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Examining the relationship among physical and psychological health, parent and peer attachment, and cyberbullying in adolescents in urban and suburban environments

Jemica Monique Carter
Wayne State University,

EXAMINING THE RELATIONSHIP AMONG PHYSICAL AND PSYCHOLOGICAL HEALTH, PARENT AND PEER ATTACHMENT, AND CYBERBULLYING IN ADOLESCENTS IN URBAN AND SUBURBAN ENVIRONMENTS

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JEMICA CARTER

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DEDICATION

I would like thank God for his blessings.
I frequently reminded myself throughout this journey that
"I can do all things through Christ who strengthens me"
(Philippians 4:13, New King James Version)! Hallelujah!

This dissertation is dedicated to my husband, Byran Carter,
son, Levi Lamar Wright, and
mother, Denise Wright.
Thanks for your love, prayers, patience, and emotional support.

I would also like to acknowledge my family, church family
(Living Waters Full Gospel Ministries),
and friends who kept me in your prayers.

FOOTPRINTS IN THE SAND
"My son, my precious child,
I love you and I would never leave you.
During your times of trial and suffering,
when you see only one set of footprints,
it was then that I carried you."

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CHAPTER 1

INTRODUCTION

On March 10, 2011, the United States (U.S.) President Barack Obama and First Lady, Michelle Obama hosted the White House Conference on Bullying Prevention. In addressing the conference, President Obama stated:

> If there's one goal of this conference, it's to dispel the myth that bullying is just a rite of passage or an inevitable part of growing up. It's not. Bullying can have destructive consequences. . . . We all remember what it was like to see kids picked on in the hallways or the school yard. I have to say with big ears and the name that I have, I wasn't immune (as cited in Lee, 2011, para. 1 & 3).

On September 8, 2009, the President presented a national address of hope and responsibility to American students. During the address, he discussed the implications associated with the favorite pastime (e.g., accessing the Internet for social reasons) for American teens (Obama, 2009). The U.S. President encouraged adolescents to be safe when surfing online and visiting social networking sites because they are at risk for harm (e.g., increased vulnerability). In a 2009 nationwide survey, an estimated 20% of high school students reported being bullied on school property (CDC, 2009b). Bullying can have detrimental effects on adolescent wellbeing, with bullying causing more emotional harm than physical harm (CDC, 2010). According to the CDC (2009a), the use of new technology creates numerous risks such as bullying peers by posting rumors or lies about another person in a discussion board, disclosing an individual's personal information via website to cause embarrassment, sending mean, embarrassing, or threatening text messages, instant messages, or emails, etc. However, the recent explosion in technology does not come without possible risks. The CDC (2009b) defined electronic aggression (a.k.a. cyberbullying, online harassment, Internet bullying) as "any type of harassment or bullying that occurs through e-mail, a chat room, instant messaging, a website (including blogs), or text-messaging" (p. 1).

Youth can use electronic media to embarrass, harass, or threaten their peers. Increasing numbers of adolescents are becoming victims of this new form of violence – electronic aggression. Research suggested that 9% to 35% of young people report being victims of this type of violence. Like traditional forms of youth violence, electronic aggression is associated with emotional distress and conduct problems at school. Ybarra, Espelage, and Mitchell (2007) reported that 23% of victims who experience electronic aggression also experienced harassment at school. As a result, new technology (e.g., media) creates vulnerability and students may not be prepared to deal with online and offline aggression. Ybarra et al. (2007) also examined victims and aggressors of online aggression and online sexual solicitation. The researchers found that 68% to 97% of online aggression victims experience offline relational aggression and offline physical victimization (24% to 76% of victims). The researchers also noted the presence of psychosocial problems: elevated rates of substance use, involvement in offline victimization, and perpetration of relational, physical, and sexual aggression; delinquent peers; propensity to respond to stimuli with anger; poor emotional bonds with caregivers; and poor caregiver monitoring.

In 2006, the CDC formulated a webcast to discuss the nature and extent of electronic aggression. The expert panel discussed recommendations for dealing with this public health issue, including suggestions for future research. An earlier research report completed by Finkelhor, Mitchell, and Wolak (2000) discussed the cyberhazards (e.g., offensive experiences on the Internet, harassment, sexual solicitation, distress, and reluctance to report) that youth face. Risky online behaviors are becoming the norm for adolescent Internet users (Ybarra, Mitchell, Finkelhor, & Wolak, 2007). The nature and extent of youth violence and aggression is addressed in *Healthy People 2010*. *Healthy People 2010* is a set of national health objectives designed to prevent disease and improve health. The goal is to promote adolescent health (e.g., physical and mental health, prevention of adult chronic diseases, etc.) safety, and well-being. According to

Objective 7-2 of the *Healthy People 2010* report, the goal is to increase prevention of health problems related to unintentional injury, violence, suicide, etc. among middle, junior high, and high school students (U.S. Department of Health and Human Services, 2000).

Patchin and Hinduja (2006), defined cyberbullying as the use of electronic text to repeatedly and intentionally cause harm to others. Cyberbullying is a worldwide problem that has serious, detrimental consequences for adolescents. This form of bullying can result in negative lifelong consequences for both the cyberbully and cybervictim. Many adolescents have access to computers, cell phones, and the Internet. Pew Internet & American Life Project (Pew) report (2008) found that adolescents are sophisticated users of new technologies (e.g., cell phones, Internet, instant messaging, email, etc.; Lenhart, 2008). According to Lenhart (2007a), 93% of adolescents (12 to 17 years of age) go online or use the Internet, up from 87% of adolescents going online in 2005 Pew report (Lenhart, Madden, & Hitlin, 2005). The Internet World Stats (2008) reported that 71% of the population uses the Internet. These findings were similar to other websites that monitor Internet usage. According to the Pew report, more than 90% of youth in the United States are online and 50% have cell phones (Lenhart, 2008). The Pew report (2008) also found that 87% of U. K. adolescents compared with 65% of U. S. adolescents identified themselves as heavy or moderate users of the Internet for school. Another study reported that 72% of adolescents in the United Kingdom (U. K.) and 68% of adolescents in the U. S. reported heavy or moderate use of the Internet for fun (Mobile Life Report, 2008). The 2009 Pew report documented an increase in adolescent Internet usage (12-17 years old) from 90% in the previous year to 93% of adolescents are going online (Lenhart, Purcell, Smith, & Zickuhr, 2010). Lenhart and colleagues also reported an increase in cell phone ownership from 50% in 2008 to 75% of American adolescents own a cell phone in 2009. With the increased use of technology by

adolescents, the prevalence of cyberbullying has grown exponentially. The media has documented numerous reports of adolescents misusing technology to harass and bully others.

A legitimate public concern exists regarding adolescents' use of the Internet and other communication devices (e.g., phone, instant messaging, etc.). Strom and Strom (2005) asserted the Internet (i.e., cyberspace) is new territory that students can use to abuse their peers. In the U. S., a 2007 study by Pew found that 32% of adolescents have experienced online harassment (e.g., receiving threatening messages, having emails or text messages forwarded without permission, posting embarrassing pictures, or having rumors spread about them in cyberspace; Lenhart, 2007b).

Patchin and Hinduja (2006) documented how negative effects of the new technologies may result in psychological, emotional, or social harm. McLoughlin, Meyricke, and Burgess (2009) discussed the disruptive effects of cyber violence and cyberbullying may result in long-term physical and psychological damage. The researchers emphasized that a tremendous amount of pressure is being placed on educators as they struggle to remain informed and attentive to this new phenomenon. The Internet, cell phones, and other electronic communication media have become increasingly popular with adolescents. Cyberbullying is a public health problem that requires multifaceted approaches at the individual and community levels. Nurses need to take leadership roles in helping students, parents, school leaders and staff, and community members understand the physical, psychological, social, and legal ramifications of cyberbullying. Early identification of both cyberbullies and cybervictims, as well as development and implementation of effective interventions are needed to reduce this form of bullying.

Statement of the Problem

Cyberbullying is a new phenomenon that has received substantial attention via media. However, the number of published research studies on cyberbullying is limited. The majority of research in this area is from the psychology, sociology, and education disciplines. An extensive review of the literature was conducted and revealed limited nursing research publications on this topic. Lenhart (2007b) found that one third of adolescents have been victims of cyberbullying when engaging in online activities (e.g., threatening and embarrassing messages or rumors spread about them online). Thorp (2004) explored the incidence of cyberbullying in New Hampshire. The researcher found that 6% of the youth surveyed had encountered cyberbullying. A more recent study by Juvonen and Gross (2008) reported that more than half (72%) of respondents encountered at least one online incident and 85% experienced traditional bullying in school.

The purpose of this study was to examine experiences with cyberbullying on physical health (e.g., headache, stomachache, etc.), psychosocial health (e.g., depression), parent and peer attachment, school characteristics, and technology use among adolescents. Juvonen and Gross (2008) found that individuals who experience repeated traditional bullying are at increased risk for experiencing repeated incidents of cyberbullying. Research has shown that the effects of cyberbullying may be more traumatic than traditional bullying when one considers that victims can be bullied 24 hours and 7 days a week, on and off school property (Willard, 2006; Raskauskas & Stoltz, 2007). Willard emphasized the impact of cyberbullying may produce more damage ranging from low self-esteem, anxiety, anger, depression, school absenteeism, academic failure, violence or increased tendency to display aggressive behavior, and youth suicide. According to Raskauskas and Stoltz, (2007) cyberbullying can pose a greater danger to an

adolescent's emotional development and well-being than traditional bullying because of the greater power imbalance created by the following factors: anonymity, transcendence beyond school grounds and 24 hour availability (e.g., exposure at school and home). The misuse of interactive technologies to bully and harass others is a serious health concern that must be addressed by nurses and other health care professionals.

Specific Aims and Hypotheses

The specific aims and related working hypotheses and research questions are:

1. To determine the extent to which urban and suburban adolescents self-report experiences associated with cyberbullying and traditional bullying.

   H_1: There are significant differences in the occurrence of cyberbullying between urban and suburban adolescents.
   H_2: Urban and suburban adolescents will report more experiences with traditional bullying than cyberbullying.
   H_3: Urban and suburban adolescents will indicate greater prevalence with cyberbullying using the Internet (e.g., social networking, Skype, instant messaging, etc.) than cell phones (e.g., text messaging, photographs, videos, etc.).

2. To examine the relationships among parent and peer attachment, feelings about cyberbullying, physical health and psychological health, and cyberbullying in adolescents.

   H_4: A negative relationship will be found between the experience with cyberbullying and parent and peer attachment, feelings about cyberbullying, physical health and psychological health of urban and suburban adolescents.

3. To determine the factors directly related to risk factors for cyberbullying among urban and suburban adolescents.

   H_5: Specific risk factors associated with cyberbullying are related to urban and suburban adolescents' experiences with cyberbullying.

4. To determine personal characteristics of urban and suburban adolescents who are more likely to experience cyberbullying.

H_6: Urban and suburban adolescents who are more likely to experience cyberbullying can be predicted from personal characteristics, including age, gender, race, grade in school, self-reported academic achievement, self-reported citizenship grades, suspensions, grade retention, number of siblings, birth order, and access to Internet and cell phones.

Significance of the Study

Adolescence is a vulnerable phase when developmental needs (e.g., autonomy, independence, importance of peer relations, etc.) are changing. Peer groups become more important during adolescence, with this increase in social interaction among adolescents possibly having a detrimental effect on adolescent wellbeing. According to Whitlock, Powers, and Eckenrode (2006), "The internet is transforming the social world of adolescents by influencing how they communicate, establish and maintain relationships, and find social support" (p. 408). Adolescents are using social network sites such as MySpace, Facebook, and other sites to stand connected (e.g., interaction with peers online, blogs (online diary), instant messaging (IM), text messaging, chat rooms, email, videos, etc.). Teenagers reported the use of these sites to stay in touch with friends, make new friends, flirt with others, and make plans (Lenhart, Madden, Rankin, & Smith, 2007). There are concerns about the negative peer pressure can lead to cyberbullying that may be manifested in poor physical, mental, and social health. Although the role of nursing in cyberbullying has not been found in published nursing literature, researchers in psychology, sociology, and education have indicated that adolescents are more likely to experience more distress from cyberbullying than victims of traditional bullying. The outcomes of this study can provide new information on cyberbullying and fill the gap in the nursing literature. Nurses and other health care professionals need to understand the consequences of cyberbullying and how to identify both the cyberbullies and cybervictims to implement interventions that can reduce the negative effects of electronic aggression.

Limitations of the Study

The following limitations are recognized for this study. These limitations may limit the generalizability of the findings beyond the group being studied.

1. Data was obtained from participant's self-reports, which cannot be verified.

2. The participants' interpretation of cyberbullying may be reflected in their responses to the survey questions.

3. Participants was drawn from urban and suburban areas in a large metropolitan area. The results may not be generalizable to adolescents in rural areas.

4. The use of a convenience sample may contribute to bias in the outcomes because the sample is not representative of the population being studied.

Significance to Nursing

An extensive amount of literature has been published regarding traditional bullying. The media has expanded the topic and the public is becoming aware of this new form of bullying known as cyberbullying. A small number of empirical studies have examined cyberbullying in the U. S. and other countries. Given the pervasiveness of cyberbullying among adolescents, nurses are in a key position to address cyberbullying through the use of primary, secondary, and tertiary prevention. Nurses have a complete understanding of important health issues (e.g., especially bullying behaviors) and receive training on how to deal with these behaviors. The paucity of research studies regarding cyberbullying and health outcomes support the need for additional exploration of this topic. Kowalski and Limber (2007) examined cyberbullying among adolescents. The researchers recommended additional research regarding the impact of this behavior on the perpetrator and victim. Limber (2006) recommend that more research is necessary to gain knowledge of possible consequences of cyberbullying.

An exhaustive literature search revealed several gaps in the published literature concerning cyberbullying. The writer was able to locate two editorials (Swartz, 2009; Muscari, 2008) and no research studies from the nursing literature that addressed cyberbullying. Nurses and other health care professionals may encounter adolescents who are at risk for cyberbullying. A comprehensive assessment of the adolescent's physical, psychological, and social functioning may reveal numerous encounters with cyberbullying as a bully and/or victim. Immediate assessment and intervention may be beneficial in decreasing the negative outcomes associated with this new phenomenon. Additional research that examines the physical and mental health outcomes is needed to raise awareness. Nurses need to be aware of the implications of this new form of bullying and be prepared to intervene.

Definition of Terms

Acceptable Use Policy (AUP):	Policies developed to address the presence and use of the Internet in the K-12 educational community (Flowers & Rakes, 2000, p. 352). Internet connections bring a wide array of problems and concerns that must be addressed to ensure safe and appropriate use of the Internet (Flowers & Rakes, 2000, p. 353).
Adolescence:	Adolescence is a psycho-social-biological stage of development occurring between childhood and adulthood. It usually starts with puberty and ends when the person gains a reasonable degree of parental independence (Atkinson, n.d., p. 1). In this study, adolescence is defined as the period from 12 to 18 years of age and includes students in grades 6 to 12.
Blogs:	An Interactive Web journal or diary, the contents of which are posted online where they are viewable by some or all individuals. The act of updating a blog is called "blogging." A person who keeps a blog is referred to as a 'blogger'. The term was created by combining web and log (Hinduja & Patchin, 2009, p. 184). Adolescent girls have emerged as the largest demographic of bloggers in the U.S. The girls

	discuss their use of blogging for self-expression and peer interaction (Davis, 2010, p. 145).
Bullying:	A student is being bullied or victimized when he or she is exposed repeatedly and over time, to negative actions on the part of one or more students. A negative action is when someone intentionally inflicts, or attempts to inflict, injury or discomfort upon another. (Olweus, 1993, p. 9). According to Olweus (1999), "bullying is thus characterized by the following three criteria: (1) it is aggressive behavior or intentional 'harmdoing' (2) which is carried out repeatedly and over time (3) in an interpersonal relationship characterized by an imbalance of power (pp. 10-11).
Cell Phone:	A wireless handheld device that allows for telephone communications (Hinduja & Patchin, 2009, p. 185).
Chat room:	A virtual online room where groups of people send and receive messages on one screen. Popular chat rooms can have hundreds of people all communicating at the same time. What you type appears instantly as a real-time conversation. All of the people in the room are listed on the side of the screen with their screen names (Hinduja & Patchin, 2009, p. 185).
Computer-mediated communication (CMC):	The use of networks of computers to facilitate interaction between spatially separated learners; these technologies include electronic mail, computer conferencing, and on-line databases. The most prominent applications of CMC - computer conferencing and electronic mail- support sophisticated synchronous (real-time) or asynchronous (delayed) group communication (Jonassen, Davidson, Collins, Campbell, & Haag, 1995, p.15). According to Li (2006a), CMC involves a person's communicative, interactive, affective, and process patterns using computer-mediated communication (p. 525).
Cyberbullying:	The use of information and communication technologies such as e-mail, cell phone, 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 (Belsey, 2008, p. 18, ¶17). Modern technology, however, has enabled would-be bullies to extend the reach of their aggression and threats beyond this physical setting through what can be termed *cyberbullying*, where tech-savvy students are able to harass others day and night using technological devices such as computer systems and cellular phones (Patchin & Hinduja, 2006, p. 148).

Cyberspace: The electronic "universe" created by computer networks in which individuals interact (Hinduja & Patchin, 2009, p. 185).

Cyberstalking: Online harassment that includes threats of harm or is excessively intimidating (Li, 2007a, p. 436). Willard (2005) identified cyberstalking as a form of harassment that include threats of harm or is highly intimidating (p. 2).

Denigration (put-downs): Sending or posting harmful, untrue, or cruel statements about a person to other people (Willard, 2005, p. 2)

Email: Electronic mail allows Internet users to send and receive electronic text to and from other Internet users (Hinduja & Patchin, 2009, p. 186).

Exclusion: Actions that specifically and intentionally exclude a person from an online group, such as exclusion from an IM "buddies" list (Willard, 2005, p. 2).

Facebook: The second-most popular social networking Web site with over 70 million active users. Users create personal "profiles" to represent themselves, listing interests and posting photos and communicating with others through private or public messages (Hinduja & Patchin, 2009, p. 186).

Flaming: Sending angry, rude, vulgar messages directed at a person or persons privately or to an online group (Willard, 2005, p. 2). According to Hinduja and Patchin (2009), flaming involves sending angry, rude, or obscene messages directed at a person or persons privately or an online group. A

	'flamewar' erupts when 'flames' are sent back and forth between individuals repeatedly (p. 186).
Generation Y:	People born in or after 1980: the generation of people born approximately in or after 1980 in Western countries, especially the United States (a.k.a. the millennial generation; Encarta World English Dictionary, 2009a, p. 1, para. 1).
Happy Slapping:	An extreme form of bullying where physical assaults are recorded on mobile phones or digital cameras and distributed to others (Hinduja & Patchin, 2009, p. 186).
Harassment:	Repeatedly sending a person offensive messages (Willard, 2005, p. 2).
Impersonation:	Pretending to be someone else to make that person look bad or place in danger (Willard, 2005, p. 1).
Instant Messaging (IM):	The act of real-time communication between two or more people over a network such as the Internet, using software such as AOL Instant Messenger, Microsoft Instant Messenger, or Goggle Talk. IM can also occur while logged into social networking web sites or via cellular phone (Hinduja & Patchin, 2009). "IM systems support Internet-based synchronous text chat, with point-to-point communication between users on the same system. A window is dedicated to the conversation, with messages scrolling upward and eventually out of view as the conversation ensues. IM also supports group chat, with users inviting others to join them in a specified 'room.' 'Buddy' lists display information about IM cohorts. Buddies' on-line handles (usernames) are displayed, along with indicators of activity (usually as a function of input device use) and availability" (Grinter & Palen, 2002, p. 1).
Internet:	A worldwide network of computers communicating with each other via phone lines, satellite links, wireless networks, and cable systems (Hinduja & Patchin, 2009, p. 187).
Internet harassment:	Being bothered and harassed while online, feeling threatened or embarrassed because someone had posted or sent a message about the young people for other people to

	see (Ybarra et al., 2006, p. 249). Non-repetitive nature online offending behavior.
Masquerade:	Pretending to be someone else and sending or posting material that makes that person look bad or places that person in potential danger (Willard, 2005, p. 2).
Multi-User Domains, or MUDs:	MUDs provide worlds for anonymous social interactions in which one can play a role as close to or as far away from one's 'real self' as one chooses. (Turkle, 1995, p. 12)
MySpace:	The most popular social networking Web site with over 230 million accounts created. It allows individuals to create an online representation or 'profile' of themselves to include biographical information, personal diary entries, affiliations, likes and dislikes, interests, and multimedia artifacts (pictures, video, and audio). Blogging, messaging, commenting, and 'friending' are the primary methods of interacting with others (Hinduja & Patchin, 2009, p. 187).
Netiquette:	Network etiquette'. The unofficial rules of accepted, proper online social conduct (Hinduja & Patchin, 2009, p. 187).
Online:	Connected via computer: attached to or available through a central computer or computer network (Encarta World English Dictionary, 2009b, p. 1, para. 1).
Outing and Trickery:	Sending or posting material about a person that contains sensitive, private, or embarrassing information, including forwarding private messages or images. Engage in tricks to solicit embarrassing information that is then made public (Willard, 2005, p. 2).
Skype:	Skype is a free software application that was founded in 2003. It enables millions of individuals and businesses to make free video and voice calls, send instant messages and share files with other Skype users. People use Skype to make low-cost calls to landlines and mobiles. During peak times, there are 232 million users online (Skype, 2009, p.1 para. 1).
Social networking sites (SNSs):	SNS (e.g., MySpace, Facebook, Cyworld, and Bebo) have attracted millions of users, many of whom have integrated these sites into their daily practices. Most sites support the maintenance of preexisting social networks, but others help strangers connect based on shared interests, political views,

	or activities. Some sites cater to diverse audiences, while others attract people based on common language or shared racial, sexual, religious, or nationality based identities (Boyd & Ellison, 2008, p. 210).
Social support:	Related to mental health outcomes and to serious physical illness outcomes…At a general level, it can be posited that a lack of positive social relationships leads to negative psychological states such as anxiety or depression. In turn, these psychological states may ultimately influence physical health either through a direct effect on physiological processes that influence susceptibility to disease or through behavioral patterns that increase risk for disease and mortality (Cohen & Wills, 1985, p. 4).
Suburban area:	A residential district located on the outskirts of a city (The Free Dictionary, 2010, para. 1). Answers.com (2010) defined suburban: Of, relating to, or characteristic of the culture, customs, and manners typical of life in the suburbs (para. 1).
Texting:	Sending sort messages via cell phone (Hinduja & Patchin, 2009, p. 188).
Text message:	A text message is a message sent in textual form, especially one designed to appear on the viewing screen of a mobile phone or pager (Encarta World English Dictionary, 2009c, p.1, para. 1).
Twitter:	A social networking and microblogging service that allows people to answer the question, "What are you doing?" by sending short text messages (i.e., 140 characters or shorter in length) called "tweets", to friends, or "followers." Twittering is also a less gated method of communication: you can share information with people that you wouldn't normally exchange email or IM messages with, opening up your circle of contacts to an ever-growing community of like-minded people (Stevens, 2008, para. 1).
Unacceptable or inappropriate use of technology:	This includes user behavior which is offensive, self-risking, illegal, unethical or uncritical. Examples include: downloading/uploading/transmission of highly personal content or offensive material (McGrath, 2009, pp. 4-5).

Urban area:	Residential areas characterized by higher percentages of both minorities and economically disadvantaged populations (Davidson & Anderton, 2000, p. 465).
Voting or poll booths:	Offers users the opportunity to create Web pages that allow students to send or post material that makes that person look bad. This new method of bullying involves the use of e-mail, instant messaging, Web sites, voting booths, and chat or bash rooms to deliberately pick on and torment others (Beale & Hall, 2007, p. 8).
Web:	Short for 'World Wide Web' or pages linked together via the Internet (Hinduja & Patchin, 2009, p. 188).
Wireless:	Communications in which electromagnetic waves carry a signal through space rather than along a wire (Hinduja & Patchin, 2009, p. 188).
Wireless Device:	Cell phones, personal digital assistants, handheld PCs, and computers that can access the Internet without being physically attached by a cable or data line (Hinduja & Patchin, 2009, p. 188).

CHAPTER 2

REVIEW OF LITERATURE

Introduction

Many adolescents depend on technology to maintain and enhance social relationships. The need for constant connectivity makes adolescents susceptible to forms of bullying using electronic devices, such as computers and cell phones. Researchers studying a nationally representative sample of 800 adolescents (12 to 17 years old) found the following: 93% of teens are online, 73% use social network websites, 75% own cell phones, 69% own computers, and 63% go online every day (Lenhart et. al, 2010). As technology continues to evolve, adolescents are becoming more aware of applications available to broaden their social networks. Some adolescents are using the internet and cell phones to harass and bully their peers, with this type of bullying becoming a major concern for middle and high school students. Peer victimization, including traditional bullying and cyberbullying, are examples of challenges that students encounter. This chapter explores and reviews the impact of technology on adolescent developmental needs, origins of traditional bullying and cyberbullying, nature and extent of cyberbullying among adolescents, similarities and differences between traditional bullying and cyberbullying, prevalence of cyberbullying in urban and suburban environments, social and emotional characteristics of bullies and victims, physical and psychological changes and adverse effects that adolescents may experience if they are being bullied is discussed.

Adolescent Developmental Needs

Adolescence is a time of rapid changes when children grow emotionally and socially. Edelman and Mandle (2006) defined adolescence as "beginning with onset of puberty around age 11 to 13 years, and ending with the achievement of independence from the primary family

unit, around 18 to 21 years" (p. 503). Edelman and Mandle also described adolescence as a vulnerable time when an individual experiences a multitude of rapid changes (e.g., physically, psychosocially, morally, and cognitively). Adolescence can be a very challenging time for adolescents (Ozbayrak, n.d.; Roth & Brooks-Gunn, 2004; Steinberg, 2005). Steinberg indicated that adolescence is comprised of three phases: early adolescence (from 10 through 13 years), middle adolescence (from 14 through 17 years), and late adolescence (from age 18 through 22). According to Haring (n.d.), established age/grade groups for middle school students in 5th through 8th grades are from 11 to 14 years of age. High school students are 14 years of age and older. Adolescents experience tremendous physical, cognitive, emotional, psychological, and social growth during the period (Steinberg, 2005).

Physical changes for adolescents include alterations in body size and proportions and appearance of secondary sexual characteristics (e.g., pubic hair development, breast development and presence of menarche in females, as well as changes in male and female reproductive organs, etc.). Adolescence also is accompanied by cognitive changes, such as more complex thinking abilities. According to "Adolescent Medicine" (n.d.), cognitive developmental changes that occur during adolescence include:

> The developing teenager acquires the ability to think systematically about all logical relationships within a problem. The transition from concrete thinking to formal logical operations occurs over time. Each adolescent progresses at varying rates in developing his/her ability to think in more complex ways. Each adolescent develops his/her own view of the world. When emotional issues arise, they often interfere with an adolescent's ability to think in more complex ways. The ability to consider possibilities, as well as facts, may influence decision making, in either positive or negative ways. (p. 1, para. 2)

Adolescence is a time of accelerated growth and development on many different levels. To understand this transition to adulthood, an awareness of the growth sequences that occur during adolescence is needed.

Psychosocial changes during adolescence involve the formation of an identity and the importance of parent and peer groups. During this period, adolescents strive to develop their identities. Erikson (1950, 1963), a psychoanalyst, described eight developmental stages (e.g., trust vs. mistrust, autonomy vs. shame and doubt, initiative vs. guilt, industry vs. inferiority, identity vs. role confusion, intimacy vs. isolation, generativity vs. stagnation, and integrity vs. despair) through which healthy humans pass from infancy to late adulthood. Erikson proposed that in each stage conflict arises between personal needs and social demands. This ultimately results in a crisis that is considered a normal event. According to Erikson (1963), "identity-formation versus role confusion occurs in adolescence" (p. 261). During this stage, adolescents are concerned with (a) being aware of how they appear in the eyes of others; (b) exploring connections with peers, and (c) incorporating their identities with prescribed social roles. Adolescents achieve resolution of these concerns by forming cliques, as well as stereotyping themselves and others (Erikson, 1968).

Adolescents have many developmental milestones to accomplish when moving from childhood to adulthood. Adolescents are expected to become more autonomous, independent; engage in peer and romantic relationships (e.g., friends and social support system). Social networks developed during this period of development may be fleeting or can last a lifetime (Atkinson, n.d.).

Bullying

A normal part of the maturation process is resolving conflict among adolescents. This conflict often is exhibited in bullying behaviors, with bullies threatening other students who may be perceived as weak or vulnerable. These behaviors are identified as either traditional bullying or cyberbullying.

Traditional bullying.

To understand cyberbullying, the historical perspective of traditional bullying must be examined. Being aware of traditional bullying may help to understand the application of this behavior to a broad social environment without boundaries. The transition from childhood to adolescence is an important developmental phase in which biological, cognitive, and social changes are experienced. Adolescents begin to develop healthy relationships with parents and peers that can define who they will become as adults. During social transitions, adolescents often experience changes in social roles and status. As a result, they develop a strong sense of autonomy, make alterations in self-image, and strive to become independent. Adolescents commonly experience increased independence from parents that usually is replaced with increased closeness with peers (i.e., spending more unsupervised time communicating with friends in cyberspace after school). Lenhart, Lewis, and Rainie (2001) found that adolescents primarily use the Internet to socialize.

Numerous victims of bullying can vividly recall being harassed during childhood. Bullying problems often go undetected and unreported because many people view bullying as a normal part of life in middle and high school. Most people believe that it is normal for kids to fight and they have to learn how to protect themselves. According to Davis (2006), a need exists to "discard myths like bullying is an inevitable part of growing up, we shouldn't solve kids' problems for them . . . bullies just need to develop self-esteem" (p. 1). Olweus, a Norwegian researcher, has been recognized as the pioneer of bullying research. In the 1970s, Olweus began the first systematic study to address bullying, with results published in the book, *Aggression in the Schools: Bullies and Whipping Boys*. In 1983, after reports of suicide by three boys in

Scandinavia, Olweus started a nationwide campaign to address and prevent bullying. According to Olweus (1993), bullying or victimization is defined as:

> A student is being bullied or victimized when he or she is exposed repeatedly and over time, to negative actions on the part of one or more students. A negative action is when someone intentionally inflicts, or attempts to inflict, injury or discomfort upon another. The negative action is when someone intentionally inflicts, or attempts to inflict, injury or discomfort upon another. (p. 9)

Olweus (1993) emphasized that "an asymmetric power relationship" (p. 10) is an important element that indicates the victim's inability to defend himself against the bully. Nansel et al. (2001) identified bullying as a type of aggression that includes three important characteristics: (a) the behavior is intended to harm or disturb, (b) the actions occur repeatedly over time, and (c) an imbalance of power exists in which the bully or bullies are considered more powerful by attacking a victim who is less powerful. Physical, verbal, relational, and indirect bullying are frequently referred to in the media, Internet, and scholarly literature as traditional forms of bullying (Smith et al., 2008).

Direct and indirect bullying.

Bullying allows the perpetrator to possess physical, psychological, and social dominance over the victim. Bullies and victims may be involved in direct and/or indirect bullying. According to Whitney and Smith (1993), bullying ranges from direct physical behaviors (e.g., hitting or kicking) to indirect/relational bullying (e.g., name-calling or social exclusion). Direct/overt bullying involves physical aggression, such as: hitting, tripping, shoving, coercion or stabbing. Direct bullying has been found to increase in elementary, peaks during the middle school years, and declines in high school (Banks, 1997). Researchers (Li, 2006a; Olweus, 1993; Seals & Young, 2003; Whitney & Smith, 1993) reported that boys engage in direct bullying behaviors more frequently than girls.

Researchers have examined the location of bullying incidents. While the settings may vary, bullying incidents frequently occur in locations with low supervision. For example, some researchers (Craig & Pepler, 1997; Olweus, 1991; Whitney & Smith, 1993) reported that bullying frequently occurs on the playground. A study by Craig and Pepler observed 82 students on the playground. The researchers reported the majority of students were involved in bullying incidents (e.g., victim or aggressor) on the playground.

Indirect/covert bullying has been defined as rumor spreading, gossiping, or social rejection. Indirect bullying may also include: intentional exclusion or social isolation (Kepenekci & Cinkir, 2006; Smith & Sharp, 1994). This form of relational aggression can cause serious psychological damage to the victim (Seals & Young, 2003). According to Banks (1997), girls are more likely than boys to engage in indirect bullying.

Cyberbullying.

Cyberbullying (a.k.a. cyberharassment) is a relatively new form of online bullying (Lenhart, 2007b). With the growth of technology (e.g., cell phones, Internet, etc.), this form of online violence (cyber violence and cyberbullying) has increased among adolescents and has become recognized as a significant and serious threat (McLoughlin, Meyricke, & Burgess, 2009). One of the challenges associated with cyberbullying is that it tends to occur on and off school grounds (Shariff & Houff, 2007).

Some overlap exists between cyberbullying and traditional bullying. Cyberbullying is an indirect form of bullying via electronic media. Cyberbullying is a form of relational aggression in which adolescents try to damage relationships or social status of their peers. According to Young, Boye, and Nelson (2006), relational aggression is usually an attempt to maintain or improve a person's status in a group. Cyberbullying can transition into traditional bullying. For

example a student may be bullied through electronic means off school property and the incident may escalate into traditional or direct bullying at school. Preliminary studies suggested a relationship between cyberbullying and school bullying. Beran and Li (2007) surveyed 432 Canadian students in grades 7 – 9. The researchers found that more than half of the students (*n* = 248, 58%) in the sample had experienced cyberbullying at least once or twice, or more frequently and 109 students (26%) bullied others in cyberspace at least once or twice, or more frequently. Beran and Li indicated that most (*n* = 159, 37%) of the students in the sample were victims of cyberbullying and traditional bullying once, twice, or more often. Victims of cyberbullying and traditional bullying were more likely to experience difficulties at school, such as poor grades, diminished concentration, and absenteeism (Beran & Li). The researchers provided several explanations for retaliation against peers: to minimize psychological harm, diminish embarrassment experienced as peer witnesses or bystanders are aware of victimization, and conform to the social rules of the peer group.

Types of Cyberbullying

The term cyberbullying was first used by Belsey (2008), a Canadian educator. He created www.cyberbullying.org, which is one of the most visited and referenced websites that focus on cyberbullying. Students and parents visit the site and discuss their experiences with cyberbullying. According to Belsey, cyberbullying is defined as:

> The use of information and communication technologies such as e-mail, 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. (Belsey, 2008, p. 18, para. 17)

A second definition for cyberbullying was provided by Shariff and Gouin (2005) who identified cyberbullying as:

> Cyber-bullying consists of covert, psychological bullying, conveyed through the electronic mediums such as cell-phones, web-logs and web-sites, on-line chat rooms, 'MUD' rooms (multi-user domains where individuals take on different characters) and Xangas (on-line personal profiles where some adolescents create lists of people they do not like). It is verbal (over the telephone or cell phone), or written (flaming, threats, racial, sexual or homophobic harassment) using the various mediums available. (p. 3)

The National Crime Prevention Council (NCPC, 2007) defined cyberbullying as the use of the Internet, cell phone, or other communication devices to send or post text or images intended to hurt or embarrass another person. Feinberg and Robey (2008) also stressed that cyberbullying incidents occur through instant messaging, e-mails, chat rooms, and social networking sites such as Facebook and MySpace. Lenhart (2007b) found that adolescents have profiles on social networking sites to maintain friendships, meet new acquaintances, make plans with friends, and establish personal relationships. According to Srabstein (2008), this prevalent form of bullying is no longer confined to schools and may occur in any location (e.g., off school grounds) and at anytime via the Internet and cell phones. Blair (2003) noted that cyberbullying is one of the most frequent forms of harassment among middle school students in grades six, seven, and eight.

As witnessed in news media communication, cyberbullying is a new phenomenon. Adolescents have become creative in the type of medium used to inflict harm to victims (Willard, 2007). Willard identified various types of cyberbullying:

- *Flaming*: online fights using electronic messages that include angry and vulgar language
- *Harassment, threats, and stalking*: repeatedly sending cruel, vicious, or threatening messages (including sexual harassment)
- *Denigration*: sending or posting gossip or rumors about a person to damage his or her reputation or friendships

- *Impersonation*: using another person's e-mail account to send harmful material or leading a victim into a hurtful or embarrassing situation by pretending to be someone else

- *Outing and trickery*: engaging someone in instant messaging, tricking him or her into revealing sensitive information, and forwarding that information to others

- *Exclusion*: intentionally excluding someone from an online group (www.cyberbully.org/cyberbully/docs/cbcteducator.pdf.)

Trolling is another form of cyberbullying that is intended to harm an individual's social status and relationships. Donath (1999) defined trolling as "a game about identity deception albeit one that is played without the consent of most players" (p. 45). According to Hinduja and Patchin (2009), trolling is directed at a particular subject of interest. An Internet Troll (i.e., Message Board Troll or Forum Troll) is an individual who posts offensive messages in order to incite others into heated discussions (Campbell, 2001, para. 1). Trolling occurs when an individual posts derogatory or nasty remarks in an attempt to inflame or provoke others to respond to online discussions (Hinduja & Patchin, 2009).

The media has reported a surge in trolling aimed at suicide victims. Participation in anonymous online communication could make it easier for individuals to post unsigned negative comments to an online social network. According to Eltman (2010), a popular female student at West Islip High School, located in New York, committed suicide. A memorial website was created for the late Pilkington, 17 year old senior. Eltman reported that numerous insulting messages were anonymously posted on the memorial site. The harassing Internet messages were left before and after the student's death. Collier (2010), Co-director of Connectsafely.org (an online safety forum), referred to trolling as the dark side of cyberspace. Trolls enjoy posting derogatory comments in order to harass others. Collier (2008) described two types of troll victims: individuals, who are emotionally vulnerable and overwhelmed or persuaded to

participate and contribute to the attacks on the Internet. The anonymity associated with trolling makes it is difficult to prosecute.

The cyberbully may use different types of electronic devices, such as: instant messaging (IM), chat rooms, blogs, email, and happy slapping to inflict harm on others. Cyberbullies may harass or bully others via IM. Chat rooms are common sites for violence in cyberspace, with chat room hosts are responsible for overseeing and supervising communication between users. Cyberbullies can harass others in the chat room despite online monitoring. According to Patchin and Hinduja (2006), personal messages can be sent between the sender and recipient that cannot be viewed by the chat hosts. As a result, the chat host may be unaware of harassing messages. Blogs are shared on-line journals or diaries that individuals use to post personal entries. Davis (2010) examined the blogging practices of 20 teens (between 17 and 21 years of age). The researcher found that participants used blogs, or online diaries, for expressing oneself and peer interactions. Cyberbullies can post obscene and slanderous messages to the online journal. Emails are another electronic tool that adolescents may use to send harassing messages and pictures, as well as knowingly forward personal, private, or embarrassing messages to other recipients.

Happy slapping is a popular type of cyberbullying that started in London in 2004 (Kraft, 2006). The incident involves approaching a target and lightly slapping the person on the face unexpectedly while a third person videotapes the entire event using a cell phone. The video is then uploaded to a website for others to view. Happy slapping can become violent and has resulted in the fatal beating of a man by seven teens in the U.K (Kraft, 2006).

Comparison of Traditional Bullying and Cyberbullying

Traditional bullying and cyberbullying share certain features, with each type of bullying presenting with unique features (Patchin & Hinduja, 2006). Traditional bullying and cyberbullying have three similarities, including: (a) the intent to inflict harm on the victim, (b) repetitive behavior, as well as (c) the desire for power and control. The researchers also argued that these three elements of bullying must be present in both traditional bullying and cyberbullying. Cyberbullies expand their social power when they use technology proficiently to bully others. Many students are proficient in using technological tools and may use their computer skills to gain power and respect among their peers.

Substantial differences have been noted between traditional bullying and cyberbullying. In traditional bullying, the behavior usually is witnessed by a small crowd of students and occurs during school hours or on the way to and from school. The use of technology to harass others can result in a larger audience witnessing aggression and harassment and can continue after school hours. The technology is available 24 hours a day. The Anti-Defamation League (ADL, 2009) emphasized challenges encountered with this form of relational aggression:

> Cyberbullying messages can be circulated far and wide in an instant and are usually irrevocable; cyberbullying is ubiquitous-there is no refuge and victimization can be relentless; and cyberbullying is often anonymous and can rapidly swell as countless and unknown others join in on the fun. (p. 3)

Cyberbullying allows bullies to remain anonymous (Brown, Jackson, & Cassidy, 2006; Limber, 2006; Slonje & Smith, 2008). The anonymity associated with cyberbullying makes it more difficult to combat (Li, 2006b). According to Shariff and Gouin (2005), adolescents shield their identity by hiding behind screen names, with victims generally unaware of the bully's identity when electronic media is used to harass. Ybarra and Mitchell (2004) analyzed on-line aggression of 1,501 Internet users from 10 to17 years of age. The researchers also administered surveys to

the students' parents. The researchers found that 19% of the adolescents were either perpetrators or victims of on-line aggression in the year preceding the study. The researchers reported that 84% of victims knew the identity of the perpetrator. In another study, Li (2005) disclosed that 59% of students knew the identity of the bully. Juvonen and Gross (2008) found that two thirds of victims knew their perpetrator and half of them attended their school. The findings of these studies indicated that most victims were aware of the identity of the cyberbully. The perpetrator commonly knows the victim, while the victim generally is unaware of the identity of the harasser, which may result in a heightened level of distress for the victim (Limber, 2006; Raskauskas & Stoltz, 2007). According to Shariff (2005), the anonymity of unknown cyberbullies can result in a hostile school environment where victims feel unwanted and insecure.

Communication styles used in traditional bullying and cyberbullying vary. Traditional bullying may include both verbal and nonverbal (e.g., eye contact, tone of voice, facial expressions, etc.) communication messages. Electronic devices remove the effect of nonverbal communication cues. Individuals can use anonymous communication devices with limited or no social repercussions and create false images (Louge, 2006). E-mail and text messaging are unique communication mediums that do not convey the tone of the communication and can result in misunderstanding and misinterpretation of the actual message (Sproull & Kiesler, 1986). As a result, this type of messaging removes the inhibition present in verbal communication used in traditional bullying. This form of disinhibition may encourage cyberbullies to engage in anti-social behaviors that they would normally avoid during face-to-face confrontations (Limber, 2006).

Adolescents may be less likely to report cyberbullying than traditional bullying for fear of retribution and possible loss of internet or cell phone privileges (Kowalski, 2008; Limber, 2006). This loss may cause the adolescent to avoid disclosure of the incidents and attempt to resolve cyberbullying episodes. In a study of 1,454 adolescents (12 to 17 years of age), 90% of the participants confirmed that they would not tell adults about their cyberbullying experiences (Juvonen & Gross, 2008).

Another unique difference in the two types of bullying is the unclear role of the bystander in cyberbullying. Many adolescents may be aware of cyberbullying, but may not intervene because they believe that the behavior is harmless. Bystanders may easily provoke the cyberbullying incident by engaging in online discussion groups and polls that are designed to harm or humiliate the cybervictim (Department for Children, Schools, and Families, DCSF; 2007). Awareness of the roles and responsibilities of bystanders and bystander intervention through education may be effective in preventing cyberbullying incidents.

Prevalence of Cyberbullying

The use of technology to harass others is becoming a growing public health issue for the U.S. and other countries. A plethora of public information is available on cyberbullying via the news media and Internet. While published research on cyberbullying is limited because it is a new phenomenon, researchers are beginning to focus on this problem. The prevalence of cyberbullying among adolescents varies, with researchers from United States, Belgium, United Kingdom, Australia, and Canada examining this new phenomenon. Finkelhor, Mitchell, and Wolak (2000) examined the prevalence of cyberbullying using a sample of 1,501 adolescents in the U.S. The researchers reported of the 6% of adolescents 10 to 17 years of age who been

harassed online, 31% indicated being upset by the cyberbullying experiences, and 32% displayed symptoms of stress as a result of online harassment.

Kowalski and Limber (2007) examined the prevalence of cyberbullying among 6th thru 8th grade middle school students (*N* = 3,767) in the U.S. Table 1 presents the prevalence of cyberbullying among these students. This table includes the type of participant (victim, bully, bully/victim, and those with no experience with cyberbullying), the type of cyberbullying (instant messaging, chat room, website, email, text messages, text message, and other way), and the relationship between the victim and bully (brother/sister, friend, another student at school, stranger, and someone else).

Table 1

Prevalence of Cyberbullying among Adolescents in Middle School (N = 3,661)

	Girls		Boys		Total	
	N	%	N	%	N	%
Victims	282	15.1	125	7.0	407	11.1
Bullies	68	3.6	83	4.6	151	4.1
Bully/Victims	177	9.5	71	4.0	248	6.8
Experience with cyberbullying	527	28.2	279	15.6	806	22.0
No Experience with cyberbullying	1,339	71.8	1,516	84.5	2,855	78.0
*Frequency and Method of Cyberbullying at least once**						
Electronic victimization						
Instant messaging	327	70.3	116	58.0	443	66.6
Chat room	107	23.2	56	28.4	163	24.7
Website	115	24.9	39	19.8	154	23.4
Email	121	26.2	38	19.4	159	24.2
Text message	68	14.8	28	14.3	96	14.7
In another way	74	16.3	26	13.7	100	15.5
Electronic bullying						
Instant messaging	143	58.4	78	51.0	221	55.5
Chat room	50	20.5	42	27.6	92	23.2
Website	35	15.4	29	19.1	64	16.1
Email	47	19.1	32	21.2	79	19.9
Text message	41	16.7	29	19.2	70	17.6
In another way	29	11.8	34	22.5	63	15.9
*Reports of relationship with Bully/Victim at least once**						
Victims' report with bully						
Brother/sister	34	12.1	16	12.8	50	12.3
Friend	81	28.7	31	24.8	112	27.5
Another student at school	140	49.6	50	40.0	190	46.7
Stranger	130	46.1	55	44.0	185	45.5
Someone else	32	11.3	12	9.6	44	10.8
Bully/Victims' report with bully						
Brother/sister	24	13.6	16	22.5	40	16.1
Friend	93	52.5	35	49.3	128	51.6
Another student at school	113	64.0	40	56.3	153	61.7
Stranger	98	55.4	36	31.5	134	54.0
Someone else	29	16.4	12	16.9	41	16.5
Bullies' report with bully						
Brother/sister	7	10.3	8	9.6	15	9.9
Friend	14	20.6	20	24.1	34	22.5
Another student at school	17	25.0	27	32.5	44	29.1
Stranger	11	16.2	22	26.5	33	21.9
Someone else	2	2.9	9	10.28	11	7.3

*Categories are not mutually exclusive. Adolescents of each gender could have been cyberbullied in more than one way. Therefore, the number of adolescents in each category are greater than the number of adolescents who reported either being cybervictims or cyberbullies.
Note: Kowalski & Limber, 2007

The majority of adolescents (*n* = 2,855, 78.0%) had never been bullied, with 22.0% reporting they were victims (*n* = 407, 11.1%), bullies (*n* = 141, 4.1%), or victim/bullies (*n* = 248 = 6.8%). The percentages shown on the table provide evidence of the prevalence of cyberbullying, as well as the types of cyberbullying that they are experiencing. The majority of girls (*n* = 327, 70.3%) and boys (*n* = 116, 58.0%) who were victims reported they had been bullied through instant messaging. The majority of adolescents (*n* = 221, 55.5%) who were acting as cyberbullies also reported they used instant messaging to bully their victims. The victims were most likely to be cyberbullied by another student at schools (*n* = 190, 46.7%), with bullies most likely to cyberbully another student at school (*n* = 44, 29.1%).

Noret and Rivers (2006) conducted a research study in England, and found that the number of boys who were victimized via threatening emails or text messages remained stable from 2002 to 2005. However, a significant increase from 14.7% in 2002 to 21.4% in 2005 was noted in the number of girls being bullied via threatening emails or text messages.

Vandebosch and Van Cleemput (2006) surveyed 2,052 Flemish adolescents, 10 to18 years of age, to examine the prevalence of cyberbullying. The researchers found that 61.9% of the participants were victims, 52.5% were perpetrators, and 76.3% were bystanders of cyberbullying. Some students were both victims and perpetrators. A more recent study by Vandebosch and Van Cleemput (2008) used 53 focus groups to understand students' perceptions regarding cyberbullying. A total sample of 279 adolescents from 10 to 18 years of age participated in the exploratory study. The qualitative research study used focus groups to understand participants' experiences with electronic communication devices (e.g., Internet and mobile phones) and perceptions of cyberbullying. Vandebosch and Van Cleemput (2008) found that 98% of participants reported using the Internet and 90.3% reported owning a cell phone. The

participants provided brief descriptions of cyberbullying and negative aspects of the Internet and cell phones. During the focus groups, adolescents discussed the dangers posed by Internet and cell phones usage, including: likelihood of stranger contact, exposure to computer viruses and hacking, contact from online sexual predictors, cyberbullying, etc. The majority of participants were most concerned with the likelihood of being contacted by strangers and least concerned about health-related problems from using their electronic devices followed by the information available on various websites. Respondents also confirmed their active involvement in negative practices via Internet and cell phones (e.g., spreading gossip, manipulating pictures of others, posting humiliating comments about peers, sending and receiving threatening messages via email, placing and receiving threatening calls in the middle of the night, etc.). Vandebosch and Van Cleemput (2008) also found that respondents were more likely to engage in cyberbullying because of the anonymity and unequal power balance (i.e., vulnerability of the cybervictim).

The Action for Children (formerly National Children's Home; 2002) located in Great Britain examined cyberbullying among 770 adolescents (11 to 19 years old). Researchers found that one in four adolescents (25%) reported being bullied via electronic technology (e.g., mobile phone or the Internet). Similar to the Action for Children Study, Campbell and Gardner (2005) surveyed 120 Australian 8th grade students, finding that more than 25% of students knew someone who had been bullied using electronic technology.

A survey by Smith et al. (2008) examined the nature and impact of cyberbullying among pupils from 11 to 16 years of age in five secondary schools located in London's Local Education Authority (LEA; a.k.a. local education department). During the Study One (i.e., first phase of the study), an anonymous self-reporting survey was completed by participants to assess the extent of cyberbullying and the most common types of communication media used to cyberbully or harass

others. Study Two was designed to determine if the findings from the first study could be generalized to a larger sample and to relate Internet use and experiences associated with cyberbullying.

Study One indicated that 14.1% of participants had encountered traditional bullying frequently (two or three times a month, once a week, or several times a week) and 31.5% reported being bullied once or twice. When asked about cyberbullying, 6.6% indicated they had been cyberbullied often and 15.6% reported being cyberbullied once or twice (Smith et al., 2008). Study Two revealed a higher incidence of cyberbullying (agreement was 67-100% for various groups) for focus group sessions. Findings from Study One revealed that the most common types of communication devices used for cyberbullying both inside and outside of the school were: cell calls (*n* = 10.9, 25.9%), text messages (*n* = 3.3; 17.6), and emails (*n* = 4.4, 10.9%). Awareness of the use of pictures/video clips in school or within circle of friends to cyberbully was reported by 45.7% of the participants, followed by cell calls (37.0%).

Thirty-seven percent of victims who had experienced traditional bullying had been bullied inside the school and 12.4% encountered traditional bullying both inside and outside of school. Victims reported a higher incidence of cyberbullying outside of school (11.1%) and fewer students reported being cyberbullied both inside and outside of school. Both studies found that cyberbullying occurred less frequently than traditional bullying, but more frequently outside of school than inside.

A total of 1,501 U.S. students between 10 and 17 years of age completed a telephone survey of adolescents who used the Internet at least once a month for the past three months (Ybarra & Mitchell, 2004). Fifteen percent of the students reported they were Internet bullies, while 7% of the students were victims of online bullying. The researchers reported three

significant psychosocial characteristics often found in cyberbullies include: delinquent behavior, being a victim of traditional bullying, and frequent substance use.

A study conducted by Ybarra, Espelage, and Mitchell (2007) examined the co-occurrence of bullying and sexual harassment among 1,588 adolescents (10 to 15 years of age) who had used the Internet at least once in the 6 months preceding their study. The findings of the online survey highlighted the need to address psychosocial problems among adolescents involved in internet harassment and unwanted sexual solicitation. The researchers reported an abundance of psychosocial problems apparent among participants, such as: elevated rates of substance use (alcohol, marijuana, and inhalant use); involvement in offline victimization, and perpetration of relational, physical, and sexual aggression; association with delinquent peers; poor anger management, poor emotional bonds with caregivers; and poor supervision from caregivers. The researchers recommended prevention programs and interventions to identify adolescents at risk (e.g., aggressors and victims) for internet harassment and sexual solicitation and make appropriate referrals for treatment.

The National Crime Prevention Council (NCPC, 2007) examined the nature and extent of cyberbullying among middle school and high school students. The study findings indicated that: adolescents spent a vast amount of time online without parental supervision; more than half of the adolescents (59%) owned cell phones; and less than half of participants (42%) used the Internet at a friend's house, with 33% using the Internet in other locations.

Topcu, Erdur-Baker, and Çapa-Aydin (2008) administered questionnaires to 183 Turkish students between the ages of 14 and 15 years in public and private schools. The study found that adolescents enrolled in public schools identified themselves either as cyberbullies and/or cybervictims more frequently than students enrolled in private schools. According to the

researchers, this form of aggression is increasing in public schools, although private schools tended to have higher usage frequency of Internet-mediated communication tools (IMCT). Findings also revealed that public school students were more likely to experience psychological distress (e.g., sadness, anger, and embarrassment) as a result of cyberbullying incidents. However, private school students did not take the incidents seriously and reported positive reactions to the incidents. Cybervictims in both schools were more likely to disclose cyberbullying incidents and request assistance from various personal sources (e.g., friends, parents, siblings, etc.), although they were less likely to request assistance from educators (e.g., principals, teachers, and school counselors). Topcu et al. (2008) recommended prevention strategies that may be effective in curbing the cyberbullying victimization.

These research findings suggested that cyberbullying is problematic world-wide. The Internet and other electronic devices have changed social networking among adolescents, allowing them to communicate through email, text messages, and instant messaging on a continuous basis. This dependence on constant connectivity presents numerous communication and relationship challenges.

Cyberbullying in Urban and Suburban Environments

Adolescents self-report experiences with cyberbullying and traditional bullying on and off school property. Middle and high school students attending urban and suburban schools may be at risk for experiencing physical, psychological, and social effects of cyberbullying. Bullying is no longer confined to school grounds, with cyberbullying becoming more widespread as adolescents use electronic devices to harass and intimidate peers both on and off school property (Duncan, Nikels, Aurand, & Bardhoshi, 2008). An interview with cyberbullying researcher, Cross (as cited in Boddy, 2010), indicated that the impact of cyberbullying was greater when one considered “it’s

delivered in isolation, it's 24-7, it's often much nastier than face-to-face bullying because they can do meaner stuff online than they could ever do looking at someone's face, there are no controls in place" (para. 4).

The majority of published research on cyberbullying has been conducted in urban areas (Beran & Li, 2005; Li, 2005, 2006b, 2008a; Mishna, Cook, Gadalla, & Daciuk, 2010; Mishna, Saini, & Solomon, 2009). Li (2005) examined the impact of cyberbullying among adolescents in Canadian urban environments to determine the prevalence of cyberbullying among 177 7th grade adolescents (80 males and 97 females), attending an urban school located in a large Canadian city. The researcher found that 54% of participants had been victims of traditional bullying. Approximately 25% of the participants had been cyberbullied, including 23% of students who were bullied by email, 35% of students who were bullied in chat rooms, and 41% of students who were bullied by cell phones. Some students had been bullied in more than one way. Li (2005) also reported that 32% of students knew the classmates who were bullying them and that more than 50% of the participants were aware of other students being cyberbullied.

Mishna, Saini, and Solomon (2009) used a qualitative methodology to explore urban students' perceptions of cyberbullying. The researchers conducted seven focus groups of 38 Canadian adolescents (17 males and 21females) between 5th and 8th grades. The researchers found that participants believe cyberbullying is a serious problem that is more damaging than traditional bullying because of the complexity of the perceived anonymity. Mishna and colleagues reported that participants did not disclose cyberbullying incidents based on five themes: (a) fear of losing computer privileges, (b) adults would not be able to find evidence of the incident or identify the cyberbully, (c) cyberbullies would deny the incident and blame

someone else, (d) schools would fail to investigate or make bullies responsible for their actions, (e) difficulty in assigning responsibility to the school when incidents occur off school property.

Cyberbullying frequently occurs in middle and high school students in urban and suburban environments. According to Lippman et al. (1996), urban public schools are more likely have a higher incidence of low income students (e.g., qualify for free or reduced price lunch) and limited educational resources than those in suburban locations. In general, students in urban schools may report limited availability of communication devices when compared to adolescents attending suburban schools. Examining possible differences in self-reports and experiences of cyberbullying that may exist among adolescents enrolled in suburban schools is important.

After an extensive review of the literature, no published research studies were located that examined cyberbullying in suburban areas, with the published literature focusing on cyberbullying in urban environments. Despite the paucity of research articles, cyberbullying is problematic in suburban communities. As many suburban adolescents have greater access to technology at home, school, and other locations (e.g., libraries, community recreational centers, etc.), examining suburban students' experiences with traditional bullying and cyberbullying is important.

Cyberbullying is a growing trend that has been cited frequently in the news media. Several special and investigative reports have uncovered the impact of cyberbullying within the suburban environment. For example, Marcuson, a 14 year-old girl from Birmingham, Michigan was cyberbullied after she reported classmates (i.e., 8th grade female students) for stealing her makeup case (Harmon, 2004). Marcuson received threatening instant messages (IM) on her home computer. She had the IM from the Internet forwarded to her cell phone and she attended a

basketball game with her family. She received the maximum number of messages (i.e., 50) on her cell phone by the end of the game. Marcuson reported that cyberbullying can cause distress when you consider that people say more terrible things using IM or the Internet than in face-to-face conversation.

Raza of Trois-Rivieres, Quebec became victim of cyberbullying after he made a two-minute film of himself emulating a fight scene from Star Wars (Berhane, 2005) The scene featured Raza swinging a golf ball retriever as a light saber and he became known as the "Star Wars kid." His classmates posted the film on the Internet and millions of viewers downloaded it. As a result of the stress caused by this episode, he has spent time under psychiatric care and completed the 2004 school year at an inpatient child psychiatric unit.

Eddy, director of a play "Crystal Beach," conducted an informal group meeting with 40 students from Mt. Pleasant High School in Mt. Pleasant, Michigan. The director was astonished when each participant reported being both a cyberbully and cybervictim (Ecker, 2009). Eddy indicated that the play was created to increase awareness regarding the harmful effects of cyberbullying.

Quan (2010) found that cyberbullying was more prevalent in Canadian suburban areas due to the increased gang violence in suburban neighborhoods. Gang violence traditionally has been problematic for urban areas. Additional research is needed to understand cyberbullying, with an exploration of variations in urban, suburban, and rural areas contributing to theories regarding traditional bullying and cyberbullying, and development of evidence-based practice prevention interventions to combat this public health problem.

Urban and suburban adolescents are experiencing increases in traditional bullying and cyberbullying incidents both on and off school property. According to a 2009 report by Berkman

Center for Internet & Society, the most prevalent threats for adolescents are traditional bullying and online cyberbullying. The cyberbullying victims often report being depressed, having a high level of psychological distress and having a higher likelihood to become a substance abuser.

Cyberbullying in Middle School Students

A plethora of published literature has examined the nature and extent of traditional bullying in middle schools. A research study conducted by Olweus (2003) reported a significant increase in traditional bullying behavior in grades 8 and 9. Nansel et al. (2001) examined the seriousness of bullying in the U.S. The researchers found that less than 30% (29.9%) of the students reported involvement in traditional bullying, 13% were involved as bullies, 10.6% was involved as victims, and 6.3% were both perpetrators and victims. Bullying was found to peak in grades six through eight and diminish in high school. Other research studies have found that cyberbullying also increases in prevalence during middle school and decreases in high school (Tokunaga, 2010; Williams & Guerra, 2007).

Kowalski and Limber (2007) conducted the first published U.S. research study that examined the prevalence of cyberbullying in middle school students. The large-scale study explored electronic bullying/cyberbullying among sixth, seventh, and eighth grade students who attended six elementary and middle schools. The researchers examined the nature and extent of electronic bullying in a sample of 3,767 (1,915 girls and 1,852 boys) middle school students. The findings reported by Kowalski and Limber included:

- 407 (11%) students (e.g., victims only) reported being electronically bullied at least once in the last couple of months;
- 248 (7%) students reported they were bully/victims; and

- 151 (4%) students (e.g., bullies only) indicated they had electronically bullied someone else at least once in the previous couple of months.
- 2,961 (78%) students had no experience with cyberbullying.

Some victims of cyberbullying also may be at risk for experiencing traditional bullying. The frequency and types of technology (e.g., cell phones, IM, chat room, web sites, email, text message) used are unique characteristics of cyberbullying.

The 2006 revised version of the Student Survey of Bullying Behavior was completed by 427 urban middle school students (no ages of participants provided; Vargas, Henrich, & Meyer, 2009). The authors examined student perceptions of traditional bullying, cyberbullying, and school safety. Male students, when compared to female students, reported a higher prevalence of traditional bullying (e.g., physical and verbal) and a lower occurrence of relational bullying (e.g., social exclusion). Similar to findings from the National Association of School Psychologists (NASP) report (Cohn & Canter, 2003), Vargas et al. (2009) found that reports of physical and verbal bullying decreased in the older students.

Li (2005) surveyed 177 students in the seventh grade from two schools located in a large urban Canadian city. Li reported that 54% of the students were victims of traditional bullying and 23% of students were victims of cyberbullying. Sixty percent of the cyberbulling victims were females. Almost 60% of the students experienced repeated incidents (1 to 3 times [60%], 4 to 10 times [18%], over 10 times [23%]) of cyberbullying. The students were cyberbullied by email (22.7%), chat rooms (35%), and multiple methods (email, chat rooms, and cell phone; 41%). Cyberbullies reported they used email (9%), chat rooms (36%), and multiple sources (55%) to bully their victims. Thirty two percent of the perpetrators were known schoolmates, 11% were bullied by people outside their schools, and 15.9% were bullied by multiple sources (school

mates, people outside their schools, and others). Forty-one percent of students did not know the cyberbully's identity.

Beran and Li (2005) completed an exploratory study in Canada with 432 middle school students (grades 7-9). Participants completed questionnaires that assessed the prevalence and impact of cyberbullying on middle school students. The researchers found that victims of cyberbullying are negatively impacted by the incidents and may experience a wide range of emotional problems, including: anger and sadness. Beran and Li confirmed that more than half (69%) of the participants were aware of cyberbullying incidents, while 21% of the participants reported being a victim and 3% of the participants reported being an online bully. Beran and Li suggested that future research studies should use a sample that includes younger and older male and female participants to examine age and gender differences, as well as the interaction between age and gender.

Cyberbullying in High School Students

Few research articles have been published that examined the nature and extent of cyberbullying among high school students. According to Connor (2002), suicide among teens (15-19 years old) tended to increase in this age group and remained relatively high for this population. Cyberbullying also may place this population at risk for physical and mental harm. Understanding the experiences of high school students in relation to cyberbullying is important.

Raskauskas and Stoltz (2007) surveyed 84 adolescents (ages 13 to 18) regarding their perceptions of traditional and cyberbullying. The researchers reported that 48.8% of youth reported being a cybervictim and 21.4% reported being a cyberbully. Ninety three percent of the victims reported emotional distress (e.g., sadness, hopelessness, depression, apprehension, etc.) in response to being cyberbullied. Raskauskas and Stoltz concluded that a higher incidence of

cyberbullying occurred among older adolescents than the younger adolescents. Kowalski and Limber (2007) reported similar findings. The researchers found that older adolescents were more likely to report cyberbullying behavior when compared to younger adolescents. This age difference is contrary to NASP report that called attention to the prevalence of traditional bullying among students with increases noted in elementary, peaking in middle students and declining in high school (Cohn & Canter, 2003). Additional research studies are needed to examine cyberbullying among high school students.

Research studies (Agatston et al., 2007; Campbell & Gardner, 2005) examined the nature and extent of cyberbullying among middle and high school students. Campbell and Gardner (2005) examined the impact of cyberbullying in 148 students in two middle and two high school students. The researchers found that adolescents may not be aware of bystander prevention strategies. The qualitative research study found that the majority of cyberbullying incidents occur outside of school. Agatston et al. (2007) interviewed middle and high school students using focus groups to examine the impact of cyberbullying on students. The researchers reported that female students indicated that cyberbullying was a growing concern. Agatston et al. (2007) suggested cyberbullying prevention strategies that incorporated classroom lessons regarding the bystander role, formulation, and enforcement of acceptable use of technology policies for students and parents.

A research study by Kapatzia and Sygkollitou (2007) examined age differences related to cyberbullying among five middle schools and five high schools in Greece. The researchers found no significant age or gender differences in the sample of 544 adolescents from 14 to 19 years of age. Results also indicated that cyberbullying incidents frequently occurred outside the school environment and have a tendency to disrupt the school environment. The researchers also

confirmed that participants (e.g., victims and bystanders) were more likely to disclose cyberbullying incidents with friends and less likely to reveal them to adults.

Smith, Mahdavi, Carvalho, and Tippet (2006) analyzed a sample of 92 male and female students (11 to 16 years old) in 14 different schools in London. Smith et al. (2006) assessed the nature and impact of cyberbullying of secondary school pupils. The Cyberbullying Questionnaire assessed the following topics: prevalence, awareness of traditional and cyberbullying, different forms of cyberbullying, location of cyberbullying incidents (inside and outside of school), personal experiences with cyberbullying, etc. Smith et al. found that 22% of the participants had been the victim of cyberbullying at least once and 7% had reported being a victim more frequently during the previous months. The findings showed that the highest occurrence of cyberbullying incidents occurred outside of the school. No age differences were found among the responses. The researchers confirmed that phone calls, text messages, and email were the most common types of electronic mediums that were used to cyberbully others. Participants perceived the impact of cyberbullying via picture/video clips and phone calls was greater than traditional bullying.

A study conducted for Fight Crime: Invest in Kids (Opinion Research Corporation, 2006) found that more than 13 million children and adolescents (6-17 years old) were victims of cyberbullying. The study examined factors associated with cyberbullying incidents among urban middle and high school students in grades 6 thru 11.

Wolak, Mitchell, and Finkelhor (2006) examined online victimization using a large sample of 1,501 children and adolescents 10 to 17 years of age. The results indicated that adolescents experienced increased incidents (e.g., 3%) of cyberbullying from 2004 to 2005. The researchers did not analyze the findings to determine any age differences among the participants.

Wolak et al. (2006) examined the impact of cyberbullying incidents on victims. Participants described the following effects of cyberbullying: 31% of the victims reported being extremely upset, 19% was extremely afraid, 32% experienced at least one symptom of stress following the incident, while 18% of victims reported five or more depressive symptoms.

Englander (2007) examined the nature of cyberbullying incidents in college freshmen after noting an increase in cyberbullying among middle and high school students in Massachusetts. Englander explored differences noted in cybervictimization during high school and while in college. The researcher reported that 80% of high school cyberbullies also were victims of cyberbullying during high school and half (50%) of college cyberbullies also were cybervictims in college. College cyberbullies were more likely to be male and one or two years older than their peers. The findings were comparable to high school cyberbullies.

National Crime Prevention Council (2007) reported that on average, high school students had multiple email addresses (i.e., at least three) compared to middle school students. Lenhart, Lewis, and Rainie (2001) reported that many teens have multiple email addresses and screen names and at least one of the email accounts featured a secret address so their friends were not aware of online activities. These mysterious email addresses may be used to create multiple identities. Adolescents who concealed or hid their identity to inflict emotional harm via technology were engaged in covert cyberbullying behaviors (Spears, Slee, Owens, Johnson, & Campbell, 2008). An earlier study by Gross (2004) found that more than half of participants (51%) in the study used the Internet to shield and experiment with their identities. Valkenburg and Peter (2008) confirmed that webcams and other online communication devices might encourage adolescents to reconstruct or forge one's identity. Certain personality or psychosocial problems, such as loneliness and socially anxiety, might incite adolescents to experiment with

their identity (Valkenburg & Peter, 2008). An Australian research study of adolescents found that use of social networking sites to cyberbully increased with age, cybervictims were more likely to be bullied offline, and cybervictims often became cyberbullies (Cross, Shaw, Hearn, Epstein, Monks, Lester, & Thomas, 2009). The 2009 Pew report found that 93% of adolescents go online daily and are more likely to use a social networking site while online and the use of online social networks increased with age (Lenhart et. al, 2010). For example, the researchers reported higher usage of social networks among older participants: 82% of daily internet users ages 14 to 17 used online social networks, while 55% of online teens ages 12 to 13 years of age used online social network sites. Increased internet usage could present opportunities for adolescents to encounter cyberbullying as a cyberbully, cybervictim, and/or bystander. Adolescents may use covert (e.g., exclusion and manipulation of friendships) or overt (e.g., identity is not concealed in happy slapping) to bully others via latest communication technology. Cyberbullying among high school students is an area that warrants further investigation.

A recent *Morbidity and Mortality Weekly Report* (MMWR) released from the CDC analyzed data from the 2009 Massachusetts Youth Health Survey (CDC, 2009b). The anonymous survey was administered to 2,859 middle school students and 2,948 high school students in 2009. The surveys included two questions related to bullying:

1. "During the past 12 months, how many times have you been bullied at school?" and
2. "Did you do any of the following in the past 12 months? (a) bully or push someone around, and (b) initiate or start a physical fight with someone?" (p. 54).

A greater percentage of middle school students (17.7%) than high school students (12.2%) were classified as victims of bullying with a similar percentage of high school students (8.5%) than middle school students (8.4%) categorized as bullies. The MMWR also examined the percentage

of Michigan high school students who were in physical fights on school property and students who were bullied on school property. A higher percentage of males (14.9%) than females (7.4%) students reported they had been in physical fights on school property. The report also indicated a greater prevalence of bullying on school property among Michigan female students (26.6%) versus of Michigan male students (21.3%; CDC, 2009b). A local survey taken in Detroit, Michigan indicated a greater percentage of males (30.9%) than females (19.4%) were involved in physical fights on school property. A higher prevalence of males (21.6%) than females (18.1%) were bullied on school property in Detroit. The Detroit local survey reflected the highest numbers of male and female students who were in physical fights on school property and who were bullied on school property when compared to local surveys from Seattle, Washington, New York City, New York, Los Angeles, California, Chicago, Illinois, etc. The median percentage of high school students who were in physical fights ranged from 9.3% (Clark County, Nevada) to 25.4% (Detroit, Michigan). In regard to high school students who were bullied on school property, the median percentages ranged from 9.3% (Miami-Dade County, Florida) to 20.1% (Detroit, Michigan) for (CDC, 2009b).

Adolescents can reap the enormous benefits available through use of various forms of technological communication such as: enhanced learning opportunities, improved social interactions, access to limitless information via internet highway, etc. However, numerous risks are associated with misuse of these tools, including unethical behavior. Patchin and Hinduja (2006) documented how the negative effects of these new technologies could result in psychological, emotional, or social harm. Sourander, Klomek, Ikonen, Lindroos, Luntamo, Koskelainen, Ristkari, and Helenius (2010) reported that cyberbullying and cyber victimization can contribute to psychiatric and psychosomatic problems. Escalating reports of adolescents

misusing technology (e.g., internet and cell phones) to harass and bully others have been published. Teens are avid users of technology as evidenced by the growth in cellphone ownership and Internet use (Lenhart et. al, 2010). Campbell (2005) reported that adolescents view the Internet as a "lifeline to their peer group" (p. 4). It is important to understand the influence of technology on parent and peer relationships.

Parent and Peer Attachment Relationships

The move from elementary to middle school can be a very stressful transition for adolescents. Pellegrini and Bartini (2000) highlighted social changes that adolescents endure:

> The rapid body changes associated with the onset of adolescence and changes from primary to secondary school initiate dramatic changes in youngster's peer group composition and status. Changes in peer group availability, individuals' status within groups, and peer support confront youngsters as they are entering new, larger, and typically impersonal secondary schools (p. 700).

The transition from childhood to adolescence is an important developmental phase in which the individual experiences biological, cognitive, and social changes.

Parents and peers play important roles in the healthy growth and development of adolescents. They can learn to develop healthy relationships with parents and peers that can define who they are. A realistic and positive self image is a major task of the adolescent developmental process. Collins, Maccoby, Steinberg, Hetherington, and Bornstein (2000) confirmed that parenting can influence a child's development and behavior. Parent-adolescent relationships can be beneficial or harmful (Kopko, 2007). An authoritative parenting style (e.g., warm, supportive, firm, and consistent expectations) can contribute to positive adolescent development (e.g., self-reliance, achievement motivation, self-control, social confidence, pro-social behavior, etc.) and mental health (Steinberg, 2001). Kopko discussed the benefits of an authoritative parenting style that includes the teenager's viewpoint and contributes to positive

developmental outcomes (e.g., social competence, trustworthy, and autonomy). Poor parenting practices (e.g., harsh and inconsistent parenting styles, poor monitoring and supervision, low levels of positive involvement with adolescents, etc.) have been identified as risk factors for aggressive and antisocial behavior in adolescents (Connor, 2002). Connor also emphasized that good parenting skills and parent-child relations can serve as protective factors to buffer the impact of maladaptive behavior.

During adolescence, teenagers' dependence on their parents decreases. As a result, adolescents learn to become more independent and exercise autonomy. Erikson (1950) suggested that the attachment relationship is a vital requirement for the child's development. During the social transitions, adolescents experience changes in social roles and status. As a result, teens develop a strong sense of autonomy, experience alterations in self-image, and strive to become independent. Adolescents commonly experience decreased closeness with parents that are usually replaced with increased closeness with peers (i.e., spending more unsupervised time with peers after school).

Ainsworth (1977) and Bowlby (1969) are recognized for major contributions to attachment theory and research. An early definition of attachment was defined as "lasting psychological connectedness between human beings" (Bowlby, 1969, p. 194). According to Bowlby (1977), attachment is defined as "any form of behavior that results in a person attaining or retaining proximity to some other differentiated and preferred individual, who is usually conceived as stronger and wiser" (p. 203). Bowlby (1973) proposed that the availability of attachment figures or caregivers can be influential in development of secure relationships between friends and romantic relationships.

The attachment theory provides an understanding of the connection between the quality of the child's relationship with parents and the relationship quality with parents and peers across the lifespan. Bowlby (1982) proposed four distinctive characteristics of the attachment theory: (a) proximity maintenance, (b) safe haven, (c) secure base, and (d) separation distress. Proximity maintenance is the desire to be close to the people with whom an individual is attached. Safe haven is when one returns to an attachment figure for safety and comfort whenever fear is near. Secure base occurs when the attachment figure or caregiver serves as a base of security that allows children to explore their environment. Separation distress results from an increase in anxiety and tension when the attachment figure is absent.

Ainsworth (1978) identified three basic relationship patterns in school-age children: secure, insecure-anxious, and insecure-avoidant. The secure attachment style is reflected in caregivers who provide a warm, supportive, and responsive relationship with infants. During childhood, infants displayed specific characteristics:

- ability to separate from their parents or caregiver,
- seek emotional support and comfort when frightened, and
- display positive emotions when their parents return.

During adolescence, children who have experienced secure attachment to their parents tend to be empathetic; have high self-esteem; and form trusting, long-term, and intimate relationships with family and peers. Individuals who express cold and intrusive caregiving are likely to develop insecure-anxious attachment relationships. During infancy, an infant with insecure-anxious attachment can become very distraught when their parent leaves. During adolescence, this child is not trusting as a result of decreased maternal comforting and support, with these individuals fearing separation or abandonment by their significant other in relationships. They may also

display overly dependent behavior on their peers for support. Avoidant adult attachment style indicates that caregivers provide neglectful care. During childhood, the child may not seek comfort and avoid contact with parents or caregivers. Adolescents whose parents had avoidant attachment relationships with their parents may display ambivalent feelings, poor communication skills, and a tendency to avoid intimacy with parents and peers. In turn, this individual is likely to experience mixed feelings or emotions in close and intimate relationships.

Secure attachment during adolescence is related to fewer behavioral problems (e.g., lower levels of depression, anxiety, and feelings of personal insufficiency; Nada-Raja, McGee, & Stanton, 1992; Paterson, Pryor, & Field, 1995). Securely attached adolescents are less likely to be involved in antisocial and aggressive behavior and enjoy more positive relationships with parents and peers (Papini & Roggman, 1992). Conversely, insecure attachment relationships between parents and children have been hypothesized to play a significant role in the development of depressive disorders in children (Armsden, McCauley, Greenberg, Burke, & Mitchell, 1990). The researchers concluded that depressed adolescents reported significantly less secure parent attachment relations.

The security of parent-child attachment relationships has been found to be predictive of the quality of friendships that children develop (Berlin & Cassidy, 1999; Lieberman, Doyle, & Markiewicz, 1999). According to Bowlby (1982), secure attachment relationships with parents contribute to improved self-esteem that promotes improvements in emotional and social adjustment. The most frequently cited definition of self-esteem within psychology is Rosenberg's (1965) definition: “a favorable or unfavorable attitude toward the self” (p. 15).

Wilkinson and Parry (2004) explored the relationships among attachment styles, quality of parent and peer attachment relationships, and self-esteem. The Relationships Questionnaire

(RQ; Bartholomew & Horowitz, 1991) was administered to 495 adolescents from 13 to 19 years of age. The RQ was used to assess attachment style, with the quality of attachment relations assessed using a modified version of the IPPA and self-esteem measured using a Self Liking/Self-Competence Scale (SLSC-R; Tafarodi & Swann, 2001). Wilkinson and Parry (2004) reported that high quality parent attachment was associated with both secure and dismissive attachment styles. Conversely, secure attachment styles were aligned with an improved quality of peer attachment. In conclusion, the researchers argued that, "when considering combined influences of the attachment style and attachment quality variables on self-esteem, only a modest proportion of the variance was accounted for" (Wilkinson & Parry, 2004, p. 5). A study conducted by Wilkinson (2004), examined the roles of parental and peer attachment in the psychological health and self-esteem of adolescents. The researcher used a cross-sectional study of 2,006 male and female participants from 11 to 19 years of age. Wilkinson (2004) hypothesized that the quality of parent and peer attachment directly influenced psychological health outcomes (i.e., self-esteem, depression, etc.). The research findings highlighted the significance of both parent and peer relationships in the "construction and evaluation of self-identity" (p. 491).

Peer influences and peer relationships become more important as children move into the early adolescent phase. Peers play a key role in adolescent development. They want to belong and associate with other students their own age and be with others who have similar interests, beliefs, and attitudes. During this transition, the adolescents are trying to develop their own identity. Peer relationships increase during adolescence and may become attachment relationships (Ainsworth, 1989; Bowlby, 1980). Management of stressful peer relations during adolescence is one of the most important developmental tasks. One must consider the favorable

and unfavorable outcomes of peer relationships. For example, positive peer relationships can foster self-esteem and promote psychological health. Failure to develop peer relationships can result in peer rejection, lowered self-esteem, and social isolation.

Adolescents rely on peers for companionship, identity formation, ego support, as well as intimacy and affection. Peers can influence the development of self-esteem. The function of the peer group is to promote psychosocial development. Research findings (Greenberg, Siegel, & Leitch, 1983; Ryan, Stiller & Lynch, 1994) have documented the influence of strong peer groups in promoting psychological well-being, motivation, and competence. According to Hendry, Shucksmith, Love and Glending (1993), peer groups provide opportunities to practice new behaviors and develop essential skills for future relations. Social difficulties with peers in middle adolescence may place adolescents at risk for academic problems and behavioral disorders (Parker, Rubin, Price & Desrosier, 1995; Lieberman, Doyle, & Markiewicz, 1999).

Physical and Psychological Health Consequences of Bullying and Cyberbullying

Cumulative trauma associated with cyberbullying may vary depending on the victim's prior experiences and his/her perceptions of the incident. The University of New Hampshire's Crimes against Children Research Center reported that 1 in 17 children had experienced cyberbullying (e.g., online) and approximately one third of those incidences were deemed extremely upsetting by the victims (Paulson, 2003). An extensive body of research has examined the prevalence and consequences of traditional bullying. Being a victim of bullying can lead to serious, deleterious physical and psychological consequences for adolescents. Lower self concept and depression (Callaghan & Joseph, 1995), suicide, accidental injuries, and homicides (Srabstein, 2008) are examples of serious health and social problems that have been associated with traditional bullying.

Many researchers have concluded that negative consequences may result from both traditional bullying and cyberbullying:

- higher school absenteeism rates (Beran & Li, 2005; Limber, 2006; Willard, 2006),
- difficulties concentrating, school failure and school avoidance (Beran & Li, 2005; Finkelhor et al., 2000; Kowalski, 2008; Willard, 2006),
- life of crime (Feinberg & Robey, 2008; Olweus, 1993; Patchin & Hinduja, 2006),
- physical problems (e.g., insomnia, enuresis, abdominal pain, and headache; Williams, Chambers, Logan, and Robinson, 1996) and impaired health (Kowalski et al., 2008; Rigby, 2003),
- emotional and mental health problems anger and sadness (Beran & Li, 2005; Li, 2005; Mishna, et al., 2010; Willard, 2006), increased distress (Juvonen & Gross, 2008), high rates of anxiety, nervousness, stress, and depression (Campbell, 2005; Finkelhor et al., 2000; Kowalski, 2008; Kowalski, Limber, & Agatston, 2008; Limber, 2006; Sharp, 1995; Willard, 2006),
- psychosomatic symptoms (Neary & Joseph, 1994; Roland, 2002),
- suicidal ideation (Katsumata, Matsumoto, Kitari, & Takeshima, 2008), suicide (Feinberg & Robey, 2008; Finkelhor et al., 2000; Limber, 2006; Olweus, 1993; Willard, 2006, 2007), and death (Patchin & Hinduja, 2006).

According to Smith et al. (2008), cyberbullying is a new kind of bullying that has unique characteristics that distinguish it from traditional bullying. A paucity of research has examined health hazards associated with cyberbullying. Additional research that examines the impact and effects of cyberbullying is needed in scholarly literature (e.g., especially nursing literature).

Cyberbullying has made national and international headlines with the increased prevalence and impact of violence associated with this phenomenon.

A cross-sectional research study conducted by Analitis et al. (2009) examined physical and psychosocial factors of bullying among 16,210 adolescents from 8 to 18 years of age in 11 European countries. The researchers analyzed the psychosocial and physiological links between bullying and health outcomes. The authors found that being a victim of bullying was associated with several risk factors including: being younger, low levels of parental education, being overweight or obese, psychological or mental health problems, and poor social support.

Beran and Li (2005) surveyed 432 adolescents in grades 7th thru 9th in Canadian schools. The students completed questionnaires that assessed the impact of cyber-harassment. The researchers reported that victims experienced anger, sadness, and hurt as a result of cyber-harassment. These findings were consistent with previous research conducted by Hinduja and Patchin (2006). The researchers reported that cybervictims experienced anger, sadness, frustration, and other negative feelings. Ybarra et. al, (2006) conducted surveyed 1,500 adolescents (10 to 17 years of age) who used the internet regularly. The researchers reported that approximately 38% of cybervictims experience emotional distress in response to online harassment. The National Crime Prevention Council (2007) also reported that cyberbullying was problematic for the participants. The council reported adolescents' experiences with cyberbullying produced a variety of emotions, including: anger (56%), hurt (33%), embarrassment (32%), and fear (13%). The adolescents were allowed to report more than one emotion, resulting in a percentage greater than 100.

Patchin and Hinduja (2006) found that cyberbullying is harmful when one considers the humiliation and embarrassment of the victim in a public location. The researchers reported that

about one third of the cybervictims felt they were negatively affected. The use of technology at home creates additional problems as bullying is no longer confined to the school grounds. The impact can also be greater because witnesses to the attack may include a larger audience than what is expected for traditional bullying incidents occurring in a school setting.

Paulson (2003) reported a publicized example of cyberbullying that resulted in psychological distress for an adolescent. A Canadian teen received attention as "the Star Wars kid" after his classmate confiscated and posted a video of him filming himself performing a scene (a golf ball retriever was used as his light saber) from the movie "Star Wars" (Paulson, 2003). Millions of people downloaded the video. The teen became an object of ridicule among his peers and an object of public curiosity. As a result, he dropped out school and received psychiatric care.

Feinberg and Robey (2008) also linked similar consequences for both cyberbullying and traditional bullying, such as: self-denigration, loss of confidence, self-esteem, depression, anger, frustration, and physical harm. The researchers stressed that cyberbullying can weaken the school climate, interfere with academic performance, and may increase risk for serious mental health and safety problems. Feinberg and Robey also indicated that cyberbullying can lead to externalized violence and suicide. Consequences associated with cyberbullying may be greater because the cyberbullies can remain anonymous and feel protected from the outcomes of their actions. Many cyberbullies believe that anonymity associated with cyberbullying can protect their identity (Campbell, Butler, & Kift, 2008).

Hay, Meldrum, and Mann (2010) examined the impact of traditional bullying and cyberbullying. The researchers found the following: cybervictims may find it difficult to escape since it reaches a larger audience and both types of bullying may create deviant or problem

behaviors among adolescents. These externalizing and internalizing problems in adolescents may be manifested in the following activities: intentional harm (e.g., suicide) and acts against people or property.

Another important consideration is that consequences of cyberbullying may be more detrimental when considering the cyberbully can reach a wider audience in a shorter amount of time (Smith et al., 2008). Kowalski and Limber (2007) called attention to the importance of research that examines effects of electronic bullying on victims and perpetrator.

Cyberbullying frequently occurs outside of the school environment. However, cyberbullying tends to disrupt the school climate when it occurs with face-to-face bullying. Ybarra, West, and Leaf (2007) examined victims and perpetrators of cyberbullying and on-line sexual solicitation. A national cross-sectional online survey of 1,588 adolescents (10 to 15 years of age) was used for the study. To be eligible for the study, participants were required to have used the Internet at least once in the last 6 months. Ybarra et al. (2007) reported that participants experienced psychosocial problems, such as alcohol and drug (i.e., marijuana use, inhalants and other drugs) use within the past 30 days, poor emotional relationships with caregivers, and an association with at least one delinquent peer. The researchers also found that more than half (68% to 97%) of cybervictims reported experiences with offline relational aggression, with 24% to 76% also reporting offline physical aggression. David-Ferdon and Hertz (2007) found that the use of communication devices on and off school grounds has the potential to create disruptions of both the school environment and positive functioning of students at the school.

Cyberbullying is a public health concern that warrants further research. The negative experiences associated with cyberbullying provide an impetus regarding the need to investigate this growing phenomenon. Adolescents are able to create innovative ways to use technology to

harm others. The development of practical, effective solutions is needed to address the adverse effects of cyberbullying.

Psychosocial Characteristics of Bullies and Victims

Migliore (2003) reported similarities between the prevalence of traditional bullying and cyberbullying. The researcher reported that incidences of cyberbullying increase during elementary, peaks during middle school, and declines in high school. Research has shown that psychosocial characteristics place individuals at risk for being bullies or victims of both traditional bullying and cyberbullying. Bullies and victims may experience social and emotional maladjustment. Banks (1997) found that victims of bullying frequently display certain characteristics, including: anxious, insecure, and cautious. Schwartz, Dodge, and Coie (1993) described the psychosocial experiences of victims as an inability to defend oneself from an attack, lack of social competence, and loss of emotional control. These distinguishing characteristics may help educators or adults identify students at risk for traditional bullying and cyberbullying. Individuals who have poor peer relationships are more likely to display higher rates of delinquent behavior and suffer from emotional and mental health problems (Savin-Williams & Berndt, 1990). Victims and bullies are at increased risk for severe suicidal ideations (Kaltiala-Heino, Rimpela, Marttunen, Rimpela, & Rantanen, 1999). Psychosocial effects associated with cyberbullying ultimately may result in decreased quality of life during adolescence and adulthood. Analyzing the association between cyberbullying and reductions in the quality of life for the bully and victim is important.

Characteristics of Cyberbullies

Recognition of warning signs may be instrumental in identifying individuals who may be involved in cyberbullying and traditional bullying. In contrast to traditional bullying, research (Li,

2006b, 2007b; Ybarra & Mitchell, 2004) has found that girls are more likely to be cyberbullies and cybervictims than boys. Hinduja and Patchin (2008) analyzed risk factors that place youth at risk for cyberbullying. The researchers reported that neither sex nor race predicted the probability of an individual's involvement with cyberbullying as either a bully or victim. The investigators identified certain characteristics (e.g., age, computer proficiency, and amount of time spent online) as predictors of both bullying and victim behaviors. Power and control are common reasons for engaging in bullying (Banks, 1997). Some individuals may be at risk for being bullies and may possess the following characteristics: strong desire for power and control over others, manipulation of others, and unable to see an alternate viewpoint (Olweus, 1991). Anderson and Sturm (2007) reported that bullies maintain their power through humiliation of peers. Researchers (Banks, 1997; Glew, Rivara, & Feudtner, 2000; Olweus, 1991) found that bullies have inflated self-esteem and a strong need to dominate. Contrary to popular beliefs, bullies have not been found to have a low self-esteem or feel bad about themselves (Olweus, 1993). Conversely, bullies are more prone to harass victims who display low self-esteem and other vulnerable characteristics.

Similar to traditional bullies, cyberbullies display common characteristics: have poor family support relationships and strong support from peers, tend to be targets of traditional bullying, engage in delinquent behavior, and use substances frequently (Ybarra & Mitchell, 2004). Social support has been associated with positive physical and mental health outcomes in adolescents. Cobb (1976) provided a classic definition of social support that consisted of three components: (a) feeling loved, (b) feeling valued or esteemed, and (c) belonging to a social network. Banks (1997) found that bullies are more likely to come from homes where parental

attachment is lacking and physical punishment is used to solve problems. Traditional bullies may use physical force to resolve problems.

Girls frequently use indirect forms of bullying to solve their problems. Female cyberbullies may be difficult to identify and punish because they use social exclusion instead of physical violence (Li, 2006b). The use of technological tools to bully others may be difficult to expose, as the message (photo) can be spread more rapidly and easily concealed (Li, 2006b). However, Hinduja and Patchin (2006) discussed possible warning signs that may signal a child is engaging in cyberbullying: staying up late and using the computer when everyone is sleeping, switching computer screens when an adult is near, preferring not to discuss internet activity, etc.

Characteristics of Cybervictims

Physical weakness is an important characteristic associated with victims of traditional bullying. Olweus (1993) reported that victims of bullying generally are physically and socially weaker than their peers. He also found that victims of traditional bullying "often look at themselves as failures and feel stupid, ashamed, and unattractive" (p. 32). Physical signs of weakness also may place adolescents at risk for social isolation. Cybervictims may face more psychological harm because information becomes accessible to a wider audience and anonymity of the bully makes it difficult to terminate (Feinberg & Robey, 2008).

Skeele and Collins (2007) identified the profile of the typical victim at risk for online victimization. According to Skeele and Collins, a cybervictim usually possess one or more of the following attributes: (a) are 10 to 17 years of age (usually seen in adolescents 14 to 17 years of age), (b) have high rates of internet usage such as talking online and visiting chat rooms, (c) engage in high-risk online behavior (e.g., publishing personal data, playing jokes or harassing others, etc.); (d) have poor relationships with parents such as high degree of parental conflict and

low parental supervision, and (e) report a variety of psychological symptoms (e.g., lonely and depressed). The cybervictim profile validates the importance of early identification and intervention in order to prevent adverse outcomes associated with cyberbullying.

Social isolation is a common consequence of indirect forms of bullying. Victims are likely to encounter emotional adjustments and difficulty making friends (Nansel et al., 2001). Victims of traditional bullying may lack social skills and peer relationships. They may be labeled as aggressive-withdrawn and frequently encounter peer victimization (Ladd & Burgess, 1999). Smith and Talamelli (2001) found that victims' social support differed from other students. These students were less likely to seek social support from others. Experiencing difficulties in peer relationships or having impaired social status could lead to ineffective coping strategies among bullying victims (Smith, Talamelli, Cowie, Naylor, & Chauhan, 2004). Impulsivity and hyperactivity are common externalizing behaviors that may be manifested by victims of bullying (Schwartz, Proctor, & Chien, 2001). Bullies may pick on them because they are viewed as easy targets, due to their impaired social status. Previous associations between aggression and poor social status have been documented in the literature.

Hinduja and Patchin (2008) emphasized an important connection between cyberbullying and traditional bullying. They found that victims of traditional bullying are significantly more likely to be victims of cyberbullying. Raskauskas and Stolz (2007) reported similar findings from their study of 84 adolescents between the ages of 13 and 18 years. The adolescents completed surveys regarding their cyberbullying experiences. The researchers found that 85% of cyberbullies also were labeled as traditional victims. Certain characteristics are inherent in both cyberbullying and traditional bullying.

Common issues in cyberbullying include the following: appearance, disability, disease, grades, and poverty (Anderson & Sturm, 2007). Cyberbullies are more likely to bully peers who appear vulnerable. Research has shown that bullying victims tend to exhibit the following characteristics: anxious, insecure, low self esteem, poor social skills, few friends, and physically weaker than peers (Banks, 1997). Willard (2007) confirmed that cyberbullying victims may be selected based on the following characteristics: different sexual orientation, weight, hyperactive, slow maturation rate when compared to peers, and identification as a loner or nonconformist.

Victims of cyberbullying may feel angry, frustrated, and depressed (Beran & Li, 2005; Hinduja & Patchin, 2007) that can result in negative psychological outcomes. Similarly, Li (2006b) found that "about one in four adolescents are cybervictims and they experience various negative consequences, particularly anger and sadness" (p. 160). Li also asserted that traditional bullying and cyberbullying are cyclical, with bullying victims prone to becoming bullies as a means of retaliation against the original bully.

Englander (2006) suggested that being a victim of traditional bullying may increase the risk of becoming a cyberbully. Feinberg and Robey (2008) indicated that traditional bullying victims are more likely to engage in cyberbullying, especially those who are considered weak and vulnerable. These individuals are provided with anonymity and tend to have greater skills in operating technological tools. Unlimited access, anonymity, and broad audiences are challenges of cyberbullying that make it difficult or impossible to detect, although the effects may be devastating. Some adolescents may be more vulnerable than others and may be more likely to become targets of cyberbullying. Ingram (2000) reported that victims may commit suicide out of desperation, making early identification of adolescents' emotional and social difficulties important.

According to Li (2006b), bully victims are more likely to perform poorly in school and display signs of behavioral problems. The cyberbully victim often displays one or more of the following characteristics: problem behaviors, depressive symptomatology, and low self-esteem, as well as being insecure, unpopular, isolated, and fearful. Half of cyberbullying victims also are targets of traditional bullies (Ybarra & Mitchell, 2004). Willard (2007) reported that victims of cyberbullying may experience changes in school performance (e.g., difficulty concentrating in school, failing classes, fighting, avoiding or changing schools, etc.). Li (2006b) described common characteristics of cyberbullies and cybervictims among participants, including 60% of the students disclosed that they were cyberbullies and 85.5% of cyberbullies also were cybervictims. A research study by Cross et al. (2009) reported similar results, finding that cyberbullies were more likely to engage in traditional bullying and were cybervictims as well.

A cross sectional study by Analitis et al. (2009) examined physical and psychosocial factors of bullying among adolescents from 8 to 18 years of age in 11 European countries. The researchers analyzed psychosocial and physiological links between bullying and health outcomes. Per student reports, risk factors strongly associated with being a victim of bullying included: being younger, having parents with low levels education, being overweight or obese, experiencing psychological or mental health problems, and lacking social support. An adolescent's quality of life could be severely impaired if exposed to repeated victimization resulting from cyberbullying and traditional bullying. Nurses must implement a process to identify adolescents who are at risk for poor physical and psychological functioning that may have been caused by being a victim of either traditional bullying or cyberbullying.

Gender Differences in Bullying

Several researchers (Lenhart, 2007b; Li, 2006b; Olweus, 1993) reported significant gender differences in bullying behaviors. Researchers have found that boys in primary and secondary school are more likely to experience physical or direct forms of bullying, while girls are more likely to experience indirect forms of bullying (Banks, 1997; Crawford, 2002; Hazler, 2006; Kumpulainen, Rasanen, & Henttonen, 1999; Olweus, 1993; Whitney & Smith, 1993; Wiseman, 2002).

According to Banks (1997), boys, when compared to girls, are more likely to be both bullies and victims. Crothers, Field, and Kolbert (2005) found that girls are more likely to engage in indirect acts of bullying, such as: gossiping, ignoring, spreading rumors, staring, giving nasty looks, excluding other girls from friendship groups, isolating, alienating, writing hurtful letters, and/or stealing friends or boyfriends, etc. The National Crime Prevention Council (2007) also confirmed that 13 to 17 year old females are more likely to engage cyberbullying incidents.

Researchers have noted differences in students' perceptions and experiences associated with cyberbullying. Cyberbullying is a form of indirect/relational bullying, with girls more likely to engage in these types of behavior. Ybarra and Mitchell (2004) found that cyberbullies and victims were more likely to be female than male. Smith et al. (2006) also reported that girls were more likely to be cyberbullied (e.g., text messages and phone calls) than boys. According to Feinberg and Robey (2008), female cyberbullies have a tendency to act as a group and may engage in cyberbullying as to retaliate against or justify harassment of a vulnerable or weaker peer. Lenhart (2007b) identified significant gender gaps in male and female students' experiences with cyberbullying. According to Lenhart, females were more likely to report being bullied online than males. The researcher also found that older girls (e.g., 15 to17 years of age)

were more likely to experience cyberbullying than other gender and age groups. This finding may be related to the substantial increases in peer pressure that older girls may encounter and their strong desires to be accepted by the popular group.

Massachusetts Aggression Reduction Center (MARC) conducted a survey in 2006 that examined the prevalence of cyberbullying among college freshmen (Englander, 2007). Englander found that cyberbullying was more common than traditional bullying. She reported that 72% of cyberbullies were females. This finding was different from the previous research that males engage more frequently in aggressive or traditional bullying.

Agatston, Kowalski, and Limber (2007) conducted focus groups with 148 middle and high school students to examine the impact of cyberbullying on students. The qualitative research study design used focus groups at two middle schools and two high schools located in the Cobb County Public School District (Marietta, Georgia). During focus group sessions, students were asked to report their perceptions of cyberbullying and whether or not cyberbullying is being addressed with the school and community settings. Participants reported that cyberbuyllying is not being addressed within the school district. Agatston et al. (2007) found that cyberbullying was viewed as problematic for female students. Male students were less likely to perceive that cyberbullying was a problem.

Similarly, Kowalski et al. (2005) found that more girls reported being victims of cyberbullying (25% of girls vs. 11% of boys) and bullying someone online (13% of girls vs. 8.6% of boys). Marked gender-related differences were found in aggression. In reference to cyberbullying, females were more likely to externalize aggression and discuss cyberbullying incidents with peer and family support systems. In contrast, males tended to internalize problems or refuse to admit being a victim of cyberbullying.

Students often are reluctant to disclose cyberbullying behaviors. Adolescents may be afraid to disclose cyberbullying because they do not believe anyone can help or repercussions from the bully outweigh benefits of reporting the incidents (Anderson & Sturm, 2007). Li (2006b) found that female cyberbully victims were more likely to inform adults than their male counterparts. Lenhart (2007b) also reported similar findings regarding an increased prevalence of females disclosing cyberbullying incidents. Empirical research studies have indicated that students are reluctant to report episodes of cyberbullying because they may feel embarrassed if they have encountered cyberbullying. Newman and Murray (2005) found that students refused to report episodes of victimization for fear of retaliation. Agatston et al. (2007) reported that students did not believe an adult at school could help them. In addition, they also reported that students were reluctant to report episodes because they feared loss of online privileges. Research by Juvonen and Gross (2008) supported the finding that adolescents reluctant to disclose cyberbullying incidents. The researchers concluded that: most participants (90%) failed to disclose cyberbullying, with some participants (31%) indicating they were afraid of parental restrictions on Internet use. Health professionals and parents need to recognize the seriousness of cyberbullying and encourage students to disclose any incidents they may have experienced or witnessed.

Students also reported that most cyberbullying incidents occur outside of school (Agatston et al., 2007). However, Kowalski et al. (2005) found that cyberbullying incidents via text messaging often occurred during the school day. Many schools have stringent policies that prohibit the use of electronic devices (e.g., cellular phones, lap tops, etc.) during the school day. While students were aware of the policies regarding the prohibited electronic devices, they continued to bring them to school. Juvonen and Gross (2008) reported an increase in

cyberbullying incidents during the school day. The researchers reported that victims were more likely to engage in traditional bullying in school (60% of participants) versus cyberspace (12% of participants), and less than one third (28%) of the sample reported traditional bullying in school as well as cyberbullying online. Cyberbullying can be disruptive to the school environment (Feinberg & Robey, 2008). Many students are aware that cyberbullying could become dangerous if the bully takes it too far, but did not consider that they were at risk for harm. Students commonly ignore incidents and fail to take cyberbullying seriously. Franek (2006) recommended that schools address cyberbullying by: developing policies for acceptable use of technology, implementing these policies, and holding students responsible for violation of the policies.

Parental Involvement

Many parents are unaware of their children's online and day-to-day activities (Englander, 2007). Newer forms of technology (e.g., social networking sites) make it difficult for parents to be aware of their child's online activities (Subrahmanyam & Greenfield, 2008). Snider (2004) suggested that parents build awareness about cyberbullying and re-establish authority by setting limits on technology use. Parents need to be directly involved in their child's lives and social activities (e.g., using the Internet, promoting online safety, etc.). Dehue, Bolman, and Völlink (2008) reported that many parents were unaware of their children's involvement in traditional bullying or as a victim of cyberbullying. For example, in another study, less than half of parents (11.8%) reported their child was a victim of cyberbullying (use of text messaging), compared to the percentage of children (22.9%) who reported being bullied (Dehue et al., 2008). The Media Awareness Network (MAN; 2010) found that Canadian adolescents demonstrated high rates of Internet use and inconsistencies in parent and student perspectives on Internet usage. The report revealed a disagreement in parent's and child's perceptions of the child's Internet activities and

actual online activities. MAN reported that 71% of parents reported that they know a great deal or a fair bit (reasonable amount) about the web sites that their children visited, while 38% of parents stated they knew very little or nothing about the web sites visited by their children. Thirty six percent of the adolescents reported erasing the history of the web sites that they visit, with 12% of adolescents always erasing the history and 24% of adolescents erased the history sometimes. MAN also found that parents are unaware of hidden personal email accounts created by their children and unmonitored chat room use. According to MAN, the Internet is used primarily to socialize and communicate with peers versus educational benefits.

Low parental supervision can contribute to cyberbullying. MAN found that adolescents reported irregular supervision when online. Adolescents reported lack of parental monitoring of online activities and failure to promotion of safety measures, including:

- parents fail to sit with them while surfing online (68%);
- parents do not use filters to block prohibited sites (65%), and
- parents fail to check the browser history that lists the web sites visited (54%).

Similarly, King, Walpole, and Lamon (2007) analyzed online survey findings from i-SAFE Internet Safety. The researchers confirmed that 40% of parents were unaware of their child's online activities and 26% of adolescents believed their parents would be concerned if they became aware of the children's online activities. Mishna, Cook, Gadalla, and Daciuk (2010) also highlighted decreased parental monitoring and found that almost half of adolescents surveyed had a computer in their bedroom.

Juvonen and Gross (2008) surveyed 1,454 adolescents (12 to 17 years of age) regarding similarities and differences between traditional bullying and cyberbullying, along with common assumptions of cyberbullying. Juvonen and Gross (2008) found that 72% of participants

encountered one cyberbullying incident and 77% experienced at least one traditional bullying incident. The researchers reported that 90% of participants failed to disclose cyberbullying incidents to adults. The participants cited a variety of reasons for failing to report to adults: 50% reported that they needed to 'learn to deal with it' themselves, while 31% were concerned that parents would restrict Internet access (Juvonen & Gross, 2008, p. 502). Similar findings (e.g., reluctance to disclose cyberbullying) also have been reported in studies conducted by other researchers (e.g., Li, 2006b; Slonje & Smith, 2008).

Adolescents may be less likely to disclose cyberbullying incidents to adults, especially parents. Most parents may confiscate electronic devices (e.g., cell phones or computers) if they discover cyberbullying incidents, with many adolescents refusing to disclose cyberbullying incidents because they do not want their technological devices taken away or restricted. Parents can encourage adolescents to disclose incidents by talking openly with them, monitoring Internet activities, and encouraging adolescents to practice safety guidelines when using the Internet and other communication devices.

An effective program to prevent cyberbullying must feature a whole school approach that includes active participation from faculty, administration, students, and parents (Englander, 2007). Prevention strategies and tools should be available to parents and adolescents. Improved parental education information regarding cyberbullying is needed. Englander (2007) recommended that adult awareness should focus on the difference between generations. For example, adults are identified as the cyber-utilization generation and adolescents identified as the cyber-immersion generation. The researcher also suggested that adults receive direction on how to initiate open discussions regarding cyberbullying and cybersafety with children. Berkman Internet Society (BIS; 2008) recommended that parents educate themselves regarding: use of

technology by adolescents, become involved in adolescents' online activities, understand the risks involved with misuse and abuse of technology, identify at-risk minors and peers early, and pay special attention to warning signs.

Parent's awareness of cyberbullying has been identified as an important component of cyberbullying prevention programs. The Cyberbullying Prevention Curriculum for grades 3 thru 5 and grades 6 thru 12 by Hazelden (2010) is based on evidence-based practices for reducing cyberbullying and provides educational resources, training, and tips for parents/guardians, students, and teachers. Parent materials include: information on cyberbullying awareness and five take-home assignments that students must complete with their parent/guardian who then sign the assignments.

Parental involvement is an important aspect of cyberbullying prevention. Support from parents and school officials may help adolescents to combat cyberbullying. Subrahmanyam and Greenfield (2008) argued that the elimination of technology misuse and abuse remains a challenge for parents and schools, while safeguarding and upholding the benefits of technology use (e.g., enhancing education and social relationships). Parents can encourage adolescents to:

- engage in online safety (e.g., supervise online activities, use privacy settings when communicating on social network sites, review prohibited web sites, save threatening messages, limit disclosure of personal information, discourage sharing of passwords, etc.),
- convey ground rules for computer usage (e.g., location of computer, appropriate versus prohibited websites, approved language when communicating on websites, etc.), and
- express unconditional support.

Spears et al. (2008) proposed practical approaches for parents that include: setting developmentally appropriate boundaries for online activity, imposing time limits, providing direct supervision, and promoting cyber-security.

Policy Development Regarding Bullying and Cyberbullying

American Association of School Administrators (AASN, 2009) identified cyberbullying as a "whole school and community issue" (p. 25). AASN acknowledged the difficulty in identifying cyberbullies because technology provides protection from punishment or retaliation. The organization recommended that parents should be aware of warning signs that a child is being a cyberbully, such as: minimizing screens when parents walk by the computer, using multiple online accounts that belong to someone else, and avoiding discussions regarding the computer and cell phone activities.

Cyberbullying is a recognized legal problem for adolescents, parents, and schools. Some forms of cyberbullying may violate laws and are considered illegal acts (Belsey, 2004). Adolescents, parents, schools and other stakeholders in education (e.g., school governing bodies, psychologist, etc.) need to be aware that cyberbullying incidents may result in criminal liability (Campbell et al., 2008).

More states are beginning to implement laws to decrease the prevalence and harmful effects of cyberbullying. According to SocialSafety.org (n.d.), several states have started to take legal action against cyberbullying: Arkansas, Idaho, Iowa, Minnesota, New Jersey, Oregon, Pennsylvania, South Carolina, and Washington. The National Conference of State Legislatures (NCLS, 2009) acknowledged the complexity in addressing cyberbullying in legislation and language in the legislation can include the following terms: "electronic communication, cyberbullying, and electronic and internet intimidation" (p. 1, para. 1). According to NCLS,

states that have enacted legislation regarding electronic bullying: Idaho, South Carolina, Arkansas, Delaware, Iowa, Michigan, Minnesota, New Jersey, Oklahoma, Oregon, Washington, California, Florida, Kansas, Maryland, Missouri, Nebraska, Pennsylvania, and Rhode Island (Draa & Sydney, 2009).

The Megan Meier Cyberbullying Prevention Act (HR 1966), sponsored by Representative Sanchez (D-California) and 14 other representatives (Gibbs, 2009), will criminalize cyberbullying. The cyberbullying bill is designed to,

> Impose criminal penalties on anyone who transmits in interstate or foreign commerce a communication intended to coerce, intimidate, harass, or cause substantial emotional distress to another person, using electronic means to support severe, repeated, and hostile behavior, shall be fined under this title or imprisoned not more than two years, or both. (GovTrack.US, 2009a, p. 3)

The bill was named after Meier, a 13 year old, who committed suicide in 2006 after she was lured into a fictitious online relationship. The Megan Meier Cyberbullying Prevention Act never became law after it was introduced in a previous session of Congress (GovTrack.US, 2010a). According to GovTrack.US,

> Sessions of Congress last two years, and at the end of each session all proposed bills and resolutions that haven't passed are cleared from the books. Members often reintroduce bills that did not come up for debate under a new number in the next session. (p.1, para. 1)

Representative Wasserman Schultz is the sponsor of the Adolescent Web Awareness Requires Education Act (AWARE Act, H.R. 3630). The AWARE Act is designed to develop Internet safety education by establishing grant funding for cybercrime prevention and prevention programs as well as introducing best practices in Internet safety education for adolescents, parents, and educational officials (GovTrack.US, 2009b). The bill has not been passed and the last action was a referral to the committee on July 15, 2009 (GovTrack.US,

2010b). No additional information (e.g., committee assignments, no senate or Congress votes, etc.) was available regarding the AWARE Act (GovTrack.US, 2010b).

Other nations are attempting to increase awareness of this growing trend among adolescents. In Queensland, Australia, Flegg (2009) introduced a bill intended to address cyberbullying that allowed immediate confiscation of devices that capture images of violence against children. According to Flegg, "confiscation of electronic devices used to report or transmit images of bullying against children known as cyberbullying" (p. 2917). According to Flegg, the digital generation gap makes it more difficult for parents to detect cyberbullying and stay abreast of the increasing pace of this technological evolution.

More states are beginning to implement laws to decrease the prevalence and harmful effects of cyberbullying. Jennifer Granholm, Michigan Governor, has spoken out against cyberbullying and supports anti-bullying legislation for schools (Heywood, 2010). Matt's Law was named after Matt Epling, an eighth grader who was assaulted as a part of the "Welcome to High School" Hazing (Matt Epling.com, 2006). Matt's parents had decided to file formal charges and Matt committed suicide the night before they went to the police department. On May 13, 2010, the Michigan House passed the "Matt's Safe Schools" legislation with 76-29 votes (Heywood, 2010). The legislation requires Michigan schools to adopt anti-bullying policies and report them to the State Board of Education (Heywood, 2008). The anti-bullying legislation is important because it establishes specific policies and procedures for responding to bullying and cyberbullying incidents in Michigan schools.

Risk Factors Associated with Cyberbullying

The United States has identified suicide as the third leading cause of death among adolescents (Cash & Bridge, 2009). Wagner (2007) found an association between traditional

bullying and depression, suicidal ideation, and suicide. The researcher confirmed that victims and bullies of traditional bullying were more likely to encounter higher rates of depression, suicidal ideation, and suicide attempt. Few published research articles have examined cyberbullying and suicide (Cash & Bridge, 2009).

Hinduja and Patchin (in press) examined the relationship between cyberbullying and suicide. The researchers reported an increase in the number of cyberbullicide cases among adolescents. Hinduja and Patchin defined cyberbullicide as suicide that occurs as a result of direct or indirect experiences of online aggression. The researchers surveyed 2,000 middle school adolescents in the U.S. and confirmed the following findings: 20% of participants reported seriously contemplating suicide, 19% of participants attempted suicide, and all forms of bullying (traditional, relational, and cyberbullying) were associated with increase risks for suicide attempts. Cyberbullying can cause harm that can result in injury and death (Meadows et al., 2005).

Adolescents are at risk for committing suicide because of continuous peer harassment and victimization. Many cases of cyberbullying result in serious physical and psychological distress (including suicide). For example, Halligan (13 years of age) was bullied online via e-mails and instant messages from his classmates (Long, 2008). He took kickboxing to defend himself from traditional bullying, but he was overcome when peer ridicule started occurring online. In 2003, he hung himself in his bedroom after he discovered that an attractive girl in school was joking and pretending to like him online. His father became an advocate against cyberbullying after his death and travels to schools around the country to talk to students about the dangers of cyberbullying.

Meier, a 13-year-old student from Missouri, committed suicide in 2006 as a result of being cyberbullied by her neighbor. The perpetrator was Drew, the mother of a former friend of Meier. Drew created a MySpace account belonging to an imaginary 16-year-old male named "Josh Evans." Drew used the social networking account to retaliate against Meier after allegations that Meier had spread rumors about her daughter. Drew sent flirtatious emails (supposedly from "Josh") to Meier. Drew used the emails exchanged between Meier and "Josh" to obtain personal information about Meier. After several weeks of flirting online, the emails turned malicious and one email read, "The world would be a better place without you" (Steinhauer, 2008, p. 2, para. 6). Meier committed suicide by hanging herself in her bedroom after believing that "Josh" rejected her.

Another known case of cyberbullying involved a young girl in a Montreal elementary school (Snider & Borel, 2004). Boucher was often teased and excluded because of her height. Boucher found a website where she could dialogue with others about art. This site was a social lifeline for Boucher because she felt like she was accepted and belonged. Boucher began facing social exclusion after she had a disagreement with a peer online regarding an unanswered email. She was unable to resolve the problem. Boucher became the victim of online harassment for three years. As a result of cyberbullying, Boucher was devastated and eventually suffered from depression (Snider & Borel, 2004).

A growing number of reports of suicides related to cyberbullying are appearing in the media. Phoebe Prince, 15 years old, of South Hadley, Massachusetts committed suicide on January 14, 2010 after she was cyberbullied by classmates (CBS News, 2010). Prince's classmate informed the news correspondent that Phoebe Prince appeared to be happy and stable, but cyberbullying led to her death. Another tragic case of cyberbullying was discovered when

Johnston, a middle school student in Florida, committed suicide in 2005 after being cyberbullied on the Internet (Students for Safer Schools, n.d.). Johnston's, mother reported,

> With the keyboard as his weapon, the bully violated the sanctity of my home and murdered my child just as surely as if he had crawled through a broken window and choked the life from [Johnston] with his bare hands. It was not a death that was quick and merciful. It was carried out with lies, rumors, and calculated cruelty portioned out day by day. (p. 4, para. 2)

Research confirmed that bullying is one of the most prevalent forms of violence that may result in serious antisocial behaviors (Smokowski, & Kopasz, 2005). On March 17, 2010, the *ABC News* reported another disturbing case of teen texting that resulted in serious physical harm to a teenager in Florida (Gutman, 2010). Treacy is a 15-year-old ninth grader at the Deerfield Beach High School in Fort Lauderdale, Florida. The adolescent is being charged with premeditated attempted murder for allegedly beating Josie Ratley, a 15-year-old 8th grade female student. Treacy's girlfriend and Ratley's friend is a 13 year old girl (student's name has not been released) was also involved in the text incident. The chain of events started when Treacy's girlfriend, who does not own a cell phone, used Ratley's phone to text Treacy. Ratley disapproved of her friend's relationship with Treacy because of the two-year age difference and sent a text message acknowledging her disapproval. The text message rage continued between Treacy and Ratley and the messages were marked with intense intimidation. Ratley made comments about Treacy's brother who recently committed suicide. The final message from Treacy read as a threatening and offensive message, "I'm going to snap your neck". Treacy immediately went to the Deerfield Beech Middle School and his girlfriend identified Ratley. Treacy slammed Ratley's head into the concrete and began punching and kicking her in the head with his steel-toed boots. Ratley suffered severe head injuries and was hospitalized and in a medically induced coma for several weeks. She spent 41 days in the hospital and underwent 3

surgeries (Miller, 2010). Treacy faces a charge of first-degree attempted murder and his girlfriend is being charged with accessory to attempted murder.

These stories highlight the adverse effects of cyberbullying among adolescents. Public humiliation and intimidation can be painful for adolescents, especially when they refuse to disclose the cyberbullying incidents with parents or adults. These adolescents may initiate a suicidal plan to stop the pain by committing suicide. Adolescents, parents, nurses, and school staff must work together to identify and provide interventions for individuals who may be at risk for committing suicide or becoming physically violent as a result of cyberbullying.

Summary

Cyberbullying is a growing problem that is impacting adolescents, parents, school personnel, and the community. Research has shown that cyberbullying incidents are becoming more prevalent in the U.S. and other countries. Adolescents in urban and suburban environments may experience cyberbullying incidents at varying rates. Few published research studies have compared urban and suburban adolescents and/or negative impacts of cyberbullying among adolescents in middle and high schools. Research findings suggested that a number of factors may influence cyberbullying incidents among adolescents. Further investigation is needed to examine the deleterious effects of cyberbullying and traditional bullying. Cyberbullying is a public health concern that requires early identification and intervention from parents, students, school personnel, health professionals, and the community. This study is intended to fill the research gap in the cyberbullying literature by comparing urban and suburban adolescents' perspectives and encounters with cyberbullying and traditional bullying; and examining the physical, psychological, emotional, and social effects of cyberbullying.

CHAPTER 3

THEORETICAL FRAMEWORK

Neuman's Systems Model (NSM, Neuman & Young, 1972) focuses on protection of the client/client system from stressors. The client or client system is conceptualized as the individual, group/aggregate, and community in the NSM (1985). According to Neuman, the client system is subject to environmental stressors (e.g., intrapersonal, interpersonal, and extrapersonal). The degree of impact to an identified stressor can determine if the client system maintains optimal system stability or system instability (e.g., a variance from wellness).

The application of NSM has been used widely in the nursing literature to examine various research topics of interest: nursing education and practice (Neuman, 1982), teaching strategies and evaluation outcomes (Lowry, 1998), promoting health of senior citizens (Newman, 2005), and caring for post-partum women (Matuk, 1998), describing functional on-line communications (Molinari, 2001), as well as being an exemplar of a clinical nurse specialist practice (Gigliotti, 2002). The NSM is committed to the promotion of holistic health through educational and curriculum development (Neuman, 2005). Neuman System Model was used to examine the phenomenon of interest (e.g., cyberbullying), focus on a client assessment for the target population, and formulate recommendations for a cyberbullying prevention program designed to enhance client system wellness. Cyberbullying is a stressor that can disrupt the client system (e.g., adolescent's health and psychosocial wellbeing). The NSM was used to obtain a comprehensive client system assessment that includes an evaluation of the normal line of defense invasion, the client system's response to the normal line of defense invasion, and characteristics representing client system instability (e.g., poor physical and psychosocial outcomes) in response to the stressor (e.g., cyberbullying). Information collected from the client assessment was used to

determine the most appropriate intervention (e.g., primary, secondary, or tertiary prevention) based on identification of possible or known exposures to the stressor. Hardin and Moody (2004) recommended that the application of the NSM to a research study should address the following: "focus on the cost, benefit, and utility of prevention interventions. By adding a focus on cost and benefit to a research study, the study must have an emphasis on the efficiency of the proposed intervention" (p. 93). The present research examined the nature and extent of cyberbullying, as well as addressed the cost, benefit, and utility of a comprehensive anti-cyberbullying prevention program that is designed to curb the harmful effects of cyberbullying among adolescents.

Client or Client Systems

The term, client or client system in the NSM is used to "fulfill the need for a qualifying term that would indicate respect and imply a collaborative lateral relationship between caregivers and the clients they serve" (Neuman, 2002a, p. 330). According to Neuman (1990), "the client is viewed as a thin layered, dimensional whole in constant dynamic interaction with the environment. This constant interaction consists of making adjustments as needed to retain, attain, and maintain stability for an optimal health state" (p. 129). Neuman (2002b) focused on four dimensions of the model: individual, family, community, and social issue. An individual is defined as the client system and represents "a person," or "man" (Neuman, 2002b, p. 15). The family, community, and social issue represent a certain type of group (Neuman, 2002b). The present research study identified the adolescent as the client system and examined the impact of cyberbullying on the individual, family, and community as an important social issue.

Interacting Variables

Neuman (2002b) emphasized that each individual client or client represented as a group is unique and "each system is a composite of known factors or innate characteristics within a normal, given range of response, contained within a basic structure" (p. 14). According to NSM, the client system is composed of the following five interacting variables: physiological, psychological, sociocultural, developmental, and spiritual. The physiological variable represents the bodily structure (i.e., genetic structure) and internal function (i.e., normal body temperature). The psychological variable refers to mental processes (i.e., ego structure, response pattern, etc.) and interactive environmental effects, both internally and externally. The sociocultural variable addresses the combined effects of social cultural conditions and influences. The development variable represents processes and activities associated with age-related growth and maturity. The spiritual variable refers to spiritual beliefs and influences. The interacting variables occur and are considered simultaneously in each client concentric circle. The interrelationships are instrumental in determining the amount of resistance to an environmental stressor. Considering core components (e.g., genetics, cognitive, environmental, developmental, and spiritual) that influence adolescent development is important. Most adolescents have an increased dependence on technology to maintain and extend social networks. According to Dwyer, Hiltz, and Passerini (2007), the basis for maintaining social networks is to communicate with others and maintain relationships. The core components (e.g., gender, cognitive , adolescent needs, spirituality, codes of conduct, norms and values of one's culture, etc.) may influence whether an adolescent benefits from technology or is placed at risk for stressors associated with cyberbullying. These factors are interconnected and determine an adolescent's interaction with the internal and external environment.

Basic Structure

The basic structure is the central core that represents the client or client system and consists of concentric rings (e.g., flexible line of defense, normal line of defense, and lines of resistance). The client is featured in the middle of the NSM (Newman, 2002b) diagram. The concentric rings are designed to protect the client/client system from stressors. The goal of the basic structure is to preserve integrity of the client system (Neuman, 2002b). For the present study, the adolescent can be viewed as the central core in the NSM model. The adolescent is equipped with basic survival attributes, including: genetic, cognitive, social factors, personality characteristics (e.g., assertiveness, aggressiveness, etc.). If present, these attributes can serve as protection against cyberbullying, or if absent, weaken the system. A major developmental milestone for adolescents is to develop healthy relationships with their peers. Gifford-Smith and Brownell (2003) confirmed that peer groups and friendships play a role in the development and functioning of adolescent's lives, as well as the family, the school, and the community. Espelage and Swearer (2003) also stressed the importance of adolescent peer relations in healthy social and emotional development. Hinduja (n.d.) has shown that several factors (e.g., personal skills of a leader, balance of productive and nurturing factors, environmental, social factors, etc.) are essential to create a positive culture and climate, while limiting harmful effects of cyberbullying.

Flexible Line of Defense

The first barrier, the flexible line of defense is a broken line that is designed to protect the client system from stressors. According to Neuman (2002b), the flexible line of defense is dynamic, acting as a buffer and protecting the normal line of defense by expanding away from the normal line of defense and offering greater protection when a stressor is present. Conversely, if the flexible line of defense draws closer, less protection is provided to the normal line of

defense. The lines of resistance are activated if the flexible line of defense provides inadequate protection.

According to Patchin and Hinduja (2006), adolescents may be at risk for poor psychological, emotional or social outcomes if exposed to cyberbullying incidents. Exposure to cyberbullying is a stressor and the client system must quickly respond to this change or alteration in the system and maintain stability or homeostasis. Ybarra (2004) found that adolescents exposed to electronic bullying were more likely to experience depressive symptoms. The threat of, or exposure to, cyberbullying may result in the adolescent's flexible line of defense contracting. A study by Muscari (2008) reported that cyberbullying may be more harmful than traditional bullying considering the anonymity of the cyberbully (e.g., may intensify frustration, fear and feelings of helplessness) and unlimited dissemination to peers and classmates (e.g., 24 hours/7days a week exposure).

Normal Line of Defense

The normal line of defense of the Neuman system model is the second barrier and represents the client's usual wellness level as determined by adjustment of the client's interacting variables to environmental stressors. This solid, yet flexible, line surrounds the broken internal lines of resistance. According to Neuman (2005), the normal line of defense represents the system stability over time and its ability to preserve system stability and integrity. Penetration of the normal lines of defense can result in activation of lines of resistance. Exposure to cyberbullying can have a substantial effect on the harmony of the system. When stressors are present, the system can "attempt to reconcile and harmonize the needs of the body, mind, spirit, and environment" (Neuman, 1989, p. 129).

Lines of Resistance

The lines of resistance are three broken lines that surround the basic structure and energy resources. A reaction occurs when a stressor penetrates the lines of resistance. Activation of the lines of defense can result in system reconstitution (e.g., increase in energy) or energy loss. According to Neuman (2002b), reconstitution represents the return and maintenance of system stability following treatment for stressor reaction. This process can start after the initial invasion of the stressor. Neuman (2005) suggested that reconstitution may cause the normal line of defense to expand beyond its previous level, stabilize the system at a lower level of wellness, or return it to the pre-existing level of wellness. Ling and Helmersen (2000) emphasized that adolescence is a time of transformation and increased influence from peers. Many adolescents rely on the use of communication technology to develop and maintain social networks. The frequent use of communication technology to stay connected may increase exposure to cyberbullying incidents. The negative aspects of cyberbullying can result in adolescents using increased levels of energy to maintain the previous level of wellness (e.g., reconstitution of the system). Conversely, stressors resulting from cyberbullying may cause system instability and may be manifested by a lower level of wellness (e.g., poor physiological, psychological, sociological, developmental, and spiritual health outcomes).

Environment

According to Neuman (2005), the environment can be conceptualized as internal environment, external environment, or created environment. Each environment consists of internal and external forces that surround and interact with the system at any time. The internal environment consists of forces within the system. The external environment is identified as forces that exist outside the system. The created environment is used to maintain the system

veracity and may be articulated consciously, unconsciously, or both concurrently. The three types of environment represent the wholeness of the system.

Neuman (1995) defined stressors as disruptive forces in the environment that can cause positive or negative outcomes for the system. These stressors impact the client system and have the ability to result in system stability (e.g., optimal wellness) or system instability (e.g., deviation from normal or usual wellness condition). Newman stated that these forces can be identified as intrapersonal stressors, interpersonal stressors, or extrapersonal (i.e., external) stressors. Intrapersonal stressors, such as anxiety, depression, fear, poor self-esteem, and feelings of hopelessness, are stressors that exist within the system. Intrapersonal stressors are associated with physical well-being, satisfaction, anxiety, mood, and depression. Willard (2006) found that victims of cyberbullying may experience some or all of the following adverse effects: withdrawal from school activities, or becoming ill, depressed, or suicidal. Interpersonal stressors are defined as interactions that occur between one or more individuals. Role and social expectations and social support from family and peers are important determinants in an adolescent's ability to maintain productive relationships. For example, adolescents may experience negative health outcomes as a result of pressures to conform to role expectations of adolescent and the peer groups. Some adolescents may be reluctant to disclose cyberbullying incidents, engage in the bystander role, and fail to intervene in attacks. Extrapersonal stressors are forces that occur outside of the individual. Conditions at school or within the community can be viewed as an extrapersonal (i.e., external) stressors. Schools and communities need to set boundaries and limits regarding the misuse of communication mediums by enforcing zero tolerance of cyberbullying and development of school policies regarding acceptable Internet and cell phone use. Schools can deal with these new challenges effectively by creating a positive

culture (Keith & Martin, 2005). Discouraging active involvement in negative external and created environments by parents, peers, the school, and community may be a useful strategy to reduce the prevalence of cyberbullying.

Unsupervised home environments, where adolescents have frequent access to computers and cell phones (especially after acceptable hours), may increase exposure to stressors and weaken the flexible line of defense. Social networking or personal websites (a.k.a. created environments) may encourage adolescents to post mean and threatening messages. The impact may be more detrimental when considering the larger audience and unlimited access (available 24 hours/7 days a week) to the content. According to Trieschmann (1999), managing stress and learning to work within the milieu is a primary life task for people. Environmental influences play an important role in adolescents' exposure to cyberbullying that can serve either as protective buffers or promote misuse of technology mediums.

Levels of Prevention

Neuman (2002b) defined prevention as the primary nursing intervention that is designed to decrease stressors and stress responses from having harmful impacts on the body. Neuman's systems model proposed three levels of prevention that consisted of: primary, secondary, and tertiary prevention. Nursing interventions at the primary prevention level are implemented before reacting to a stressor. The nurse should gather as much information as possible from the literature (e.g., research journal and websites) to fully grasp the extent of this problem. The nurse's role in cyberbullying is to equip adolescents with knowledge and skills necessary to deal with cyberbullying and weaken the impact of these stressors. Awareness is the key to prevention and intervention of cyberbullying among adolescents. A multi-disciplinary approach that includes school personnel and parents is needed to combat cyberbullying among adolescents.

School personnel and parents must be must be equipped with the knowledge and technology skills to gain full access to digital technologies and provide supervision to adolescents. A cyberbullying awareness campaign addressed prevalence and threats associated with cyberbullying and strategies to increase online safety. Nurses and school officials play a vital role in identifying adolescents at risk for cyberbullying and should be part of the planning and implementation process.

Protocol for early intervention must include: research, risk assessment for cyberbullying, nurse, student and parental involvement, therapeutic services (e.g., psychiatric evaluations), and implementation of effective anti-bullying strategies (e.g., implementation of virtues, development of critical thinking and decision-making skills). Urgent collaboration between nurses and school staff is necessary in combating the problem of cyberbullying. Multidisciplinary approach may be beneficial in creating innovative approaches for the prevention of cyberbullying.

Secondary Prevention

The secondary prevention is implemented after a stressor has occurred. Secondary prevention focuses on strengthening the lines of resistance and/or removing the stressor (Neuman, 2002b). Interventions at this level would address identification and intervention. The nurse can identify students that exhibit psychosocial characteristics of cyberbullies and cybervictims (e.g., vulnerability, complaints of somatic symptoms; withdrawal or isolation from peers and social activities, etc.) by performing detailed assessment during health maintenance and screening exams. Reports from students, parents, and school staff may also assist in the identification of cyberbullies and cybervictims.

The nurse can use the assessment findings to secure appropriate treatment and interventions such as: enrollment in a cyberbullying prevention program, peer leaders who pledge or take a stand against cyberbullying, social support services and resources, crisis intervention, referrals (e.g., school psychologist or psychiatric evaluation), collaboration with other disciplines, etc. Early identification of cyberbullies and cybervictims may be effective in decreasing the adolescent's risk for new or recurrent exposure to cyberbullying and traditional bullying.

Nursing interventions at the tertiary level are designed to promote rehabilitation and well-being. Tertiary prevention strategies are intended to increase the amount of energy in the system or reduce energy required for reconstitution (Neuman, 2002b). According to Neuman, reconstitution is defined as the increase in energy relative to the extent of the reaction to the stressor. Reconstitution can start after the beginning of treatment for stressors that are invading the normal lines of defense. The normal line of defense may be expanded during reconstitution, with the system either stabilized at a lower level, or restored to the previous level. This process may be viewed as feedback from input/output of secondary interventions, with complete reconstitution resulting in a return to the previously determined normal line of defense or usual wellness state. Tertiary preventions provide support to the client in order to reduce energy required to facilitate reconstitution. Neuman emphasized three important components of tertiary prevention, including (a) readaptation, (b) reeducation to prevent future occurrences, and (c) maintenance of stability.

Nurses can encourage adolescents to use technology devices responsibly and emphasize the hazards associated with cyberbullying. Public service announcement may also enhance public awareness among adolescents, parents, and educators. The implementation of sustainable

of educational programs (e.g., introduction of cyberbullying curriculum in the classroom, anti-cyberbullying school policies, etc.) and monitoring systems are important components for preventing and addressing cyberbullying at the tertiary level. Evidence-based programs or interventions (EBP) may be effective in creating and sustaining positive learning environments at schools and promoting safe use of electronic devices off school grounds for middle and high school students. EBP programs have been developed, tested, and found to be effective in achieving the stated goals and objectives (National Center for Mental Health Promotion and Youth Violence Prevention, 2010).

The guiding research premise for this study is that cyberbullying has physical, psychological, and social consequences. Neuman's (1985) system theory provides a framework for understanding the impact of cyberbullying on adolescent physical health and wellbeing, as well as the importance of primary, secondary, and tertiary interventions aimed at reducing the prevalence and long-term effects of cyberbullying. Neuman's system theory also addresses various categories of stressors (e.g., intrapersonal, interpersonal, and extrapersonal).

These stressors are identified as physiological, psychological, sociocultural, developmental, and spiritual that may impact and overwhelm the system, especially during adolescence. Cyberbullying is a combination of difficult circumstances that can impact these stressors and result in system instability and depletion of resources that can reduce an adolescent's ability to be resilient. Physiological influences include physical stature, physical state (e.g., frequent exposure to illnesses or diseases), fatigue, etc. Stressors associated with these influences may increase an adolescent's susceptibility to antisocial behaviors during this developmental period. Psychological influences such as anxiety, depression, fear, low self-worth, post traumatic stress disorder (PTSD) can impact youth development. These factors are

important to consider when examining an adolescent's psychosocial development (Goldstein, Young, & Boyd, 2008).

Sociocultural factors may influence an adolescent's ability to transition into their new roles. Connor (2002) identified possible risk factors for aggression and antisocial behaviors based on individual, family, and extrafamilial factors such as: body size and build, academic underachievement and academic failure, poor parenting practices, family dynamics and functioning, peer factors, social deprivation, and community factors (e.g., exposure to neighborhood and media violence. Protective factors that may shield adolescents from aggressive and antisocial behaviors are: easy temperament, higher IQ, high self-esteem, improved parent-child relations, peer relationships, and external supports (Connor, 2002).

Considering adolescents' developmental needs such as the importance of formulating and maintaining health, parental and peer relationships, management of aggression and other antisocial behaviors, etc. is important. Failure to complete important adolescent milestones can result in additional stress on the client and may be manifested in poor parental and peer relationships (Steinberg, 2001), increased isolation that may contribute to lower self-confidence and social acceptance (Tani, Chavez, & Deffenbacher, 2001), predictive of adolescent problem behaviors (e.g., alcohol use and delinquent activity; Windle, 1994) inability to effectively deal with conflict and utilize conflict resolution skills (Hamburg, 1997).

Spirituality influences are important to adolescent identity development. Spiritual variables, such as the application of moral and ethical behaviors based on religious teaching, development of positive youth culture, etc., may guide adolescents in learning to maintain a healthy life based on their spiritual teaching. Hay and Nye (1998) emphasized that a spiritual experience can be identified as either positive/productive or negative/counterproductive. An

adolescent who can freely and openly discuss his or her faith in the presence of family and/or peers can be viewed as a positive and productive experience. Difficulty expressing one's spirituality due to embarrassment or not being socially acceptable may be viewed as negative or counterproductive. A spiritual imbalance may be manifested by the following: decrease spirituality, frustration, hopelessness, uncertainty, engagement in counterproductive behaviors (e.g., violence, bullying, etc.).

The adaptation of this model to the target population can be helpful in understanding adolescent experiences with cyberbullying and its influence (e.g., environmental, social contexts, etc.). Neuman Systems Model emphasized the importance of five variables (e.g., physiological, psychological, sociocultural, developmental, and spiritual) that constitute the client system. Cyberbullying can have a profound impact on an adolescent's potential for healthy growth and development.

Adolescents may encounter a variety of wholistic stressors when exposed to cyberbullying. This breakdown or depletion of energy may be manifested by the client system's (e.g., adolescents') struggle to reconcile the system. Physiological variables present may include the following: somatic symptoms, physical injuries, etc. Psychological manifestations may include: low self-esteem, depression, increased fear and anxiety (e.g., associated with anonymity of cyberbullying). Sociocultural variables may be manifested by poor family and peer relationships (e.g., as evidenced by social isolation and fear of rejection), difficulties transitioning into new roles, etc.

The lack of cyberbullying research in nursing can result in limited knowledge regarding the deleterious impact of cyberbullying behaviors and inappropriate interventions. This model can assist nurses in examining and understanding the impact of cyberbullying on an adolescent's

physical health, mental health, social relationships, developmental needs, and spiritual resources. Awareness of the prevalence and impact of cyberbullying may help nurses understand adolescents' experiences with cyberbullying and may be instrumental in improving prevention programs. "Health or wellness is facilitated by conservation of energy through increasing awareness of environmental stressors as risk factors that threaten or strengthening existing client strengths" (Neuman, 1989, p. 129).

CHAPTER 4

METHODOLOGY

Introduction

The methods that were used to collect and analyze the data needed to describe the sample and address the research questions are presented in this chapter. The topics that were discussed include: restatement of the problem, research design, setting for the study, participants, instrumentation, data collection procedures, and data analysis.

Restatement of the Problem

The purpose of this study was to examine the relationship between cyberbullying and physical (e.g., headache, stomachache, etc.) and psychosocial (e.g., self-esteem, depression, post traumatic stress syndrome, etc.) outcomes among adolescents. Juvonen and Gross (2008) found that individuals who experience repeated traditional bullying are at increased risk for experiencing repeated incidents of cyberbullying. Research has shown that the effects of cyberbullying may be more traumatic than traditional bullying when one considers that victims can be bullied 24 hours and 7 days a week, on and off school property. The misuse of interactive technologies to bully and harass others is a serious health concern that must be addressed by nurses and other health care professionals.

Research Design

A nonexperimental, correlational research design was used in the study. This type of research design was appropriate when the independent variable was not manipulated and no intervention or treatment was provided for the participants. Correlational research designs are used to examine the relationships between sets of variables (Trochim & Donnelly, 2007). In the present study, the relationship between experiences with cyberbullying on physical and

emotional health of middle and high school students was examined. A set of surveys, (The Student Survey (McLoughlin & Burgess, 2010); Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987); Depression Self-rating Scale (DSRS; Birleson, 1981); Children's Somatization Inventory (CSI; Walker, Garber, & Greene, 1991) were used as the primary data collection tools to measure the dependent and independent variables in the study.

While nonexperimental research designs are not subject to the same types of threats to the internal and external validity that can affect experimental research, the researcher must be aware of any uncontrolled extraneous variables that could influence study outcomes. For example, if a television special on cyberbullying was presented the week before the researcher collected data, the student responses to the surveys might be different than if this type of programming was not viewed by the students. By being aware of these variables and their possible effects on the findings, the researcher can either adjust conclusions to disclose possible contamination due to the television program or postpone data collection to minimize the influence of the program on responses of the students.

Setting for the Study

A community-based approach was used to collect data for this study. The settings for the study included middle and high schools, churches, and recreational centers in urban and suburban areas in Southeastern Michigan.

Numerous faith-based institutions are committed to developing youth programs that can service youth in the urban and suburban settings. The youth ministries provide services and activities (e.g., volunteering, tutoring, life-skills training, spiritual mentoring and training, etc.) designed to meet the needs of adolescents. Most religious leaders emphasize the importance of segregation and program development that focuses on youth leadership.

Community-based study – Selected schools, churches, and recreational centers.

A community-based convenience sample was used to select schools, youth church organizations, recreational centers, and community youth organizations located in the Detroit Metropolitan area. The purpose of the study and involvement of the adolescents in each of these sites were discussed with each principal, youth minister, or organizational leader at the selected schools, churches, and community organizations. The contact person received a research package for review that included the following information: an abstract, parental consent and adolescent assent forms, and the questionnaires that students were asked to complete. Four charter schools, Northpointe Academy, Michigan Collegiate Middle School and Michigan Collegiate High School, and Eaton Academy located in the urban and suburban school districts were selected for the study.

Northpointe Academy is located in Highland Park, Michigan. The charter school has 262 students enrolled in kindergarten through 8th grade. Highland Park is an urban community, with several large ethnic populations (e.g., Jewish, Asian, African American, and Hispanic origin) that are economically diverse (e.g., multi-millionaires and significant number of school students qualifying for free or reduced lunch programs; Highland Park 2020, n.d.). There are 126 middle school students (grades 6th to 8th) enrolled in the school. The majority of students (42.0%) qualifies for free or reduced lunch programs. The largest groups of students are African American (99.1%), with 0.9% reporting their ethnicity as multiracial. Results of the 2008-2009 Michigan Education Assessment Program (MEAP) tests indicated that 59.1% of students passed the English language arts test, with 74.6% passing the mathematics test (School Matters, n.d.). The majority of students passed science (62.4%) and social studies (61.4%) MEAP tests.

Michigan Collegiate Middle School is located in Warren, Michigan. The charter middle school is affiliated with Conner Creek Academy East. A total of 158 students are enrolled in 7th and 8th grades at Michigan Collegiate Middle School. The majority of students (97.0%) qualifies for free or reduced lunch programs. The largest group of students are African American (99%), with 1% reporting their ethnicity as Caucasian. The results of the 2009-2010 Michigan Education Assessment Program (MEAP) tests indicated that 59.0% of seventh grade students and 71.6% of eighth grade students passed the reading test, with 55.4% of seventh grade and 49.4% of eighth grade students passing the mathematics test. The majority of sixth grade students (57.3%) passed social studies and 44.9% of eighth grade students passed the science portion of the MEAP tests (Conner Creek Academy East, 2010). The Ed Yes! Grade for the 2009-2010 academic year was C, with school achieving adequate yearly progress for No Child Left Behind for the 2008-2009 academic year.

Michigan Collegiate High School is located in Warren, Michigan. The high school has a total school population of 401 students, including 230 boys and 171 girls. The sample drawn from the high school was limited to ninth grade students (n = 108) and includes 65 boys and 43 girls. African Americans comprise 99% of the student population, with 60% qualifying for free or reduced lunch programs. Fifty-nine percent of the ninth grade students passed the reading section and 44.2% passing the social studies portion of the MEAP test. The ninth grade students do not take the math or science sections of the MEAP tests.

Eaton Academy is located in Eastpointe, Michigan. The charter school, located in a suburban area, has 454 students enrolled in kindergarten through 12th grade. The sample drawn from the charter school was limited to sixth through ninth grade students (n = 250). The largest groups of students were African American (96%) with 4% reporting their ethnicity as Caucasian

(Muni Net Guide, 2011). Results of the 2009 – 2010 MEAP tests for the 7th grade level indicated that 71% of the students passed the reading and math sections (T. White, Principal, Eaton Academy, personal communication, August 9, 2010). According to White, 86% of the 8th grade students passed the reading section and 53% of the 8th grade students passed the math portion of the MEAP test.

Adolescents attending various church youth groups in urban and suburban areas were asked to participate. One urban church and one suburban church with active youth groups have agreed to participate in the research study.

Living Waters Missionary Church is located in Detroit, Michigan. The urban church services 20 members and also provides a food program for individuals within the community. Ten adolescents are actively involved in the Living Waters youth group. The church provides the following services/activities for the youth: social outings as a group, recognition of scholastic achievement, etc.

First Baptist Church of Rochester (FBCR) is located in Rochester Hills, Michigan. The suburban church has a student ministry for junior and high school students. The Student Ministries provides the following activities for youth: Junior and Senior High Sunday School, youth group activities and fellowships (e.g., Christian and youth summer camp, banquets, community service, and spiritual training) that are designed to help students connect with other believers and help serve the community. There are approximately 25 adolescents currently enrolled in the youth program.

Several community organizations agreed to participate in the research study. The General Manager of Operations for the Detroit Recreation Center selected three recreational sites located in Detroit: The Heilmann Recreation Center, Coleman A. Young Recreation Center, and Adams

Butzel Recreational Complex. The recreational centers service adolescents during the summer months and school year. The enrollment for these centers varied from 25 to 100 adolescents who regularly participate in programs during the year. The mission of the recreational facilities is to provide high quality leisure facilities for children, families, and seniors. The facilities provide several services (e.g., sports and game room activities, computer, tutoring, arts and crafts, etc.) that are designed to help individuals in the community flourish and grow.

Youth on the Edge of Greatness (YOE) agreed to participate in the research study. The mission of YOE, a Warren/Conner Development Coalition, is to empower youth to attain their full potential. The organization uses the four attributes known as the four E's: Education, Esteem, Empowerment, and Exposure to develop and support middle-school adolescents on the east side of Detroit.

Description of urban and suburban schools.

Urban and suburban middle schools were selected from areas located in Detroit and the surrounding suburbs throughout southeastern Michigan. An urban school can be defined as a school that possesses the following characteristics: located in an urban area, or suburban region, relatively high rate of poverty (based on free and reduced lunch data), large percentage of students of color, and students who speak a language other than English (also known as limited English proficient), etc. (Russo, 2004). Purkey and Rutter (1987) compared urban and suburban teachers' reports of teaching conditions and found that students "encounter a less positive educational environment…Teaching is a more difficult task" (p. 388) in urban rather than suburban schools. Hannaway and Talbert (1993) examined the factors (e.g., urban, suburban, and rural differences) that promote or undermine school effectiveness. The researchers provided the following definition for urban schools: "nested within very large districts, whereas suburban

schools, and especially rural schools, operate in much smaller districts" (p. 172). According to Brooks-Gunn, Duncan, Klebanor, and Sealand (1993), the environment (e.g., neighborhood and economic status) can affect families directly in the following ways: higher-quality public services (e.g., schools, parks, and police protection), unofficial job associations, neighborhood-level monitoring of teenage behavior, and positive role models.

Educational disparities (e.g., school funding and facilities) have been identified as another difference in urban and suburban schools. According to Philippe (2009), suburban schools have more affluent tax base that results in generating more revenue than schools located in the inner cities. Philippe emphasized that the facilities located in the suburban areas are newer (less than 60 years of age) and school districts have failed to maintain older schools located in the urban areas. These disparities may be apparent when examining cyberbullying.

Many students in the urban school districts may have limited access to computers and other electronic mediums when compared to suburban districts. Owens and Waxman (1996) pointed out that suburban schools have greater access to technology than urban schools. The National Center for Educational Statistics (IES, 1996) report highlighted differences in resources among urban and suburban school districts. For example, IES reported that limited financial resources (e.g., reductions in school staffing and school program offerings) in urban schools may contribute to differences in student achievement. According to University of Michigan (n.d.), students in urban school districts are deprived of resources in their schools, home, and community. As a result, urban students may have limited access and opportunities to use technology. There is a need to examine these differences and increase awareness of the impact of cyberbullying among adolescents in urban and suburban communities.

Participants

Population.

The population for this study is middle and high school students (e.g., between 12 and 18 years of age) in sixth through twelfth grades. These students are enrolled in charter school academies, church youth groups, and community organizations (e.g., recreation centers and community youth organization) located in Macomb, Oakland, and Wayne counties.

Sample.

To obtain a representative sample, adolescents attending three schools, two church youth groups, three recreation centers, and one community youth organization were asked to participate in the study. A convenience sample of approximately 367 adolescents who were either enrolled in the schools, were members of the church youth groups, or participated in the community recreation centers located in urban and suburban environments was used in this study. A convenience sample was used in this study because parental permission must be obtained prior to the adolescent's participation in the study. The use of several schools/organizations located in different geographic areas provided a broad representation of adolescents in the Detroit Metropolitan area. The inclusion criteria for the study include being in sixth through twelfth grade and between 12 and 18 years of age. Students were not excluded on the basis of either gender or race/ethnicity.

To determine the appropriate sample size, G-Power ver 3.1 was used (Faul, Erdfelder, Lang, & Buchner, 2007). For a moderate effect size of .15, alpha level of .05, and 11 predictor variables, a sample size of 270 would be needed to attain a power of .80. Samples greater than 270 would improve the power of the analysis.

Instruments

Five surveys, The Student Survey [McLoughlin & Burgess, 2010]; Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987); Children's Somatization Inventory (CSI; Walker, Garber, & Greene, 1991); Depression Self-rating Scale (DSRS, Birleson, 1981); and a short original demographic survey were used as the primary data collection tools for the present study. With the exception of the demographic survey, each of these instruments have been used in previous research and have been found to be valid and reliable. The Flesch-Kincaid Readability Scale, available in Microsoft Word™ 7.0, was used to determine the readability grade level of the instruments. Permission to use the various scales was granted. Self-administered questionnaires are less threatening and allow participants to remain anonymous (Anastas, 1999). See Appendix A for copies of all surveys that were used in the study.

The Student Survey (McLoughlin & Burgess, 2010).

The Student Survey is a self-report questionnaire for students in middle and high school to obtain information on the prevalence of cyberbullying and perceptions of the types of situations and events that may be considered cyberbullying. The instrument also measures feelings, actions, and behaviors associated with cyberbullying (McLoughlin, Meyricke, & Burgess, 2009). The authors created the Student Survey in Australia, but the items are relevant for cyberbullying by adolescents regardless of the country.

The instrument is divided into five sections (McLoughlin & Burgess, 2010). The first section asks students to indicate how often they use a computer, with information on bullying history (have been bullied, bullied others) asked in the second section. The third section of the instrument obtains information on perceptions of cyberbullying, including what types of actions can be construed to be cyberbullying. Section 4 of the instrument obtains data on adolescent's

personal experiences with cyberbullying, with information regarding safety strategies obtained in the fifth section.

Scoring. Each section of the survey is measured separately. The item regarding the use of computers ranges from less than once a week to more than once a day. The second section on bullying history uses a forced choice response of yes, no, and not sure. The 17 items on the perceptual section uses a 5 point Likert-type scale ranging from 1 for not cyberbullying to 5 for severe cyberbullying. The 17 items were divided into two categories: cyberbullying involving the use of the internet (9 items) and cyberbullying using mobile phones (8 items). The items on the fourth section measuring students' experiences with cyberbullying uses various forced choice items and allows students to make multiple answers to some questions. For example, when asked how cyberbullying makes the student feel, they are given a list of 17 possible responses, including "other" and instructed to check all that apply. The responses to the fifth section of the survey used a combination of structured responses and three open-ended items that require students to write a sentence. With the exception of the third section, responses to each item were considered separately and treated as descriptive information.

Responses to items included on the fourth section were used in a principal components factor analysis with a varimax rotation to determine if factors would emerge that could be used as subscales to measure student feelings regarding cyberbullying. To be retained on a factor, an item has to have a loading of at least .40 and not load high on more than one factor. The factors had to have eigenvalues greater than 1.00, which would indicate that the factor was accounting for a statistically significant amount of variance in the latent variable, perceptions of cyberbullying. Results of the factor analysis are presented in Table 2.

Table 2

Factor Analysis – Feelings About Cyberbullying

Feelings About Cyberbullying	Psychosomatic Emotions	Physiological Emotions	Negative Emotions
Psychosomatic Emotions			
Trouble sleeping	.82		
Weak	.81		
Crying for no reason	.81		
Helpless	.76		
Powerless	.73		
Depressed	.72		
Isolated	.71		
Lonely	.70		
Friendless	.70		
Anxious	.67		
Embarrassed	.63		
Excluded	.59		
Physiological Emotions			
Sad		.80	
Fearful		.78	
Sick		.73	
Negative Emotions			
Angry			.82
Annoyed			.82
Percent of Explained Variance	39.12	15.41	14.27
Eigenvalues	6.65	2.62	2.43

Validity and reliability. McLoughlin and Burgess (2010) had not reported any information regarding the validity and reliability of the instrument. Content validity was determined by having three mental health professionals and a high school guidance counselor review the instrument and make comments about the items. They were asked to provide any suggestions that could improve the items on the survey. After reviewing their comments, the researcher changed items to improve readability and reduce ambiguity. The reliability of the instrument was determined by checking the internal consistency of the Likert-scaled items using Cronbach alpha coefficients. The alpha coefficients for cyberbullying using the Internet (.93) and cyberbullying using mobile phones (.94) indicated that the items in the second section of the

survey had excellent internal consistency. The alpha coefficients for the three subscales from the fourth section of the survey, psychosomatic emotions (.95), psychological emotions (.79), and negative emotions (.74), provided evidence of adequate to good internal consistency for emotional feelings about Alpha coefficients greater than .70 provide evidence that the items have adequate to good internal consistency as a measure of reliability.

Readability. The readability of the instrument was determined by using the Flesch-Kincaid Readability Index. The instrument has a grade level of 8.3, indicating that most middle and high school students should be able to read the survey without great difficulty. As the survey was read out loud to the adolescents, the higher reading level of this instrument was not a problem for sixth and seventh grade students who participated in the study.

Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987).

The IPPA is a self-report questionnaire that is based on Bowlby's (1969, 1982) attachment theory. The questionnaire was developed with older adolescents (16 to 20 years), but has been used with adolescents as young as 12 years of age (Armsden & Greenberg, 1987). The instrument was designed to evaluate perceptions of security with parents and close friends. The IPPA measures three subscales, trust, communication, and alienation, to obtain an indication of attachment security. Trust is the availability and responsiveness of attachment figures, communication measures the comfort in the attachment relationship, and alienation is anger, and or hopelessness that results from experiences with unresponsive or inconsistently responsive attachment figures (Armsden & Greenberg, 1987).

The original IPPA (Armsden & Greenberg, 1987) measured two scales, the Parent Scale and the Peer Scale, using 53 items. The revised version of the IPPA separated the Parent Scale into two distinct scales, one for Mother and one for Father, and a Peer scale. Each scale has 25

items that are rated by the adolescents using a 5-point Likert-type scale ranging from 1 for very untrue to 5 for very true. The items that are included on each of the subscales are presented in Table 3.

Table 3

Subscale Scoring for the Inventory of Parent and Peer Attachment (Parent Version; Armsden & Greenberg, 1987)

Inventory of Parent and Peer Attachment	Direct-Score Items	Reverse-Score Items
Mother and Father Scales		
Trust	1, 2, 4. 12. 13. 20. 21, 22	3, 9
Communication	5, 7, 15, 19, 24, 25	6, 14
Alienation	8, 10, 11, 17, 18, 23	
Peer Scale		
Trust	6, 8, 12, 13, 14, 15, 19, 20, 21	5
Communication	1, 2, 3, 7, 16, 17, 24, 25	
Alienation	4, 9, 10, 11, 18, 22, 23	

Scoring. Scoring is accomplished by reverse scoring the negative items and then summing the numeric values associated with the responses to obtain a total score for each subscale. The total score is then divided by the number of items on the scale to obtain a mean score. The use of a mean score provides a result that reflects the original unit of measure and allows comparison across the three subscales.

Reliability and validity. According to Greenberg and Armsden (2009), the IPPA has good test-retest reliability over a three-week period. The obtained correlations were .93 for parent attachment and .86 for peer attachment. The internal consistency reliability of the scales was determined using Cronbach alpha coefficients. The alpha coefficients for the three scales, mother

(.87), father (.89), and peer (.92) provided evidence of good internal consistency. Table 4 presents the alpha coefficients obtained for students in the subscales on the IPPA.

Table 4

Alpha Coefficients for the Inventory of Parent and Peer Attachment (Parent Version; Armsden & Greenberg, 1987)

Inventory of Parent and Peer Attachment	Mother	Father	Peer
Trust	.88	.90	.90
Communication	.78	.84	.83
Alienation	.77	.47	.62

The alpha coefficients for the IPPA ranged from .47 for father alienation to .90 for father and peer trust. With the exception of father and peer alienation, the alpha coefficients for the IPPA were in the adequate to good range, indicating that the IPPA had acceptable reliability for the participants in the study.

The IPPA has been tested extensively for validity. Parent attachment scores were significantly related to the family and Social Self scores from the Tennessee Self-Concept Scale and to subscales on the Family Environmental Scale (Armsden & Greenberg, 1987).

Readability. The readability of the instrument was determined by using the Flesch-Kincaid Readability Index. The instrument has a grade level of 4.7, indicating that most middle and high school students should be able to read the survey without great difficulty.

Children's Somatization Inventory (CSI-24; Walker, Beck, Garber, & Lambert, 2009).

The Children's Somatization Inventory (CSI-24) is a self-report instrument that is designed to assess 35 symptoms (e.g., headache, nausea, heart racing, etc.) in pediatric patients.

Walker, Garber, and Green (1991) developed the original scale to measure the extent in which somatization disorders occur in children. Patchin and Hinduja (2006) pointed out ten emotions that cyber victims frequently experience: feeling upset, angry, sadness, scared, loneliness, frustration, invasion, annoyed, hurt, and depressed. Srabstein (2008) also emphasized that adolescents involved in bullying are more likely to suffer from physical and emotional symptoms that include eating disorders, injuries requiring hospital stay or surgery, abuse of over-the counter medications, alcohol and drug abuse, daily smoking, etc. A wide range of physical symptoms may be present in victims of cyberbullying. The American Psychiatric Association (1987) defined somatization as "recurrent and multiple somatic complaints…for which medical attention has been sought, but that apparently are not due to any physical disorder" (p. 261). According to Lipowski (1988):

> Somatization, a tendency to experience and communicate somatic distress in response to psychosocial stress and to seek medical help for it, poses a major medical, social, and economic problem. It is most often associated with depressive and anxiety disorders and constitutes the core of somatoform disorders. Its persistent form is especially costly and difficult to prevent and manage. (p. 1358)

The instrument has clinical application that includes assessment and intervention in adolescents (Walker et al., 2009). Symptoms were taken from the DSM criteria (American Psychiatric Association, 1987) and the Hopkins Symptom Checklist (HSCL; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) to develop this survey that includes 24 items. The tool is also available in an adult version (e.g., Adult Somatization Inventory) that consists of the same symptoms listed in the CSI. While two complementary scales (child and parent) are available for the CSI, only the child scale will be used in the present study.

Scoring. The CSI-24 (Child Report) lists a variety of symptoms (e.g., headache, nausea, heart racing, stomach aches, etc.) that children and teenagers may experience. The child is asked

to report the frequency of symptoms during the past two weeks. The items on the scale are rated using a 5-point Likert-type scale ranging from 0 for not at all to 4 for a whole lot. The numeric responses are summed to obtain a total score that can range from 0 to 96. The total score was divided by the 24 (total number of items on the scale) to obtain a score that ranges from 0 to 4 and reflects the original scale of measurement.

Validity. A principal component analysis was used to determine if the 24 items measured more than one dimension of somatization (Walker et al., 2009). The results of the analysis indicated that 30% of the variance in the scale was measured by one factor, with 8% of the variance explained by a second factor, measuring GI symptoms (e.g., constipation, food intolerance, nausea, bloating, stomach pain, and loose bowel movements). The factor loadings on the second scale ranged from .25 and .40, while factor loadings for items on the first factor were greater than .40.

The moderate correlation between items indicated that the items when taken individually were unique, but also were contributing to the latent variable of somatization (Walker et al., 2009). The validation findings also indicated that while the second factor measuring GI symptoms was weak, the scale was not unidimensional. The CSI-24 was sensitive to differences among people and statistically significant differences were found when male and female adolescent scores were compared. This result provided evidence of divergent validity.

Reliability. The CSI-24 was tested for reliability using Cronbach alpha. The resultant alpha coefficient of .87 provided support that the instrument had good internal consistency as a measure of reliability (Walker et al., 2009). The Cronbach alpha coefficient of .93 obtained for the CSI with the present sample was evidence that the CSI had excellent internal consistency for the students included in the study.

Readability. The items on the CSI-24 were tested for readability using the Flesch-Kincaid test. The test had a 6.1 reading level, indicating that students in middle and high school should have little or no difficulty in reading the items on this scale.

Depression Self-rating Scale for Children (DSRS-C, Birleson, 1978, 1981).

The Depression Self-Rating Scale for Children (DSRS-C) was developed in 1978 by Birleson. The DSRS is a self-report questionnaire that measures depression in children from 7 to 14 years of age. The initial scale was developed based on items associated with depressive symptomatology in childhood. The authors used the operational definition of depressive disorder based on the following conditions:

1. Evidence of recent expressed unhappiness, sadness, misery, or weepiness;
2. History of behavior change lasing over two weeks, but less than one year;
3. Evidence of recent impairment in social relationships and/or decline in school performance; and
4. The presence of two or more of the following symptoms – sleep disturbance, appetite disturbance, loss of usual energy or interest, reduced activity, expressed self-deprecating ideas, suicidal threats or behavior, increased irritability, new somatic complaints, wandering behavior, and depressive delusions and hallucinations (Birleson, 1995, p. 1, ¶2)

The original DSRS inventory consisted of 37 items associated with major depressive syndromes in childhood (Birleson, 1981). These items included both positive and negative statements that were randomized and administered to four groups of children (17 children referred to a Child Psychiatry Clinic and a comparison of 17 children from a Child Psychiatry

Clinic; 20 maladjusted students with low self-esteem, and a comparison group of 19 normal school children between 7 and 13 years of age) as a pilot study (Birleson, 1981).

The Depression Self-rating Scale was originally tested on four groups of depressed and non-depressed children from a child psychiatric clinic, residential, and non-residential schools in Britain. Mood, physiological and somatic complaints, and cognitive aspects of depression are the items used for the DSRS.

Scoring. The revised DSRS included 18 items that were rated using a 3-point scale, 0 for not at all, 1 for sometimes, and 2 for most of the time. Nine items, (1, 2, 4, 7, 10, 14, 15, 17, 18) were reversed before summing the scores. Possible scores could range from 0 to 36, with higher scores indicating the presence of a greater number of depressive symptomology. Birleson (1981) indicated that a score greater than 15 could indicate the presence of psychopathology or significant environmental stress. He also stressed that a diagnosis of depression should not be made on the basis of this survey, but should include clinical interviews and assessments.

Reliability and Validity. The DSRS has good test-retest reliability, $\alpha = .86$ and $\alpha = .73$ and good concurrent validity with the Children's Depression Inventory (CDI) = .81. The CDI is designed to measure affective, cognitive, and behavioral symptoms of depression in children.

Readability. The readability of the instrument was determined by using the Flesch-Kincaid Readability Index. The instrument has a grade level of 1.9, indicating that most middle and high school students should be able to read the survey without great difficulty.

Demographic Survey.

An original demographic survey was developed by the researcher for the present study. The items included on this survey were: age, gender, grade in school, race/ethnicity, living arrangements, computer, cellphone, and email statuses, membership on social networks (e.g.,

Facebook), location of home computer, self-reported academic achievement, citizenship grades (self-report of behavior in school), number of school suspensions, grade retention, number of siblings, birth order, and bullying among siblings. Two items address the extent of cyberbullying in school and among friends and acquaintances. The items on this survey use a combination of forced-choice and fill-in-the-blank response formats. The students were told that there is no right or wrong answers and that all information obtained on this and the other surveys is confidential and they would not be identifiable in the final report.

Data Collection

The following steps were taken to ensure that data collection was consistent throughout the study:

1. Contacted each of the potential schools, churches, and recreational centers to determine their willingness to allow the research to be conducted at their sites.
2. Obtained letters of approval to conduct the study from each of the sites.
3. Completed HIC application, including the parent passive consent form, the adolescent assent form, the introductory script, and the letters of approval from each site.
4. Obtained approval to conduct the study by the HIC, the researcher contacted the participating organizations to schedule appointments to address their adolescents.
5. Determined the approximate number of potential participants at each site, provided passive consent forms along with pre-addressed, postage-paid envelopes to the organizations to send to parents. The secretary or contact person was responsible for addressing the outgoing envelopes was asked to provide a list of all parents contacted and their children. This list did not include the addresses or phone number of the parents.

6. The parents were asked to return the passive consent form to the researcher in the included pre-addressed, postage-paid envelop if they *did not* *want* their adolescent to participate in the study within seven days.
7. The researcher developed survey packets that included the adolescent assent form and a copy of each of the surveys. To control for order effects of the surveys, the researcher counterbalanced the survey packets among the different sites, but survey packets within the sites were in the same order.
8. The researcher attended a second meeting of each of the organizations included in the study to distribute research packets to the adolescents. She read and reviewed the adolescent assent form with the potential participants. After answering any questions, the adolescents have regarding their participation in the research process, the researcher had the adolescents complete the instruments.
9. Adolescents who chose not to participate were excused and those who wanted to be included in the study were told to keep the adolescent assent form with the researcher's contact information if they had questions regarding the study.
10. The researcher distributed the survey packets to the adolescents. The adolescents completed the surveys, with the researcher available to answer any questions. She read the items on the surveys to the participants.
11. The adolescents were told not to provide any identifying information on the surveys.
12. The adolescents were asked to complete the surveys independently. When they were finished, they placed them in the original envelope and returned them to the researcher.

13. The researcher recorded that the adolescent had returned the surveys. She then gave the adolescent a $5.00 gift card to McDonalds.
14. The adolescents were required to complete the surveys during this time period at each site. No research materials were allowed to go home with them.

Data Analysis

The data collected from the surveys were entered into a computer file for analysis using the latest version of IBM-SPSS Ver. 19.0. The data analysis was divided into three sections. The first section used frequency distributions, crosstabulations, and measures of central tendency and dispersion to provide a description of the participants. The crosstabulations were used to determine if the adolescents from church groups differ significantly from those in charter schools. The purpose of this comparison is to assure that the participants do not differ demographically in the study. If statistically significant differences are found among the participants, the demographic variable that is significant were controlled for in the analyses to test the hypotheses. The second section of the data analysis used descriptive statistics to provide information on the scaled variables. Inferential statistical analyses were used in the third section of the chapter to test the hypotheses and address the research aims. These analyses included one way analysis of variance, Pearson product moment correlations and stepwise multiple linear regression analysis. All decisions on the statistical significance of the findings were made using a criterion alpha level of .05. Table 5 presents the statistical analyses used to address each of the research aims and hypotheses.

Table 5

Statistical Analysis

Research Aims and Hypotheses	Variables	Statistical Analyses
1. To determine the extent to which urban and suburban school students self-report experiences associated with cyberbullying and traditional bullying.		
H_1: There are significant differences in the prevalence of cyberbullying between urban and suburban adolescents. H_2: Urban and suburban adolescents will report more experiences with traditional bullying than cyberbullying. H_3: Urban and suburban adolescents will indicate greater prevalence with cyberbullying using the Internet (e.g., social networking, Skype, instant messaging, etc.) than cell phones (e.g., text messaging photographs, videos, etc.)	<u>Dependent Variable</u> Occurrence of cyberbullying Occurrence of traditional bullying Experience with cyberbullying Experience with traditional bullying Experience with cyberbullying using the Internet (including email or social networks) Experience with cyberbullying using cell phones <u>Independent Variable</u> Urban and suburban adolescents	A chi-square test for independence was used to determine if the prevalence of cyberbullying is associated with the prevalence of traditional bullying. A chi-square test for independence was used to determine if an association exists between adolescents' experiences with cyberbullying and their experiences with traditional bullying.
2. To examine the relationships among parent and peer attachment, feelings about cyberbullying, physical health and psychological health, and cyberbullying in adolescents.		
H_4: A negative relationship will be found between the experience with cyberbullying and parent and peer attachment, feelings about cyberbullying, physical health and psychological health of urban and suburban adolescents.	Experience with cyberbullying using the Internet (including email or social networks) Experience with cyberbullying using cell phones Parent attachment Peer attachment Perceptions of physical health Depressive symptomology	Pearson product moment correlations was used to determine the strength and direction of the relationships between perceptions of physical health, number of depressive symptoms, parent attachment, peer attachment and experience with cyberbullying using the Internet and using cell phones. These analyses were done separately for urban and suburban adolescents. In addition, Spearman correlation analysis was utilized if the parametric assumptions are not met.
3. To determine the factors directly related to risk factors for cyberbullying among urban and suburban adolescents.		
H_5: Specific risk factors associated with cyberbullying are related to urban and suburban adolescents' experiences with cyberbullying.	Risk factors associated with cyberbullying Experiences with cyberbullying	Pearson product moment correlations were used to determine the strength and direction of the relationship between risk factors for cyberbullying and experiences with cyberbullying.

Research Aims and Hypotheses	Variables	Statistical Analyses
4. To determine personal characteristics of urban and suburban adolescents who are more likely to experience cyberbullying.		
H_6: Urban and suburban adolescents who are more likely to experience cyberbullying can be predicted from personal characteristics, including age, gender, race, grade in school, self-reported academic achievement, self-reported citizenship grades, suspensions, grade retention, number of siblings, birth order, and access to Internet and cell phones.	<u>Criterion variable</u> Prior experiences with cyberbullying <u>Predictor variables</u> • Age • Gender • Race • Grade in school • Self-reported academic achievement • Self-reported citizenship grades • Number of suspensions • Grade retention • Number of siblings • Birth order • Access to internet • Access to cell phones	Logistic regression analysis was used to explore potential differences in predictor variables between those who had prior experiences with cyberbullying from those who did not. Modeling begun by including in the model all predictor variables that either have at least a marginal bivariate association with the outcome variables or for which there is some rationale that the variable may be a confounder or effect modifier for other variables. To obtain an optimal model, the predictor variables were deleted in a stepwise fashion. The point and interval estimates of the odd ratios of the categorical predictor variables were reported. The categorical variables (gender, race, etc.) were dummy coded for this analysis.

CHAPTER 5

RESULTS OF DATA ANALYSIS

The results of the data analysis that were used to describe the sample and address the research questions and hypotheses are presented in this chapter. The data analysis is divided into three sections. The first section uses frequency distributions and measures of central tendency and dispersion to create a profile of the adolescents who participated in the study. The second section uses descriptive statistics to provide baseline information on the scaled variables. The results of the inferential statistical analyses used to address the research questions and test the hypotheses are presented in the third section.

The purpose of this study was to examine the relationship between cyberbullying and physical (e.g., headache, stomachache, etc.) and psychosocial (e.g., self-esteem, depression, post traumatic stress syndrome, etc.) outcomes among adolescents. Juvonen and Gross (2008) found that individuals who experience repeated traditional bullying are at increased risk for experiencing repeated incidents of cyberbullying. Research has shown that the effects of cyberbullying may be more traumatic than traditional bullying when one considers that victims can be bullied 24 hours and 7 days a week, on and off school property. The misuse of interactive technologies to bully and harass others is a serious health concern that must be addressed by nurses and other health care professionals.

The sample used in the present study included 407 adolescents who were attending three charter schools, two churches, three recreational centers, and a community youth organization. The adolescents who were included in the study had parental permission to participate. Surveys from 40 adolescents were eliminated due to excessive missing values. The results of the data are based on the 367 adolescents who had usable responses to the surveys.

Description of the Sample

The adolescents were asked to complete a short demographic survey. The responses for personal characteristics, including age, grade in school, gender, and race/ethnicity were summarized using frequency distributions. The results of this analysis are presented in Table 6.

Table 6

Frequency Distributions – Personal Characteristics (*N* = 367)

Personal Characteristics	Frequency	Percent
Age		
10	1	0.3
11	13	3.6
12	62	17.1
13	102	28.1
14	112	30.8
15	47	12.9
16	13	3.6
17	10	2.8
18	3	0.8
Missing 4		
Gender		
Male	181	49.6
Female	184	50.4
Missing 2		
Grade in School		
4th through 6th	24	6.5
7th and 8th	217	59.3
9th through 12th	125	34.2
Missing 1		
Ethnicity		
African American	285	77.9
American Indian	19	5.2
Caucasian	7	1.9
Hispanic	2	0.5
Middle Eastern	1	0.3
Multiethnic	45	12.3
Other	7	1.9
Missing 1		

Personal Characteristics	Frequency	Percent
Living Status		
Mother and father	146	40.7
Mother only	130	36.2
Father only	9	2.5
Mother and stepfather	45	12.5
Father and stepmother	7	1.9
Grandparents	12	3.3
Legal guardian	6	1.7
Other relatives	4	1.1
Missing 8		

The participants ranged in age from 10 (*n* = 1, 0.3%) to 18 (*n* = 3, 0.8%). The largest groups of adolescents in the study reported their ages as 13 (*n* = 102, 28.1%) and 14 (*n* = 112, 30.8%). Sixty-two (17.1%) adolescents reported their age as 12 years, with 47 (12.9%) indicating they were 15 years of age. Four adolescents did not provide their ages on the survey.

The largest group of adolescents (*n* = 184, 50.4%) indicated their gender as female, with 181 (49.6%) adolescents indicating their gender as male. Two participants did not provide their gender on the survey.

Most of the participants (*n* = 217, 59.3%) were middle school (7^{th} and 8^{th} grades). Twenty-four (6.5%) adolescents were in elementary school (4^{th} through 6^{th} grades). The remaining 125 (34.2%) adolescents were in high school (9^{th} through 12^{th} grades). One student did not provide his/her grade on the survey.

The majority of the participants (*n* = 77.9%) reported their ethnicity as African American, with 45 (12.3%) adolescents indicating they were multiethnic. Nineteen (5.2%) adolescents were American Indian and 7 (1.9%) were Caucasian. The remaining ethnic groups that were included in the sample were: Hispanic (*n* = 2, 0.5%), Middle Eastern (*n* = 1, 0.3%), and other (*n* = 7, 1.9%). One adolescent did not provide a response to this question.

The largest group of adolescents (*n* = 146, 40.7%) indicated that they were living with both parents, with 130 (*n* = 36.2%) that they were living with their mothers only. Nine (2.5%) adolescents were living with their fathers only, while 45 (12.5%) were living with their mothers and stepfathers. Seven (1.9%) of the adolescents were living with their father and stepmother. Twelve (3.3%) participants were living with their grandparents, 6 (1.7%) were living with a legal guardian, and 4 (1.1%) were living with other relatives. Eight participants did not provide a response to this question.

The adolescents were asked to respond to survey items regarding their exposure to technology. Their responses to these items were summarized using frequency distributions. Only the positive responses are presented for these questions. Table 7 presents results of this analysis.

Table 7

Frequency Distributions – Exposure to Technology (*N* = 367)

Technology	Frequency	Percent
Have a computer	337	92.1
Have a cell phone	288	79.1
Have an e-mail account	322	88.7
On Facebook or MySpace	298	81.6
Text message anyone	309	84.2
Twitter	102	28.0
Where computer is located		
Living room/family room	108	29.6
Adolescent's bedroom	91	24.9
Computer is a laptop and portable	113	30.9
Basement	57	15.6
Other	56	15.3

The majority of adolescents indicated that they had computers (*n* = 337, 92.1%), cell phones (*n* = 288, 79.1%), e-mail accounts (*n* = 322, 88.7%), were on Facebook or MySpace (*n* =

298, 81.6%), and sent and received text messages (*n* = 309, 84.2%). Among the adolescents, 102 (28.0%) reported that they were on Twitter. The largest group of students (*n* = 113, 30.9%) reported their computers were laptops and were portable, with 108 (29.6%) indicating their computers were located in the living room/family room. Ninety-one (24.9%) reported that their computers were in their bedrooms, with 57 (15.6%) indicated their computers were located in the basement of their homes. Fifty-six (15.3%) adolescents indicated "other," but did not provide any additional information regarding the location of their computers.

The participants were asked to indicate the number of hours in a typical day they were on the computer, the number of text messages sent in a day, and the number of email accounts they have. The responses to these questions were summarized using descriptive statistics. Table 8 presents results of this analysis.

Table 8

Descriptive Statistics – Daily Use of Technology (*N* = 367)

					Range	
Technology Use	Number	Mean	*SD*	Median	Minimum	Maximum
Hours of computer use	326	2.78	1.82	2.00	0	8.00
Number of text messages	347	189.63	326.82	71.00	0	3,000.00
Number of email accounts	354	2.12	2.10	2.00	0	25.00

The number of hours on a computer ranged from 0 to 8, with a median of 2.00 hours. The mean number of hours was 2.78 (*SD* = 1.82). The mean number of text messages sent in a typical day was 189.63 (*SD* = 326.82), with a median of 71 text messages per day. The number of text messages in a typical day was from 0 to 3,000. The number of email accounts ranged from 0 to

25, with a median of 2.00. The average number of email accounts reported by the students was 2.12 (*SD* = 2.00).

The students were asked to self-report their academic achievement in school, using a 13-point scale ranging from all As to mostly Fs and some Ds. Their responses were summarized using frequency distributions for presentation in Table 9.

Table 9

Frequency Distributions – Self-reported Academic Achievement (*N* = 367)

Self-reported Academic Achievement	Frequency	Percent
All As	18	5.0
Mostly As and Some Bs	107	29.8
Mostly Bs and Some As	45	12.5
All Bs	12	3.3
Mostly Bs and Some Cs	103	28.6
Mostly Cs and Some Bs	43	11.9
All Cs	7	1.9
Mostly Cs and Some Ds	17	4.7
Mostly Ds and Some Cs	6	1.7
All Ds	1	0.3
Mostly Ds and Some Fs	1	0.3
Total	360	100.0
Missing 7		

The largest group of students (*n* = 107, 29.8%) reported that they had mostly As and some Bs, with 103 (28.6%) students indicating that they received mostly Bs and some Cs. Eighteen (5.0%) students self-reported their grades as all As and 1 (0.3%) indicated that their grades were mostly Ds and some Fs.

The students self-reported their citizenship using a 4-point scale ranging from poor to excellent. The students' responses were summarized using frequency distributions. The results of this analysis are presented in Table 10.

Table10

Frequency Distributions – Self-reported Citizenship (*N* = 367)

Self-reported Citizenship	Frequency	Percent
Poor	11	3.1
Fair	81	22.5
Good	166	46.1
Excellent	102	28.3
Total	360	100.0

Missing 7

The largest group of students (*n* = 166, 46.1%) self-reported their citizenship as good, with 102 (28.3%) indicating their citizenship was excellent. Eighty-one (22.5%) self-reported their citizenship was fair and 11 (3.1%) specified their citizenship as poor. Seven students did not provide a response to this question.

The participants were asked to indicate the number of times they had been suspended from school for disciplinary reasons. The responses were summarized using frequency distributions for presentation in Table 11.

Table 11

Frequency Distributions – Number of Self-reported Suspensions from School (*N* = 367)

Number of Self-reported Suspensions from School	Frequency	Percent
Never	142	40.4
1 to 5	158	44.9
6 to 10	30	8.5
11 to 15	4	1.1
16 to 20	7	2.0
More than 20	11	3.1
Total	352	100.0
Missing	15	

The largest group of students (*n* = 158, 44.9%) reported that they had been suspended from 1 to 5 times, with 142 (40.4%) of the students indicating that they had never been suspended. Thirty (8.5%) students had been suspended from 6 to 10 times and 4 (1.1%) had been suspended 11 to 15 times. A total of 7 (2.0%) students had been suspended from 16 to 20 times, while 11 (3.1%) students self-reported they had been suspended more than 20 times. Fifteen students did not provide a response to this question.

When asked to indicate if the students had ever been held back a grade, 70 (19.5%) of the students reported yes. The remaining 289 (80.5%) students had not been held back a grade. Eight students did not provide a response to this question.

The students were asked to indicate the number of siblings in their family. Their responses were summarized using frequency distributions for presentation in Table 12.

Table12

Frequency Distributions – Number of Siblings (*N* = 367)

Number of Siblings	Frequency	Percent
None	18	5.1
1 to 3	174	49.4
4 to 6	114	32.4
7 to 9	25	7.1
10 to 15	17	4.9
More than 15	4	1.1
Total	352	100.0

Missing 15

The largest group of students (*n* = 174, 49.4%) reported they had 1 to 3 siblings and 18 (5.1%) students indicated they did not have any siblings. Four to six siblings were reported by 114 (32.4%) students, while 25 (7.1%) specified they had from 7 to 9 siblings. Seventeen (4.9%) students had 10 to 15 siblings, while 4 (1.1%) reported more than 15 siblings. Fifteen students did not provide a response to this question.

The students were asked to report their birth order. The responses were summarized using frequency distributions. Table 13 presents results of this analysis.

Table13

Frequency Distributions – Birth Order (*N* = 367)

Birth Order	Frequency	Percent
Oldest/Only	95	26.8
Middle	172	48.6
Youngest	87	24.6
Total	354	100.0

Missing 13

The largest group of students (*n* = 172, 48.6%) indicated they were middle children, with 95 (26.8%) reporting they were either the oldest or only child. Eighty-seven (24.6%) students were the youngest children in their family. Thirteen students did not provide a response to this question.

The participants were asked if there were students in their school who were being bullied and if they had friends or acquaintances who were victims of cyberbullying. Their responses were summarized using frequency distributions. Table 14 presents results of this analysis.

Table14

Frequency Distributions – Perceptions of Bullying and Cyberbullying (*N* = 367)

Bullying and Cyberbullying	Frequency	Percent
Perceptions of bullying and cyberbullying in school		
Students in school are being bullied		
A lot of students are being bullied	46	12.8
No students are being bullied	20	5.6
Some students are being bullied	137	38.1
I don't know	157	43.5
Missing 7		
Friends and acquaintances are victims of cyberbullying		
A lot of students are being cyberbullied	37	10.3
No students are being cyberbullied	19	5.3
Some students are being cyberbullied	63	17.5
I don't know	240	66.9
Missing 8		
Personal Experiences with Bullying		
Bullied During School		
Yes	110	30.1
No	221	60.5
Not sure	34	9.3
Missing 2		
Bullied others during school		
Yes	91	25.1
No	209	57.7
Not sure	62	17.1
Missing 5		
Been cyberbullied		
Yes	62	16.9
No	277	75.5
Not sure	28	7.0
Types of Media Used to Cyberbully (*N* = 62)		
Social Networks (MySpace, Facebook, Twitter, etc.)	40	67.8
Mobile Phone	17	28.3
Chat Room	13	21.7
Email	7	11.7
Other	11	18.3
People Who Cyberbullied (*N* = 62)		
Students inside of the school	42	70.0
People outside of the school	19	31.7
I don't know who	8	13.3
Other	8	13.3

Bullying and Cyberbullying	Frequency	Percent
Number of Times Cyberbullied (*N* = 62)		
In the past 30 days		
Never	30	52.6
Less than 4 times	16	28.1
4 to 10 times	7	12.3
More than 10 times	4	7.0
Missing 5		
In the past year		
Never	8	14.0
Less than 4 times	29	50.9
4 to 10 times	12	21.1
More than 10 times	8	14.0
Missing 5		
Cyberbullied Others (*N* = 62)		
Yes	19	33.9
No	30	53.6
Not Sure	7	12.5
Missing 6		
Types of Media Used to Cyberbully Others (*N* = 19)		
Social networks (MySpace, Facebook, Twitter, etc.)	19	100.0
Mobile phone	18	94.7
Chat room	6	31.6
Email	3	15.8
Know Someone Who Has Been Cyberbullied (*N* = 367)		
Yes	219	60.5
No	143	39.5
Missing 5		
Adults Try to Stop Cyberbullying (*N* = 367)		
Yes	157	43.8
No	69	19.3
Not Sure	132	36.9
Missing 9		
Who Was Told About Cyberbullying		
If I was cyberbullied, I would tell		
No One	76	20.7
Parents	53	14.4
Teachers	29	7.9
Friends	39	10.6
Other	60	16.3
When I knew someone who was being cyberbullied, I told		
No one	91	24.8
Parents	69	18.9
Teachers	66	18.0
Friends	90	24.5
Other	36	9.9

Bullying and Cyberbullying	Frequency	Percent
Aware of Safety Strategies When Using the Internet		
Yes	191	53.5
No	166	46.5
Missing 10		
Who Taught Internet Safety Strategies		
Parents	134	36.5
By myself	110	30.0
School	68	18.5
Friends	35	9.5
Other	25	6.8

The largest group of students (*n* = 157, 43.5%) reported that they did not know if students in their school were being bullied. Forty-six (12.8%) thought that a lot of students were being bullied and 20 (5.6%) indicated that no students were being bullied. Seven students did not provide a response to this question.

The majority of students (*n* = 240, 66.9%) were not aware of any students in their school who were being cyberbullied. Thirty-seven (10.3%) reported that a lot of students were being cyberbullied and 19 (5.3%) indicated that no students were being cyberbullied. Eight students did not provide a response to this question.

The largest group of students (n = 221, 60.5%) reported they had not been bullied during school. A total of 110 (30.1%) students indicated they had been bullied at some time, with 34 (9.3%) students not sure if they had been bullied. Two students did not provide a response to this question.

Ninety-one (25.1%) students reported that they had bullied others during school, with 209 (57.7%) indicating they had not bullied other students at school. Sixty-two students indicated not sure as their response to if they had bullied other students. Five students did not provide a response to this question.

The majority of the students (*n* = 277, 75.5%) reported they had not been cyberbullied, with 62 (16.9%) indicating they had been cyberbullied. Twenty-eight (7.6%) students did not know if they had been cyberbullied. The students who had been cyberbullied were asked a series of questions regarding their experiences with the situation.

The students were asked what type of media had been used to cyberbully them. Their positive responses to this question were summarized using frequency distributions. As the students were asked to indicate all that applied to their situation, the total number of responses was greater than the number of students who reported being cyberbullied. The largest group of students (*n* = 40, 67.8%) reported that they had been cyberbullied on social networks, such as MySpace, Facebook, Twitter, etc.). Seventeen (28.3%) students indicated that they had been cyberbullied on mobile phones, with 13 (21.7%) cyberbullied in chat rooms. Seven (11.7%) students had been cyberbullied on email, and 11 (18.3%) indicated "other," but did not provide any additional information regarding how they had been cyberbullied.

The students were asked to indicate who had cyberbullied them. They were asked to indicate all that applied to their situation. As a result, the number of responses exceeded the number of students who reported being cyberbullied. The largest group of students (*n* = 42, 70.0%) reported they had been cyberbullied by students inside of the school, with 19 (31.7%) indicating that people outside of the school were responsible for cyberbullying them. Eight (13.3%) students each indicated that they did not know who cyberbullied them or "other." Students who reported "other" did not provide any additional information about who was responsible for their being cyberbullied.

The students were asked to indicate the number of times they had been cyberbullied in the past 30 days and the past year. The largest of participants (*n* = 30, 52.6%) had not been

cyberbullied in the last 30 days and 16 (28.1%) reported they had been cyberbullied less than 4 times in the last 30 days. Seven (12.3%) had been cyberbullied 4 to 10 times, with 4 (7.0%) reporting they had been cyberbullied more than 10 times. Five participants who reported being cyberbullied did not provide a response to this question.

The largest group of students (n = 29, 50.9%) had been cyberbullied less than 4 times in the past year, with 12 (21.1%) indicating they had been cyberbullied from 4 to 10 times. Eight (14.0%) had been cyberbullied more than 10 times in the past year and 8 (14.0%) reported they had not been cyberbullied during this time period. Five students did not provide a response to this question.

The students who had been cyberbullied were asked if they had cyberbullied others. The majority of the participants (n = 30, 53.6%) reported they had not cyberbullied others, while 19 (33.9%) indicated they had cyberbullied. Seven (12.5%) were not sure if they had cyberbullied others. Six students who had been cyberbullied did not provide a response to this question.

The students who indicated they had cyberbullied others were asked what media was used. They were given a list of possible media types that can be used to cyberbully others. As they were encouraged to indicate all that applied to them, the number of responses exceeded the number of students who indicated they cyberbullied others. All of the students (n = 19, 100.0%) who had cyberbullied others reported they had used social networks (n = 19, 100.0%), with 18 (94.7%) indicating they had used mobile phones to cyberbully others. Six (31.6%) students reported the use of chat rooms and 3 (15.8%) indicated they used email to cyberbully others.

The students were asked if they knew someone who had been cyberbullied. The majority of students (n = 219, 60.5%) reported knowing someone who had been cyberbullied, with 143

(39.5%) students indicating they knew someone who had been cyberbullied. Five students did not provide a response to this question.

The students were asked if adults in the school try to stop cyberbullying if they are aware of it. The largest group of participants (n = 157, 43.8%) indicated that adults tried to stop cyberbullying if they know about it and 69 (19.3%) thought that adults did not try to stop cyberbullying. The remaining participants (n = 132, 36.9%) were unsure if adults in the school tried to stop cyberbullying if they were aware of it. Nine participants did not provide a response to this question.

The students were asked to indicate who they told both when they had been cyberbullied and when they knew someone who was being cyberbullied. The largest group of students (n = 76, 20.7%) reported they would tell no one if they were cyberbullied. Fifty-three (14.4%) students indicated they would tell their parents if they were being cyberbullied and 39 (10.6%) reported they would tell friends. Twenty-nine (7.9%) students would tell their teachers if they were being cyberbullied, with 60 (16.3%) reporting they would tell an "other" person, but did not provide any additional information.

When asked who they would tell if another person was being cyberbullied, the largest group of students (n = 91, 24.8%) reported they would tell no one and 90 (24.5%) indicated they would tell their friends. Sixty-nine (18.9%) students would tell their parents and 66 (18.0%) would tell teachers. Thirty-six (9.9%) reported that they would tell "other," but did not provide any additional information to identify these other people.

The participants were asked if they were aware of safety strategies on the Internet. The majority of students (n = 191, 53.5%) reported they were aware of safety strategies when using the Internet. Ten students did not provide a response to this question. The students were asked to

indicate two safety strategies they used when on the Internet. The open-ended responses indicated that students are knowledgeable and aware of strategies to use on the Internet. The largest group of students (*n* = 95, 25.9%) reported the importance of not disclosing personal information (e.g., full name, social security, address, email, location, etc.), with 74 (20.2%) indicating the importance of not communicating (e.g., do not talk to strangers, do not chat or email strangers, etc.) or arranging meetings with strangers (e.g., do not meet with strangers on the Internet, Facebook, etc.). Forty-two (11.4%) students reported the importance of blocking cyberbullies (e.g., blocking or deleting cyberbullies, unknown users, and websites, etc.), with 26 (7.1%) students indicating internet etiquette with a focus on communication (e.g., be aware of verbal communication, do not say mean things, be polite and respectful, etc.). Twenty-five (6.8%) students indicated the importance of using reputable websites (e.g., avoid inappropriate or unknown websites, seek parental or adult permission before going on websites, etc.) with 24 (6.5%) students indicated the importance of being cautious (e.g., be careful, manage time appropriately online, avoid chat rooms, avoid predators, use of special passwords, etc.). Twenty-one (5.7%) students reported disclosure of cyberbullying to parents or an adult. Seventeen (4.6%) students indicated the importance of not cyberbullying others (e.g., do not bully or cyberbully, spread rumors, make fun, or talk about others, etc.) with 14 (3.8%) had learned tips for cybervictims (e.g., avoid bullies or cyberbullies, do not respond, etc.). Nine (2.4%) students indicated the importance of not showing or posting inappropriate and embarrassing photos with 8 (2.2%) students did not correctly list safety strategies for the internet.

The students were asked who had taught them safety strategies for the Internet. They were given a list of possible sources for these safety strategies. As a result, the number of responses exceeded the number of respondents. The largest group of students (*n* = 134, 36.5%)

reported their parents taught them Internet safety strategies, with 110 (30.0%) indicating that they learned Internet safety strategies by themselves. Sixty-eight (18.5%) students had learned these strategies in school, with 35 (9.5%) reporting their friends had taught them Internet safety strategies. Twenty-five (6.8%) students had learned strategies for Internet safety from "other" sources, but did not elaborate as to where or from whom they had learned safety strategies.

The students were asked to respond to an open-ended question, "Some ways to prevent cyberbullying are to . . .". Their responses included: cyber-etiquette tips, ignore cyberbullies, disclose cyberbullying, and avoid internet usage. The largest group of students (n = 29, 7.90%) reported the importance of cyber-etiquette tips (e.g., model good behaviors, make friends, do not talk to strangers, do not give out personal information, etc.), with 27 (7.36%) students indicating the importance of avoiding the cyberbully (e.g., ignore the cyberbully, block the bully, do not respond to the cyberbully, create a new account or profile, unfriend the bully, etc.). Nineteen (5.2%) students reported the importance of disclosing cyberbullying to an adult (e.g., notifying a parent, adult, teacher, or principal, contact the police, adult supervision while on the Internet, etc.) with 14 (3.8%) students suggesting to suspend internet usage (e.g., stay off the Internet, stay off social network sites, avoid chat rooms, avoid inappropriate websites, etc.). Seventeen (4.6%) students failed to list techniques to prevent cyberbullying.

Description of Scaled Variables

The surveys that were completed by the students were scored using the protocols developed by the survey authors. The scores were summarized using descriptive statistics. The first two subscales on the Student Survey, ways of cyberbullying (Internet, mobile phone, and email), were rated using a 5-point scale ranging from 1 for not cyberbullying to 5 for severe cyberbullying. The three subscales measuring feelings associated with cyberbullying ranged

from 1 for I don't know to 5 for not at all bad. Results of the analysis for the student survey are presented in Table 15.

Table 15

Descriptive Statistics – Student Survey (N = 367)

					Actual Range		Possible Range	
Subscale	*N*	Mean	SD	Median	Minimum	Maximum	Minimum	Maximum
Cyberbullying by internet	367	3.40	1.20	3.67	1.00	5.00	1.00	5.00
Cyberbullying by mobile phone	367	3.33	1.26	3.50	1.00	5.00	1.00	5.00
Cyberbullying by email	366	3.28	1.31	3.50	1.00	5.00	1.00	5.00
Psychosomatic emotions	365	3.12	1.36	3.00	1.00	5.00	1.00	5.00
Physiological emotions	363	3.12	1.37	3.00	1.00	5.00	1.00	5.00
Negative emotions	365	2.90	1.28	3.00	1.00	5.00	1.00	5.00

The mean scores for all of the subscales, with the exception of negative emotions, were above the midpoint of the scale, indicating that students considered both the items measuring the items included on cyberbullying by the Internet, mobile phone, and email. Higher scores on cyberbullying were indicative of more positive perceptions that the items on this scale were cyberbullying. They also considered the psychosomatic emotions and physiological emotions as not at all bad, while the negative emotions were below the midpoint of the scale. Higher scores indicated that students felt the emotions associated with cyberbullying were not at all bad.

The students completed the Inventory of Parent and Peer Attachment. The scores for three subscales, trust, communication, and alienation, were obtained for mother, father, and peers. Possible scores on these subscales could range from 1.00 to 5.00, with higher scores indicating greater trust and communication and alienation. Descriptive statistics were used to summarize the responses to the items on these scales. Table 16 presents results of this analysis.

Table 16

Descriptive Statistics Inventory of Parent and Peer Attachment (N = 367)

					Actual Range		Possible Range	
Scale	*N*	Mean	*SD*	Median	Minimum	Maximum	Minimum	Maximum
Mother								
Trust	365	3.98	1.02	4.30	1.00	5.00	1.00	5.00
Communication	365	3.70	.92	3.75	1.00	5.00	1.00	5.00
Alienation	365	2.34	.99	2.17	1.00	5.00	1.00	5.00
Father								
Trust	334	3.59	1.25	3.90	1.00	5.00	1.00	5.00
Communication	334	3.27	1.03	3.25	1.00	5.00	1.00	5.00
Alienation	334	2.67	.80	2.67	1.00	5.00	1.00	5.00
Peer								
Trust	361	4.03	.91	4.30	1.20	5.00	1.00	1.00
Communication	361	3.56	.95	3.75	1.00	5.00	1.00	1.00
Alienation	361	2.31	.77	2.29	1.00	5.00	1.00	1.00

The mean scores for mother trust was 3.98 (*SD* = 1.02), with a median of 4.30. The range of actual scores was from 1.00 to 5.00. The mean score for mother communication was 3.70 (*SD* = .92), with a median of 3.75. Actual scores ranged from 1.00 to 5.00. The range of scores for mother alienation was from 1.00 to 5.00, with a median of 2.17. The mean score for mother alienation was 2.34 (*SD* = .99).

Students had a mean score of 3.59 (*SD* = 1.25) for father trust. The median score was 3.90, with actual scores ranging from 1.00 to 5.00. The mean score for father communication was 3.27 (*SD* = 1.03), with a median of 3.25. The range of actual scores was from 1.00 to 5.00. Father alienation actual scores ranged from 1.00 to 5.00, with a median of 2.67. The mean score for father alienation was 2.67 (*SD* = .80).

Peer trust had a mean score of 4.03 (*SD* = .91), with a median score of 4.30. Actual scores on this subscale ranged from 1.20 to 5.00. The mean score for peer communication was 3.56 (*SD*

= .95), with a median score of 3.75. The range of actual scores on this subscale was from 1.00 to 5.00. Students' mean score for peer alienation was 2.31 (*SD* = .77), with a median score of 2.29. Actual scores for this subscale was from 1.00 to 5.00.

The scores for the Children's Somatization Inventory (CSI; Walker, Beck, Garber, & Lambert, 2009) and the Depression Self-Rating Scale (DSRS; Bireleson, 1978, 1981) were summarized using descriptive statistics. The results of these analyses are presented in Table 17.

Table 17

Descriptive Statistics – Children's Somatization Inventory and Depression Self-Rating Scale (N = 367)

					Actual Range		Possible Range	
Scale	*N*	Mean	*SD*	Median	Minimum	Maximum	Minimum	Maximum
Children's Somatization Inventory	356	.65	.47	.64	.00	3.63	0	4
Depression Self-rating Scale	363	1.10	.16	1.11	.29	1.50	0	2

The mean score for the CSI was .65 (*SD* = .47), with a median of .64. The range of actual scores was from 0.00 to 3.63, with possible scores ranging from 0 to 4. Higher scores indicated self-report of a greater number of negative health symptoms.

Students' mean score for the DSRS was 1.10 (*SD* = .16), with a median score of 1.11. The actual range of scores was from .29 to 1.50 and possible scores could range from 0 to 2. Higher scores on this scale were indicative of higher levels of depressive symptomatology.

Research Aims and Hypotheses

Three research aims and associated hypotheses have been developed for this study. Each of the aims and hypotheses were addressed using inferential statistical analyses. All decisions on the statistical significance of the findings made using a criterion alpha level of .05.

1. To determine the extent to which urban and suburban adolescents self-report experiences associated with cyberbullying and traditional bullying.

   H_1: There are significant differences in the occurrence of cyberbullying between urban and suburban adolescents.

Chi square tests for independence were used to determine if an association existed between the occurrence of cyberbullying and location of the students' schools and/or organizations. Table 18 presents the results of the analysis crosstabulating bullied during school and location of the school/organization.

Table 18

Crosstabulations – Cyberbullied during School by Location of the School/Organization (N = 367)

	Location of the School/Organization					
	Suburban		Urban		Total	
Cyberbullied during School	*n*	%	*N*	%	*N*	%
Yes	86	30.1	24	30.4	110	30.1
No	175	61.2	46	58.2	221	60.6
Not Sure	25	8.7	9	11.4	34	9.3
Total	286	100.0	79	100.0	365	100.0

χ^2 (2) = .56, p = .756

The majority of the students (n = 221, 60.6%), including 175 (61.2%) students in suburban schools/organizations and 46 (58.2%) in urban schools/organizations indicated they had not been cyberbullied during school. Eighty-six (30.1%) students from suburban

schools/organizations and 24 (30.4%) from urban schools/organizations reported they had been cyberbullied during school. Chi-square tests for independence were used to determine if an association existed between being cyberbullied during school and location of the school. The results of this analysis were not statistically significant, χ^2 (2) = .56, p = .756, indicating the two variables were independent. Based on these findings, the null hypothesis is retained.

H_2: Urban and suburban adolescents will report more experiences with traditional bullying than cyberbullying.

The responses to the item asking if the participant had bullied others were crosstabulated by location of the school. The results of this analysis are presented in Table 19.

Table 19

Crosstabulation – Bullied Others by School/Organization Location (N = 367)

	Location of the School/Organization					
	Suburban		Urban		Total	
Bullied Others	*N*	%	*N*	%	*N*	%
Yes	71	25.0	20	25.3	91	25.2
No	164	58.0	45	57.0	209	57.7
Not Sure	48	17.0	14	17.7	62	17.1
Total	283	100.0	79	100.0	362	100.0
χ^2 (2) = .03, p = .984						

The majority of the students (n = 209, 57.7%) reported that they had not bullied others. This number included 164 (58.0%) students in suburban schools/organizations and 45 (57.0%) in urban schools/organizations. The chi-square test for independence used to determine if an association existed between the two variables was not statistically significant, χ^2 (2) = .03, p = .984. Based on this finding, it appears that responses to the question of bullying others were not associated with the location of the schools/organizations.

The students were asked if they had been cyberbullied. Their responses to this question were summarized using crosstabulations. Table 20 presents results of this analysis.

Table 20

Crosstabulation – Students Have Been Cyberbullied by School/Organization Location (N = 367)

Student Had Been Cyberbullied	Location of the School/Organization					
	Suburban		Urban		Total	
	N	%	*N*	%	*N*	%
Yes	46	16.0	16	20.2	62	16.9
No	221	76.7	56	70.9	277	75.5
Not Sure	21	7.3	7	8.9	28	7.6
Total	288	100.0	79	100.0	367	100.0
χ^2 (2) = 1.15, p = .562						

The majority of the students (n = 277, 75.5%) reported they had not been cyberbullied. Included in this number were 221 (76.7%) students in suburban schools/organizations and 56 (70.9%) in urban schools/organizations. Forty-six (16.0%) students in suburban schools/ organizations and 16 (20.2%) students in urban schools/organizations reported they had been cyberbullied. Chi-square test for independence was used to determine if self-report of being cyberbullied was associated with the location of the school/organization. The results of this analysis were not statistically significant, χ^2 (2) = 1.15, p = .562, indicating that the two variables were not associated. The findings of these analyses provided support for the retention of the null hypothesis.

H_3: Urban and suburban adolescents will indicate greater prevalence with cyberbullying using the Internet (e.g., social networking, Skype, instant messaging, etc.) than cell phones (e.g., text messaging, photographs, videos, etc.).

The students were asked to indicate their perceptions of what constitutes cyberbullying. The responses to these questions were crosstabulated by location of the school. The responses were crosstabulated by location of the school/organization. Chi-square tests for independence were used to determine if an association existed between the responses to each situation and the location of the school/organization. Table 21 presents results of these analyses for cyberbullying by email.

Table 21

Crosstabulation – Cyberbullying by Email by Location of the School/Organization

	Extent of Cyberbullying											
Types of Cyberbullying Using Emails by Location	Not Cyberbullying		Probably not Cyberbullying		May be Cyberbullying		Cyberbullying		Severe Cyberbullying		Total	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*N*	%
Sending emails to another person saying mean and hurtful things.												
Suburban	45	15.7	33	11.5	66	23.0	58	20.2	85	29.6	287	78.4
Urban	19	24.1	7	8.9	14	17.7	13	16.4	26	32.9	79	21.6
χ^2 (4) = 4.37, p = .362												
Sending emails to another person making fun of them.												
Suburban	44	15.4	51	17.8	70	24.5	54	18.9	67	23.4	286	78.4
Urban	21	26.6	6	7.6	15	19.0	14	17.7	23	29.1	79	21.6
χ^2 (4) = 10.17, p = .038												
Sending emails saying mean and hurtful things to other people.												
Suburban	44	15.4	22	7.7	68	23.8	63	22.0	89	31.1	286	78.4
Urban	22	27.8	4	5.1	9	11.4	16	20.2	28	35.4	79	21.6
χ^2 (4) = 10.87, p = .028												
Sending emails making fun of a person to other people.												
Suburban	53	18.5	39	13.6	66	23.1	54	18.9	74	25.9	286	78.4
Urban	20	25.3	7	8.9	12	15.2	13	16.5	27	34.2	79	21.6
χ^2 (4) = 6.09, p = .193												

The comparison of the four items using email by location of the school/organization provided evidence of statistically significant differences for “sending emails to another person making fun of them” and “sending emails saying mean and hurtful things to other people.” The

students in suburban schools appeared to think that sending emails to another person making fun of them was either not cyberbullying (n = 44, 15.4%) or probably not cyberbullying (n = 51, 17.8%), while students in urban schools indicated this statement was either not cyberbullying (n = 21, 26.6%) or probably not cyberbullying (n = 6, 7.6%). Sixty-seven (23.4%) students in suburban schools rated this activity as severe cyberbullying, compared to 23 (29.1%) students in urban schools. The results of the chi-square test for independence was statistically significant, χ^2 (4) = 10.17, p = .038. Based on these findings, it appears that responses to this item were not independent of the location of the school/organization.

The second statistically significant comparison found that a greater percentage of students in urban schools (not cyberbullying [n = 22, 27.8%] and probably not cyberbullying [n = 4, 5.1%]) than students in suburban schools (not cyberbullying [n = 44, 15.4%] and probably not cyberbullying [n = 22, 7.7%]). Eighty-nine (31.1%) students in suburban schools considered sending emails saying mean and hurtful things to other people, while 28 (35.4%) of students in urban schools thought this activity was severe cyberbullying. The results of the chi-square test for independence was statistically significant, χ^2 (4) = 10.87, p = .028, indicating an association between the responses to this item and the location of the school/organization.

The other two items, sending emails to another person saying mean and hurtful things and sending emails making fun of a person to other people were not associated, indicating the school/organization location was independent of the students' responses.

A second set of items focused on the use of mobile phones to cyberbully others. The responses to these items were crosstabulated by the location of the school/organization. To determine if the student responses were independent of the location of the school/organization,

the responses were tested using chi-square tests for independence. Table 22 presents results of this analysis.

Table 22

Crosstabulation – Cyberbullying by Mobile Devices by Location of the School/Organization

Types of Cyberbullying Using Mobile Devices by Location	Extent of Cyberbullying											
	Not Cyberbullying		Probably not Cyberbullying		May be Cyberbullying		Cyberbullying		Severe Cyberbullying		Total	
	n	%	*n*	%	*n*	%	*n*	%	*N*	%	*N*	%
Sending mobile phone messages to another person saying mean and hurtful things. .												
Suburban	45	15.7	31	10.8	59	20.6	47	16.4	104	36.5	286	78.4
Urban	20	25.3	5	6.3	7	8.9	13	16.5	34	43.0	79	21.6
χ^2 (4) = 9.94, p = .041												
Sending mobile phone messages to another person making fun of them.												
Suburban	45	15.6	48	16.7	72	25.0	46	15.9	78	27.0	289	78.5
Urban	26	32.9	6	7.6	11	13.9	17	21.5	19	24.1	79	21.5
χ^2 (4) = 18.13, p = .003												
Sending mobile photos to another person saying mean and hurtful things.												
Suburban	47	16.4	24	8.4	48	16.8	66	23.1	101	35.3	286	78.4
Urban	23	29.1	5	6.3	9	11.4	9	11.4	33	41.8	79	21.6
χ^2 (4) = 11.49, p = .022												
Sending mobile photos to another person making fun of them.												
Suburban	46	16.0	30	10.5	60	20.9	54	18.8	97	33.8	287	78.6
Urban	24	30.8	3	3.8	9	11.5	13	16.7	29	37.2	78	21.4
χ^2 (4) = 13.12, p = .011												
Sending mobile phone messages saying mean and hurtful things about a person to other people.												
Suburban	42	14.7	34	11.9	64	22.4	66	23.1	80	28.0	286	78.4
Urban	20	25.3	7	8.9	12	15.2	15	19.0	25	31.6	79	21.6
χ^2 (4) = 6.92, p = .140												
Sending mobile phone messages making fun of a person to other people.												
Suburban	53	18.5	37	12.9	68	23.8	57	19.9	71	24.9	286	78.8
Urban	22	28.6	6	7.8	14	18.2	14	18.2	21	27.2	77	21.2
χ^2 (4) = 5.39, p = .249												
Sending mobile photos saying mean and hurtful things about a person to other people.												
Suburban	49	17.1	27	9.4	63	22.0	67	23.4	80	28.1	286	78.4
Urban	20	25.3	7	8.9	13	16.5	12	15.2	27	34.1	79	21.6
χ^2 (4) = 5.89, p = .207												
Sending mobile photos making fun of a person to other people												
Suburban	47	16.5	35	12.3	57	20.0	58	20.4	88	30.8	285	78.3
Urban	20	25.3	7	8.9	14	17.7	11	13.9	27	34.2	79	21.7
χ^2 (4) = 4.97, p = .290												

Four of the eight items related to cyberbullying using mobile devices had statistically significant results when compared between suburban and urban schools/organizations. The comparison for the item, "sending mobile phone messages to another person saying mean and hurtful things" indicated that a smaller percentage of students in suburban schools/organizations (not cyberbullying [*n* = 45, 15.7%] and probably not cyberbullying [*n* = 30, 10.8%]) did not think it was cyberbullying than students in urban schools/organizations (not cyberbullying [*n* = 20, 25.3%] and probably not cyberbullying [*n* = 5, 6.3%]). Fifty-nine (20.6%) students in suburban schools/organizations and 7 (8.9%) students in urban schools/organizations thought this activity may be cyberbullying. The chi-square test for independence used to compare the responses by location of the school was statistically significant, χ^2 (4) = 9.94, *p* = .041, indicating that location of the school was associated with the responses on this item.

A greater percentage of students in urban schools/organizations (not cyberbullying [*n* = 45, 15.6%] and probably not cyberbullying [*n* = 48, 16.7%]) than students in suburban schools/organizations (not cyberbullying [*n* = 26, 32.9%] and probably not cyberbullying [*n* = 7.6%]) did not consider sending mobile phone messages to another person making fun of them to be cyberbullying. To determine if there was an association between the location of the school/organization and the response to this type of activity, a chi-square test for independence was completed. The results of this analysis were statistically significant, indicating that an association existed between the two variables.

When asked the extent to which the item, "Sending mobile photos to another person saying mean and hurtful things" would be considered cyberbullying, students in suburban schools/organizations were more likely to indicate that this activity was not cyberbullying (*n* = 47, 16.4%) or probably not cyberbullying (*n* = 24, 8.4%), while a greater percentage of urban

students indicated this activity was not cyberbullying (n = 23, 29.1%) or probably not cyberbullying (n = 5, 6.3%). A higher percentage of urban students (n = 33, 41.8%) considered sending mobile photos to another person saying mean and hurtful things than suburban students (n = 101, 35.3%). The results of the chi-square test for independence were statistically significant, χ^2 (4) = 11.49, p = .022. Based on this finding, it appears that responses of the extent to which sending mobile photos to another person saying mean and hurtful things was not independent of the location of the school/organization.

A greater percentage of urban students either thought that sending mobile photos to another person making fun of them was not cyberbullying (n = 24, 30.8%) or probably not cyberbullying (n = 3, 3.8%) than suburban students who perceived that this activity was not cyberbullying (n = 46, 16.0%) or probably not cyberbullying (n = 30, 10.5%). Twenty-nine (37.2%) urban students and 101 (33.8%) suburban students rated this activity as severe cyberbullying. The chi-square test for independence that was used to compare student responses by location was statistically significant, χ^2 (4) = 13.12, p = .011. These results indicate that the association between the responses to the item, "Sending mobile photos to another person making fun of them" was not independent of the location of the school/organization.

The chi-square tests for independence used to compare responses on the remaining four items measuring the extent to which students in the two locations, suburban and urban, considered the activities to be cyberbullying were not statistically significant. These results indicated that the responses were independent of the location of the school/organization.

Five items were concerned with activities involving the internet that could be considered to be cyberbullying. The responses to these items were crosstabulated by the location of the school/organization. Chi-square tests for independence were used to test the association between

the responses and the location of the school/organization. Table 23 presents results of this analysis.

Table 23

Crosstabulation – Cyberbullying by Internet (Web) by Location of the School/Organization

Types of Cyberbullying Using the Internet (Web) by Location	Extent of Cyberbullying											
	Not Cyberbullying		Probably not Cyberbullying		May be Cyberbullying		Cyberbullying		Severe Cyberbullying		Total	
	n	%	*n*	%	*n*	%	*N*	%	*N*	%	*N*	%
Posting photos on the web that may embarrass another student. .												
Suburban	37	12.9	17	5.9	27	9.4	44	15.4	161	56.4	286	78.4
Urban	23	29.1	6	7.6	8	10.1	9	11.4	33	41.8	79	21.6
χ^2 (4) = 13.28, p = .010												
Posting a video of a person being bullied on the web.												
Suburban	42	14.7	11	3.8	30	10.5	34	11.9	169	59.1	286	78.6
Urban	23	29.5	2	2.6	5	6.4	6	7.7	42	53.8	78	21.4
χ^2 (4) = 10.14, p = .038												
Posting a photograph of a person being bullied on the web.												
Suburban	46	16.1	15	5.3	30	10.5	43	15.1	151	53.0	285	78.5
Urban	22	28.2	3	3.8	7	9.0	9	11.5	37	47.5	78	21.5
χ^2 (4) = 6.05, p = .195												
Excluding a student from your social networking site (e.g., *MySpace, Facebook, Twitter*, etc.)												
Suburban	101	35.2	52	18.1	43	15.0	38	13.2	53	18.5	287	78.4
Urban	36	45.6	6	7.6	12	15.2	10	12.6	15	19.0	79	21.6
χ^2 (4) = 6.14, p = .189												
Spreading rumors about another person on social networking sites (e.g., *MySpace, Facebook, Twitter*, etc.)												
Suburban	47	16.4	24	8.4	43	15.0	69	24.0	104	36.2	287	78.4
Urban	20	25.3	10	12.7	6	7.6	10	12.7	33	41.7	79	21.6
χ^2 (4) = 10.69, p = .030												

Three of the five items that were related to cyberbullying using the Internet or web produced statistically significant associations between the responses to the extent to which the activities were considered cyberbullying by the location of the school/organization. The item, "Posting photos on the web that may embarrass another student" was not considered

cyberbullying by 37 (12.9%) or probably not cyberbullying by 17, 5.9%) of students in suburban schools/organizations. In contrast, 23 (29.1%) students in urban schools/organizations did not consider this type of activity to be cyberbullying, with 6 (7.6%) students responding that this activity was probably not cyberbullying. The majority of suburban students (n = 161, 56.4%) and a substantial percentage of urban students (n = 33, 41.8%) reported that posting photos on the web that may embarrass another student was severe cyberbullying. The results of the chi-square test for independence was statistically significant, χ^2 (4) = 13.28, p = .010, indicating that an association existed between the item, "Posting photos on the web that may embarrass another student and the location of the school/organization.

Students in urban schools/organizations were more likely to perceive that posting a video of a person being bullied on the web was not cyberbullying (n = 23, 29.5%) or probably not cyberbullying (n = 3, 2.6%) than students in suburban schools/organizations who perceived this activity was either not cyberbullying (n = 42, 14.7%) or probably not cyberbullying (n = 11, 3.8%). The majority of suburban students (n = 169, 59.1%) and urban students (n = 42, 53.8%) indicated that this type of activity was considered to be severe cyberbullying. The results of the chi-square tests for independence was statistically significant, χ^2 (4) = 10.14, p = .038, indicating that an association exists between posting a video of a person being bullied on the web and the location of the school/organization.

The students in urban schools/organizations were more likely to consider that spreading rumors about another person in social networking sites (e.g., MySpace, Facebook, Twitter, etc.) was either not cyberbullying (n = 20, 25.3%) or probably not cyberbullying (n = 10, 12.7%) than students in suburban schools/organizations who did not consider this type of activity to be either cyberbullying (n = 47, 16.4%) or probably not cyberbullying (n = 24, 8.4%). A larger percentage

of students in urban schools/organizations considered this activity to be severe cyberbullying (*n* = 33, 41.7%) than students in suburban schools/organizations (*n* = 104, 36.2%). Chi-square test for independence was used to determine if an association existed between spreading rumors about another person on social networking sites and location of the school/organization. The results of this comparison was statistically significant, χ^2 (4) = 10.69, *p* = .030, providing evidence of a statistically significant association between perceptions of the activity as cyberbullying and location of the school/organization. The remaining two types of cyberbullying activities were not associated significantly with the location of the school.

Due to the mixed findings on the analyses comparing the activities associated with cyberbullying using various media, a decision on the null hypotheses could not be made. The results indicated that the students in the suburban and urban schools/organizations generally had similar views on what constitutes cyberbullying.

2. To examine the relationships among parent and peer attachment, feelings about cyberbullying, physical health, and psychological health, and cyberbullying in adolescents.

   H_4: A negative relationship will be found between the experience with cyberbullying and parent and peer attachment, feelings about cyberbullying, physical health and, psychological health of urban and suburban adolescents.

The experiences with cyberbullying were correlated with scores for physical health, psychological health, and parent and peer attachment for urban and suburban adolescents using Pearson product moment correlations. The correlations were completed for the students in suburban and urban schools/organizations separately. Table 24 presents results of this analysis.

Table 24

Pearson Product Moment Correlations – Parent and Peer Attachment, Physical and Psychological Health with Cyberbullying Experiences (N = 367)

	Types of Cyberbullying								
	Internet			Mobile Phone			Email		
	N	*r*	*p*	*n*	*R*	*p*	*n*	*r*	*p*
Mother Attachment									
Trust	365	.06	.288	365	.09	.099	364	.04	.402
Suburban	287	-.01	.985	287	.04	.536	286	-.01	.900
Urban	78	.26*	.020	78	.27*	.017	78	.23*	.048
Communication	365	.09	.075	365	.10	.053	364	.08	.114
Suburban	287	.04	.467	287	.06	.344	286	.04	.466
Urban	78	.26*	.023	78	.25	.028	78	.21	.067
Alienation	365	.02	.733	365	-.02	.650	364	-.01	.858
Suburban	287	-.01	.850	287	-.08	.202	286	-.04	.488
Urban	78	.11	.328	78	.14	.240	78	.09	.437
Father Attachment									
Trust	334	.10	.057	334	.16*	.004	333	.11*	.048
Suburban	263	-.07	.261	263	.13*	.041	262	.11	.089
Urban	71	.20	.090	71	.24*	.041	71	.12	.324
Communication	334	.06	.271	334	.10	.083	333	.06	.291
Suburban	263	.04	.527	263	.09	.145	262	.05	.402
Urban	71	.15	.208	71	.13	.282	71	.08	.486
Alienation	334	.16**	.004	334	.12*	.033	333	.16**	.004
Suburban	263	.16*	.010	263	.12	.055	262	.16*	.010
Urban	71	.16	.180	71	.12	.332	71	.15	.213
Peer Attachment									
Trust	361	.17**	.001	361	.18**	.001	360	.13*	.012
Suburban	282	.16**	.009	282	.15*	.014	281	.13*	.035
Urban	79	.21	.065	79	.25*	.025	79	.15	.190
Communication	361	.21**	<.001	361	.21**	<.001	360	.19**	<.001
Suburban	282	.20**	.001	282	.20**	.001	281	.20**	.001
Urban	79	.25**	.029	79	.23	.042	79	.19	.100
Alienation	361	.04	.498	361	-.01	.860	360	.03	.608
Suburban	282	.11	.053	282	.04	.479	281	.08	.188
Urban	79	-.13	.243	79	-.12	.281	79	-.11	.358
Student's Feelings About Cyberbullying									
Psychosomatic emotions	365	20**	<.001	365	.13*	.010	363	.19**	<.001
Suburban	286	.18**	.002	286	.16**	.009	285	.20**	.001
Urban	79	.23*	.041	79	.22	.051	79	.27*	.017
Physiological emotions	363	.17**	.001	363	.13*	.010	363	.20**	<.001

	Types of Cyberbullying								
		Internet			Mobile Phone			Email	
	N	*r*	*p*	*n*	*R*	*p*	*n*	*r*	*p*
Suburban	284	.15*	.012	284	.11	.058	284	.18**	.002
Urban	79	.22	.055	79	.19	.089	79	.24*	.032
Negative emotions	365	.19**	<.001	365	.19**	<.001	364	.19**	<.001
Suburban	286	18**	.002	286	.17**	.004	285	.19**	.001
Urban	79	.20	.079	79	.23*	.043	79	.18	.112
Physical Health	356	.17**	.001	356	.16**	.003	355	.16**	.002
Suburban	277	.24**	<.001	277	.21**	<.001	276	.22**	<.001
Urban	79	.04	.740	79	.04	.757	79	.03	.791
Depression	363	.10	.067	363	.08	.137	362	.07	.204
Suburban	284	.06	.347	284	.05	.411	283	.05	.425
Urban	79	.15	.187	79	.04	.757	79	.03	.790

Statistically significant correlations were found for mother trust for urban students with the three types of cyberbullying, internet (r = .26, p = .020), mobile phone (r = .27, p = .017), and email (r = .23, p = .048). The correlations for mother trust in the overall study and for suburban students were not statistically significant. The positive correlations indicated that students with higher levels of mother trust were more likely to have feelings that the activities on the cyberbullying scale were cyberbullying. One statistically significant correlation was found for urban students between mother communication and cyberbullying on the internet (r = .26, p = .023). The other types of cyberbullying were not statistically significant for either urban or suburban students. None of the correlations for either suburban or urban students were statistically significant between mother alienation and the three types of cyberbullying.

Statistically significant correlations were found for father trust and cyberbullying by mobile phone for urban (r = .16, p = .004), suburban (r = .13, p = .041), and overall (r = .16, p = .004). The overall group had a statistically significant correlation for father trust with cyberbullying by email (r = .11, p = .048). The remainder of the correlations between types of cyberbullying and father trust was not statistically significant. The correlations between father

communication and the three types of cyberbullying were not statistically significant. The correlations between father alienation and the three types of cyberbullying, internet (r = .16, p = .004), mobile phone (r = .12, p = .033), and email (r = .16, p = .004) were statistically significant for the overall sample. The correlations for suburban students were statistically significant for father alienation and internet (r = .16, p = .010) and email (r = .16, p = .010). The correlations for urban students were not statistically significant.

The correlations for the overall group between peer trust and the three types of cyberbullying, internet (r = .17, p = .001), mobile phone (r = .18, p = .001), and email (r = .13, p = .012) were statistically significant. Similar findings were obtained for the suburban students for peer trust and using the internet (r = .16, p = .009), mobile phone (r = .15, p = .014), and email (r = .13, p = .035) for cyberbullying. The findings for urban students were not statistically significant. Peer communication was statistically significant correlated with the three types of cyberbullying, internet (r = .21, p < .001), mobile phone (r = .21, p < .001), and email (r = .19, p < .001) for the overall sample. Suburban students' perceptions of the three types of cyberbullying, internet (r = .16, p = .009), mobile phone (r = .20, p = .001), and email (r = .20, p = .001) were significantly correlated with peer communication. The correlation between the internet and peer communication (r = .25, p = .029) was statistically significant, with nonsignificant correlations obtained for cyberbullying by mobile phone and email. The correlations between peer alienation and the three types of cyberbullying were not statistically significant for the overall sample or for either the suburban or urban students.

The correlations for students' feelings about cyberbullying involving psychosomatic emotions were statistically significant for the overall sample and the three types of cyberbullying, internet (r = .20, p < .001), mobile phone (r = .13, p = .010), and email (r = .19, p

< .001). The findings for the suburban students on psychosomatic emotions regarding cyberbullying and the three types of cyberbullying, internet (r = .18, p= .002), mobile phone (r = .16, p = .009), and email (r = .20, p = .001) also were statistically significant. Urban students' responses for psychosomatic emotions and cyberbullying using email were significantly correlated (r = .27, p = .017). The other two types of cyberbullying with feelings about psychosomatic emotions were not statistically significant correlated for the urban students.

The correlations between students' feelings about physiological emotions associated with cyberbullying and the three types of cyberbullying, internet (r = .17, p = .001), mobile phone (r = .13, p = .010), and email (r = .20, p < .001) were statistically significant for the overall sample. The correlations between suburban students' feelings about physiological emotions and cyberbullying using the internet (r = .15, p = .012) and email (r = .18, p = .002) were statistically significant. The correlation between urban students' feelings about physiological emotions and email (r = .24, p = .032) was statistically significant. The remaining correlations for suburban and urban students were not statistically significant.

The correlations between feelings about negative emotions and the three types of cyberbullying, internet (r = .19, p < .001), mobile phone (r = .19, p < .001), and email (r = .19, p < .001) were statistically significant for the overall sample. The findings for suburban students' feelings about negative emotions associated with cyberbullying and the three types of cyberbullying, internet (r = .18, p = .002), mobile phone (r = .17, p = .004), and email (r = .19, p = .001) also were statistically significant. The urban students feelings about negative emotions and cyberbullying by mobile phone (r = .23, p = .043) were significantly correlated. Cyberbullying by internet and email was not significantly correlated with urban students' feelings about negative emotions.

The correlations between physical health and the three types of cyberbullying, internet (r = .17, p = .001), mobile phone (r = .16, p = .003), and email (r = .16, p = .002) were statistically significant. Similar findings were obtained for students in the suburban schools/organizations. The correlations between physical health and internet as a type of cyberbullying (r = .24, p < .001), mobile phones (r = .21, p < .001), and email (r = .22, p < .001) were statistically significant. In contrast, the correlations between physical health and the three types of cyberbullying for students in urban schools/organizations were not statistically significant.

When the scores for depression were correlated with the three types of cyberbullying, internet, mobile phone, and email, the results were not statistically significant. These findings indicated that students' levels of depressive symptomatology in suburban and urban schools/organizations were not related to the three types of cyberbullying.

The findings of these correlations were mixed for the overall sample, as well as for students in suburban and urban schools/organizations. As a result, a decision on the null hypothesis could not be made.

3. To determine the factors directly related to risk factors for cyberbullying among urban and suburban adolescents.

   H_5: Specific risk factors associated with cyberbullying are related to urban and suburban adolescents' experiences with cyberbullying.

The risk factors for cyberbullying were correlated with students' self-report of being cyberbullied using point bi-serial correlations. The risk factors included age, grade in school, length of time on the computer in a typical day, number of text messages, number of email accounts, self-reported academic grades, self-reported citizenship, and number of times suspended from school. Table 25 presents results of these analyses.

Table 25

Point Bi-Serial Correlations – Self-report of Being Cyberbullied with Risk Factors Associated with Being Cyberbullied

Risk Factors Associated with Cyberbullying	Site								
	Suburban			Urban			Total		
	n	*r*	*P*	*N*	*r*	*p*	*N*	*r*	*p*
Age	284	.01	.872	79	-.19	.098	363	-.05	.322
Grade in school	287	-.06	.319	79	-.14	.209	366	-.09	.096
Number of hours on computer in a typical day	255	.03	.607	71	.04	.755	326	.03	.549
Number of text messages in a typical day	269	.04	.498	78	.03	.800	347	.03	.528
Number of email accounts	275	-.05	.399	79	-.07	.539	354	-.06	.291
Self-reported academic grades	281	.09	.155	79	-.01	.969	360	.06	.229
Self-reported citizenship	282	.03	.606	78	-.04	.745	360	.01	.796
Self-reported times suspended	276	-.11	.078	76	.03	.825	352	-.04	.511

The correlations between risk factors associated with cyberbullying and self-report of being cyberbullied were not statistically significant for the total sample. The findings for students in suburban and urban schools/organizations also were not statistically significant, indicating that self-report of being cyberbullied was not associated with the risk factors identified for the present study.

4. To determine personal characteristics of urban and suburban adolescents who are more likely to experience cyberbullying.

   H_6: Urban and suburban adolescents who are more likely to experience cyberbullying can be predicted from personal characteristics, including age, gender, race, grade in school, self-reported academic achievement, self-reported citizenship grades, suspensions, grade retention, number of siblings, birth order, and access to Internet and cell phones.

A logistic regression analysis was used to determine if the personal characteristics (age, gender, race, grade in school, self-reported academic achievement, self-reported citizenship grades, number of suspensions, grade retention, number of siblings, birth order, and access to the Internet and cell phones) could be used to predict students' self-report of being bullied. The students' responses to the question, have you ever been bullied, was used as the dependent variable. As some students either did not answer this question or did not know if they had been bullied, the number of students included in this analysis was 287. Results of this analysis are presented in Table 26.

Table 26

Logistic Regression: Students' Self-report of Being Bullied with Demographic Variables

Predictor Variable	*B*	*SE*	Odds Ratio	Wald Statistic	Sig
Site	-.02	.33	.98	.01	.944
Age	-.03	.24	.97	.02	.888
Gender	.42	.28	1.52	2.33	.127
Grade in school	.06	.28	1.07	.06	.815
Ethnicity				9.46	.149
African American	-.84	1.14	.43	.54	.461
American Indian	-2.25	1.24	.11	3.29	.070
Asian/Pacific Islander	-1.66	1.43	.19	1.34	.248
Caucasian	-22.91	28053.52	.00	.00	.999
Hispanic	19.79	40192.97	>.01	.00	1.00
Middle Eastern	-1.45	1.19	.23	1.48	.223
Self-reported academic grades	.09	.07	1.10	1.58	.209
Self-reported citizenship	-.12	.19	.89	.39	.532
Times Suspended	.01	.01	1.01	.40	.526
Held back a grade	-.16	.39	.85	.17	.680
Have a computer	.65	.48	1.92	1.85	.174
Have a cell phone	.32	.35	1.38	.87	.352
Have email	-.25	.45	.78	.31	.578
Number of siblings	-.01	.05	1.00	.01	.930
Birth order				1.41	.494
Oldest/only	-.27	.37	.76	.53	.466
Middle	-.41	.35	.66	1.41	.235
Constant	.53	2.13	1.70	.06	.802

χ^2 (20) = 27.97, p = .136

None of the independent variables that were included in the study were statistically significant predictors of students' self-report of being bullied in school, χ^2 (20) = 27.97, p = .136.

A classification table was obtained from the logistic regression analysis. Table 27 presents results of this analysis.

Table 27

Classification Table – Students' Self-report of Being Bullied in School

	Predicted		
Observed	Bullied During School	Not Bullied During School	Percentage Correct
Bullied during school	**26**	73	26.3
Not bullied during school	10	**178**	94.7
Overall Percentage			71.1

The overall classification rate was 71.1%, with 26.3% of the students who indicated they had been bullied during school (n = 26) and 94.7% of students who indicated they had not been bullied during school (n = 178) correctly classified.

A second logistic regression was used to test this hypothesis. The dependent variable was the self-report of the student indicating they had experienced cyberbullying. The independent variables in this analysis included the personal characteristics (age, gender, race, grade in school, self-reported academic achievement, self-reported citizenship grades, number of suspensions, grade retention, number of siblings, birth order, and access to the Internet and cell phones) of the students. Table 28 presents results of this analysis.

Table 28

Logistic Regression: Self-report of Being Cyberbullied with Demographic Variables

Predictor Variable	*B*	*SE*	Odds Ratio	Wald Statistic	Sig
Site	-.47	.39	.63	1.51	.219
Age	-.01	.29	.99	.01	.980
Gender	.32	.28	1.37	8.91	1.37
Grade in school	-.17	.32	1.07	.27	.604
Ethnicity				9.46	.149
African American	1.63	.83	5.12	3.84	.050
American Indian	1.17	1.00	3.22	1.39	.238
Asian/Pacific Islander	-1.42	1.40	4.12	1.02	.312
Caucasian	-.05	1.70	.95	>.01	.975
Hispanic	21.10	40192.97	1.45	.00	1.00
Middle Eastern	.64	.90	1.90	.51	.477
Self-reported academic grades	.11	.08	1.11	1.62	.203
Self-reported citizenship	-.15	.22	.87	.43	.514
Times Suspended	.00	.01	1.00	.00	.988
Held back a grade	-.28	.46	.76	.37	.546
Have a computer	.81	.55	2.24	2.16	.142
Have a cell phone	.05	.42	1.06	.17	.898
Have email	-.96	.68	.38	2.00	.157
Number of siblings	-.04	.05	.96	.60	.438
Birth order				2.39	.303
Oldest/only	.68	.45	1.98	2.28	.131
Middle	.41	.40	1.51	1.41	.305
Constant	1.33	2.36	3.78	.32	.573

χ^2 (20) = 26.28, p = .157

The results of the logistic regression provided no evidence that the personal characteristics of the students were predictors of students' self-report that they had been

cyberbullied, χ^2 (20) = 26.28, p = .157. A classification table was developed to determine the percentage of cases that were correctly predicted. Table 29 presents results of this analysis.

Table 29

Classification Table – Student Self-report of Being Cyberbullied in School

	Predicted		
Observed	Cyberbullied During School	Not Cyberbullied During School	Percentage Correct
Cyberbullied during school	**6**	49	10.9
Not cyberbullied during school	2	**238**	99.2
Overall Percentage			82.7

Six students who self-reported that they had been cyberbullied were correctly predicted to be cyberbullied (10.9%). In contrast, 238 students who had indicated that they had not been cyberbullied were correctly classified (99.2%). The overall percentage of students who were correctly classified using the students' personal characteristics was 82.7%.

Based on the nonsignificant findings of the logistic regression, the null hypothesis that personal characteristics could be used to predict if a student would be bullied or cyberbullied was retained.

CHAPTER 6

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Introduction

This quantitative study examined perceptions and experiences of cyberbullying among adolescents in suburban and urban schools/organizations, how cyberbullying impacts the adolescents physically and psychologically. This study used data collected from 367 adolescents (10 to 18 years of age) who were enrolled in charter school academies, attending church youth groups, and community organizations (e.g., recreation centers and community youth organization) in Macomb, Oakland, and Wayne counties. The majority of published research on cyberbullying has been collected in urban environments (Beran & Li, 2005; Li, 2005, 2007, 2008a; Mishna, Cook, Gadalla, & Solomon, 2010; Mishna, Saini, & Solomon, 2009).

Participant Characteristics

The racial makeup of participants in this study was consistent with the population of the urban and suburban environments located in Metropolitan Detroit. Approximately 78% (n = 285, 77.9%) of participants were African American, with other students reporting their ethnicities as multiethnic (12.3%), American Indian (5.2%), and Caucasian (1.9%) and other (2.7%). The gender distribution for participants was almost equal: females (50.4%) and males (49.6%). The largest groups of adolescents were 14 years of age (30.8%) and 13 years of age (28.1%) in the 7th and 8th grades (n = 217, 59.3%). Previous studies have found that traditional bullying (Olweus, 2003; Li, 2006b) and cyberbullying (Blair, 2003; Tokunaga, 2010; Williams & Guerra, 2007) peak during middle school. The largest group of participants (n = 146, 40.7%) indicated that they were living with both parents, with 130 (n = 36.2%) that they were living with their mothers only. Mishna et al. (2010) examined cyberbullying among middle and high school students and

found that 76.4% of participants lived with both biological parents followed by a single parent (16.8%). Adolescents enrolled in charter schools and community organizations may experience greater parental involvement as their parents select their schools and are responsible for enrolling them in community organizations. The largest group of students (*n* = 174, 49.4%) reported that they had 1 to 3 siblings with 172 (48.6%) reporting they were the middle child. Sibling influence may serve as a protective factor against cyberbullying.

Students are more likely to have access to more than one type of technology. Participants in the study indicated that they had access to computers (*n* = 337, 92.1%), cell phones (*n* = 288, 79.1%), e-mail accounts (*n* = 322, 88.7%), were on Facebook or MySpace (*n* = 298, 81.6%) and sent and received text messages (*n* = 309, 84.2%). The largest group of participants (*n* = 113, 30.9%) indicated their computers were laptops and portable. Subrahmanyam and Greenfield (2008) found that some parents also influence electronic media use by monitoring and limiting adolescents' access. Lenhart, Purcell, Smith, and Zickuhr (2010) found that teens are exposed to technology at a higher prevalence with 93% of American teens (12 to 17 years of age) going online, with 75% of teens reporting cell phone ownership, 69% of teens own a computer, and 73% of teens used an online social network. Participants in the study reported that they spend from 2 to 8 hours on the computer on an average day. Li (2007b) reported that students who used the computer more frequently were identified as cyberbullies. The number of text messages sent on a typical day ranged from 0 to 3,000. Participants also reported the average number of email accounts ranged from 0 to 25, with a median of 2.00. Smith et al. (2006) found that text messages and email were the most common tools used to cyberbully others inside and outside of school. Feinberg and Robey (2008) found that cyberbullying incidents occur through instant messaging, e-mails, and social networking sites (e.g., Facebook and MySpace). Multiple email

accounts may be used as tools to harass others. Parent monitoring of email may be more difficult if they are unaware that their children have two or more email accounts. According to Li (2007b), the anonymity associated with electronic tools contributes to the ease of cyberbullying and makes it difficult to prevent.

The largest group of participants (*n* = 107, 29.8%) reported that they had mostly As and some Bs, with 103 (28.6%) students indicating that they received mostly Bs and some Cs. The largest group of students (*n* = 166, 46.1%) reported their citizenship grade as good with 102 (28.3%) indicating that their citizenship was excellent. The largest group of participants (*n* = 158, 44.9%) reported that they had been suspended from 1 to 5 times, with 142 (40.4%) of the students indicating that they had never been suspended. Li (2007b) examined the relationship between cyberbullying and academic achievement. The researcher found that there was no relationship between cyberbullying and academic achievement.

Healthcare professionals need to address cultural competency, age and gender differences, and protective factors (i.e., having both biological parents in the household), and exposure to technology (e.g., computer and cell phone ownership, multiple e-mail accounts, social network site profile, text message, location of computer, etc.), when developing anti-bullying prevention programs for adolescents in middle and high school. Health care professionals, parents, and teachers need to open dialogue with their adolescents regarding the negative effects of cyberbullying. When asked who they would seek help from if the adolescent was being cyberbullied or if they were aware of another person being cyberbullied, many respondents indicated no one. The adults in their lives must be accessible and willing to help if they want to minimize negative effects of cyberbullying. According to Li (2010), "Students feel reluctant to report cyberbullying incidents to adults in schools for various reasons. The two main

reasons are: students distrust those adults and they fear that the cyberbully could get back and escalate the problem" (p. 1). Li continued that more than 17% of the students indicated they did not think the school staff would understand or believe them; with approximately half perceiving that the school would or could do anything to stop it. Nearly 27% of the students in the Li (2010) study worried that their parents might restrict their access to the technology. While 23% of the students believed they needed to learn to deal with cyberbullying, close to 45% thought people should simply ignore cyberbullying since it was "no big deal. (p. 13).

The largest group of participants (*n* = 157, 43.5%) reported that they did not know if some students were being bullied in school, with 137 (38.1%) of the students indicating that some students are being bullied in school. Possible reasons for these responses could be that students do not want to get involved because of possible retaliation (Willard, 2005) or they may think that adults (teachers, school administrators, parents) are not interested in activities that could be construed as bullying. The majority of participants (*n* = 240, 66.9%) reported that they did not know if some students were being cyberbullied, with 63 (17.5%) of the students indicating that some students are being cyberbullied. Perhaps the students did not want to admit that cyberbullying was occurring in their schools or among their peers. Patchin and Hinduja (2006) found that children were less likely to report episodes of cyberbullying because they feared their parents would limit their access to the Internet and mobile phones.

Students were asked if they had been bullied during school, the majority of students (*n* = 221, 60.5%) reported "no", with 110 (30.1%) students reported "yes." This finding was consistent with the literature. Tyman, Saylor, Taylor, and Comeaux (2010) compared cyberbullying groups to traditional bully groups. The researchers concluded that cyberbullies may feel free to bully others using the internet, mobile phones, and email due to the anonymity

provided by cyberbullying. School personnel and community leaders have reported that traditional bullying remains a problem within schools and community organizations. Several incidents began as traditional bullying and evolved into cyberbullying. Traditionally, victims of traditional bullying feel safer when at home and more vulnerable at school or in the community. However, cyberbullying can be more dangerous especially when bullies have access to technology 24 hours a day, 7 days a week. Students who are being cyberbullied do not feel safe at home, cannot escape the bully, and is exposed to a larger audience (e.g., not just the students at your school/organization) who may active participants in the cyberbullying.

Students were asked if they bullied others during school. The largest group of students (*n* = 209, 57.7%) indicated they had not bullied others during school, with 91 (25.1%) students reported they had bullied others during school. The largest group of participants (*n* = 277, 75.5%) reported that they had not been cyberbullied, with 62 (16.9%) of the students indicating that they were cyberbullied. Of the 62 students who indicated they had been cyberbullied, 40 (67.8%) said that they were cyberbullied via Social Networks (MySpace, Facebook, Twitter, etc.) with 17 (28.3%) reporting they had been cyberbullied via Mobile Phone. This finding is contrary to findings by McLoughlin, Meyricke, and Burgess (2009) who found that most cyberbullying cases happened via email or in a chat room. Kowalski and Limber (2007) reported that instant messaging, chat rooms, and e-mail were the most common methods used for cyberbullying. Smith et al. (2008) reported that mobile phone calls and text messages were the most prevalent tools used to cyberbully others. Lenhart, Purcell, Smith, and Zickuhr (2010) reported the prevalence of teens using Social Network Sites (SNS) has increased from 55% in 2006, to 65% in 2008, with 73% of American teens using social networking websites in 2010. Facebook was reported to be the most commonly used SNS among teens, followed by MySpace

profiles accounting for 48% of teens. Twyman et al. (2010) also confirmed that cybervictims are more likely to have a MySpace account, personal Web site, and/or a unknown personal email account that parents access. Adolescents go online daily to share personal profiles, pictures, and stay connected with friends and families on SNS. These activities can increase their risk for encountering cyberbullying as a cyberbully or cybervictim.

When asked to identify the identity of the person who had cyberbullied them, most victims indicated it was a student inside of their school, while a smaller percentage reported that a person outside of the school had cyberbullied them. McLoughlin et al. (2009) reported similar results. Juvonen and Gross (2008) reported that the majority of adolescents in their study did not disclose cyberbullying to an adult, increasing the difficulty in validating the incident. Smith, Mahdavi, Carvalho, Fisher, Russell, and Tippett (2008) found that

> …in 57 of cases the victim knows that the perpetrator(s) are from their school (and in 495 of cases, their class or year group). Thus, even if messages are sent and/or received out of school, often the problems will come back to the school the next day (p. 382).

Students may be more likely to engage in cyberbullying to fit in with a popular group in the school and/or seek revenge against a student they dislike. Students can hide behind fictitious screen names and social networking profiles. McLoughlin et al. conducted focus groups with teachers and reported "It [cyberbullying] happens between students from the same school but it [cyberbullying] is often done at home because students know there is a greater chance of being caught at school" (p. 182). Cyberbullies can remain anonymous and avoid fear of punishment for their behavior, especially if they have unsupervised use of the internet and other technological devices.

The largest group of cyberbullying victims reported that they had not cyberbullied others, while approximately one-third of the cyberbullying victims indicated they had cyberbullied

others. This finding was consistent with the literature that found that both traditional and cyberbullying victims were likely to become cyberbullies (Kowalski & Limber, 200; Ybarra and Mitchell, 2004) and also have been identified as victims of traditional bullying (Raskauskas & Stoltz, 2007). Twyman, Saylor, Adam, and Comeaux (2010) indicated that nearly two thirds of cyberbullies and cybervictims (62%) also were bullies and/or victims of traditional bullying. The cybervictims also reported they had used social networks (MySpace, Facebook, Twitter, etc.) to cyberbully others (n = 19, 100.0%), with 18 (94.7%) cybervictims indicating that they had used Mobile phones to cyberbully others. The Internet may serve as a tool for students who are normally shy and vulnerable to bully others anonymously via misuse of technology.

Students did not feel that adults would try to stop cyberbullying and most indicated that if they were being cyberbullied they would not tell an adult. They were more likely to tell a peer or keep the cyberbullying incident to themselves, possibly to keep the incident a secret. Li (2007b) reported that students may not be aware that they should report bullying incidents to dependable adults. According to Li (2007b),

> One possible explanation may lie in the fact that many students, about one third of this sample, do not think that adults in schools tried to stop cyberbullying when they knew it. Because of this belief that adults in schools would not help, many students, feeling either scared or powerless, chose not to report cyberbully instances (p. 1787).

Student bystanders may fail to report traditional bullying and cyberbullying incidents to an adult because they do not want to become involved, feel that adults may fail to take the incident seriously, or view the cyberbullying as a joke, fear retaliation, and fear their technology access may be restricted, etc.

The students were asked to report safety strategies for using the Internet. The largest group of students was aware of safety strategies to use when using the Internet. Parents, schools,

and community organizations could teach adolescents about Internet safety strategies. The largest group of adolescents reported that they were taught Internet safety strategies by parents or were self-taught through various Internet sites (e.g., social network sites, and other online websites that provide resources of for online safety). Li (2007b) found a higher prevalence of adolescents, including both cyberbullies and cybervictims, were aware of Internet safety strategies. Unfortunately, knowing safety strategies and using these strategies may not be the same thing, as the number of children and adolescents being cyberbullied is continuing to increase.

Research Aims and Hypotheses

The following research aims and hypotheses were presented to guide this study:

1. To determine the extent to which urban and suburban adolescents self-report experiences associated with cyberbullying and traditional bullying.

The research study examined the extent to which urban and suburban adolescents self-reported experiences associated with cyberbullying and traditional bullying. The researcher crosstabulated the data by urban and suburban locations of the included schools and organizations. Students were asked if they had been cyberbullied during school. No differences were found between urban and suburban adolescents. The percentages were consistent between both groups with 30.1% suburban and 30.4% of urban students reporting they had been cyberbullied. Based on these findings, responses to the question of bullying others were not associated with the location of the schools/organizations. Adolescents in both urban and suburban environments have access to technological tools (e.g., Internet, cell phones, emails, etc.). Some students who attended schools/organizations in a suburban environment may reside in an urban area due to their parents opting them to attend suburban charter schools. The incidence of violence related to traditional bullying and cyberbullying is growing in schools and

communities. Traditional bullying remains a problem for adolescents in school (Juvonen, 2008). She also found that adolescents are experiencing both types of bullying at a higher rate. A larger group of students (85%) reported they experience traditional bullying in school with 72% of participants reported at least one cyberbullying incident of bullying. Traditional bullying incidents involved name calling or insults with online incidents occurring more frequently via instant messaging. Li (2007b) found that the largest group of students (N = 177, 53.7%) were victims of traditional bullies, 31.1% were identified as traditional bullies, while 24.9% were identified as cyberbully victims, and 14.5% of students reported they were cyberbullies.

H_1: There are significant differences in the occurrence of cyberbullying between urban and suburban adolescents.

The research study examined the occurrence of cyberbullying between urban and suburban adolescents. Using chi-square tests for independence, no statistically significant differences were found in the occurrence of cyberbullying between urban and suburban adolescents. Based on this finding, the null hypothesis was retained.

H_2: Urban and suburban adolescents will report more experiences with traditional bullying than cyberbullying.

The researcher hypothesized that urban and suburban adolescents would report more experiences with traditional bullying than cyberbullying. Wang, Iannotti, and Nansel (2009), found that "higher SES may protect adolescents from victimization physically, but increased the risk of involvement in both bullying and victimization electronically. This is likely due to greater availability of computers and cell phones for adolescents from wealthier families" (p. 374). The analyses comparing the bullying and cyberbullying by school/organization location were not statistically significant, indicating no differences between both groups. The results indicated that

the students in the suburban and urban schools/organizations generally had similar experiences with traditional bullying and cyberbullying. The author was unable to locate any published literature that compared suburban and suburban adolescents' experiences with traditional bullying and cyberbullying.

Results of the present study indicated that 16.9% (n = 62) of urban and suburban students had been bullied was consistent with other prevalence studies. Kraft (2006) examined the prevalence of cyberbullying and found that prevalence rates of cyberbullying ranges from 6% to 42%. Kowalski and Limber (2007) examined the prevalence of cyberbullying. The researchers concluded that 11% (n = 407) students (e.g., victims only) reported being cyberbullied at least once in the last couple of months. Adolescents who spend more time on the computer and frequently engage in online social activities were more likely to encounter cyberbullying either as a cyberbully, cybervictim, or both a cyberbully and cybervictim (Twyman, Saylor, Taylor, & Comeaux, 2010).

H_3: Urban and suburban adolescents will indicate greater prevalence with cyberbullying using the Internet (e.g., social networking, Skype, instant messaging, etc.) than cell phones (e.g., text messaging, photographs, videos, etc.).

Adolescents in urban and suburban schools/organizations were asked to report their perceptions of what constitutes cyberbullying. Due to mixed findings of the analyses comparing the activities associated with cyberbullying using various media, a decision on the null hypotheses could not be made. The significant differences in the types of cyberbulling (e.g., sending emails, mobile devices, and cell phones) among suburban and urban students were as follows:

- Sending emails to another person making fun of them
- Sending emails saying mean and hurtful things to other people

- Sending mobile phone messages to another person saying mean and hurtful things
- Sending mobile phone messages to another person making fun of them
- Sending mobile photos to another person saying mean and hurtful things
- Sending mobile photos to another person making fun of them
- Posting photos on the web that may embarrass another student
- Posting a video of a person being bullied on the web
- Spreading rumors about another person in social networking sites (e.g., MySpace, Facebook, Twitter, etc.)

Findings from this study supported earlier research (McLoughlin, Meyricke, & Burgess, 2009). Students were asked to rate their perceptions cyberbullying on a scale from 1 (not cyberbullying) and 5 (severe cyberbullying). McLoughlin et al. found "sending emails to another person making fun of them" was rated as 3.4 on average indicating that it was just as bad as "sending emails saying mean and hurtful things to other people" mean rating was 3.5 (p. 183). McLoughlin, et al. (2009) indicated that participants rated this item as just as severe (M = 3.5) as sending mobile phone messages saying mean and hurtful things or making fun of someone to others was rated as severe cyberbullying (M = 3.9). McLoughlin et al. (2009) indicated participants rated posting photos on the web that may embarrass another student as severe cyberbullying (M = 3.7) while participants considered "videotaping or photographing a person being bullied and posting this on the web" on average was rated as severe cyberbullying (M = 3.9). It was surprising that excluding a student from the social networking site (e.g., MySpace, Facebook) was not seen as cyberbullying and the rating for this item was below average (M = 2.4). These findings could indicate that students were more likely to consider an activity as severe cyberbullying if others were aware of the incident. Sharing emails, mobile phone messages and photos, posting of photos or videos elicited negative responses when others had access to the technology. The incident is considered negative and may be perceived to be mean, making fun, intimidating, hurtful, etc. The event is no longer personal and others recognize the student was being embarrassed or harassed by the cyberbully and fear the incident will escalate as others witness

and respond to the attack. This finding was consistent with the strong emphasis on peer relations during adolescence. Adolescents who have secure attachment with peers may experience decreased effects of cyberbullying. One of the most important developmental tasks during adolescence is to learning to manage stressful peer relations effectively. One must consider the favorable and unfavorable outcomes of peer relationships. Failure to develop positive peer relationships can result in peer rejection, lower self-esteem, and social isolation and development of a victim mentality by responding in a weak and helpless manner (Perry, Hodges, & Egan, 2001).

The largest group of participants in the study was African American. Wang et al. (2009) found that African American adolescents were more likely to be identified as bullies and less likely to be victims. Adolescents in urban environments were less likely to perceive activities (e.g., sending email and mobile phone messages, posting a video, and spreading rumors) as severe cyberbullying when compared to adolescents in suburban environments. Perhaps, behavioral differences might contribute to differences in both group's perceptions of cyberbullying. Students in urban areas may be considered as "meaner" and may be more likely to attack than be attacked. Urban teens could have been exposed to more violence (e.g., physical fighting, weapon carrying, drug use, etc.) inside and outside of school resulting in desensitization that reduced their perceptions of severe cyberbullying.

2. To examine the relationships among parent and peer attachment, feelings about cyberbullying, physical health and psychological health, and cyberbullying in adolescents.

H_4: A negative relationship will be found between the experience with cyberbullying and parent and peer attachment, feelings about cyberbullying, physical health and psychological health of urban and suburban adolescents.

Experiences with cyberbullying were correlated with scores for physical health, psychological health, and parent and peer attachment for urban and suburban adolescents. Statistically significant correlations were found for mother trust for urban students with the three types of cyberbullying, internet, mobile phone, and email. The positive correlations indicated that students with higher levels of mother trust were more likely to have feelings that the activities on the cyberbullying scale were cyberbullying. These finding were consistent with previous research by Bowlby (1973). Bowlby proposed that the availability of attachment figures or caregivers can be influential in development of secure relationships between friends and romantic relationships. On the contrary, Ainsworth (1978) found that insecure relationships with parents could have a negative impact on the child's wellbeing, with these individuals fearing separation or abandonment by their significant other in relationships. They may also display overly dependent behavior on their peers for support.

Statistically significant correlations were found for father trust and cyberbullying by mobile phone for urban and suburban students, and overall for the entire sample. Students in suburban and urban schools/organizations who had higher levels of father trust were more likely to consider the activities using mobile phone as cyberbullying. Surprisingly, father trust was identified as a positive correlation with mobile phones. Some of the participants failed to complete the father section of the Inventory of Parent and Peer Attachment. Numerous students reported that their father was not available or absent from the household or deceased. The largest number of students who participated in the survey reported they live with both parents. One

would expect that father attachment would have a greater impact on trust and communication. According to Paterson, Field, and Pryor (1994) adolescents were more dependent on support from their mothers than their fathers. Lieberman, Doyle, and Markiewicz (1999) found that fathers played an important role and father attachment could be used to predict friendship conflict. According to Lieberman et al., "Positive friendship qualities (help, closeness, and security) were significantly related to overall se-curity of attachment to both mothers and fathers" (p. 209). Fathers could cultivate a healthy relationship by becoming more involved in their adolescent's life and impart confidence in adolescents who may seek other sources (peers) for guidance and support.

Peer attachment was positively correlated with the three types of media used for cyberbullying (e.g., internet, mobile phone, and email) for suburban and urban adolescents. The findings revealed that peer trust and communication was statistically significant for internet, mobile phone, and email among both groups. The three types of media used for cyberbullying were positively correlated with peer attachment (e.g., trust and communication) for students in suburban and urban schools/organizations. This finding was consistent with literature and emphasized the importance status of the peer group. According to Erikson (1963), during the "'identity-formation versus role confusion phase in adolescence,' adolescents are concerned with (a) being aware of how they appear in the eyes of others [peers]; (b) exploring connections with peers, and (c) incorporating their identities with prescribed social roles" (p. 261). Peer attachment was correlated with the three types of media used for cyberbullying for both urban and suburban students, as well as for the entire group. Students who trusted their friends or had good communication with friends were more likely to consider the listed activities as cyberbullying.

The research study examined urban and suburban student's feelings about the effects of cyberbullying on psychosomatic emotions (e.g., trouble sleeping, weak, crying for no apparent reason, helpless, powerless, depressed, isolated, lonely, friendless, anxious, embarrassed, and excluded) were statistically significant for internet, mobile phone, and email. Participants reported that they had negative feelings about psychosomatic emotions that could be associated with cyberbullying. This finding indicated that suburban students were more likely to perceive psychosomatic emotions associated with severe cyberbullying were bad or really bad. The students had strong feelings and rated these items as being more severe. Perhaps, the students were more likely to associate psychosomatic symptoms with cyberbullying because victims are accessible 24 hours a day and 7 days a week and might not be sure of how to resolve the problems. An earlier study by Smith et al. (2008) reported that cyberbullying has been shown to cause distress, but the impact when compared to traditional bullying is not clear. According to The Centers for Disease Control and Prevention (CDC, 2010), bullying can have detrimental effects on adolescent wellbeing, with bullying causing more emotional harm than physical harm. Cyberbullying can result in negative lifelong consequences for both the cyberbully and cybervictims with victims of cyberbullying reporting feelings of frustration, anger, and depression (Beran & Li, 2005; Hinduja & Patchin, 2007). Sourander et al. (2010) reported that psychiatric and psychosomatic problems are seen in both cyberbullies and cybervictims. The researchers reported, that cybervictims were more likely to experience emotional and peer problems: "psychosomatic problems (headaches, recurring abdominal pain, and sleeping problems), have high levels of perceived difficulties, have emotional and peer problems, and feel unsafe at school and uncared about by teachers" (p. 727).

The research study correlated feelings about physiological emotions (e.g., sad, fearful, and sick) with the three types of cyberbullying (e.g., internet, mobile phone, and email). The results were statistically significant for the overall sample. Suburban students' feelings about physiological emotions and cyberbullying using the internet and email were also statistically significant. Cyberbullying may have detrimental effects on an adolescent's wellbeing. Hinduja and Patchin (2011) reported negative effects could range from feeling depressed, sad, angry, frustrated, to suicidal ideations. A teenager describe the negative effects of cyberbullying as,

> It makes me hurt both physically and mentally. It scares me and takes away all my confidence. It makes me feel sick and worthless." Victims who experience cyberbullying also reveal that are were afraid or embarrassed to go to school. In addition, research has revealed a link between cyberbullying and low self-esteem, family problems, academic problems, school violence, and delinquent behavior (Hinduja & Patchin, 2011, para. 2).

Perhaps, suburban students may be more likely to report physiological emotions associated with cyberbullying because they may have been more sensitive to the negative emotional effects that cyberbullying could have on victims.

The research study examined relationships among feelings about negative emotions (e.g., angry and annoyed) and the three types of cyberbullying (e.g., internet, mobile phone, and email). The findings on these correlations were statistically significant for the overall sample. Suburban students' feelings about negative emotions associated with cyberbullying and the three types of cyberbullying, internet, mobile phone, and email also were statistically significant. The assumption is that an adolescent's reaction to cyberbullying often is a painful experience that causes negative emotions (e.g., anger and frustration), especially when the person responsible for the cyberbullying is unknown. The finding was consistent with previous research. Beran and Li (2005) found that victims of cyberbullying are negatively impacted by the incidents and may experience a wide range of emotional problems, including: anger and sadness.

The research study correlated extent to which students were experiencing physical health symptoms (e.g. sad, fearful, sick, lonely, weak, trouble sleeping, crying for no apparent reason, etc.) and the three types of cyberbullying (e.g., internet, mobile phone, and email). The results of these analyses were statistically significant for the suburban and overall sample. The correlations for the students in suburban schools/organizations were not significant. An assumption is that adolescents in urban schools/organizations may view the three types of cyberbullying as harmful and experience increased physical distress. Research by Patchin & Hinduja (2006) has shown that cyberbullying can lead to traditional bullying, including the use of physical violence. The study adds partial support to the conclusion that individuals who experience cyberbullying are more likely to feel more physical distress.

The correlations between scores for depression and the three types of cyberbullying (e.g., internet, mobile phone, and email) were not statistically significant. Students' levels of depressive symptomatology were not related to the three types of cyberbullying. The types of activities were not perceived as cyberbullying. This finding is contrary to current research. McLoughlin et al. (2009) reported students' emotional responses to cyberbullying. The researchers reported that cyberbullying negatively impacted students' emotional wellbeing (e.g., feeling depressed, sad, hurt, degraded, embarrassed, excluded or unsafe, angry, annoyed, disgusted, disappointed, etc.).One explanation for these differences may be that adolescents may experience external distress but do not internalize the negative effects over a long period of time. It would appear that victims of cyberbullying may be experiencing depression with the increase in the number of adolescents who are committing suicide as a result of being cyberbullied. Numerous media reports of these suicide incidents indicated that adolescents who were being cyberbullied prior to committing suicide were feeling depressed prior to suicide.

3. To determine the factors directly related to risk factors for cyberbullying among urban and suburban adolescents.

H_5: Specific risk factors associated with cyberbullying are related to urban and suburban adolescents' experiences with cyberbullying.

The research study used point bi-serial correlations to determine which risk factors were associated with self-report of being cyberbullied. Risk factors identified were age, grade in school, length of time on computer in a typical day, number of text messages, number of email accounts, self-reported academic grades, self-reported citizenship, and number of times suspended from school. The study found that risk factors associated with cyberbullying were not significantly related to self-report of being cyberbullied. This finding was unexpected, because the literature has identified these risk factors as being associated with cyberbullying. According to Willard (2008),

> The higher the degree of risk, the greater the probability the young person will be…more vulnerable to manipulative influence techniques, emotionally upset, and thus less likely to make good choices because they are not "thinking clearly." Less attentive to Internet safety messages, less likely to report an online dangerous situation to an adult... (p. 1).

The literature on cyberbullying has identified age (Li 2006a; Smith, Mahdavi, Carvalho, Fisher, Russell, and Tippett , 2008; Wang et al., 2009); grade in school (Banks, 1997); length of time on computer in a typical day (Smith et al., 2008), number of text messages and email accounts (Smith, et al., 2006), and academic achievement (Li, 2007b) as risk factors likely to increase an adolescent's risk of being cyberbullied. Wang et al. (2009) reported gender differences in cyberbullying (e.g., boys were more likely to be a cyberbully, with girls more likely to be identified as cybervictims). A similar study by Li (2007b) also reported findings with the majority of cybervictims (almost 60%) identified as females, with 52% of males acknowledged

as cyberbullies. Smith et al. (2006) reported that mobile phone calls, text messages, and email were the most common tools used for cyberbullying indicating that the number of text messages could increase an adolescent's risk for cyberbullying. Smith et al. (2008) found that the use of the internet was correlated with greater risk for experiencing cyberbullying. Li (2007b) found that cyberbullies were more likely to report lower academic achievement when compared to cybervictims. Parents and adolescents need to be aware of risk factors including the use of multiple technological tools that were likely to increase an adolescent's risk for encountering cyberbullying as a bully, victim, and/or bystander.

4. To determine personal characteristics of urban and suburban adolescents who are more likely to experience cyberbullying.

H_6: Urban and suburban adolescents who are more likely to experience cyberbullying can be predicted from personal characteristics, including age, gender, race, grade in school, self-reported academic achievement, self-reported citizenship grades, suspensions, grade retention, number of siblings, birth order, and access to Internet and cell phones.

Personal characteristics (e.g., age, gender, race, grade in school, self-reported academic achievement, self-reported citizenship grades, suspensions, grade retention, number of siblings, birth order, and access to Internet and cell phones) could not be used to predict suburban and urban adolescents' experiences with either bullying or cyberbullying. The data analysis revealed no significant differences between both groups of students. These findings indicate that cyberbullying is not reflective of any specific personal characteristics, but instead appears to be situationally related. For example, in previous incidents of bullying or cyberbullying, an event or incident triggered the attack. A girl in Massachusetts who committed suicide was cyberbullied because she had dated the former boyfriend of one of her cyberbullies; a girl in Florida was

severely beaten because she was cyberbullying a boy whose brother had committed suicide; a girl in Missouri committed suicide when the mother of a friend pretended to be a boy interested in her and then she began to tell her that she was worthless and the world would be a better place. These examples of cyberbullying provide support that specific personal characteristics cannot be used to predict the occurrence of bullying or cyberbullying. Each case must be considered separately.

Strengths and Limitations

Study Strengths

The author, after conducting an extensive review of literature on traditional and cyberbullying, was unable to locate a published research study that compared adolescents in suburban and urban schools/organizations on their experiences with bullying. This study will add to the body of knowledge on cyberbullying from the perspective of students in urban and suburban locations.

The strengths of this study are related to theoretical and methodological aspects by providing support for the concepts within the Neuman Systems Model. The results of the present study has validated the concept of interactive variables, intrapersonal stressors, and the need for secondary and tertiary prevention strategies for cyberbullies, cybervictims, and bystanders.

Parent and peer attachment theories (Ainsworth, 1970; Bowlby, 1969) have been found to be appropriate in assessing the importance of peers and parents during adolescence and how they view cyberbullying activities. Protective factors associated with attachment (e.g., mother trust and communication, father trust, peer trust and communication, etc.) could reduce vulnerability to traditional bullying, cyberbullying, and violence. According to Neuman Systems Model (NSM, 1990), the adolescent can be identified as a client. The client system is composed of the

five interacting variables (e.g., physiological, psychological, sociocultural, developmental, and spiritual). Interpersonal stressors (e.g. parent and peer relationships) that occur between individuals could exert positive or negative effects on the system. Positive parent and peer attachment (e.g., developmental variables and interpersonal stressors) influences healthy social and emotional development among adolescents. Role and social expectations and social support from family and peers are important determinants in an adolescent's ability to maintain productive relationships. Poor parent and peer relationships can alter the stability of the system. Based on study findings, parental and peer attachment relationships can serve as protective mechanisms and possibly decrease the negative impact of cyberbullying among adolescents.

This study found that adolescents do not acknowledge certain activities as cyberbullying and are not likely to disclose cyberbullying to adults. For example, adolescents may experience negative health outcomes as a result of pressure to conform to role expectations of adolescent and peer groups. Some adolescents may be reluctant to disclose cyberbullying incidents, engage in the bystander role, and fail to intervene in attacks. After exposure to stress (e.g., cyberbullying), the individual's flexible lines of defense can become distressed and draw the normal line of defense closer to provide protection from the reaction to the stressor. However, the basic structure can be threatened if the client is continuously exposed to the stressor, resulting in system instability and possibly illness (e.g., physical and/or psychological). The presence of illness requires secondary and/or tertiary prevention strategies to decrease stressors and promote rehabilitation and wellbeing.

Neuman (1995) described secondary preventions as the actions implemented after the occurrence of a system reaction and the client experiences symptomologies. Tertiary prevention is described as the actions that promotion of wellness and treatment. Nurses can emphasize the

hazards associated with cyberbullying and encourage adolescents to use technology devices responsibly.

The research study used five instruments to measure the variables in the research study. These surveys have been used previous research to measure parent and peer attachment, psychosomatic symptoms, depression, and experiences and perceptions of cyberbullying. The instruments have been shown to be reliable in previous research on adolescents and were found to be reliable in the present study.

Limitations of the Design

The use of a nonrandom study may have affected the outcomes of the study. However, when working with adolescents, the researcher must obtain permission from the schools/community organizations and then from the parents. Many schools are reluctant to allow researchers to come into the schools and detract attention from the instructional purpose of the school. Some of the schools and community organizations that were included in the school were located in suburban areas, but may reflect a more urban population. Additional research should be conducted using suburban students to verify the results of the present study.

A second limitation of the study is respondent bias from the use of self-report instruments. No attempt was made to verify the responses of the students to questions, such as grade point average, experiences with cyberbullying. The students may have responded to the survey items as they thought the research might expect instead providing their true feelings about the items being studied.

The students were asked to complete five surveys which was challenging. Most adolescents complained that the surveys were too long and keeping them focused on the study and school/organization staff was difficult. The students frequently interrupted the data

collection process and the survey administrators had to request students to give the research their undivided attention.

Implications for Using Neuman's Systems Model

The findings of this study can assist in providing additional knowledge and significance regarding the concept of interpersonal stressors in Neuman's Systems Model (NSM). A dearth of published studies has examined cyberbullying using NSM. The findings of this study provided evidence that NSM should be used as the theoretical framework when studying adolescents in suburban and urban environments. This model can help nurses and other healthcare professionals understand the consequences of cyberbullying, identify both the cyberbully and cybervictims, establish primary, secondary, and tertiary interventions, and fill a gap in the nursing literature.

Implications for Nursing Research

Cyberbullying is still a relatively new phenomenon that has been receiving substantial media attention. The majority of research in this area is from psychology, sociology, and education disciplines. An extensive review of published literature was conducted, revealing limited nursing research publications on this topic. Nurses and other health care professionals need to understand the importance of early identification of possible cyberbullying and strategies to use as interventions to reduce the negative effects of these activities. This study provides foundational knowledge into the prevalence of traditional bullying and cyberbullying, importance of parent and peer relationships, similarities and differences of suburban and urban students' perceptions regarding cyberbullying and students' feelings about psychosomatic, physiological, and negative emotions associated with cyberbullying. The data supported possible differences in suburban and urban students' perception of activities that are considered cyberbullying and disclosure of cyberbullying to an adult warrants further investigation. The

possibility that adolescents could experience physical and psychosocial distress if they encounter cyberbullying needs further exploration. The knowledge gained from this study can be the foundation for interventions specific to anti-bullying programs. Cyberbullies and cybervictims could benefit from specialized educational, counseling, and social programs focusing on dealing with cyberbullying, as well as negative effects it could have on their general mental and physical health, including social wellbeing.

Implications for Nursing Practice

Although further research is needed to examine students' perceptions of activities that could be considered cyberbullying and disclosure of cyberbullying, clinical practice could adopt some interventions found effective in managing these activities. Clinicians should be aware that adolescents may not view some activities (e.g., personal email and mobile phone messages that are not shared with others) as severe cyberbullying even though they have encountered cyberbullying and have failed to disclose cyberbullying incidents because they do not recognize it as cyberbullying. This research supported the importance of early identification and assisting individuals in becoming aware of specific activities that are considered cyberbullying. In addition, school nurses and other health care professionals should conduct thorough assessments of technology use for all adolescents, especially those who are exhibiting signs of distress without apparent evidence of a medical problems. Early identification of these symptoms in adolescents could play an important role in assisting them with identification of cyberbullying and disclosure of incidents.

Conclusions

When examining the current literature regarding cyberbullying and adolescents' perceptions and experiences with cyberbullying, a foundational study was needed to begin the exploration into the differences of adolescents in suburban and urban schools/organizations. This study has provided the foundation to assist nurse researchers in further exploration of these areas and to take into consideration the needs of adolescents who are cyberbullies, cybervictims, and/or bystanders.

Parents, teachers, counselors, principals, and the community need to understand the impact of cyberbullying and develop programs designed to protect adolescents from cyberbullying and traditional bullying. Health care professionals need to be aware that cyberbullying can be harmful or even deadly if the adolescent (e.g., cyberbully and/or cybervictims) or bystander is experiencing negative physiological or psychological effects from the incident.

Adolescents need to learn effective coping strategies when faced with cyberbullying or traditional bullying. The study found that many adolescents do not perceive various types of cyberbullying incidents as cyberbullying. Adolescents may not be aware that certain incidents (e.g., sending an email saying mean things) are considered cyberbullying and lack the ability to respond appropriately to these incidents.

In conclusion, increased awareness of cyberbullying among adults and adolescents may decrease traumatic effects associated with cyberbullying. Case studies that address various scenarios and strategies for dealing with the incidents (including the importance of disclosure to an adult) are options that schools and communities can incorporate into health education and after-school programs. When physiological and psychological changes of an undetermined

nature occur in student behaviors, school nurses, counselors, psychologists, and social workers should inquire about student's access to technology to determine if they have been exposed to cyberbullying as victims, bystanders, or perpetrators. Schools and community organizations need to take an active role in cyberbullying awareness by providing workshops for parents to address similarities and differences in traditional bullying and cyberbullying; develop secure attachment styles; understand risk associated with digital and online communication; become aware of internet safety strategies; respond to reports of cyberbullying in a sensitive manner; and provide appropriate supervision of technological communication devices; etc.

Recommendations for Further Research

To further research on cyberbullying, the following recommendations are made:

- Replicate the study using a sample of students living in suburban and rural areas to determine if the findings regarding cyberbullying of the present study are representative of adolescents in general or are specific to urban adolescents.
- Conduct a complementary study using parents of adolescents to determine the extent to their knowledge of cyberbullying and the strategies they use to protect their children from the negative effects of cyberbullying.
- Use a longitudinal student starting with middle school students and following them through high school to determine when activities associated with cyberbullying peak and begin to decrease similar to traditional bullying which peaks in middle school and declines throughout high school.
- Investigate the impetus for cyberbullying from both the victims and perpetrators viewpoints to determine if specific incidents trigger the negative activities associated with cyberbullying or if the perpetrator has an inclination to cyberbully.

APPENDIX A

WEB-SITE RESOURCES FOR INFORMATION ON CYBERBULLYING

Bullying.org (www.cyberbullying.org) was created by Bill Belsey. The term cyberbullying was created by Belsey (2008), a Canadian educator. He received credit as the first person who introduced the term, cyberbullying. He created www.cyberbullying.org which is one of the most visited and cited website regarding cyberbullying. Students and parents visit the site and discuss their experiences with cyberbullying.

Center for Disease Control and Prevention (CDC) (http://www.cdc.gov/ncipc/dvp/electronic_aggression.htm): The CDC has identified cyberbullying as "electronic aggression". The website provides the following resources related to electronic aggression, youth prevention, and safer schools. Several publications, CDC podcast on electronic aggression, statistics, and additional CDC and federal resources are available on the website.

The Center for Safe and Responsible Internet Use (CSRIU) (www.csriu.org): CSRIU is designed to help adolescents use the Internet safely and responsibly. Nancy Willard, cyberbullying researcher, is the executive director for CSRIU. Willard is recognized for her significant contributions to cyberbullying research (e.g., articles and textbooks), professional development workshops, etc.

The Computer Crime & Intellectual Property Section (CCIPS) (www.cybercrime.gov): The United States Department of Justice's national strategies in fighting computer and intellectual property crimes worldwide. This legal resource provides information in the following areas: cyberethics, review of federal and state laws, tips for using the Internet responsibly, review of cybercrimes, etc.

Cyberbullying Research Center (http://www.cyberbullying.us/): This website was developed by Dr. Sameer Hinduja (Florida Atlantic University) and Dr. Justin Patchin (University of Wisconsin-Eau Claire) in 2005. The researchers are recognized for their significant contributions to cyberbullying. The website serves as a clearinghouse that provides multiple resource such as: the nature, extent, causes, and consequences of cyberbullying among adolescents; statistics and the latest cyberbullying headlines from around the world, stories from individuals impacted by cyberbullying incidents, and resources available for parents, educators, law enforcement officers, counselors, etc; cyberbullying prevention.

Cyberbullying.org in Canada (http://www.cyberbullying.ca) "Always on? Always aware": This website was created by Bill Belsey. The site provides cyberbullying awareness and prevention resources for parents and educators.

i-SAFE (www.isafe.org): i-SAFE is a non-profit foundation that provides Internet safety education. The organization was founded in 1998 and is endorsed by the U.S. Congress. i-SAFE provides classroom curriculum for grades kindergarten thru the 12th grade and community

outreach programs. These programs and resources are available for students, teachers, parents, law enforcement and the community. The goal of i-SAFE is to promote Internet safety and safeguard children's online experiences.

National Crime Prevention Council (NCPC) (http://www.ncpc.org/): The mission of NCPC is "to be the nation's leader in helping people keep themselves, their family, and their communities safe from crime (http://www.ncpc.org/about/strategic-plan.pdf)." The website provides numerous resources on a variety of topics related to crime prevention including cyberbullying prevention techniques, publications and teaching materials, programs for implementation within schools and the community, training at the local, regional, and national levels. The organization was founded in 1982 and McGruff the Crime Dog is recognized for his logo, "Take a Bite out of Crime!"

Stop Bullying Now! (http://stopbullyingnow.hrsa.gov/kids/): The Human Resources and Services Administration (HRSA) of the United States Department of Health and Human Services developed the Stop Bullying Now! website. The mission of the website is to encourage individuals, parents, professionals (e.g., educators, administrators, etc.), and the community to "Take a Stand. Lend a Hand. Stop Bullying Now!" The campaign focuses on cyberbullying awareness, prevention, and interventions.

Wired Safety (www.wiredsafety.org): Wired Safety is recognized as one of the world's largest Internet safety, help and education resource. This website is run by Parry Aftab, an Internet privacy and security lawyer. Wired Safety is a volunteer charity that is dedicated to empowering Internet users (e.g., all ages) and addressing the risks associated with electronic devices (e.g., mobile, cell phones, gaming devices, etc.). Teenagels and Tweenangels are programs produced by Wired Safety. These programs are designed to teach adolescents how to engage in safe Internet behavior, research issues associated with cyberbullying, and formulate possible solutions and prevention programs. STOP cyberbullying (http://www.stopcyberbullying.org/) is another program created by Perry Aftab. This website provides the following resources: identification of what constitutes cyberbullying, how it works, why individuals engage in cyberbullying, cyberbullying prevention including action strategies and review of the law.

APPENDIX B

INSTRUMENTS

Demographic Survey

Please answer each of the following questions as they relate to you. There are no right or wrong answers. All responses will be confidential and no person will be identifiable in the final report.

Age

_____

Gender

❑ Male
❑ Female

Grade in School

❑ 6th grade ❑ 7th grade
❑ 8th grade ❑ 9th grade
❑ 10th grade ❑ 11th grade
❑ 12th grade

Race/Ethnicity

❑ African American
❑ American Indian
❑ Asian/Pacific Islander
❑ Caucasian
❑ Hispanic
❑ Middle Eastern
❑ Multiethnic
❑ Other _____

Who do you live with?

❑ Mother and Father
❑ Mother and Stepfather
❑ Legal Guardian
❑ Mother only
❑ Father and Stepmother
❑ Other relatives
❑ Father only
❑ Grandparents
❑ Other _____

Do you have a computer? ❑ Yes ❑ No
Do you have a cell phone? ❑ Yes ❑ No
Do you have an email account? ❑ Yes ❑ No

Are you on FaceBook or MySpace? ❑ Yes ❑ No
Do you text message anyone? ❑ Yes ❑ No
Do you "twitter?" ❑ Yes ❑ No

Where is the computer in your home located?

❑ Living room/family room
❑ Your bedroom
❑ Computer is a laptop and is portable
❑ Basement
❑ Other _____

What kind of grades do you generally receive in school?

❑ All As
❑ All Bs
❑ All Cs
❑ All Ds
❑ All Fs
❑ Mostly As and Some Bs
❑ Mostly Bs and Some Cs
❑ Mostly Cs and Some Ds
❑ Mostly Ds and Some Fs
❑ Mostly Bs and Some As
❑ Mostly Cs and Some Bs
❑ Mostly Ds and Some Cs
❑ Mostly Fs and Some Ds

What kind of grades you generally receive for citizenship in school?

❑ Excellent ❑ Good ❑ Fair ❑ Poor

How many times have you been suspended from school? _____

Have you been held back a grade? ❑ Yes ❑ No

How many siblings do you have? _____

What is your birth order? ❑ Oldest/Only ❑ Middle ❑ Youngest

To what extent do you think that students in your school are being bullied?
❑ A lot of students are being bullied ❑ Some students are being bullied
❑ No students are being bullied ❑ I don't know

To what extent are your friends and acquaintances victims of cyberbullying either on the Internet (emails, Facebook, MySpace, etc.) or by cell phones?
❑ A lot of students are being cyberbullied ❑ Some students are being cyberbullied
❑ No students are being cyberbullied ❑ I don't know

STUDENT SURVEY ON CYBERBULLYING

Section 1 – About you

I use computers

- ❑ Less than once a week
- ❑ Once a day
- ❑ 1 to 4 times week
- ❑ More than once a day

Section 2 - Bullying

Being bullied is when another student or group of students is aggressive towards a person, like swearing, yelling, punching, or pointing at you. It can be more hidden, such as excluding a person from the group, whispering about a person, staring and/or gossiping. It can occur regularly or now and then over a long time. A student can be bullied by one person and/or a group of people. A Bully is someone who intentionally carries out these behaviors.

I have been bullied during school. ❑ Yes ❑ No ❑ Not Sure

I have bullied others. ❑ Yes ❑ No ❑ Not Sure

Section 3 –Cyberbullying – What I think

Cyberbullying is defined by some as harassment using technology, such as emails, computers, mobile phones, video cameras, chat rooms, and social networks (*MySpace, Facebook*, etc.).

Consider the following situations and rate the extent to which you consider them to be bullying using the following scale. Remember there are no right or wrong answers.

1	2	3	4	5
Not cyberbullying				Severe cyberbullying

Place a check mark in the column that most closely matches how you feel about how each of the following statements could be considered bullying.	1	2	3	4	5
1. Sending emails to another person saying mean and hurtful things.					
2. Sending emails to another person making fun of them.					
3. Sending emails saying mean and hurtful things to other people.					
4. Sending emails making fun of a person to other people					
5. Sending mobile phone messages to another person saying mean and hurtful things.					

1	2	3	4	5
Not cyberbullying				Severe cyberbullying

Place a check mark in the column that most closely matches how you feel about how each of the following statements could be considered bullying.	1	2	3	4	5
6. Sending mobile phone messages to another person making fun of them.					
7. Sending mobile photos to another person saying mean and hurtful things.					
8. Sending mobile photos to another person making fun of them.					
9. Sending mobile phone messages saying mean and hurtful things about a person to other people.					
10. Sending mobile phone messages making fun of a person to other people.					
11. Sending mobile photos saying mean and hurtful things about a person to other people.					
12. Sending mobile photos making fun of a person to other people.					
13. Posting photos on the web that may embarrass another student.					
14. Posting a video of a person being bullied on the web.					
15. Posting a photograph of a person being bullied on the web.					
16. Excluding a student from your social networking site (e.g., *MySpace*, *Facebook*, etc.)					
17. Spreading rumors about another person on social networking sites (e.g., *MySpace*, *Facebook*, etc.)					

Section 4 – My feelings about cyberbullying

1	2	3	4	5
I don't know	Really Bad	Bad	Somewhat Bad	Not at all Bad

Place a check mark in the column that most closely matches the extent to which cyberbullying makes you feel.	1	2	3	4	5
1. Sad					
2. Fearful					
3. Sick					

1	2	3	4	5
I don't know	Really Bad	Bad	Somewhat Bad	Not at all Bad

Place a check mark in the column that most closely matches the extent to which cyberbullying makes you feel.	1	2	3	4	5
4. Lonely					
5. Friendless					
6. Angry					
7. Powerless					
8. Depressed					
9. Anxious					
10. Excluded					
11. Isolated					
12. Helpless					
13. Annoyed					
14. Weak					
15. Embarrassed					
16. Trouble sleeping					
17. Crying for no apparent reason					

Section 5 – My experience

1. I have been cyberbullied. ❑ Yes ❑ No ❑ Not Sure

   If you answered NO to Question 1, go to Question 8.

2. I have been cyberbullied by (check all that apply):
   ❑ Email ❑ chat room ❑ mobile phone
   ❑ social networks (e.g., *MySpace*, *Facebook*, etc.) ❑ other _____

3. I was cyberbullied by (check all that apply):
   ❑ Students inside school ❑ People outside school ❑ I don't know who
   ❑ Other _____

4. In the past year, I have been cyberbullied:
   ❑ Less than 4 times ❑ 4 to 10 times ❑ More than 10 times
5. In the past 30 days, I have been cyberbullied
   ❑ Less than 4 times ❑ 4 to 10 times ❑ More than 10 times

6. I may have cyberbullied others: ❑ Yes ❑ No ❑ Not Sure

7. If yes, I cyberbullied others via (check all that apply):
   ❑ Email ❑ chat room ❑ mobile phone
   ❑ social networks (e.g., *MySpace*, *Facebook*, etc.) ❑ other _____

8. I know someone who has been cyberbullied: ❑ Yes ❑ No

9. When adults in school know cyberbullying is happening, they try to stop it:
   ❑ Yes ❑ No ❑ Not Sure

10. When I was cyberbullied, I told (check all that apply):
    ❑ Parents ❑ teachers ❑ friends ❑ other _____

11. When I knew someone being cyberbullied, I told (check all that apply):
    ❑ Parents ❑ teachers ❑ friends ❑ other _____

Section 5 – Safety Strategies

1. I know safety strategies on the Internet: ❑ Yes ❑ No

2. If yes, two safety strategies when using the Internet are:

   a. _____

   b. _____

3. If yes, I learned safety strategies (check all that apply)
   ❑ By myself ❑ taught by friends ❑ taught by parents ❑ taught in school
   ❑ Other _____

4. Some ways to prevent cyberbullying are to . . . .

   _____

This survey has been adapted from the work of McLoughlin & Burgess (2010)

IPPA

This questionnaire asks about your relationships with important people in your life – your mother, your father, and your close friends. Please read the directions to each part carefully.

Part I

Each of the following statements ask about your feeling about your mother, or the woman who as acted as your mother. If you have more than one person acting as your mother (e.g., a natural mother and a stepmother) answer the questions for the one you feel has most influenced you.

Use the following scale to rate your responses:

1	2	3	4	5
Almost never or never true	Not very often true	Sometimes true	Often true	Almost always or always true

Please read each statement and place a check mark (✓) in the column that most closely matches how true each statement is for you:		1	2	3	4	5
1.	My mother respects my feelings.					
2.	I feel my mother does a good job as my mother.					
3.	I wish I had a different mother.					
4.	My mother accepts me as I am.					
5.	I like to get my mother's point of view on things I'm concerned about.					
6.	I feel it's no use letting my feelings show around my mother.					
7.	My mother can tell when I'm upset about something.					
8.	Talking over my problems with my mother makes me feel ashamed or foolish.					
9.	My mother expects too much from me.					
10.	I get upset easily around my mother.					
11.	I get upset a lot more than my mother knows about.					
12.	When we discuss things, my mother cares about my point of view.					
13.	My mother trusts my judgment.					
14.	My mother has her own problems, so I don't bother her with mine.					
15.	My mother helps me to understand myself better.					
16.	I tell my mother about my problems and troubles.					

Please read each statement and place a check mark (✓) in the column that most closely matches how true each statement is for you:	1	2	3	4	5
17. I feel angry with my mother.					
18. I don't get much attention from my mother.					
19. My mother helps me to talk about my difficulties.					
20. My mother understands me.					
21. When I am angry about something, my mother tries to be understanding.					
22. I trust my mother.					
23. My mother doesn't understand what I'm going through these days.					
24. I can count on my mother when I need to get something off my chest.					
25. If my mother knows something is bothering me, she asks me about it.					

Part II

This part asks about your feeling about your father or the man who has acted as your father. If you have more than one person acting as your father (e.g., natural and stepfathers), answer the questions for the one you feel has most influenced you.

Use the following scale to rate your responses:

1	2	3	4	5
Almost never or never true	Not very often true	Sometimes true	Often true	Almost always or always true

Please read each statement and place a check mark (✓) in the column that most closely matches how true each statement is for you:	1	2	3	4	5
1. My father respects my feelings.					
2. I feel my father does a good job as my father.					
3. I wish I had a different father.					
4. My father accepts me as I am.					
5. I like to get my father's point of view on things I'm concerned about.					
6. I feel it's no use letting my feelings show around my father.					

Please read each statement and place a check mark (✓) in the column that most closely matches how true each statement is for you:	1	2	3	4	5
7. My father can tell when I'm upset about something.					
8. Talking over my problems with my father makes me feel ashamed or foolish.					
9. My father expects too much from me.					
10. I get upset easily around my father.					
11. I get upset a lot more than my father knows about.					
12. When we discuss things, my father cares about my point of view.					
13. My father trusts my judgment.					
14. My father has his own problems, so I don't bother him with mine.					
15. My father helps me to understand myself better.					
16. I tell my father about my problems and troubles.					
17. I feel angry with my father.					
18. I don't get much attention from my father.					
19. My father helps me to talk about my difficulties.					
20. My father understands me.					
21. When I am angry about something, my father tries to be understanding.					
22. I trust my father.					
23. My father doesn't understand what I'm going through these days.					
24. I can count on my father when I need to get something off my chest.					
25. If my father knows something is bothering me, he asks me about it.					

CSI-24 (Child Report)

Your Symptoms: Below is a list of symptoms that you may sometimes have. Place a check mark in the column that most closely indicates how much you were bothered by each symptom during the past two weeks.

0	1	2	3	4
Not at all	A little	Some	A lot	A whole lot

In the last 2 weeks, how much were you bothered by each symptom?	0	1	2	3	4
1. Headaches					
2. Faintness or dizziness (feeling faint or dizzy)					
3. Pain in your heart or chest					
4. Feeling low in energy or slowed down					
5. Pains in lower back					
6. Sore muscles					
7. Trouble getting your breath (when you're not exercising)					
8. Hot or cold spells (suddenly feeling hot or cold for no reason)					
9. Numbness or tingling in parts of your body					
10. Weakness (feeling weak) in parts of your body					
11. Heavy feelings in your arms or legs (when they feel too heavy to move)					
12. Nausea or upset stomach (feeling like you might throw up, or having an upset stomach)					
13. Constipation (when it's hard to have a B.M. or go poop)					
14. Loose (runny) BMs or diarrhea					
15. Pain in your stomach or abdomen (stomach aches)					
16. Your heart beating too fast (even when you're not exercising)					
17. Difficulty swallowing					
18. Losing your voice					
19. Blurred vision (when things look blurry, even with glasses on)					
20. Vomiting (or throwing up)					
21. Feeling bloated or gassy					
22. Food making you sick					
23. Pain in your knees, elbows or other joints					
24. Pain in your arms or legs					

DEPRESSION SELF-RATING SCALE

Please answer as honestly as you can by placing a check mark in the column that best refers to how you have felt over the past week. There are no right answers; it is important to indicate how you have felt.

2	1	0
Most of the Time	Sometimes	Never

Place a check mark in the column that most closely matches how you have felt over the past week.	1	2	3
1. I look forward to things as much as I used to.			
2. I sleep very well.			
3. I feel like crying.			
4. I like to go out with my friends.			
5. I feel like running away.			
6. I get stomach aches.			
7. I have lots of energy.			
8. I enjoy food.			
9. I can stick up for myself.			
10. I think life is not worth living.			
11. I am good at the things I do.			
12. I enjoy the things I do as much as I used to.			
13. I like talking about my family.			
14. I have horrible dreams.			
15. I feel very lonely.			
16. I am easily cheered up.			
17. I feel so sad I can hardly stand it.			
18. I feel very bored.			

APPENDIX C

PARENT INFORMATION SHEET

Title of Study: Examining the Relationship Among Physical and Psychological Health, Parent and Peer Attachment, and Cyberbullying in Adolescents in Urban and Suburban Environments

Principal Investigator (PI): Jemica Carter

Purpose:

You are being asked to allow your child to be in a research study that is being conducted by Jemica Carter, a student from Wayne State University to study how adolescents feel about cyberbullying and its relationship to their physical and emotional health, and parent and peer attachment. Adolescents from 12 to 18 years of age will be included in this study.

Study Procedures:

If you decide to allow your child to take part in the study, your child will be asked to complete the Student Survey, Inventory of Parent and Peer Attachment, Depression Self-Rating Scale, and the Children's Somatization Inventory. In addition, he/she will be asked to complete a short demographic survey. The total time required to complete these questionnaires is approximately 45 minutes.

Examples of items from the Student Survey that measure adolescents' feelings about cyberbullying and types of situations and events that may be considered cyberbullying:

1. Sending emails saying mean and hurtful things.
2. Sending emails to another person, making fun of them.
3. Sending emails making fun of a person to other people.

The students will be asked to rate each item on the survey from 1 indicating not cyberbullying to 5 for severe cyberbullying. There are no right or wrong answers.

Samples of items from the Inventory of Parent and Peer Attachment scale that measure how adolescents' feel about their parents and peers:

1. My mother respects my feelings.
2. My mother accepts me as I am.
3. My mother can tell when I am upset about something.

The students will rate each item on this scale from 1 indicating almost never or never true to 5 for almost always or always true. There are no right or wrong answers. Examples of items from the Children's Somatization Scale that measure if students' perceptions of physical symptoms:

1. Headaches.

2. Faintness or dizziness

3. Trouble getting your breath (when you're not exercising).

The students will rate each item on this scale from 0 indicating not at all to 4 for a whole lot. There are no right or wrong answers.

Examples of items from the Depression Self-Rating Scale that measures the extent to which adolescents may be experiencing depressive symptoms include:

1. I look forward to things as much as I used to.

2. I like to go out with my friends.

3. I enjoy the things I do as much as I used to.

The students will rate each item on this scale from 1 indicating most of the time to 3 indicating never. There are no right or wrong answers.

The demographic survey is used to obtain information about the student including his/her age, gender, grade in school, self-reported academic achievement and citizenship, with whom they live, location of the computer in their home, school suspensions, number of siblings, and birth order.

The surveys will be available from the researcher if you would like to review them prior to deciding if you will allow your child to participate in the study.

Title of Study: Examining the Relationship Among Physical and Psychological Health, Parent and Peer Attachment, and Cyberbullying in Adolescents in Urban and Suburban Environments

Principal Investigator (PI): Jemica Carter

Benefits:
No known benefits to students. Nurses, parents, religious leaders, teachers and administrators can benefit by understanding how cyberbullying is affecting adolescents with whom they have contact.

Costs
There is no cost for participating in this study.

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

Compensation:
Your child will receive a $5.00 gift card for McDonalds for his/her participation in the study.

Confidentiality:
All information collected about your child during the course of this study will be kept confidential to the extent permitted by law. The surveys that the students complete will not be coded in any way. However, the study sponsor, the Human Investigation Committee (HIC) at Wayne State University or federal agencies with appropriate regulatory oversight, may review student responses.

Voluntary Participation /Withdrawal:
Your child's participation in this study is voluntary. You may decide that you do want your child to take part in this study, or if you decide to take part, you or your child can change your minds later and withdraw from the study. You are free to withdraw your child at any time. Your decision will not change any present or future relationships with Wayne State University or its affiliates, your child's school or other services you are entitled to receive

Title of Study: Examining the Relationship Among Physical and Psychological Health, Parent and Peer Attachment, and Cyberbullying in Adolescents in Urban and Suburban Environments

Principal Investigator (PI): Jemica Carter

Title of Study: Examining the Relationship Among Physical and Psychological Health, Parent and Peer Attachment, and Cyberbullying in Adolescents in Urban and Suburban Environments

Principal Investigator (PI): Jemica Carter

Questions: If you have any questions now or in the future, you may contact Jemica Carter at the following phone number (248) 225-8248 or by email at jemica@gmail.com. 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.

Consent to Participate in a Research Trial

If after reviewing this information sheet, you choose not to allow your child to participate in this study, please complete and return this form using the preaddressed, postage-paid envelope. You may also contact me at (248) 225-8248 or by email at jemica@gmail.com.

_____

Child's Name

_____ _____

Signature of Participant/ Legally Authorized Representative Date

APPENDIX D

ADOLESCENT ASSENT FORM

Title of Study: Examining the Relationship Among Physical and Psychological Health, Parent and Peer Attachment, and Cyberbullying in Adolescents in Urban and Suburban Environments

Principal Investigator (PI): Jemica Carter

Why am I here?
This is a research study. Only people who choose to take part are included in research studies. You are being asked to take part in this study because you are an adolescent who may have knowledge of or be aware of cyberbullying. Please take time to make your decision. Be sure to ask questions about anything you don't understand.

Why are they doing this study?
You are being asked to be in a research study that is being conducted by Jemica Carter, a student from Wayne State University to study how adolescents feel about cyberbullying and its relationship to their physical and emotional health, and parent and peer attachment. Adolescents from 12 to 18 years of age will be included in this study.

What will happen to me?
If you decide to participate in the study, you will be asked to complete the Student Survey, Inventory of Parent and Peer Attachment, Depression Self-Rating Scale, and the Children's Somatization Inventory. In addition, he/she will be asked to complete a short demographic survey. The total time required to complete these questionnaires is approximately 45 minutes.

Examples of items from the Student Survey are:

1. Sending emails saying mean and hurtful things.

2. Sending emails to another person, making fun of them.

3. Sending emails making fun of a person to other people.

You will be asked to rate each item on the survey from 1 indicating not cyberbullying to 5 for severe cyberbullying. There are no right or wrong answers.

Samples of items from the Inventory of Parent and Peer Attachment scale are:
1. My mother respects my feelings.

2. My mother accepts me as I am.

3. My mother can tell when I am upset about something.

You will rate each item on this scale from 1 indicating almost never or never true to 5 for almost always or always true. There are no right or wrong answers.

Examples of items from the Children's Somatization Scale are:

1. Headaches.

2. Faintness or dizziness

3. Trouble getting your breath (when you're not exercising).

You will rate each item on this scale from 0 indicating not at all to 4 for a whole lot. There are no right or wrong answers.

Examples of items from the Depression Self-Rating Scale that measures the extent to

which adolescents may be experiencing depressive symptoms include:

1. I look forward to things as much as I used to.

2. I like to go out with my friends.

3. I enjoy the things I do as much as I used to.

You will rate each item on this scale from 1 indicating most of the time to 3 indicating never. There are no right or wrong answers.

The demographic survey is used to obtain information about the student including his/her age, gender, grade in school, self-reported academic achievement and citizenship, with whom they live, location of the computer in their home, school suspensions, number of siblings, and birth order.

Students will be able to skip any items with which they are uncomfortable.

How long will I be in the study?
Your participation should not take more than 45 minutes.

Title of Study: Examining the Relationship Among Physical and Psychological Health, Parent and Peer Attachment, and Cyberbullying in Adolescents in Urban and Suburban Environments

Principal Investigator (PI): Jemica Carter

Will the study help me?
You may not benefit from being in this study; however information obtained from the surveys will help nurses, parents, religious leaders, teachers and administrators understand how cyberbullying is affecting adolescents with whom they have contact.

Will anything bad happen to me?
Nothing bad will happen to you or any other students who participate in the study.

Do my parents know about this study?
This study information has been given to your parents/guardian and they said that you could participate in the study.

What about confidentiality?
Every reasonable effort will be made to keep your responses confidential. Your name and other identifying information will not be on the survey.

What if I have any questions?
For questions about the study, please call Mrs. Jemica Carter at (248) 225-8248. 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.

Do I have to be in the study?
You do not have to be in this study if you do not want to or you can stop being in the study at any time. Please discuss your decision with the research assistant. No one will be angry if you decide to stop being in the study.

Agreement to be in the Study
Returning the completed surveys will be evidence of your willingness to participate in the study. Please retain this copy of the adolescent assent form for your records.

APPENDIX E

INTRODUCTORY SCRIPT

Cyberbullying Script

Hello Students:

My name is Jemica Carter and I am a doctoral student in Nursing at Wayne State University. I am conducting research as part of my program.

The purpose of this study is to examine the impact of cyberbullying on physical health, emotional health, and parent and peer attachment and cyberbullying in adolescent. The outcomes of this study can provide new information on cyberbullying and fill a gap in the nursing literature. Nurses and other health care professionals need to understand the consequences of cyberbullying and how to identify both the cyberbullies and cybervictims to implement interventions that can reduce the negative effects of electronic aggression. Your feedback will help educators create prevention programs designed to reduce the impact of cyberbullying among adolescents.

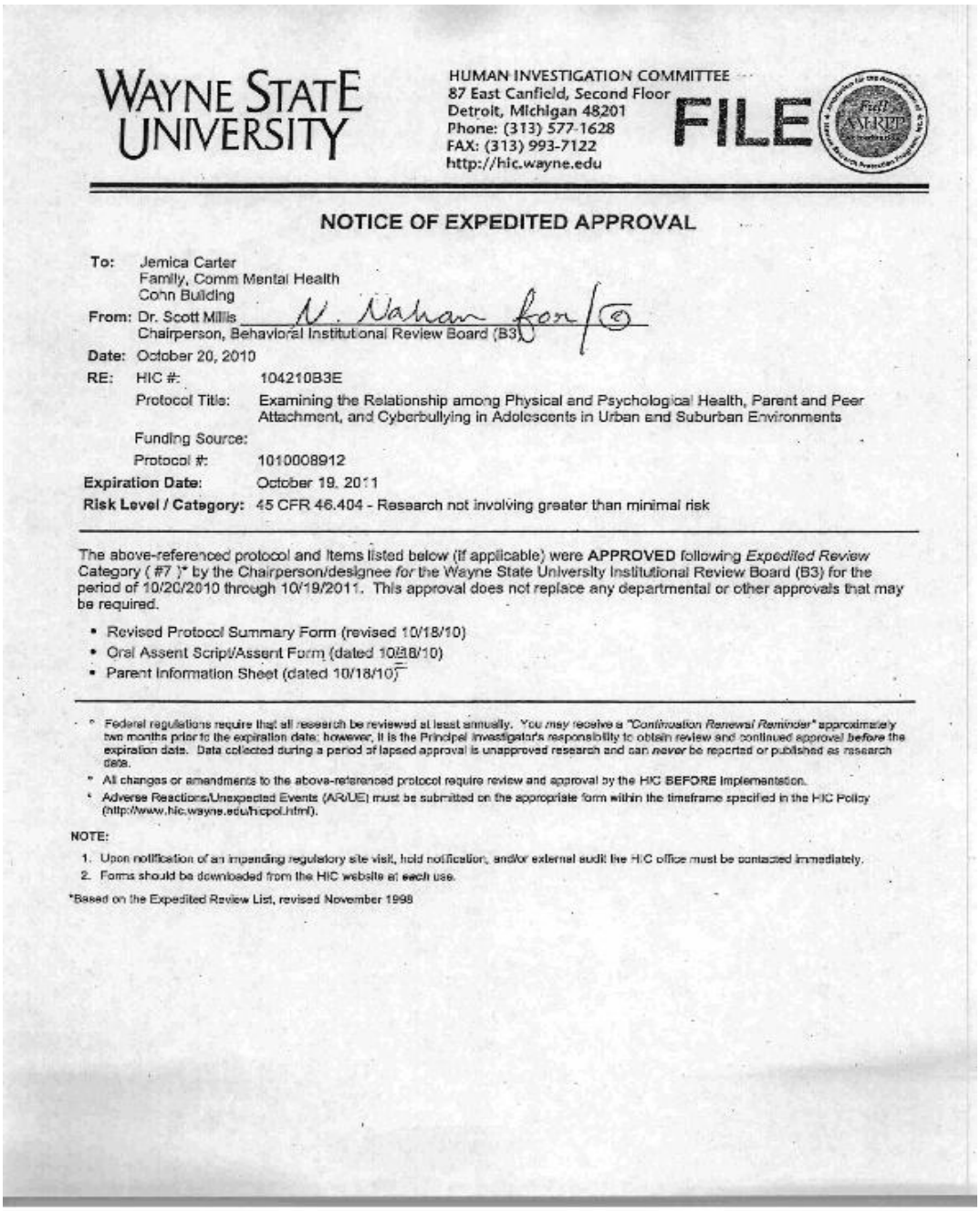
The five surveys will take around 45 to 60 minutes to complete. You will not use your name and no one will be able to identify you. This information is kept confidential. The surveys have questions related to cyberbullying, demographic information (gender, age, grade level, race/ethnicity, academic achievement, etc.), parent and peer relationships, physical and mental health. I will read each item out loud. Please feel free to ask questions if you do not understand any of the items. Participation in the research study is voluntary; we ask that you will answer all questions of which you are comfortable so that we can understand your experience(s) with cyberbullying. Please do not share your answers with other students. Participants will receive a $5.00 incentive for completed surveys. We would like to thank you for your participation and input.

Thank you for choosing to participate in my study.

Jemica Carter, PhDc, RN

APPENDIX F

HUMAN INVESTIGATION COMMITTEE APPROVAL



WAYNE STATE UNIVERSITY

HUMAN INVESTIGATION COMMITTEE
87 East Canfield, Second Floor
Detroit, Michigan 48201
Phone: (313) 577-1628
FAX: (313) 993-7122
http://hic.wayne.edu

FILE

NOTICE OF EXPEDITED APPROVAL

To: Jemica Carter
Family, Comm Mental Health
Conn Building

From: Dr. Scott Millis N. Nahan for/©
Chairperson, Behavioral Institutional Review Board (B3)

Date: October 20, 2010

RE: HIC #: 104210B3E

Protocol Title: Examining the Relationship among Physical and Psychological Health, Parent and Peer Attachment, and Cyberbullying in Adolescents in Urban and Suburban Environments

Funding Source:

Protocol #: 1010008912

Expiration Date: October 19, 2011

Risk Level / Category: 45 CFR 46.404 - Research not involving 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 Institutional Review Board (B3) for the period of 10/20/2010 through 10/19/2011. This approval does not replace any departmental or other approvals that may be required.

- Revised Protocol Summary Form (revised 10/18/10)
- Oral Assent Script/Assent Form (dated 10/18/10)
- Parent Information Sheet (dated 10/18/10)

* 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

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ABSTRACT

EXAMINING THE RELATIONSHIP AMONG PHYSICAL AND PSYCHOLOGICAL HEALTH, PARENT AND PEER ATTACHMENT, AND CYBERBULLYING IN ADOLESCENTS IN URBAN AND SUBURBAN ENVIRONMENTS

by

JEMICA M. CARTER

December 2011

Advisor: Dr. Feleta Wilson

Major: Nursing

Degree: Doctor of Philosophy

Cyberbullying is a new phenomenon that has received substantial attention via media. An extensive review of the literature revealed limited nursing research on this topic. The purpose of this study was to examine the impact of cyberbullying on adolescents' physical (e.g., headache, stomachache, etc.) and psychosocial (e.g., self-esteem, depression, post traumatic stress syndrome, etc.) outcomes. Individuals who experience repeated traditional bullying are at increased risk for experiencing repeated incidents of cyberbullying. Research has shown that effects of cyberbullying may be more traumatic than traditional bullying because victims can be bullied 24 hours and 7 days a week, on and off school property.

A total of 367 adolescents aged 10 to 18 years of age (50.4% females and 49.6 males) in 4th through 12th grades participated in the study. A community-based approach was used to recruit students and collect data from charter schools, recreational centers, church youth groups, and a community organization.

Five instruments (The Student Survey; Inventory of Parent and Peer Attachment; Depression Self-rating Scale; Children's Somatization Inventory, and a short demographic

survey) were used to collect data on the dependent and independent variables. Data analysis used the IBM-SPSS (ver. 19.0) and included chi-square tests for independence, Pearson product moment correlations, logistic regression, and stepwise multiple linear regression analysis.

Data analysis revealed that adolescents from urban and suburban areas are similar in their views of what constitutes cyberbullying and the emotions that are associated with cyberbullying. Adolescents are more likely to view cyberbullying activities more seriously if they are closely attached to their peers and parents. The results also revealed that adolescents may be less likely to report cyberbullying incidents. Physical and mental health did not appear to be problematic for these students.

Given the pervasiveness of cyberbullying among adolescents, nurses are in a key position to address cyberbullying through the use of primary, secondary, and tertiary prevention. Nurses have a complete understanding of important health issues related to bullying behaviors and receive training on how to deal with these behaviors. The paucity of research studies regarding cyberbullying and health outcomes support the need for additional exploration of this topic.

AUTOBIOGRAPHICAL STATEMENT

JEMICA M. CARTER

Education

Wayne State University, Detroit, Michigan
2011 – Doctor of Philosophy
Major: Nursing

2006 – Master of Education
Major: Health Education

2000 – Bachelor of Science in Nursing
Major: Nursing

Academic Experiences

University of Detroit Mercy, Detroit, Michigan
College of Health Professionals – McAuley School of Nursing
2008 to Present: Adjunct Faculty

Wayne County Community College District, Detroit, Michigan
College of Nursing
2010 to Present: Adjunct Faculty

Professional Experiences

2005 to present – John D. Dingell VA Medical Center (VAMC)
Faculty, VA Nursing Academy (VANA)
Nursing Supervisor (ACNS)
Staff Nurse on Surgical Intensive Care Unit

2003 to 2005 Botsford General Hospital – Critical Care Complex (CCU)

2001 to 2006 Detroit Receiving Hospital – Surgical Care Unit (SICU)

2000 to 2001 Hutzel Hospital – Staff Nurse on Labor & Delivery

Publications

Anthony, M., Carter, J., Freundl, M., Nelson, V., & Wadlington, L. (In Press). Using simulations to teach veteran-center care. *Clinical Simulation in Nursing*, e1 – e6.

Community Service

Living Waters Full Gospel Church & Outreach Program, MI
Coleman A. Young Foundation: Postsecondary Readiness Program – Presenter for Sexual Responsibility Workshops

Professional Organizations:

Midwest Nurses Research Society
Sigma Theta Tau International