, p<.001			Risky School Behavior R²=.17, F=12.99, p<.001		
	Coefficient	Standard Error	t	Coefficient	Standard Error	t
Social Perpetration	.11	.04	1.73	-.02	.02	- .37
Physical Perpetration	-.16	.06	-2.01*	.24	.03	3.19**
Verbal Perpetration	-.27	.05	-3.51**	.11	.02	1.45
Cyber Perpetration	-.07	.03	-1.03	.18	.01	2.79**

Note:*p<.05,**p<.001

Next, four different types of victimization experiences were regressed on two school adjustment variables. The victimization scores accounted for 5% of the variance of GPA (R^2=.05, F=3.33, p<.05) while accounting for 12% of the variance of risky school behavior (R^2=.12, F=8.27, p<.001). For GPA, social victimization (β=.06, ns), physical victimization (β=-.15, ns), verbal victimization (β=-.12, ns) and cyber victimization (β=-.02, ns) did not significantly contribute to the model. For risky school behaviors, physical victimization (β=.19, p<.05) and verbal victimization (β=.21, p<.05) significantly contributed to the model, but social victimization (β=-.12, ns) and cyber victimization (β=.07, ns) did not. Table 14 presents the results of the multivariate regression analysis.

Table 14

Regression Analysis Summary for Four Victimization Scores Predicting GPA and Risky School Behavior

| | GPA | | | Risky School Behavior | | |
| | R^2=.14, F=3.33, p<.05 | | | R^2=.17, F=8.27, p<.001 | | |
	Coefficient	Standard Error	t	Coefficient	Standard Error	t
Social Victimization	.06	.03	.76	-.12	.01	-1.37
Physical Victimization	-.15	.04	-1.74	.19	.02	2.20*
Verbal Victimization	-.12	.04	-1.19	.21	.11	2.24*
Cyber Victimization	-.02	.02	-.27	.07	.18	.98

Note:*p<.05,**p<.001

In the third analysis, three different types of witnessing experiences were regressed on two school adjustment variables. Witnessing scores did not significantly contribute to the variance in GPA (R^2=.01, F=1.11, ns) while accounting for 4% of the

variance of risky school behavior (R²=.04, F=3.73, p<.05). For risky school behaviors, physical witnessing (β=.24, p<.05) significantly contributed to the model, but social witnessing (β=-.03, ns) and verbal witnessing (β=-.02, ns) did not. Table 15 presents the results of the multivariate regression analysis.

Table 15

Regression Analysis Summary for Three Witnessing Scores Predicting GPA and Risky School Behavior

	GPA R²=.01, F=1.11, ns			Risky School Behavior R²=.04, F=3.73, p<.05		
	Coefficient	Standard Error	t	Coefficient	Standard Error	t
Social Witnessing	.11	.02	1.27	-.03	.01	-0.37
Physical Witnessing	-.04	.03	-0.45	.24	.02	2.58*
Verbal Witnessing	-.13	.04	-1.27	-.02	.02	-0.22

Note: *p<.05

Research question 3: Which family variables (parental monitoring, parental responsiveness and family cohesion) are most predictive of bullying experiences (perpetration, victimization and witnessing)?

Hypothesis 3.1: Family variables (parental monitoring, parental responsiveness and family cohesion) will predict perpetration (verbal, physical, cyber and social).

Hypothesis 3.2: Family variables (parental monitoring, parental responsiveness and family cohesion) will predict victimization (verbal, physical, cyber and social).

Hypothesis 3.3: Family variables (parental monitoring, parental responsiveness and family cohesion) will predict witnessing (verbal, physical and social).

Multivariate regression analyses were conducted to examine if family variables (parental responsiveness, family cohesion and parental monitoring) predicted bullying

experiences: perpetration (verbal, physical, cyber and social), victimization (verbal, physical, cyber and social), and witnessing (verbal, physical and social).

Family Variables and Perpetration

In the first set of analyses, family variables (parental responsiveness, family cohesion and parental monitoring) were regressed on perpetration experiences. Family variables accounted for 10% of the variance of physical perpetration (R^2=.10, F=9.37, p<.001), 12% of the variance of verbal perpetration (R^2=.12, F=11.51, p<.001), 6% of the variance of social perpetration (R^2=.06, F=5.06, p<.01) and 10% of the variance of cyber perpetration (R^2=.10, F=9.58, p<.001). For physical perpetration, responsiveness (β=.30, p<.001) significantly contributed to the model, but monitoring (β=-.05, ns) and cohesion (β=-.04, ns) did not. For verbal perpetration, responsiveness (β=.22, p<.01) and cohesion (β=.15, p<.05) significantly contributed to the model, but monitoring (β=-.09, ns) did not. For social perpetration, monitoring (β=-.22, p<.01) significantly contributed to the model, but responsiveness (β=-.02, ns) and cohesion (β=.13, ns) did not. For cyber perpetration, monitoring (β=-.28, p<.001) and cohesion (β=.15, p<.05) significantly contributed to the model, but responsiveness (β=.02, ns) did not. Table 16 presents the results of these regression analyses.

Table 16

Regression Analysis Summary for Family Variables and Perpetration

	β	Standard Error	t
Physical Perpetration (R²=.10, F=9.37, p<.001)			
Family Cohesion	-.04	.02	-.57
Parental Monitoring	-.05	.01	-.78
Parental Responsiveness	.30	.02	4.05***
Verbal Perpetration (R²=.12, F=11.51, p<.001)			
Family Cohesion	.15	.03	2.32*
Parental Monitoring	-.09	.02	-1.25
Parental Responsiveness	.22	.02	3.01**
Social Perpetration (R²=.06, F=5.06, p<.01)			
Family Cohesion	.13	.03	1.85
Parental Monitoring	-.22	.02	-3.17**
Parental Responsiveness	-.02	.02	-.30
Cyber Perpetration (R²=.10, F=9.58, p<.001)			
Family Cohesion	.15	.04	2.21*
Parental Monitoring	-..28	.03	-4.10***
Parental Responsiveness	.02	.03	.20

Note: *p<.05, **p<.01, ***p<.001

Family Variables and Victimization

In the second set of analyses, the same family variables (parental responsiveness, family cohesion and parental monitoring) were regressed on bully victimization experiences. Family variables accounted for 10% of the variance of physical victimization (R²=.10, F=9.70, p<.001), 10% of the variance of verbal victimization (R²=.10, F=8.87, p<.001), 5% of the variance of social victimization (R²=.05, F=4.29, p<.01) and 14% of the variance of cyber victimization (R²=.14,

F=14.14, p<.001). For physical victimization, responsiveness (β=.17, p<.05) and cohesion (β=.15, p<.05) significantly contributed to the model, but monitoring (β=-.12, ns) did not. For verbal victimization, responsiveness (β=.20, p<.01) and cohesion (β=.14, p<.05) significantly contributed to the model, but monitoring (β=-.06, ns) did not. For social victimization, monitoring (β=-.13, ns), responsiveness (β=.11, ns) and cohesion (β=.05, ns) did not significantly contribute to the model. For cyber victimization, monitoring (β=-.21, p<.01), cohesion (β=.14, p<.05) and responsiveness (β=.18, p<.05) significantly contributed to the model. Table 17 presents the results of these regression analyses.

Table 17

Regression Analysis Summary for Family Variables and Victimization

	β	Standard Error	t
Physical Victimization (R^2=.10, F=9.70, p<.001)			
Family Cohesion	.15	.04	2.23*
Parental Monitoring	-.12	.03	-1.78
Parental Responsiveness	.17	.03	2.34*
Verbal Victimization (R^2=.10, F=8.87, p<.001)			
Family Cohesion	.14	.04	2.09*
Parental Monitoring	-.06	.03	-.25
Parental Responsiveness	.20	.04	2.73**
Social Victimization (R^2=.05, F=4.29, p<.01)			
Family Cohesion	.05	.05	.69
Parental Monitoring	-.13	.04	-1.85
Parental Responsiveness	.11	.04	1.49
Cyber Victimization (R^2=.14, F=14.14, p<.001)			
Family Cohesion	.14	.06	2.07*
Parental Monitoring	-.21	.04	-3.08**
Parental Responsiveness	.18	.05	2.55*

Note: *p<.05, **p<.01, ***p<.001

Family Variables and Witnessing

In the third set of analyses, the family variables (parental responsiveness, family cohesion and parental monitoring) were regressed on bully witnessing experiences. Family variables accounted for 8% of the variance of physical witnessing (R^2=.08, F=7.28, p<.001), 6% of the variance of verbal witnessing (R^2=.06, F=5.54, p<.01) and 5% of the variance of social witnessing (R^2=.05, F=4.15, p<.01). For physical witnessing, responsiveness (β=.14, ns), cohesion (β=.12, ns) and monitoring (β=-.13,

ns) did not significantly contribute to the model. For verbal witnessing, cohesion (β=.16, p<.05) significantly contributed to the model, but responsiveness (β=.11, ns) and monitoring (β=-.07, ns) did not. For social witnessing, cohesion (β=.14, p<.05) significantly contributed to the model, but monitoring (β=-.08, ns) and responsiveness (β=.09, ns) did not. Table 18 presents the results of these regression analyses.

Table 18

Regression Analysis Summary for Family Variables and Witnessing

	β	Standard Error	t
Physical Witnessing (R^2=.08, F=7.28, p<.001)			
Family Cohesion	.12	.05	1.81
Parental Monitoring	-.13	.03	-1.93
Parental Responsiveness	.14	.04	1.84
Verbal Witnessing (R^2=.06, F=5.54, p<.01)			
Family Cohesion	.16	.05	2.37*
Parental Monitoring	-.07	.03	-1.01
Parental Responsiveness	.11	.04	1.43
Social Witnessing (R^2=.05, F=4.15, p<.01)			
Family Cohesion	.14	.06	2.05*
Parental Monitoring	-.08	.04	-1.07
Parental Responsiveness	.09	.05	1.14

Note: *p<.05, **p<.01, ***p<.001

Hypothesis 3.4: Cyber perpetration and victimization will differ by students' location of his/her computer (private vs. public).

Hypothesis 3.5: Cyber perpetration and victimization will differ by students with and without monitoring software on his/her computer.

Nearly 17% of students reported having a computer located in his/her own room with the majority of students (83%) reporting the location of his/her computer in another

room such as the kitchen or family room. Approximately 99% of students reported being allowed to use a home computer. Twenty-five percent of students reported knowing his/her home computer had parental monitors installed while 33% were unaware of installed monitors and 42% were knowledgeable that the computer had no monitors. Table 19 presents students' computer technology use.

Table 19

Description of Categorical Technology Variables

Variable (n= 257)	n	%
Location of Computer		
Public	214	83
Private	43	17
Allowed to Use Computer		
Yes	255	99.2
No	2	.8
Parental Monitors on Computer		
Yes	63	25
No	108	42
Don't Know	86	33

A 2 (location of computer) x 3 (parental monitors) multivariate analysis of variance (MANOVA) was run to examine whether cyber perpetration and cyber victimization differed by students' location of their computer and monitoring software. Because of the unequal number of students in each group a test of the underlying assumption of homogeneity of variance was run. This test was statistically significant, indicating that the assumption was violated (Box's M=319.86, F=20.40, df=15, 11489.34, p<.001). Although the F test is known to be robust despite these violations,

results should be interpreted with this in mind. A Pallai's trace of .08 was obtained on the multivariate analysis of variance for parental monitors. The associated F ratio of 5.26 was statistically significant at an alpha level of .000 with 2 and 250 degrees of freedom. A Pallai's trace of .04 was obtained on the multivariate analysis of variance for location of computer. The associated F ratio of 5.36 was statistically significant at an alpha level of .005 with 2 and 250 degrees of freedom. No parental monitors and computer location interaction effect was significant.

The results of the univariate F tests comparing the three groups of students (with and without parental monitors and "unaware") in cyber perpetration and cyber victimization were statistically significant providing evidence that cyber perpetration (F=6.51, df=2, p<.01, eta²=.05) and cyber victimization (F=9.36, df=2, p<.001, eta²=.07) differed by parental monitors. Cyber perpetration was significantly higher for those without parental monitors on computer (m=10.92, sd=2.20) than having monitors (m=10.38, sd=1.28) or unaware of installed parental monitors (m=10.23, sd=.64) while cyber victimization was significantly higher for those without parental monitors (m=11.87, sd=3.39) than having monitors (m=10.75, sd=1.52) or unaware of installed parental monitors (m=10.63, sd=1.59).

The results of the univariate F tests comparing location of computer (private and public) in cyber perpetration and cyber victimization were statistically significant: cyber perpetration (F=9.50, df=1, p<.01, eta²=.04) and cyber victimization (F=6.21, df=1, p<.05, eta²=.02) differed by the location of the computer in a public or private area. Cyber perpetration was significantly higher for those with computers in a private location (m=11.26, sd=3.02) than in a public location (m=10.42, sd=1.13) while cyber

victimization was significantly higher for those with their computers in a private location (m=12.12, sd=3.63) than in a public location (m=10.99, sd=2.25). Table 20 presents the results of these analyses.

Table 20

Univariate F Tests

Cyber Perpetration and Cyber Victimization by Location of Computer and Computer Monitoring

	Mean	sd	F	eta²
Cyber Victimization				
Location				
Private	12.12	3.63	6.21*	.02
Public	10.99	2.25		
Parental Monitor				
Yes	10.75	1.52	9.36***	.07
No	11.87	3.39		
Don't know	10.63	1.59		
Cyber Perpetration				
Location				
Private	11.26	3.02	9.50**	.04
Public	10.42	1.13		
Parental Monitor				
Yes	10.38	1.28	6.51**	.05
No	10.92	2.20		
Don't know	10.23	.64		

Note: *p<.05, **p<.01, ***p<.001

Research question 4:   Do perpetration, victimization and witnessing experiences (physical, verbal, social and cyber) predict school climate?

Hypothesis 4.1: Students' perpetration and victimization (physical, verbal, social and cyber) and witnessing (physical, verbal and social) experiences will predict negative and positive school climate.

A multivariate regression analysis was conducted to determine if bullying perpetration, victimization and witnessing experiences (physical, verbal, social and

cyber) predicted negative and positive school climate. Bullying experiences explained 21% of the variance in negative school climate (F=5.77, p<.001) while explaining only 6% of positive school climate (F=1.53, ns). Verbal perpetration (β=-.24, p<.01), physical perpetration (β=.24, p<.01) and physical victimization (β=-.31, p<.01) were significant in predicting negative school climate. Only verbal perpetration (β=-.24, p<.05) and verbal victimization (β=-.18, p<.05) were significant in predicting positive school climate. Table 21 presents the results for these regression analyses.

Table 21

Summary of Multivariate Regression Analysis for Perpetration, Victimization and Witnessing Predicting Negative and Positive School Climate

	Negative School Climate R²=.21 F=5.77, p<.001			Positive School Climate R²=.06 F=1.53, ns		
	β	Standard Error	t	β	Standard Error	t
Perpetration						
Social	-.04	.15	-.60	.03	.22	.39
Physical	.24	.22	2.86**	.12	.32	1.30
Cyber	-.08	.10	-1.10	-.08	.14	-.99
Verbal	-.24	.15	-3.13**	-.46	.22	-2.15*
Victimization						
Social	-.02	.09	.19	.20	.13	1.54
Physical	-.31	.14	-3.21**	-.09	.19	-.47
Cyber	-.01	.07	-.12	-.10	.09	-1.07
Verbal	.13	.12	1.32	-.18	.22	-2.18*
Witnessing						
Verbal	-.19	.11	-1.91	.02	.16	.22
Physical	-.05	.10	-.53	.07	.14	.69
Social	.01	.08	.15	.03	.12	.29

Note: *p<.05, **p<.01

Research question 5:   What is the prevalence of communicative technology?

Hypothesis 5.1: Eighth graders will report greater use of communicative technology than seventh graders.

Hypothesis 5.2: Females will report greater use of communicative technology than males.

Eighty-percent of students reported having an email account, with 31% indicating having a personal web page. Almost 64% of students reported instant messaging on his/her computer. Approximately 70% of students reported having a cell phone. Fifty-seven percent of those students with a cell phone report that his/her cell phones have text messaging capabilities with 52% of students who actually text message. See Table 22 for descriptive statistics.

Table 22

Description of Categorical Technology Use Variables

Variable (n= 257)	n	%
Email Account		
Yes	207	80.5
No	50	19.5
Instant Message		
Yes	164	63.8
No	93	36.2
Cell Phone		
Yes	179	69.6
No	78	30.4
Cell Phone with Text Messaging		
Yes	147	57.2
No	110	42.8
Text Message		
Yes	135	52.5
No	122	47.5
Personal Web Page		
Yes	82	31.9
No	175	68.1

A multivariate analysis of variance (MANOVA) was run to examine whether communication technology use differed by students' gender and grade. Gender and grade differences for communication technology use were analyzed with a 2 x 2 MANOVA. Statistically significant gender and grade effects were found. No gender and grade effect was significant (F=.14, df=1, ns).

The differences by gender was statistically significant (F=18.87, df=1,253, p<.001) with females (m=4.39, sd=1.49) reporting more use than males (m=3.63, sd=1.56). The differences by grade was also statistically significant (F=14.54, df=1,253, p<.001) with 8th graders (m=4.30, sd=1.58) reporting more use than 7th graders (m=3.65, sd=1.50). The interaction effect of gender and grade (F=.14, df=1, ns) was not statistically significant. Table 23 presents the results of the MANOVA.

Table 23

Communication Technology Use by Gender and Grade (n=257)

Source	Sum of Squares	Mean Square	F Ratio df=1,257	Partial eta²
Gender	41.94	41.94	18.87*	.07
Grade	32.32	32.32	14.54*	.05
Gender x Grade	.30	.30	.14	.00
Residual	562.28	2.22	71.60	

Note: *p < .001

Chapter 5

Discussion

The purpose of the study was to examine family and school variables in relation to different types of perpetration, victimization and witnessing experiences (physical, social, verbal and cyber). Results of the statistical analyses used to test the hypotheses were mixed, with support provided for some of the hypotheses. Results of the major research questions are discussed in this section.

The first set of hypotheses examined perpetration, victimization and witnessing experiences by gender and grade. The hypotheses were tested using a univariate analysis of variance (ANOVA) procedure. Statistically significant differences were found for physical and verbal perpetration and cyber victimization by gender, and physical and verbal perpetration and verbal witnessing for grade.

In this sample, 8th graders were found to engage in physical and verbal perpetration significantly more than 7th graders. Eighth graders also reported witnessing more verbal perpetration than 7th graders. These results are contrary to expected results that 7th graders would report more instances of bullying than 8th graders. Given students' developmental maturity over time, a decline in bullying as students progressed to higher grades was expected as shown in Solberg, Olweus and Endresen (2007). However, eighth graders may find it more productive and efficient to gain status verbally or by physically assaulting another student than engaging in more covert forms of aggression (e.g., social or cyber perpetration). As eighth graders begin the transition to high school and their social groups include more diverse friendships including boy-girl romantic relationships, there may be more opportunities for displays of

dominance as social status becomes more important (Yoon, Barton, & Taiariol, 2004).

Students' social relationships and dominance hierarchies may not have stabilized during

the middle school years. Given the fact that these sample middle schools are limited to

two grade levels, it may be that this amount of time is insufficient for stabilization of

dominance, and thus bullying may continue.

This study found boys reported significantly more physical and verbal

perpetration than girls, while girls reported significantly more cyber victimization than

boys. Consistent with most research is the finding that boys engage in more physical

aggression than girls (Nansel et al., 2001) and that girls are more likely to engage in

verbal aggression than boys (e.g., Crick & Grotpeter, 1995). On the other hand,

Espelage et al. (2003), in a study of 268 middle school students, found no significant

differences between boys and girls in relation to verbal aggression. In this study boys

were found to be perpetrators of verbal bullying more often than girls. Boys may

continue to utilize verbal jabs such as name calling as a manner in which to obtain

dominance and popularity during their middle school years. In support of this is Long

and Pellegrini's (2003) research that found bullying in boys to increase at the end of 7th

grade.

The findings of the present study were also consistent with Li (2005) and Smith,

Mahdavi, Carvalho and Tippett (2005) with females (60%) reporting greater cyber

victimization than males (39%). Cyberbullying and cyber victimization may be an

extension of relational aggression--the more covert form of aggression. Adolescent girls

have been found to exhibit greater concern about loss of relationships and peer

evaluations and may use the relative anonymity of the computer to pursue social

dominance or seek revenge (Rudolph & Conley, 2005). Another possibility is that girls'
friendships are more fragile and they experience more emotional distress in
relationships than boys; thus, the use of communicative technology may empower girls
to have a sense of control over multiple friendships instantaneously (Rose & Rudolph,
2006). This supports Crick and Grotpeter's (1996) and Hawley's (2003) research that
females reported greater perpetration and victimization in relational aggression than
males. However, Aricak et al. (2008) found greater cyber victimization in males than
females in a sample of 269 Turkish adolescents, while Patchin and Hinduja (2006)
found no significant differences between genders. As a result, future research with
regards to gender differences is sorely needed in this new area of bullying and
victimization.

In this study, consistent with previous research (Joliffe & Farrington, 2006;
Langdon & Preble, 2008; Prinstein et al., 2001), boys were found to exhibit more
physical bullying than girls. Jankauskiene et al. (2008) found similar results with boys
reporting greater involvement in bullying, with no gender differences in victimization. It
may be that the transition to middle school, and thus the reestablishment of dominance
in a new school setting, is more prevalent for boys than girls at this age level (Pellegrini,
2002). As adolescents become more familiar with communication technology, a shift
from physical to cyberbullying may be another route toward maintaining social
dominance in a much bigger group setting--middle school.

Cyber perpetration and victimization were found to be positively correlated with
all types of perpetration, victimization and witnessing (physical, social and verbal).
These results are consistent with the findings of Dehue et al. (2008), Raskauskas and

Stoltz (2007) and Smith et al. (2008). The significant relations among different types of bullying experiences may reflect the complex web of social interactions among bullies, victims and witnesses. Smith et al. (2008) found 71% of cyberbullies were characterized as traditional bully/victims and posit that traditional bullies may utilize communication technology to seek revenge. Traditional victims of bullying have been shown to be more sensitive and less assertive compared to bullies (Glew, Rivara, & Feudtner, 2000; McNamara & McNamara, 1997; Schwartz, Dodge, & Coie, 1993). These characteristics may prime some victims for cyberbullying as they may choose to target their tormentors from a relatively safe environment: home. With the opportunity for students to bully and to be victimized at school and home, there is no longer a place where students can be 100% bully-free.

The second set of hypotheses examined the relation between bullying experiences (perpetration, victimization and witnessing) and school adjustment (GPA and risky school behaviors). The hypotheses were tested using a multiple regression procedure. Perpetration, victimization and witnessing significantly predicted school adjustment. Perpetration and victimization accounted for the greatest variance in school adjustment, accounting for 14% of GPA and 17% of the variance of risky school behavior. Witnessing accounted for only 4% of the variance in risky school behavior. Physical and verbal perpetration were significant predictors of GPA, while physical and cyber perpetration made significant contributions to predicting risky school behaviors. Only physical and verbal victimization accounted for differences in risky school behavior, while only witnessing of physical bullying contributed to risky school behavior.

Overall, the results indicate poor school adjustment, as measured by risky school behaviors and low GPA, for victims of bullying. This finding is not new and a number of studies have documented this pattern (Beale, 2001; Fleming & Jacobsen, 2009; Hoover et al., 1992). In the current study, witnessing an act of physical bullying predicted students' engagement in risky school behaviors. It may be that students who witness physical bullying have difficulty in school adjustment because of a concern for their safety. However, it is also possible that students who witness bullying incidents are affiliates of bullies and have school adjustment issues. Regardless, the results indicate that witnessing may be negative to students. With such a large number of student witnesses and the negative effect on risky school behaviors, staff and administration will need to attend to this large "at-risk" group as a part of bullying experiences in addition to victims and bullies.

The third set of hypotheses examined the relationship between perpetration, victimization and witnessing experiences (physical, social, verbal and cyber) and family variables (parental monitoring, parental responsiveness and family cohesion). Family variables were significant predictors of bullying experiences. Parental responsiveness predicted physical and verbal perpetration and physical, verbal and cyber victimization. Family cohesion predicted verbal and cyber perpetration; physical, verbal and cyber victimization; and verbal and social witnessing. Parental monitoring predicted social and cyber perpetration and victimization. The findings that family variables were significant predictors of traditional bullying experiences (physical, social and verbal) are consistent with past research and underscore the importance of the family context in bully research. For example, Kasen, Berenson, Cohen and Johnson (2004), in a survey

of 508 adolescents, reported that a supportive relationship with mothers was negatively associated with bullying; while Eisenberg et al. (2005) found positive parenting to be related to lower reports of aggression. Even though the majority of bullying experiences occur within the confines of the school environment, the influence of the family impacts both the students' home and school environment.

Family cohesion was the one variable that predicted bullying across all three experiences (perpetration, victimization and witnessing). This indicates that the family as a unit plays a significant role in students' different types of bullying experiences. For example, Rigby (1994) reported poor family functioning and communication were associated with female victims of bullying. Cenkseven Onder and Yurtal (2008) also found similar results in their sample of 273 male and female adolescents. In this study, self-reported bully and victim status students reported poorer family responsiveness and overall communication.

Furthermore, family variables were also shown to predict the most recent form of bullying: cyber victimization and cyber perpetration. Specifically, family cohesion and parental monitoring predicted cyber perpetration; whereas family cohesion, parental monitoring and parental responsiveness were predictive of cyber victimization.

There are only a few studies in the literature that examined family variables and their relation to cyberbullying. For example, Ybarra and Mitchell (2004) found in a study of 1,501 youth ages 10-17 that poor family relationships (as measured by infrequent parental monitoring, poor emotional bond and frequent discipline) were related to cyber perpetration and victimization. These findings and the current study indicate the significance of the family system in regards to a student's involvement in cyberbullying.

This pattern of family environment associated with cyberbullying is similar to those with traditional bullying. For instance, in a study of 499 sixth through eighth grade students, parent support accounted for a significant amount of the variance in both perpetration and victimization experiences (Demaray & Malecki, 2003). Bowers et al. (1994) found poorly monitored children were more likely to report their status as a bully-victim than children who reported more consistent monitoring by their parents.

 In regards to cyberbullying, the importance of family involvement is crucial as parents may not even be aware of the rapid technological advances through which bullying can occur. Slonje and Smith (2008) reported parents lacked an awareness of cyberbullying as compared to traditional methods of bullying. Students' perceptions of his/her family's sense of togetherness may not only raise the level of awareness of cyberbullying, but also allow students a safe environment to educate parents and notify them regarding cyberbullying incidents. This highlights the importance of involving the family in educating adolescents about the constructive and destructive uses of communicative technology. The consistency of the findings in research of the relative significance of family variables indicates a continued need to incorporate family functioning in bully research, especially with cyberbullying, which is thought to be a more independent, secretive form of bullying.

A 3 x 2 multivariate analysis of variance (MANOVA) was run to examine if the location of students' computers and the computers with parental monitors were related to cyber perpetration and cyber victimization.   Seventeen percent of the sample surveyed indicated their computers were located in a private location, with 76% of those having no parental monitors. Students whose ability to search the internet with no limits

or fear of monitoring and those with computers located in a private, unmonitored location were most likely to engage in cyberbullying or be a victim of a cyber perpetrator. This suggests students are at risk for engaging in cyberbullying and becoming a cyber victim when parents are unaware of their students' online activities.

Recent studies further highlight the importance of adult supervision. Dehue et al. (2008) found nearly 80% of parents surveyed reported family rules regarding internet use; yet, the majority of those parents did not know that their child was either a cyberbully or victim. Only one study to date could be found regarding the location of students' computers. Mesch (2009) found that cyber victims were more likely to have computers in a non-common area (such as a bedroom) than those with computers in common areas (such as a living room). The finding in this study that the location of students' computers is associated with cyberbullying and victimization is important information for parents and guardians to know. The location of the computer in a more family-oriented room, such as the family room or kitchen, allows for more monitoring of on-line activities, or at minimum, adult supervision. Topcu, Erdur-Baker, and Capa-Aydin (2008) posit that a lack of parental monitoring of computers may be due to adults' lack of technology knowledge. Having the computer in a family-oriented location may foster communication between parent and child and may allow for the opportunity for children to educate parents about computers. Parents who observe their children's online activities should ask questions regarding social networking sites such as, "who are your friends?" or "is your profile private?" and develop a new appreciation and understanding of online lingo.

The results of this study also showed a significant relationship between cyber perpetration and victimization and parental monitors (software that can limit access to or time on specific websites). Sun et al. (2005) hypothesized that parental monitoring of children's computer activities somewhat limits their children's use and may therefore provide a protective factor from the evils of cyberbullying. Students with online time limits, limited access to certain web pages and filters should be less vulnerable to cyberbullying and less able to bully via instant messaging or email. Parental monitoring should also be extended to hand-held devices such as cell phones; limiting numbers that can be called, texts and online access. Patrick, Snyder, Schrepferman, and Snyder (2005) suggest that training parents in monitoring techniques as early as kindergarten may play a significant role in the outcomes for children. Parental education of online activities may allow for open communication between children and parents and may thus allow for fewer opportunities for exposure to the temptations and risks of the internet.

The fourth set of hypotheses examined the relationship between school variables and bully experiences (perpetration, victimization and witnessing). With the school setting being the number one locale in which children are bullied and victimized, it is imperative to understand the importance of school climate (Olweus, 1978). In this study, verbal and physical perpetration and physical victimization predicted students' report of negative school climate; while verbal perpetration and verbal victimization predicted low scores in positive school climate. These results are similar to Kasen et al. (2004), in which reports of bullying were significantly associated with a negative school climate. Cyber perpetration and victimization did not significantly predict negative

school climate. It may be that the effects of cyber perpetration and victimization have yet to filter down to the school climate ecology. It is also possible that cyberbullying and victimization do not add any predictive power beyond traditional bullying and victimization, given significant correlations between cyberbullying/victimization and traditional bullying/victimization.

It has been shown that bullies tend to dislike their school environment (Nansel et al., 2001). However, this study found verbal perpetration and verbal victimization to predict a lower score in positive school climate, but not in negative school climate. It may be that students are more tolerant of verbal put-downs or name calling and find it less offensive; thus, these forms of bullying experiences may have less influence on students' perceptions of negative climate than other forms of traditional bullying. This highlights the importance of creating a positive climate that fosters a sense of security by addressing bullying and helps to establish healthy relationships that have long-lasting effects well into adulthood.

Teachers play an important role in a school's climate. Ellis and Shute (2007) reported teachers' perception regarding the severity of bullying played a significant role in whether or not they would chose to intervene. Ellis and Shute (2007) found teachers rated physical bullying the most serious, followed by verbal and social bullying. Along these lines, it could be predicted that teachers would rate cyberbullying as the least serious due to the location of the incident. With teacher ratings of the gravity of bullying out of line with students' perceptions, the entire school population needs to be educated about the negative impact of all forms of bullying (Mynard, Joseph, & Alexander, 2000). Goddard (2008) reported that 95% of school administrators surveyed believed teachers

could stop bullying; while only 65% of teachers expressed an ability to address or eliminate bullying. Teachers should intervene in all cases, regardless of perceived severity, due to the adverse impact on students and overall school climate. Future research in regards to teacher perception of bullying needs to include cyberbullying and teachers' role in dealing with a wide range of bullying. One area of interest that is particularly important to school climate is how teacher responses to bullying affect students' perceptions about school.

The fifth set of hypotheses examined the prevalence of communicative technology by gender and grade. The hypotheses were tested using a univariate analysis of variance (ANOVA) procedure. A statistically significant difference was found for communicative technology use by gender and grade: females and eighth graders reported the greatest use. This pattern of communicative technology use has been reported in the literature. According to Dowell, Burgess and Cavanaugh (2009) girls tend to use more communication technology than boys; and Ybarra and Mitchell (2004) found older children use more communication technology than younger children.

In this study, 99% of students had a computer and 70% had a cell phone. The findings involving technology use were similar to those of Dowell et al. (2009) who found that 96% of the 404 12-year-olds sampled had a computer. In a sample of 269 sixth through tenth grade students, Aricak et al. (2008) found 84% of students had a cell phone, as compared to the present research in which 70% had a cell phone. Approximately half of those surveyed reported text messaging, as compared to 38% in the Pew Internet and American Life Project (2009). Eighty-percent of the sample indicated having an email account, which is consistent with 87% reported by Pew

Internet and American Life Project (2009). Slonje and Smith (2008) indicated most research dealing with cyberbullying lacks descriptive statistics on communication technology usage by age. All these studies and the current study indicated that the use of communicative technology is widely used among students. The rapid changes in communication technology, and perhaps familiarity with the technology, may influence students' usage. For example, twittering and blogging are used less by teens as communication tools as compared with social networking sites like Facebook (Pew Internet and American Life Project, 2009). Age trends and up-to-date technology usage will be important variables when addressing all the arenas in which cyberbullying and victimization can occur.

Implications for School Psychologists

Understanding the contexts in which bullying and victimization occur is the first step in school-based prevention and intervention efforts. The findings of the present study provide a number of implications for school psychologists. First, this research underscores the importance of the involvement of not only the students and staff who attend and work at the school, but also the parents and outside community members as well. Educating parents and community members regarding the different forms of bullying, the signs of victimization and all the locales in which bullying can occur, are important components to addressing the needs of students. Parents and community members need to be aware of the importance of monitoring children's activities, both on- and off-line. Effective strategies for talking with children and adolescents about their friends, whereabouts and on- and off-line interests may influence bully behavior. Educating parents about the location of their home computers, social networking

websites, computer monitoring and text messaging acronyms, may help support parents when establishing new house rules regarding computer usage, or at minimum, bridge some of the technology gap between parent and child. Most computers come preprogrammed with parental monitors that require minimal computer knowledge to activate. Parents need to know how to "turn on" the monitors to limit access to websites, regulate time and duration of on-line activities and access reports of websites visited. The FBI (n.d) has provided a short list of things parents can do to protect children online:

1. Communicate. Talk to your child about sexual victimization and potential on-line danger.
2. Spend time with your children on-line. Have them teach you about their favorite on-line destinations.
3. Keep the computer in a common room in your house, not in your child's bedroom.
4. The use of chat rooms should be heavily monitored.
5. Always maintain access to your child's on-line account and randomly check his or her email.
6. Teach your child responsible use of on-line resources.
7. Find out what computer safeguards are utilized by your child's school and at the public library.
8. Consider purchasing parental control software. Parents can block many types of inappropriate websites with this filtering software.

School psychologists are in a position to provide training, resources (such as on-line safety contracts [e.g. AGCSI.michigan.gov]) and education to parents and community members via newsletters, parent-teacher organization group meetings or as a stand-alone presentation for a parent night on school safety. School psychologists are also knowledgeable about the social-ecological framework in which children and adolescents exist. The awareness of the multiple facets and interactions of children's

and adolescents' systems could translate into suggestions to those who can effect change such as administrators, staff and parents.

School psychologists are knowledgeable about how to determine an individual school's needs by assessing students, teachers and parents. They can provide a level of experience and expertise in regards to research and data collection and integrating the school district's anti-bullying policies with research-based bully prevention programs. School psychologists are also in a position to continue to monitor the progress of bully prevention efforts and support the efforts of staff and students throughout the school year. In this day and age, with budget deficits school districts are experiencing, students' safety cannot be dismissed and is fortunately mandated through the No Child Left Behind Act of 2001. Data driven programs that show positive results in reducing bullying and victimization and improve overall school climate should continue to receive funding and support from administrators and school boards similar to an academic program that shows student academic gains. School psychologists can help facilitate these programs and build a culture in which bullying is recognized, addressed and not tolerated.

Limitations

This study was conducted at two middle schools within the same school district in Michigan. Therefore, the findings may not be generalized to other same-aged students. A greater sample size, including elementary- and high school-aged students would provide for a more thorough exploration of cyberbullying and the potential for age differences and trends over time. The gender difference found for cyber victimization warrants additional studies using a larger sample.

Students whose parents provided consent to participate in the study may be different from their peers, which could have impacted the study findings. No data was available to explore possible differences between two groups of students in terms of bullying and victimization experiences. This study was also completed in a group-based survey format: teachers administered a survey in classroom as part of their class activities. Although this method is frequently used in the literature (Dill, Vernberg, Fonagy, Twemlow, & Gamm, 2004; Vernberg, Jacobs, & Hershberger, 1999), it may have influenced the responses of the participants. Future studies should consider the influence of teachers versus other adults when administering surveys and the benefit of a small group versus a large group format on research outcomes.

A limitation with this study is the relatively high average self-reported GPA (m=3.48) and few reported school absences, fights, tardies and suspensions (m=1). There may be additional student and family variables at play that are unaccounted for, such as parental and student expectations and parental educational attainment, that merits future study.

Finally, this study utilized a self-report format. Juvoven et al. (2000) cite limitations with self-report data. Students may under- or over-report their involvement with bullying experiences and have to rely on their ability to recall bullying experiences over a period of time. However, Baldry and Farrington (2007) suggests that asking those involved is the best source of information available and is still the most common form of data collection in bullying research (Cornell & Brockenbrough, 2004). The use of additional reporters (e.g., parents, peers or teachers) could provide a more complete understanding of bullying. Despite these limitations, the data obtained from the different

types of perpetration, victimization, and witnessing addressed could be the catalyst for change at the school level, as well as an important tool used in the education of teachers, students, parents and community members alike that bullying has a longer reach that now invades our homes.

Future Directions: Cyberbullying

The area of research in cyberbullying is still relatively new. Therefore, additional research on questionnaires related to cyberbullying merits further study. Furthermore, new formats of bullying via technology are multiplying as quickly as technology allows. "Sexting", a form of cyberbullying, is when a semi-nude or nude photograph is sent via email or text messaging in order to degrade a "victim." Future research regarding this style of cyberbullying demands attention, as does the potential for greater harm for the victim and more significant consequences for the perpetrator.

Smith et al. (2005) indicated that one-third to over one-half of students who were cyberbullied did not report the incident to a parent or adult, while Juvonen and Gross (2008) reported 90% did not tell an adult. In addition, 63% of adolescents go online everyday (Pew Internet and American Life Project, 2009). The frequency of communication use and the lack of disclosure of victimization needs to be examined as it relates to cyberbullying. The relationship between popularity and cyberbullying also calls for future research. Goddard (2008) cited research that cyber perpetrators were part of the popular crowd. However, research regarding popular versus unpopular bullies indicates that unpopular bullies are more often neglected and rejected by peers. Therefore, unpopular bullies may choose to bully behind closed doors to maintain their

level of popularity more so than popular ones (Smokowski & Kopasz, 2005). Social status research needs to include cyberbullying.

Cyberbullying, although still in its relative infancy, has affected students across the world. With technological advances creeping towards the youngest of students and reaching the very elderly, future research is sorely needed to determine the depths of cyber perpetration and victimization.

APPENDIX A

Gender (please shade one)
①Male
②Female

Grade (please shade one)
①7th
② 8th

With whom do you live (please shade one)
① Mother and Father
② Mother
③ Father
④ Grandparent
⑤ Other

Citizenship (please shade one)
① Outstanding
② Above Average
③ Satisfactory
④ Needs to improve
⑤ Unacceptable

Please circle the grade from each class on your most recent card

English	A	B	C	D	E
Math	A	B	C	D	E
History	A	B	C	D	E

Do you have a computer?	Yes-①	NO-②		
If you have a computer in your house, where is it located?	Your room ①	Kitchen ②	Family Room ③	Other ④
Are you allowed to use the computer?	Yes-①	NO-②		
Are there any parental monitors (blocked websites) on your computer?	Yes-①	No-②	Don't Know ③	
Do you have an email account?	Yes-①	No-②		
Do you instant message?	Yes-①	No-②		
Do you have a cell phone?	Yes-①	No-②		
Does your cell phone have text messaging?	Yes-①	No-②		
Do you text message?	Yes-①	No-②		
Do you have a personal web page (e.g. myspace, facebook)?	Yes-①	No-②		

Please use the scale below to indicate how often you engage in each of the listed behaviors

0 Never	1 Less than once a month	2 Once or a few times a month	3 Once or a few times a week	4 Daily or almost every day	5 Several times a day

I am tardy for class.	◎	①	②	③	④	⑤
I am absent from school.	◎	①	②	③	④	⑤
I am suspended from school.	◎	①	②	③	④	⑤
I fight in school.	◎	①	②	③	④	⑤

We all have different experiences in school. Based on your experiences, please indicate how often each has happened over the past school-year.

How often in the **past school year…**	Never	Once or Twice	A Few Times	About Once a Week	Several Times a Week
1. has a peer teased you in a mean way?	①	②	③	④	⑤
2. has a peer hit, kicked, or pushed you in a mean way?	①	②	③	④	⑤
3. has a peer spread rumors or put downs about you?	①	②	③	④	⑤
4. has a peer threatened you with physical violence?	①	②	③	④	⑤
5. has a peer grabbed, held, or touched you in an undesired manner?	①	②	③	④	⑤
6. has a peer excluded you from a desired activity?	①	②	③	④	⑤
7. has a peer scared you into giving up money or other things?	①	②	③	④	⑤
8. has a peer chased you in order to hurt you?	①	②	③	④	⑤
9. has a peer played a mean trick to hurt or scare you?	①	②	③	④	⑤

How often in the **past school year…**	Never	Once or Twice	A Few Times	About Once a Week	Several Times a Week
10. have you teased a peer in a mean way?	①	②	③	④	⑤
11. have you hit, kicked, or pushed a peer in a mean way?	①	②	③	④	⑤
12. have you spread rumors or put downs about a peer?	①	②	③	④	⑤
13. have you threatened a peer with physical violence?	①	②	③	④	⑤
14. have you grabbed, held, or touched a peer in an undesired manner?	①	②	③	④	⑤
15. have you excluded a peer from a desired activity?	①	②	③	④	⑤
16. have you scared a peer into giving up money or other things?	①	②	③	④	⑤
17. have you chased a peer wanting to hurt him or her?	①	②	③	④	⑤
18. have you played a mean trick on a peer to hurt or scare him/her?	①	②	③	④	⑤

How often in the **past school-year…**	Never	Once or Twice	A Few Times	About Once a Week	Several Times a Week
19. have you witnessed a peer teased in a mean way?	①	②	③	④	⑤
20. have you witnessed a peer hit, kicked, or pushed by another student in a mean way?	①	②	③	④	⑤
21. have you witnessed a peer spread rumors or put downs about another student?	①	②	③	④	⑤
22. have you witnessed a peer threatening another student with physical violence?	①	②	③	④	⑤
23. have you witnessed a peer grab, hold, or touch another student in an undesired manner?	①	②	③	④	⑤
24. have you witnessed a peer exclude another student from a desired activity?	①	②	③	④	⑤
25. have you witnessed a peer scare another student into giving up money or other things?	①	②	③	④	⑤
26. have you witnessed a peer chase another student wanting to hurt him or her?	①	②	③	④	⑤
27. have you witnessed a peer play a mean trick to hurt or scare another student?	①	②	③	④	⑤

How often in the **past school year…**	Never	Once or Twice	A Few Times	About Once a Week	Several Times a Week
28. have you received a text message that threatened your physical safety?	①	②	③	④	⑤
29. have you received a text message that spread a rumor about you?	①	②	③	④	⑤
30. have you received a text message that stated you could not attend a party/event?	①	②	③	④	⑤
31. have you received a text message that stated that you could not be part of a group of friends?	①	②	③	④	⑤
32. have you received a text message that stated if you did not do something, you could not join an activity?	①	②	③	④	⑤

How often in the **past school year…**	Never	Once or Twice	A Few Times	About Once a Week	Several Times a Week
33. have you received an email/online message that threatened your physical safety?	①	②	③	④	⑤
34. have you received an email/online message that spread a rumor about you?	①	②	③	④	⑤
35. have you received an email/online message that stated you couldn't attend a party/event?	①	②	③	④	⑤
36. have you received an email/online message that stated that you could not be part of a group of friends?	①	②	③	④	⑤
37. have you received an email/online message that stated if you did not do something, you could not join an activity?	①	②	③	④	⑤

How often in the **past school year…**	Never	Once or Twice	A Few Times	About Once a Week	Several Times a Week
38. have you sent a text message that threatened someone's physical safety?	①	②	③	④	⑤
39. have you sent a text message that spread a rumor about someone?	①	②	③	④	⑤
40. have you sent a text message that stated someone could not attend a party/event?	①	②	③	④	⑤
41. have you sent a text message that someone could not be part of a group of friends?	①	②	③	④	⑤
42. have you sent a text message that stated if someone did not do something, he/she could not join an activity?	①	②	③	④	⑤

How often in the **past school year…**	Never	Once or Twice	A Few Times	About Once a Week	Several Times a Week
43. have you sent an email/online message that threatened someone's physical safety?	①	②	③	④	⑤
44. have you sent an email/online message that spread a rumor about someone?	①	②	③	④	⑤
45. have you sent an email/online message that stated someone could not attend a party/event?	①	②	③	④	⑤
46. have you sent an email/online message that someone could not be part of a group of friends?	①	②	③	④	⑤
47. have you sent an email/online message that stated if someone did not do something, he/she could not join an activity?	①	②	③	④	⑤

Please shade in your best answer	Never	Rarely	Sometimes	A lot of the time	Always
48. My parent(s) usually know what I am doing after school.	①	②	③	④	⑤
49. My parent(s) know who my friends are.	①	②	③	④	⑤
50. My parent(s) know where I am after school.	①	②	③	④	⑤
51. If I am going to be home late, I am expected to call my parent(s) to let them know.	①	②	③	④	⑤
52. I tell my parent(s) whom I'm going to be with before I go out.	①	②	③	④	⑤
53. I talk to my parent(s) about the plans I have with my friends.	①	②	③	④	⑤

Please tell us what you think of your school. In my school…(shade in one answer only)	Totally false	Sort of false	Sort of true	Totally true
54. Teachers and other school staff bully students.	①	②	③	④
55. School assignments are interesting for students.	①	②	③	④
56. Teachers argue and shout at other teachers or school staff.	①	②	③	④
57. Teachers and students argue and shout at each other.	①	②	③	④
58. Students talk with teachers about their personal problems.	①	②	③	④
59. Teachers and other school staff do not try to stop bullying.	①	②	③	④
60. Teachers ask students for their thoughts about assignments and projects.	①	②	③	④
61. Students often talk about school grades, assignments, projects and subjects in their free time.	①	②	③	④
62. Students are friends with teachers or other school staff.	①	②	③	④

Please shade in your best answer	Very True	Fairly True	Fairly Untrue	Very Untrue	Never True
63. My parents show patience with me.	①	②	③	④	⑤
64. My parents seem to be easy going.	①	②	③	④	⑤
65. My parents joke around and play with me.	①	②	③	④	⑤
66. My parents are responsive to my feelings and needs.	①	②	③	④	⑤
67. When I am upset my parents comfort me.	①	②	③	④	⑤
68. Family members really help and support one another.	①	②	③	④	⑤
69. There is a feeling of togetherness in our family.	①	②	③	④	⑤
70. Our family doesn't do things together.	①	②	③	④	⑤
71. We really get along well with each other.	①	②	③	④	⑤
72. Family members seem to avoid contact with each other when at home.	①	②	③	④	⑤

APPENDIX B

Frost Middle School
14041 STARK RD., LIVONIA, MI 48154 - 734-744-2670
PREPARING FOR TOMORROW'S CHALLENGES

July 28, 2008

To Whom It May Concern,

It is my understanding that permission has been granted from Livonia Public Schools for Jennifer Taiariol, Wayne State University Ph.D. Candidate, to implement her dissertation survey on bullying at Frost Middle School. We look forward to the survey results. Please feel free to contact me if you have any questions.

Sincerely,

Deb Dykstra, Assistant Principal

APPENDIX C

WAYNE STATE UNIVERSITY

HUMAN INVESTIGATION COMMITTEE
101 East Alexandrine Building
Detroit, Michigan 48201
Phone: (313) 577-1628
FAX: (313) 993-7122
http://hic.wayne.edu

Full AAHRPP Accreditation

NOTICE OF EXPEDITED APPROVAL

To: Jennifer Taiariol
Theoretical & Behavior Foundations
11696 Crooked Lane

From: Ellen Barton, Ph.D.
Chairperson, Behavioral Institutional Review Board (B3)

Date: August 25, 2008

RE: HIC #: 084208B3E

Protocol Title: Bullies, Victims and Cyberspace: The Role of Family and School

Sponsor:

Coeus #: 0808006242

Expiration Date: August 24, 2009

Risk Level/Category: No greater than minimal risk.

The above-referenced protocol and items listed below (if applicable) were **APPROVED** following *Expedited Review* (Category 7*) by the Chairperson/designee *for* the Wayne State University Behavioral Institutional Review Board (B3) for the period of 08/25/2008 through 08/24/2009. This approval does not replace any departmental or other approvals that may be required.

- o Oral Assent Script and Information Sheet

- o Parental Permission/Research Information Sheet

- Federal regulations require that all research be reviewed at least annually. You *may* receive a *"Continuation Renewal Reminder"* approximately two months prior to the expiration date; however, it is the Principal Investigator's responsibility to obtain review and continued approval *before* the expiration date. Data collected during a period of lapsed approval is unapproved research and can *never* be reported or published as research data.
- All changes or amendments to the above-referenced protocol require review and approval by the HIC **BEFORE** implementation.
- Adverse Reactions/Unexpected Events (AR/UE) must be submitted on the appropriate form within the timeframe specified in the HIC Policy (http://www.hic.wayne.edu/hicpol.html).

NOTE:

1. Upon notification of an impending regulatory site visit, hold notification, and/or external audit the HIC office must be contacted immediately.
2. Forms should be downloaded from the HIC website at each use.

*Based on the Expedited Review List, revised November 1998

APPENDIX D

Parental Permission/Research Informed Consent
Title of Study: Bullies, Victims and Cyberspace: The Role of Family and School

Purpose:
You are being asked to allow your child to be in a research study at Frost Middle School that is being conducted by Jennifer Taiariol, a school psychologist in the Livonia Public School district and Wayne State University Ph.D. candidate, to explore issues related to peer relations, family influences and school climate. Your child has been selected because he/she is a student at Frost Middle School. This survey has been approved by Livonia Public Schools.

Study Procedures:
If you decide to allow your child to take part in the study, your child will be asked to fill out surveys related to peer relations, his/her perception of school climate and the family influences of responsiveness, cohesion and monitoring. Peer relationships will include his/her perception of bullying such as "How often in the past school year have you been teased" or "How often in the past school year have you had rumors spread about you". These questions will also include his/her experience with cyberbullying, which is bullying via computer or cell phone. This study will take place during one class period for approximately 45 minutes. Copies of the surveys will be available in the main office at Frost Middle School. Your child will have the option to opt-out of the study at any time. Your child's participation will not have an impact on his/her academic standing.

Benefits:
There may be no direct benefits for your child; however, information from this study may benefit other people now or in the future.

Risks:
There are no known risks at this time to your child for participation in this study.

Costs:
There are no costs to you or your child to participate in this study.

Compensation:
You or your child will not be paid for taking part in this study.

Confidentiality:
All information collected about your child during the course of this study will be kept confidential to the extent permitted by law. All information collected about your child during the course of this study will be kept without any identifiers.

Voluntary Participation /Withdrawal:
Your child's participation in this study is voluntary. You are free to withdraw your child at any time. Your decision about enrolling your child in the study will not change any present or future

relationships with Wayne State University or its affiliates, your child's school, your child's teacher, your child's grades or other services you or your child are entitled to receive.

Questions:

If you have any questions about this study now or in the future, you may contact Jennifer Taiariol at the following phone number 248-231-8169, address: 11696 Crooked Lane South Lyon, Michigan 48178 and/or email at jtaiario@livonia.k12.mi.us. If you have questions or concerns about your rights as a research participant, the Chair of the Human Investigation Committee at Wayne State University can be contacted at (313) 577-1628. If you are unable to contact the research staff, or if you want to talk to someone other than the research staff, you may also call (313) 577-1628 to ask questions or voice concerns or complaints.

Consent to Participate in a Research Study:
To voluntarily agree to have your child take part in this study, you must sign on the line below and return the form to Frost/Holmes Middle School. If you choose to have your child take part in this study, you may withdraw them at any time. You are not giving up any of your or your child's legal rights by signing this form. Your signature below indicates that you have read, or had read to you, this entire consent form, including the risks and benefits, and have had all of your questions answered.

If you wish to have your child participant in the study, you may fill out the form and return it to your child's teacher within the next two weeks.

I allow my child _____to participate in this research study.
                              Name

_____
Printed Name of Parent/Guardian

_____   _____
Signature of Parent/Guardian   Date

APPENDIX E

Research Information Sheet
Title of Study: Bullies, Victims and Cyberspace: The Role of Family and School

Principal Investigator (PI):   Jennifer Taiariol
                                        Education Department
                                        248-231-8169

Purpose:
You are being asked to be in a research study that will explore issues related to peer relations, school climate and family influences. This study is being conducted with all students at Frost Middle School.

Study Procedures:
If you take part in the study, you will be asked to fill out surveys related to peer issues, your perception of the school climate and family influences. You have the right not to participate in this study and it will have no impact on your academic standing. The surveys will take approximately 45 minutes to complete during one class period.

Benefits:
As a participant in this research study, there will be no direct benefit for you; however, information from this study may benefit other people now or in the future.

Risks:
There are no known risks at this time to participation in this study.

Costs:
There will be no costs to you for participation in this research study.

Compensation:
You will not be paid for taking part in this study.

Confidentiality:
All information collected about you during the course of this study will be kept without any identifiers.

Voluntary Participation /Withdrawal:
Taking part in this study is voluntary. You are free to not answer any questions or withdraw at any time. Your decision will not affect your academic standing.

Questions:

If you have any questions about this study now or in the future, you may contact Jennifer Taiariol at the following phone number 248-231-8169. If you have questions or concerns about your rights as a research participant, the Chair of the Human Investigation Committee can be

contacted at (313) 577-1628. If you are unable to contact the research staff, or if you want to talk to someone other than the research staff, you may also call (313) 577-1628 to ask questions or voice concerns or complaints.

Participation:
By completing the surveys you are agreeing to participate in this study.

APPENDIX F

Directions for Bully Survey

"The purpose of this survey is to learn how much bullying occurs in our school and to learn what we need to do to stop bullying. Bullying is defined as a form of aggression that is intentional, repeated, and involves an imbalance of power between the people involved. Bullying can take the form of an action, word, or gesture."

"It is very important that you are honest as you answer each question. Please do not write your name on the survey. This is an anonymous survey and your responses will not be known to teachers or parents."

"Read each question carefully and try not to leave any questions blank. If you have any questions, please ask me. Please begin and turn in the form when you are done."

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ABSTRACT

CYBERBULLYING: THE ROLE OF FAMILY AND SCHOOL

by

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AUGUST 2010

Advisor: Dr. Jina Yoon

Major: Educational Psychology

Degree: Doctor of Philosophy

The purpose of this study was to examine family and school variables in relation to different types of perpetration, victimization and witnessing experiences (physical, social, verbal and cyber). Students (n=257) in grades 7 to 8 from two middle schools located in a suburb in southeastern Michigan participated in the study. Data were collected during the 2008-2009 school year.

Statistically significant differences were found for perpetration and victimization by gender and perpetration and witnessing by grade. No gender and grade interaction results were significant. All types of bullying experiences were positively correlated with cyberbullying and cyber victimization. Bullying experiences were significant predictors of poor school adjustment (low GPA and risky school behavior) and both negative and positive school climates while family variables were significant predictors of bullying experiences. Students with a computer located in a private location with parental monitors installed were more likely to be victims of cyberbullying or engage in cyberbullying themselves. Statistically significant gender and grade differences were found for communication technology use: Females and 8th graders reported greater use

of technology than males and 7th graders. Little research to date has been done in relation to cyberbullying and family and school variables. This study provides support for the importance of cyberbullying research.

AUTOBIOGRAPHICAL STATEMENT

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Education	2010	Doctor of Philosophy, Wayne State University Major: Educational Psychology Minor: Developmental Psychology Dissertation Title: Cyberbullying: The Role of Family and School Advisor: Jina Yoon, Ph.D.
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