2008

Cyber Bullying and Victimization: Psychosocial Characteristics of Bullies, Victims, and Bully/Victims

Delia Carroll Campfield
The University of Montana

CYBER BULLYING AND VICTIMIZATION: PSYCHOSOCIAL CHARACTERISTICS OF BULLIES, VICTIMS, AND BULLY/VICTIMS

By

Delia Carroll Campfield

Master of Arts, The University of Montana, Missoula, Montana, 2006

Dissertation

presented in partial fulfillment of the requirements
for the degree of

Doctor of Philosophy
in Psychology, Clinical

The University of Montana
Missoula, MT

Official Graduation: Summer, 2008

Approved by:

Dr. David A. Strobel, Dean
Graduate School

Dr. Christine Fiore, Chair
Department of Psychology

Dr. Greg Machek
Department of Psychology

Dr. Margaret Beebe-Frakenberger
Department of Psychology

Dr. Darrell Stolle
Department of Curriculum and Instruction

Dr. Danette Wollersheim
Licensed Clinical Psychologist

Campfield, Delia, Ph.D. Summer 2008 Clinical Psychology

Cyber Bullying and Victimization: Psychosocial Characteristics of Bullies, Victims, and Bully/Victims

Chairperson: Dr. Christine Fiore

This study explored cyber bullying and victimization. The use of technology as a vehicle for peer victimization is increasing and is associated with a risk of psychosocial maladjustment (Finkelhor, et al., 2000; Wolak, et al., 2006; Ybarra & Mitchell, 2004a, 2004b). It is thought to peak during middle school (Harris & Petrie, 2002); thus, the sample included 6th, 7th, and 8th graders who identified themselves as cyber bullies, victims, or bully/victims. Hypotheses were as follows: face-to-face bullies and victims would also be involved in cyber bullying and victimization, with females being more involved than males; cyber bullying and victimization would be associated with psychosocial maladjustment; externalizing behaviors would be more common among cyber bullies while internalizing symptoms, loneliness and low self-esteem would be more common among cyber victims; cyber bully/victims and individuals who were victims of both face-to-face bullying and cyber bullying would exhibit the poorest overall psychosocial adjustment. The study also sought to identify predictor variables related to cyber victimization, with loneliness and low self-esteem hypothesized as the most predictive. Analyses included chi-square tests of independence, a series of one-way ANOVAS and discriminant function analysis. Assessments included the Youth Self (Achenbach, 1991) (for internalizing, externalizing and total problems), the Children's Loneliness Scale (Asher & Wheeler, 1985) for loneliness, and the Self-Esteem Questionnaire-Short Form (DuBois, et al., 1996) for peer and global self-esteem.

Results indicated that 69% of participants were involved in cyber bullying and/or victimization. A significant overlap was found among face-to-face bullies and victims and cyber bullies and victims. Females were over-represented among cyber bullies, victims, and bully/victims. The psychosocial characteristics of cyber victims, and bully/victims included externalizing behaviors, total problems, and low peer self-esteem. Cyber bullies did not endorse any psychosocial symptoms of maladjustment. Cyber bully/victims and victims of both face-to-face and cyber bullying exhibited the poorest psychosocial adjustment. Externalizing behaviors and total problems were most predictive of cyber victim status. Increased awareness about the use of technology as a vehicle for bullying and identification of potential problems associated with cyber bullying and victimization will aid parents, educators, and psychologists in developing intervention and prevention strategies.

ACKNOWLEDGEMENTS

The completion of this dissertation was made possible by many individuals. I would like to extend my thanks to my dissertation committee members, Christine Fiore, Ph.D., Greg Machek, Ph.D., Margaret Beebe-Frankenberger, Ph.D., Darrell Stolle, Ph.D., and Danette Wollersheim, Ph.D. These remarkable people have provided me with their time, guidance, and constructive criticism.

I would especially like to thank my committee chair person, Dr. Christine Fiore, for her unrelenting assistance with my dissertation as well as with numerous aspects of my professional training. Dr. Fiore has played an instrumental role in my professional and personal growth and I appreciate her contributions to my doctoral training.

Finally, I would like to thank my family and friends for their unyielding support, friendship, and encouragement. I am especially grateful to my husband for his relentless patience, his constant faith in me, and his eternal emotional support throughout my education.

Table of Contents

Introduction ……1

Types of Bullying/Victimization…….……....2

Face-to-face bullying/victimization…….2

Relational bullying/victimization…….3

Cyber bullying/victimization.....4

Prevalence/Incidence Rates of Bullying/Victimization.....5

Face-to-face aggression……...……5

Relational aggression.……..6

Cyber bullying/victimization.……..8

Psychosocial Characteristics/Adjustment.……16

Face-to-face bullying/victimization.……..17

Perpetrators of face-to-face and relational aggression.……. 18

Victims of face-to-face bullying.…….. 20

Depression.……21

Anxiety.……. 22

Loneliness……..23

Self-Esteem……24

Bully/Victims.……25

Cyber bullying/victimization.……26

Victims of cyber bullying.…… 26

Cyber bullies…….……29

Cyber bully/victims……...33

Hypotheses……38

Method……...39

Participants……39

Setting……40

Measures……40

Demographic Questionnaire…….....40

Bullying/victimization Questionnaire……...41

Psychosocial adjustment variables.……42

Procedure……..45

Data Analyses……50

Results…….. 53

Participant demographics……...53

Internet use.……53

Bullying/victimization group status.……..58

Group relationships…….....65

Gender differences…….……69

Psychosocial characteristics……..……72

Comparison of cyber control to cyber bullies, victims, bully/victims…….…. 74

Comparison of cyber bully/victims to cyber bullies and victims……..77

Comparison of face-to-face/cyber victims to face-to-face or cyber victims.....79

Predictors of cyber victim status..…… 83

Discussion……..……87

Frequency/types of cyber use…….……87

Parental awareness of use……. 89

Risks of involvement…….……90

Frequency of cyber bullying/victimization……90

Frequency of face-to-face involvement…….94

Relationship between face-to-face and cyber bullying…..……...95

Relationship between face-to-face victims and cyber bullying…….……95

Relationship between face-to-face bullies and cyber victims……96

Relationship between face-to-face and cyber victims..….……97

Gender differences in cyber bullying and victimization…….……..98

Psychosocial adjustment of cyber bullies and victims…….……...100

Psychosocial adjustment of cyber bully/victims…….105

Clinical description of cyber bullies, victims, and bully/victims……107

Psychosocial adjustment of face-to-face and cyber victims…….……...109

Clinical description of face-to-face and cyber victims…….……...110

Psychosocial adjustment of cyber involvement once a week or more……112

Clinical description of cyber bullies, victims, bully/victims once a week or more…….113

Predictors of cyber victim status……..119

Unique aspects of cyber bullying and victimization……..…….120

Unique characteristics of cyber bullies, victims, and bully/victims……122

Implications…….……128

Limitations……...133

References…….……...138

Appendix A: Internet Information Form……..148

Appendix B: About You and the Internet…...…….149

Appendix C: Bullying/Victimization Questionnaire…...……150

Appendix D: Children's Loneliness Questionnaire…...…….155

Appendix E: Self-Esteem Questionnaire-Short Form…...……...156

Appendix F: Parent Information Form……158

Appendix G: Letter to Parents…….160

Appendix H: Parental Consent Form……...161

Appendix I: Child Assent Form…...……....162

Appendix J: Debriefing Form…..……163

List of Tables

1. Participant Characteristics by Grade Level……..……..54

2. Students' and Parents' Reports of Internet Use……57

3. Frequencies of Group Membership in Face-to-Face Bullying and Victimization…….59

4. Frequencies of Group Membership in Cyber Bullying and Victimization….....61

5. Group Comparisons…….. 63

6. Association Between Face-to-Face Bully Status and Cyber Bully Status..…….. 67

7. Association Between Face-to-Face Victim Status and Cyber Bully Status..……68

8. Association Between Face-to-Face Victim Status and Cyber Victim Status.....70

9. Association Between Face-to-Face Bully Status and Cyber Victim Status……..71

10. Association Between Gender and Involvement in Cyber Bullying and/or Victimization……..73

11. Means, Standard Deviations, and ANOVA-Cyber Bully, Victim, Bully/Victims and Cyber Control Groups……. 75

12. Means, Standard Deviations, and ANOVA-Cyber Bully, Victim, Bully/Victims…..78

13. Group Differences Between Face-to-Face/Cyber Victims and Face-to-Face or Cyber Victims……..80

13. Means, Standard Deviations, and Predictor Variables of Cyber Victim Status……...85

14. Classification Analysis for Cyber Victim Status…….86

15. Cyber Victimization Questions and Responses…….125

16. Cyber Bullying Questions and Responses…….127

List of Figures

1. Illustration of Frequency of Control Groups and Bullying and Victimization Groups……62

Introduction

Bullying of school aged children is not a new phenomenon and it has been well-established as a common and serious problem in society. It is likely that most children and adults have stories to share about either their own experiences of bullying or victimization or witnessing acts of aggression toward others. The age-old problem of being victimized by bullies has often been viewed as a normal part of growing up or even a "rite of passage" for children and adolescents (Limber & Small, 2003, p. 445). This outlook began to change with the innovative research on bullying and victimization that was conducted by Olweus in the late 1970s (Olweus, 1978). Olweus' (1978) research shed new light on the detrimental effects on youth development that have been linked to bullying and victimization. His work spawned other research on this phenomenon, which resulted in an increased awareness of bullying and victimization as a widespread societal problem.

For a number of years, research on bullying was conducted primarily in Sweden and other Scandanavian countries (Olweus, 1993). Beginning in the late 1980s and early 1990s, other countries, including Japan, England, The Netherlands, Australia, Canada and the U.S., began studying bullying and victimization (Olweus, 1993). As a result of this increased research along with an increase in attention by the mass media, society began first to recognize and then to attend to the detrimental effects of bullying and victimization on youth. For example, in Norway, the suicides of three youth, which were thought to be related to severe bullying by their peers, were reported in the newspaper. The suicides received national attention resulting in a nationwide campaign against bully/victim problems in Scandinavia (Olweus, 1994). Other countries were influenced

by the attention that this phenomenon received in that part of the world, which led to increased national interest. The attention that bullying has received in recent years is well-deserved, as research indicates that among American school children, approximately 30% are involved as either perpetrators (13.0%), victims (10.6%), or bully/victims (6.3%) of some type of bullying (Nansel, Overpeck, Pilla, Ruan, Simons-Morton, & Scheidt, 2001).

Types of Bullying/Victimization:

Face-to-face bullying/victimization:

According to the widely agreed upon definition in the literature, bullying is aggressive behavior that is intended to harm or disturb another person, it occurs repeatedly over time, and it involves an imbalance of power such that a more powerful person or group bullies a less powerful individual or group (Nansel et al. 2001). The aggressive behavior, as well as the imbalance of power, can be physical or psychological and it is unprovoked.

Face-to-face bullying, also known as traditional or conventional bullying, takes on many forms, including direct physical aggression such as hitting, kicking, pushing, or restraining and direct verbal aggression such as name-calling, teasing, taunting, or threatening. Although the definition emphasizes that the behavior is repeated over time, some critics argue that even a one-time incident of severe aggressive behavior can be considered serious harassment or bullying and can be emotionally disturbing to the victim (Arora, 1996; Smith & Levan, 1995). In addition to face-to-face bullying, research has begun to focus on a more covert form of aggression which is referred to as relational aggression (Crick & Grotpeter, 1995).

Relational bullying/victimization:

Up until the last decade, more focus was on the physically and verbally aggressive behaviors of bullying (Olweus, 1994; Prinstein, Boergers, & Vernberg, 2001). The expanded conceptualization of bullying and victimization now includes covert forms of aggression such as gossiping or spreading mean rumors about a peer or purposefully excluding a peer from one's social group or from an activity (Crick & Gropeter, 1995). According to Crick and Gropeter (1995), these acts, called relational aggression, are defined as "harming others through purposeful manipulation and damage of their peer relationships" (p. 711). Crick & Grotpeter (1995) found that relational aggression is a salient and valid form of aggression that occurs frequently and is directed toward both males and females. By including acts of relational aggression, such as shunning, ignoring, and spreading rumors, a more complete understanding of the range of aversive events that children and adolescents may experience is possible. This shift in the definition of what constitutes peer maltreatment to include relational aggression has provided a more balanced picture of peer victimization among males and females (Storch & Ledley, 2005). Research has demonstrated that, similar to overt aggression, relational aggression can be significantly related to psychosocial distress among victims (Crick & Bigbee, 1998; Crick & Grotpeter, 1996). The definition of peer victimization is, however, in need of further expansion. The rapidly increasing access to and use of the Internet by youth has resulted in yet another means of bullying and victimization (Blair, 2003; Campbell, 2005; Mitchell, Finkelhor, & Wolak, 2003; Ybarra & Mitchell, 2004a; Ybarra & Mitchell, 2004b).

Cyber bullying/victimization:

Using this new form of bullying, known as cyber bullying, online harassment, or Internet bullying, bullies torment their victims in cyberspace with various forms of technology such as e-mails, instant messaging, chat rooms, and web sites. Text-messaging over cell phones and phone cameras have also become new mediums for bullying (Campbell, 2005; Paulson, 2003; Peterson, 2002).

Cyber bullying, a term for Internet bullying that was coined by Canadian educator Bill Belsey is defined as the targeting of a child or adolescent by another youth using technology (e.g., e-mail, cell phone and pager text messaging, instant messaging, defamatory web sites and polling sites) for the purpose of intentionally humiliating, tormenting, threatening or harassing the individual (http://www.cyberbullying.ca). It is being increasingly used to harm individuals (National Children's Home Study, 2002; Finkelhor, Mitchell, & Wolak, 2000). As with face-to-face bullying, cyber bullying can occur among groups as well as individuals. It is important to note that cyber bullying does not involve adults targeting minors; if adults are involved, it is no longer considered bullying and instead is considered cyber-stalking or sexual exploitation (in the case of adults trying to lure children or adolescents via technology for the purpose of engaging in sexual activities) (Finkelhor et al., 2000).

Since technology is now being used as a vehicle for bullying, serious attention is warranted to investigate the extent and nature of this new form of aggression and the possible psychosocial effects is has on youth. Knowledge gained from the study and exploration of face-to-face bullying has allowed for increased awareness of its effects on both perpetrators and victims and has led to the development of interventions. Cyber

bullying, on the other hand, is a new phenomenon that is little understood. Thus, the purpose of this study was to provide information about the incidence of cyber bullying among middle school students and to examine the psychosocial characteristics of individuals involved in this rapidly increasing type of aggression.

Prevalence/Incidence Rates of Bullying and Victimization:

Face-to-face aggression:

Figures regarding the prevalence of face-to-face bullying/victimization, including relational aggression and victimization, vary because of the methodological differences among data collection procedures (Crick & Grotpeter, 1996; Olweus, 1994). For example, some studies were conducted using questionnaires in self-report surveys while other studies relied on peer and teacher nominations to identify bullies and victims. In addition, small sample sizes, unclear definitions of bullying and victimization, various methods of categorizing bullying and victimization, and differences in response formats have also led to discrepancies in prevalence rates of bullying and victimization (Olweus, 1994). Furthermore, much of the research on bullying has been conducted in Europe and Australia, and considerable variability in the prevalence of bullying/victimization among countries has been reported (Haynie, Nansel, Eitel, Crump, Saylor, Yu, & Simons-Morton, 2001; Nansel et al., 2001).

Because the majority of research on bullying and victimization has been carried out primarily in Europe and Australia (Nansel et al., 2001), less is known about the prevalence of bullying and victimization in the U.S. compared to other countries. Furthermore, it is not known whether research in other nations is characteristic of U.S. youth. Fortunately, within the past decade, increased awareness of the safety issues,

including bullying and victimization, for the nation's youth has prompted more efforts to identify and describe these safety issues (Nansel et al. 2001; National Center for Education Statistics, 1998). Nansel et al. (2001) found that the prevalence of bullying among U.S. youth is substantial, with a total of 29.9% of the sample of 15,586 students in grades 6 through 10 reporting moderate ("sometimes") or frequent ("one a week or more") bullying involvement.

The National Center for Education Statistics (NCES), with the assistance of the Bureau of Justice Statistics (BJS), began reporting on school crime and safety in 1998 after a series of violent incidents, including school shootings, grabbed the attention of society (Markward, Cline, & Markward, 2001; National Center for Education Statistics, 1998). The 2007 report from the NCES indicates that in 2005, 28.6% of students between the ages of 12 and 18 reported that they had been bullied at school or going to and from school during the preceding six months (NCES Indicators of School Crime and Safety: 2007 – Executive Summary). Of this 28.6%, a large percentage of victims were middle school age: 36.6% were 6^{th} graders, 35% were 7^{th} graders, and 30.4% were 8^{th} graders. As grade level increased, the rate of victimization decreased with 19% of 12^{th} graders experiencing bullying. The study did not include cyber bullying or victimization.

Relational aggression:

Approximately a decade ago, studies began to focus on relational aggression and gender differences in various forms of bullying and victimization (Hawker & Boulton, 2000). Studies found that relational aggression was more characteristic of females, but that males were also sometimes involved in this type of peer victimization (Crick & Bigbee, 1998; Crick, Bigbee, & Howes, 1996; Crick & Grotpeter, 1996). Crick and

Grotpeter (1996) also found that both males and females who were involved as bullies or victims in overt and relational types of aggression were at significant risk of future social maladjustment. These studies provided evidence that relational aggression is a salient form of peer victimization. The conceptualization of bullying and victimization was expanded to include relational aggression.

It is possible that relational aggression may be evident in cyber bullying; however, it has yet to be examined in the research. Suggestions are that females may be more likely to engage in cyber bullying because they communicate more regularly on the Internet (Blair, 2003). This report quoted the executive director of a non-profit bullying prevention agency as stating that cyber bullying incidents are "vastly more skewed toward girls" (Blair, 2003, p. 1). In contrast, other studies suggest that males and females communicate equally online and that males are more often involved in cyber bullying (Lenhart, Rainie, & Lewis, 2001; Ybarra & Mitchell, 2004a).

Although bullying is a problem for children of all ages, it appears that it is particularly grave for middle-school age youth (Harris & Petrie, 2002; Haynie et al., 2001; National Center for Education Statistics, 2007). Harris and Petrie (2002) conducted a survey using a sample of 198 eighth grade students to assess the incidence of bullying and victimization at the middle school level. Results indicated that 20.5% of the students reported being bullied less than once a week and 15.5% reported being bullied at least once a week. Verbal aggression and exclusion were more common than physical aggression, with approximately 45 to 50% of students reporting that they had been called names or been teased, 34% had been excluded, and approximately 20% had been threatened or had experienced physical aggression. As pointed out by Harris and Petrie

(2002), adding the trauma of victimization to this already vulnerable time period of adolescence can lead to a "downward spiral" for many youngsters (p. 42). This was illustrated by the example of a bullying situation that ended tragically when a thirteen-year-old female shot herself in front of her classmates; her parents blamed the suicide on her severe depression which they believed was related to chronic mistreatment by fellow students (Bogan, 2002).

Cyber bullying/victimization:

Little is known about the incidence rates or prevalence of cyber bullying. Concerns about this new form of bullying/victimization have escalated in the past five years as evidenced by a letter to the editor that appeared in the July, 2003 issue of the *Journal of the American Academy of Child and Adolescent Psychiatry* indicating that there were currently "no reports in the literature of the use of the Internet as a vehicle for bullying" (Jerome & Segal, 2003, p. 751). This letter further stated that references related to this topic were not found in a Medline search and that only 32 references on "internet bullying" were found when searching the web site http://www.google.com. Although there are still very few empirical studies published about this phenomenon, a current Google search resulted in 230,000 results for the search term cyber bullying and 8.28 million results for the term internet bullying. In addition, the Centers for Disease Control and Prevention (CDC) recently convened a panel in 2006 to discuss issues related to "electronic aggression" (Centers for Disease Control, Youth Violence Prevention, 2007a; http://www.cdc.gov/ncipc/dvp/electronic_aggression). The CDC panel included experts from research universities, public school systems, federal agencies, and non-profit organizations. The results and recommendations from the panel are presented in the 2007

special issue of the *Journal of Adolescent Health* (David-Ferdon & Hertz, 2007a). The overall results indicate that this new form of peer maltreatment is an emerging public health problem that warrants attention and further research. Awareness of Internet bullying and victimization as an emerging problem has increased tremendously within the past several years.

Until very recently, research on cyber bullying/victimization, like the majority of research on face-to-face bullying/victimization, has mostly been conducted in countries other than the U.S. The National Children's Home Study, conducted in Britain in 2002, reported that one in four children experienced bullying on cell phones or on the Internet, with threatening e-mails or text messages and incidences that occurred while in chat rooms being the most reported types of bullying (National Children's Home Study, 2002). Similarly, this form of aggression is becoming an increasing problem among school-age youth in Australia, with 11% of Australian students identifying themselves as cyber bullies and 14% as victims (Beckerman & Nocero, 2003; Campbell & Gardener, 2005) and in Canada, with 3% of adolescents admitting to cyber bullying and almost one-quarter (23%) having been victims of cyber bullying (Beran & Li, 2005). While it is a well known fact that technology has numerous benefits for youth (e.g., providing them with information, social connections, and entertainment), it appears that the benefits can sometimes be overshadowed by the "dark side" of technology (Campbell, 2005, p. 68).

Studies conducted outside the U.S. described incidences of persons sending threatening e-mails or text messages, forwarding confidential e-mails to others to publicly humiliate the original sender, setting up derogatory web sites and inviting comments or

asking classmates to vote on the "sluttiest girl" or the "biggest geek," and being excluded or ostracized in chat rooms, during instant messaging, or in online gaming (Campbell, 2005; Snider & Borel, 2004; Williams, Cheung, & Choi, 2000). Bill Belsey, a father and Canadian educator who studies the growing phenomenon of cyber bullying, described an incident in which a youngster who set up a web site for herself asking people to sign her "guest book" received hurtful e-mails from other females saying that she "should just die" and that "everyone hates her" (Snider & Borel, 2004). Similar incidents were described in which a youngster suffered from depression after she became the target of an online bullying campaign that lasted for three years and a fifteen year-old who was horrified to discover that a web site had been created for the specific purpose of insulting her with abusive remarks about her weight and threatening her, including setting a date for her death (Snider & Borel, 2004).

Research on cyber bullying and victimization in the U.S. is in its infancy. Information about incidences of cyber bullying and victimization are found online and are reported in the media more so than in scholarly journals at this point. Online reports about Internet bullying are being generated by various independent research organizations such as the Pew Internet & American Life Project (Lenhart, Rainie, & Lewis, 2001), and I-Safe (http://www.i-safe.org), a web site which formed in 1998 to protect children while they are on the Internet. In the summary of findings from the 2001 Pew Internet & American Life Project Report on "teenage life online," it was reported that 17 million youth between the ages of 12 through 17 use the Internet on a regular basis (p. 3). Instant messaging and e-mailing are the most popular methods of communicating online**.** Results from the 2004 National i-SAFE survey of 1,566 students in grades 4 through 8 found that

53% of students surveyed revealed that they had bullied others online, with 7% admitting that it happened “quite often” (Carlson, 2004). Almost half of the students (42%) reported that they were victims of online bullying, many having been threatened online (35%). Although exact figures were not reported, the executive director of Child Abuse Prevention Services, a New York nonprofit organization, stated in an interview that in her experience, online bullying is currently a fairly common practice among school-age children that begins at the elementary level and peaks during the middle school grades (Wolf, 2003). Although the National Center for Education Statistics and the Bureau of Justice Statistics began reporting on traditional bullying as an indicator of school crime and safety in 1998, cyber bullying has not been assessed or discussed in any of the publicized annual reports (U. S. Department of Education, 2005).

In addition to independent organizations’ research reports, television news and newspaper reports describing the details of bullying experiences among youth are on the rise. Descriptions of cyber bullying incidences included a middle school girl who was ostracized by peers because of online reports that she had contracted Severe Acute Respiratory Syndrome (SARS) during recent travels, a Japanese youth who had cell phone pictures of him changing in the school locker room posted online, and a web site that was created by classmates for the specific purpose of making fun of a teen who had been bullied for years at school (Leishman, 2005; Paulson, 2003). The web site, which said “welcome to the web site that makes fun of [his name was inserted here],” described him as a pedophile and claimed that he used date rape drugs on little boys. It took his parents seven months of pleading and threats of a lawsuit to get the web site removed from the Internet.

One of the most well-known incidences of cyber bullying involved the Canadian teen who gained notoriety as "the Star Wars kid" after millions of people downloaded a video that one of his classmates had confiscated and posted online of him filming himself acting out a scene from the movie "Star Wars" (Paulson, 2003). For this teen, who filmed himself swinging a golf ball retriever as his light saber, one goofy moment in the privacy of his own home made him the laughingstock of his peers; news reports stated that he dropped out of school for a while and was under psychiatric care.

As recently as June, 2006, a newspaper article published a story about violent threats that were made on a popular socializing web site (http://www.MySpace.com) to a group of students described as "Goths" because of their dark clothing and heavy make-up (Hsuan, 2006). School officials involved law enforcement because of the escalation of the conflict, and some parents kept their children home from school because of safety concerns. While these horror stories may constitute some of the more extreme and publicized examples of cyber bullying, empirical research is beginning to uncover evidence that this form of aggression is becoming a widespread problem for society's youth.

The most in-depth report on online victimization comes from a national telephone survey entitled *Online Victimization: A Report on the Nation's Youth* that was funded by the U.S. Congress through a grant to the National Center for Missing & Exploited Children (Mitchell, Finkelhor, & Wolak, 2000). One of the nation's leading researchers on child victimization, Dr. David Finklehor, led his research team in surveying a national sample of 1,501 young people between the ages of 10 and 17. Among those surveyed in the Youth Internet Safety Survey (YISS), 74% had access to the Internet at home and

19% identified themselves as regular Internet users, which was defined as using the Internet at least once a month within the past six months either at home, school, or some other location. The focus of the study, which took place between August, 1999 and February, 2000, was to assess online victimization of youth, including sexual solicitation, unwanted exposure to sexual material, and online harassment. Harassment was defined as "threats or other offensive behavior (not sexual solicitation), sent online to the youth or posted online about the youth for others to see" (Mitchell et al., 2000, p. x). Threatening behavior included such acts as e-mails threatening to harm the youth or their family or friends, threats to embarrass or humiliate the individual by sending messages about them to other people, or threats to post degrading stories or pictures of them on the Internet. Youth who had parental consent were interviewed over the telephone for 15 to 30 minutes about their online experiences. Results indicated that 6% of youth experienced online harassment, and for about a third of these victims the experiences were described by the individuals as extremely distressing. Five or more symptoms of depression were reported by 18% of the victims at the time of the interview. Results indicated that 28% of victims were able to identify who the perpetrators were. Most of the perpetrators (63%) were other children or adolescents. The primary methods of online harassment were instant messages (33%), chat room exchanges (32%), and e-mails (19%) and most episodes occurred in the individuals' homes. Some of the episodes of online harassment or cyber bullying that were described in the report included the posting of an online "hate page" about a female, the posting of a fourteen-year-old female's note from her boyfriend on a web site and then sending it by e-mail throughout her school, and the posting of a web site that included sexual name-calling of a twelve-year-old female.

Data from the YISS was used to further examine online victimization in several follow-up studies (Mitchell, Finkelhor, & Wolak, 2005; Ybarra & Mitchell, 2004a; Ybarra & Mitchell, 2004b; Ybarra, Alexander, & Mitchell, 2005). Ybarra and Mitchell (2004a) found that among the 19% regular Internet users who were reportedly involved in online aggression within the past year, 12% reported being online aggressors, 4% reported being targets of online aggression, and 3% identified themselves as aggressor/targets. A large percentage (84%) of the aggressors knew their victims while only about 30% of the targets reported knowing the harasser.

A follow-up survey (Online Victimization of Youth: Five Years Later) to the first Youth Internet Safety Survey was recently conducted by the same research team (Wolak, Mitchell, & Finkelhor, 2006). Again, a large sample (n = 1,500) of children and adolescents between the ages of 10 and 17 were interviewed about their Internet experiences (March to June, 2005). Results indicated that the rate of reported Internet harassment increased from 6% in the previous YISS to 9%. The number of youth who reported that they had harassed someone online increased from 14% in the first YISS to 28% in the most recent YISS. Approximately the same percentage (58%) of perpetrators as in the first survey (66%) was other young people. The same percentage (3%) reported that the incidences of online harassment were distressing, and females were more likely (68%) than males (32%) to experience distress, embarrassment, or fear. As in the first survey, many of the harassing incidents had sexual aspects such as spreading sexual rumors or posting explicit photographs of the victims.

As recently as 2006, an exploratory study on the nature and extent of bullying was conducted (Patchin & Hinduja, 2006). This online survey assessed electronic bullying,

including e-mails, cell phone text messages, instant messaging, and online chat room experiences between May 1, 2004 and May 31, 2004 among youth less than 18 years old (n = 384). Findings indicated that 11% of participants admitted to bullying others online, 29% reported being a victim of online bullying, and 47% had witnessed online bullying.

The 2007 special issue of the *Journal of Adolescent Health* provides the most current findings related to a variety of concerns about youth and technology, including cyber bullying and victimization (David-Ferdon & Hertz, 2007a). Kowalski and Limber (2007) conducted a large scale study with a sample of 3,767 middle-school students. Findings revealed that 11% of the students were victims of electronic bullying, 7% were bully/victims, and 4% were bullies within the past two months. Females outnumbered males in each of the categories of bullying and victimization. The results also indicated, however, that 78% of the sample had no experiences with electronic bullying within the past two months. Ybarra, Diener-West, and Leaf (2007) analyzed data from an earlier study and found very little overlap in electronic bullying/victimization and school bullying/victimization. Agatston, Kowalski, and Limber (2007) solicited middle-school and high school students' perspectives on cyber bullying and found that students, particularly females, do believe that cyber bullying is a growing problem. Furthermore, students admitted that although cyber bullying and victimization most often occurs outside the school environment, the impacts carry over into the school setting. The overall consensus from the recent reviews and studies that appeared in the 2007 *Journal of Adolescent Health* (David-Ferdon & Hertz, 2007a, 2007b) indicates that online bullying and victimization is a legitimate issue that calls for action.

Considering the rapid increase in the number of young people accessing the Internet

and the use of technology as a vehicle for bullying, cyber bullying and victimization should also be included in the conceptualization of and research of peer victimization. It is becoming apparent that in addition to positive aspects associated with Internet use for youth, including decreasing loneliness and increasing social support and self-esteem (Morahan-Martin, 1999; Morahon-Martin & Schumacher, 2003; Shaw & Gant, 2002), psychosocial difficulties are also being associated with Internet use among children and adolescents (Moody, 2001; Ybarra & Mitchell, 2004a, Ybarra & Mitchell, 2004b; Ybarra, Alexander, & Mitchell, 2003). Concerns are that, similar to traditional forms of aggression, cyber bullying and victimization may be detrimental to youth development and psychological well-being. This study aimed to expand on the limited research that we have thus far about the psychosocial maladjustment that may be linked to this new form of bullying and victimization using the knowledge gained from past research about traditional bullying/victimization as a guide.

Psychosocial Characteristics/Adjustment:

A reciprocal relationship between peer victimization and psychosocial maladjustment has been suggested by researchers (Boulton & Smith, 1994; Egan & Perry, 1998; Kochenderfer & Ladd, 1996; Olweus, 1993). Results from the few published longitudinal studies that have examined the antecedents and consequences of traditional bullying/victimization suggest that peer victimization may increase vulnerability for psychosocial maladjustment, including internalizing problems, loneliness, and low self-esteem and that certain emotional, social, and behavioral problems may make children and adolescents easy targets for bullying (Egan & Perry, 1998; Hodges & Perry, 1999; Kochenderfer & Ladd, 1996; Nishina, Juvonen, & Witkow, 2005; Schwartz, Dodge, &

Coie, 1993). Certain personalities or adjustment problems, such as low self-esteem, manifest anxiety, and passivity are thought to reinforce victimization (Olweus, 1978; Perry, Kusal, & Perry, 1988). Olweus (1978) identified these passive victims as "whipping boys." (p. 137). It has also been suggested that externalizing problems, such as argumentativeness, disruptive behaviors, and dishonesty may provoke aggressive behaviors toward individuals (Olweus, 1978; Perry et al., 1988). Olweus (1978) described these victims as "provocative whipping boys" because of their tendency to behave in ways that invite or reinforce attacks against them (p. 137). Since no longitudinal studies have focused on cyber bullying, little is known about the possible antecedents and consequences of this new form of bullying. Current knowledge about the psychosocial adjustment associated with bullying and victimization has been generated from research focusing on traditional and relational forms of bullying/victimization.

Face-to-face bullying/victimization:

Numerous studies have demonstrated that bullying and victimization among peers is associated with a wide range of psychosocial adjustment difficulties (Crick & Bigbee, 1998; Harris & Petrie, 2002; Hawker & Boulton, 2000; Lopez & DuBois, 2005; Nansel et al., 2001). Not only are victims of bullying more likely to experience poorer psychosocial adjustment than their non-victimized peers as would be expected, but the perpetrators of bullying behaviors also demonstrate poor social and emotional adjustment (Nansel et. al., 2001). The range of difficulties that have been associated with both bullying and victimization includes internalized distress such as depression, anxiety, increased loneliness, lowered self-esteem, academic problems, and difficulty making friends as well as externalizing problems such as difficulties with impulse control, anger, and

various types of oppositional behaviors (Nansel et al., 2001; Prinstein, Beorgers, & Vernberg, 2001). Thus, it has been well documented in the literature that both bullies and victims are at high risk for psychosocial maladjustment related to their bullying and victimization experiences (Hawker & Boulton, 2000; Kaltiala-Heino, Rimpela, Rantanen, & Rimpela, 2000; Nansel et al., 2001). Except for the few recent studies on cyber bullying, research has focused only on face-to-face and relational aggression.

Perpetrators of Face-to-face/Relational Aggression:

Participation in overt aggression toward others has been well-established in the literature as a "stable and potent predictor of school-age children's social-psychological adjustment" (Prinstein, Boergers, & Vernberg, 2001, p. 479). Although research indicates that internalizing problems are also reported among perpetrators of bullying, externalizing distress is more commonly exhibited (Nansel et al., 2001; Olweus, 1994). Numerous studies have concluded that externalizing characteristics are typical of individuals who engage in bullying because of their highly stable "aggressive reaction patterns" (Olweus, 1978, p.154; 1979, 1980).

Externalizing factors of bullies that have been identified in studies include such behaviors as fighting, stealing, hyperactivity, irritability, drinking, smoking, theft, property damage, and problems with self-control (Haynie et al., 2001; Kumpulainen, Rasanen, Henttonen, Almqvist, Kresanov, Linna, Moilanen, Piha, Puura, & Tamminen, 1998). Based on findings from his numerous cross-sectional, retrospective, and longitudinal studies, Olweus (1995) described bullies as having a strong need for power and control and emphasized that, if the bully is male, he is often physically stronger than most of his peers as well as his victim(s). Children and adolescents who bully have been

described as aggressive, impulsive, hostile, lacking empathy, and dominating (Olweus, 1991, 1995). In addition, adolescents who were both overtly and relationally aggressive toward others experienced more psychosocial maladjustment than those who participated in only one form of aggression (Prinstein, Boergers, & Vernberg, 2001).

In addition to experiencing externalizing symptoms, bullying behavior has also been significantly associated with depression, suicidal ideation, anxiety, and somatic symptoms for males and females (Haynie et al., 2001; Kumpulainen, Rasanen, & Henttonen, 1999; Roland, 2002; Slee, 1995a). Researchers suggests that a lack of social competence and the unstable and negative peer relationships that these individuals experience are strongly associated with the relationship between bullying and internalizing symptoms (Haynie et al., 2001; Slee, 1995b).

Negative consequences that have been associated with bullying often carry over into adulthood (Tritt & Duncan, 1997). A study involving college undergraduates who were self-identified childhood bullies revealed that the levels of reported loneliness that were experienced by these individuals were significantly higher than those reported by the control group of non-involved individuals (Tritt & Duncan, 1997). Tritt and Duncan (1997) found that loneliness in adulthood may be linked to childhood experiences of being bullied. In addition, bullies may be at risk of developing antisocial personalities as adults (Loeber & Dishion, 1983; Olweus, 1993). Olweus (1993) indicated that bullies identified at an early age are four times as likely to be involved in criminal behaviors as adults, with 35 to 40% “having three or more convictions by the age of 24” (p. 36).

In summary, while it might seem difficult to understand why bullies would exhibit emotional problems when they are choosing to behave aggressively toward others and the

bullying seems to be beneficial to them (i.e., they are rewarded by feeling powerful and superior), evidence suggests that bullying is significantly linked to both internalizing and externalizing distress for bullies. Both short and long-term psychosocial maladjustment is cause for alarm. Again, much less is known about the psychosocial characteristics of individuals who engage in online bullying behaviors.

Victims of face-to-face bullying:

The extant research indicates that victims of face-to-face bullying, including relational aggression, are at high risk for experiencing significant levels of psychological distress (Craig, 1998; Hawker & Boulton, 2000; Nansel et al., 2001). The potentially negative effects of peer victimization can be especially harmful during adolescence as this is the developmental stage during which positive peer relationships and support are particularly important aspects of social and emotional well-being (Prinstein et al., 2001). Internalizing distress (e.g., depression, anxiety, loneliness, low self-esteem) has been focused on repeatedly in research on peer victimization; these difficulties have been well-established as having detrimental effects on victims' long-term development (Asher & Wheeler, 1985; Craig, 1998; Crick & Bigbee, 1998; Crick & Grotpeter, 1996; Salmivalli, Kaukiainen, Kaistaniemi, & Lagerspetz, 1999). In addition, externalizing problems such as disruptive and oppositional behaviors that have been associated with victimization also interfere with youth's social and emotional functioning and development (Hanish & Guerra, 2002).

The general consensus in the literature is that victimization is associated with internalizing symptoms more so than with externalizing behaviors (Boulton & Underwood, 1992; Craig, 1998; Haynie et al., 2001; Hawker & Boulton, 2000;

Kumpulainen et al., 1998; Prinstein et al., 2000). Compared to bullies and groups of non-involved youth, victims reported higher levels of depression and anxiety, low self-esteem, increased loneliness, and unhappiness at school (Craig, 1998; Crick & Grotpeter, 1996; Hawker & Boulton, 2000; Rigby & Slee, 1993). Hawker and Boulton's (2000) meta-analysis on cross-sectional studies of peer victimization and psychosocial maladjustment indicated an overall effect size of .45 when share method was taken into account. A clear association between victimization and depression was found. Although few studies have been conducted examining the association between victimization and loneliness, a positive association existed among the five studies analyzed). Overall mean effect sizes for the association between anxiety (generalized and social) and self-esteem (global and social) indicated that an association exists between these constructs and victimization as well, with effect sizes of .25 and .37, respectively, when shared method was taken into account. In summary, the largest effect sizes in the meta-analysis were for depression, the smallest were for anxiety, and effect sizes for loneliness and self-esteem were in between these two constructs.

Depression:

The strong relationship between peer victimization and depression was found in each of the twelve studies that examined this relationship in Hawker and Boulton's (2000) meta-analytic review. Research indicates that children and adolescents who are bullied are most likely to respond with either sadness or anger (Olweus, 1993; Rigby, 1996). According to Rigby (1996), sadness is actually worse for the victim because these individuals are less able to find a way to cope with the situation than individuals who react with anger and may seek ways to stop the bullying. The strong relationship between

victimization and depression highlights the potential deleterious effects that bullying can have on youth.

Of major concern is the relationship between peer victimization and extreme emotional responses such as suicidal ideation, suicide attempts, and completed suicides (Hawker and Boulton, 2000; Rigby, 1997; Rigby & Slee, 1999). While suicide is thought to be determined by multiple factors and causality is difficult to establish in most cases of suicide, research has found that being bullied by peers is significantly associated with suicidal ideation and behaviors (Hawker & Boulton, 2000; Rigby, 1997; Rigby & Slee, 1999). Pfeffer (1990) depicted the potential role of victimization in suicidal ideation in the following statement: "humiliation-feelings of disgrace and public disparagement may shatter a youngster's healthy sense of narcissism and sense of identity, and loss of a basic sense of one's worthwhileness is a powerful force to increase thoughts of self-annihilation" (p. 81). Experiencing repeated bullying has been identified as one of the most critical factors in precipitating suicidal ideation (Hawker & Boulton, 2000; Pfeffer, 1990; Rigby & Slee, 1999). A qualitative component from an Australian survey of secondary school students illustrated the devastation that victims of bullying often feel: "depressed and lonely;" "makes me feel bad about myself;" "wish I was dead;" and "getting very depressed, staying home, vomiting, attempting suicide" (Rigby, Slee, Martin, & Cunningham, 1996). It is not uncommon in the research literature and in the media for peer victimization to be linked to accounts of attempted or completed suicides (Bogan, 2002; Olweus, 1993; Rigby, 1997).

Anxiety:

An increased level of anxiety is sometimes associated with peer victimization as well.

For example, a study that compared health differences of children who were identified as being frequently bullied with their non-bullied peers revealed that symptoms such as worrying, loss of sleep, anxiety, and feeling panicky were significantly more common for victims than non-victims (Rigby, 1996). General and social anxiety was found to be positively correlated with victimization for traditional and relational aggression (Crick & Grotpeter, 1996; Storch & Masia-Warner, 2004). Experiencing general and social anxiety is thought to be related to victims' fears of negative evaluation by peers, which is then followed by social avoidance. Peer victimization has also been found to result in victims feeling unsafe at school and lead to increased absenteeism (Slee, 1994).

Loneliness:

It is not surprising that loneliness would be a common characteristic of victimized youth given that the research has found that victimized children and adolescents have an array of interpersonal problems, including social skills deficits, social anxiety, and a tendency for negative self-evaluation (Callahan & Joseph, 1995; Craig, 1998; Hodges & Perry, 1999; Nishina, Juvonen, & Witkow, 2005; Olweus, 1993; Storch & Masia-Warner, 2004). Research describes victims of bullying as sometimes becoming socially anxious and socially avoidant, which compromises their ability to form relationships. Hodges and Perry (1999) described a cycle in which rejected peers, who are likely to be alone more often, become "salient" targets for bullies (p. 683). Olweus (1994) described the typical victims of bullying as "lonely and abandoned" individuals who often "do not have a single good friend in their class" (p. 1179).

Crick and Grotpeter (1996) found that relational aggression added significantly to the prediction of loneliness beyond that of overt aggression which suggests that peer

victimization that is specifically directed toward damaging relationships may be particularly detrimental to the psychological well-being of youth. In fact, Prinstein et al. (2001) found that relational aggression was the most consistent predictor of loneliness for males and females. Although intuitively it seems that online bullying would be similarly associated with feelings of loneliness by the victim for the same reasons as other forms of bullying (i.e. fear of negative evaluation by peers because of experiences of online bullying, becoming socially anxious or avoidant due to an experience with online bullying), we can only speculate until research addresses this issue.

Self-Esteem:

The effect of peer victimization on self-esteem is also a tremendous area of concern in terms of the psychological well-being of youth (Perry et al., 1988). Studies have documented that peer victimization is consistently and significantly negatively correlated with self esteem (Austin & Joseph, 1996; Boulton & Smith, 1994; Egan & Perry, 1998; Rigby & Slee, 1991; Salmivalli et al., 1999; Sharp, 1996). Egan and Perry (1998) stressed the importance of self-esteem for psychological well-being and emphasized that for victimized youth, feeling socially inept, disliked, and friendless can lead to extreme stress and emotional dysregulation. In addition, low self-esteem related to victimization may carry over into adulthood (Olweus, 1993; Tritt & Duncan, 1997).

Thus, it appears that for victims of both face-to-face (i.e., traditional or conventional bullying) and relational aggression, a plethora of research suggests that victimization may lead to internalizing distress such as loneliness, depression, anxiety, and low self-esteem or to the development of externalizing behaviors such as problems with self-control and other oppositional behaviors. Although results are mixed in terms of the forms of

maladjustment that are most commonly seen in males and females, it has been well-established that both genders are at risk when victimized by bullying (Crick, Bigbee, & Howes, 1996; Crick & Grotpeter, 1995). Furthermore, individuals who are victims of bullying and also engage in bullying toward others are at significantly greater risk for experiencing both internalizing and externalizing distress (Haynie, et al., 2001).

Bully/Victims:

Individuals who are bully/victims have been referred to as the most "disturbed group" because of their higher levels of psychosocial maladjustment and behavior problems, including high levels of depression and problem behaviors such as low self-control and social competence, and poorer school functioning than either the bully group or the victim group (Austin & Joseph, 1996; Haynie et al., 2001; Kumpulainen et al., 1999; Nansel et al., 2001). Further evidence of the greater risk of psychosocial maladjustment among bully/victims was indicated by reports of poorer relationships with classmates, increased loneliness, and an increased risk of smoking and alcohol use for some age groups (e.g., smoking for middle school youth and alcohol consumption for high school youth) (Nansel et al., 2001).

Also at elevated risk of psychosocial maladjustment are individuals who experience more than one type of aggression (Crick, Bigbee, & Howes, 1996; Crick & Grotpeter, 1996). Research indicates that the most severely maladjusted adolescents were the individuals who were victimized by peers through multiple forms of aggression, including physical, verbal, and relational. It is likely that experiencing cyber bullying along with one or more of these other forms would also put victims at higher risk for psychosocial maladjustment.

Cyber bullying/victimization:

Very little is known about the psychosocial risks of involvement in this form of aggression on bullies or victims. The few studies that have been conducted suggest that, similar to face-to-face bullying, there is a strong link between cyber bullying and psychosocial maladjustment for both bullies and victims (Finkelhor, Mitchell, & Wolak, 2000; Williams, Cheung, & Choi, 2000; Ybarra & Mitchell, 2004a; Ybarra & Mitchell, 2004b; Ybarra, Alexander, & Mitchell, 2003). Based on the extensive past research indicating that significant deleterious effects on youth's psychological well-being are associated with peer victimization, it is imperative that the characteristics of and potential risks for youth who are involved in this new form of aggression are better understood.

This study aimed to increase awareness about cyber bullying such that parents, educators, and mental health professionals can development appropriate intervention and prevention strategies and policies. This new form of aggression is expanding so rapidly that it appears that researchers, educators, parents, and even law enforcement officials are not able to keep abreast of it. For example, law enforcement officials feel that their hands are tied unless the bullying includes death threats, and educators are often reactive rather than proactive when it comes to Internet bullying problems that spread into the school environment. In addition, many people in society continue to ignore or at least minimize the seriousness of bullying and victimization on youth, including this new form of aggression.

Victims of cyber bullying:

While the research is painfully clear that peer victimization is strongly associated with psychosocial maladjustment, we do not know whether the evidence can be applied to this

new form of peer victimization. What is known so far about cyber bullying is that many victims of online bullying find the experiences very distressing. Finkelhor, Mitchell, and Wolak (2000) reported on the results of the YISS, stating that 31% of the harassment episodes that were reported were "very or extremely upsetting," 19% were "extremely frightening," and 18% were "very or extremely embarrassing" (p. 21). Examples of symptoms of stress related to the experiences of cyber harassment included victims' reports of feeling irritable, losing interest in things, and not being able to stop thinking about the incident. A follow-up analysis of the results from the YISS indicated that depressive symptomatology was significantly related to experiencing online harassment (Ybarra, 2004b). In fact, 13.4% of the identified victims of online harassment reported experiencing one or more symptoms of major depression as defined by the *Diagnostic and Statistical Manual of Mental Disorders IV-TR (DSM-IV)*, including functional impairment in at least one area (school/work, personal hygiene, or self-efficacy) compared to 4.6% of youth who reported major depressive symptomatology but had not been targeted online (American Psychiatric Association, 2000, Ybarra, Alexander, & Mitchell, 2003). Interestingly, eight times more males than females experienced both online harassment and depressive symptomatology (Ybarra, 2004b).

Further evidence that youth find this new form of peer maltreatment disturbing was provided in a press release on August 17, 2006 from the Fight Crime Organization (www.fightcrime.org) which is a national, non-profit organization that focuses on crime prevention for youth. Findings from a poll of 1,000 children nationwide revealed that one third of teens ages 12 to 17 were bullied online (e.g., had embarrassing or threatening messages sent to them online). Teens reported feeling scared, hurt and confused and

approximate 25% of the teens and younger children surveyed reported feeling worried about bullying as the new school year began.

In contrast to traditional bullying/victimization research, more anecdotal evidence of the emotional effects of online victimization is available than empirical evidence. Many victims who have been interviewed in the media about the effects of their experiences report that cyber bullying is more devastating than face-to-face confrontations because of the wider audience on the Internet and because they feel violated in their own homes. Some victims have also indicated that emotional and psychological abuse is much more difficult to recover from than physical pain (Blair, 2003; Leishman, 2005)**.** Victims may feel that there is no way to escape this type of abuse because using the Internet is such an integral part of their lives for doing homework, for entertainment and as a "social lifeline" (Snider & Borel, 2004). Many victims do not report incidences of cyber bullying to an adult because they feel that adults are unable to stop the bullying, and many teens worry that reporting may result in the loss of their Internet privileges. Emotional responses reported by victims included feeling humiliated, confused, frightened to go to school, depressed, isolated, and suicidal (Leishman, 2002; Cyber-bullying Growing, 2005).

Some believe that the sequelae of cyber bullying are indeed potentially devastating and harmful. If one thirteen year old boy's classmates had taken his suicidal threats (which were made online after months of being bullied online and at school) seriously, he may be alive today (Cyber-bullying Growing 2005). According to the teen's father, "conversations" that his son had written on the Internet about the bullying and his suicidal threats were found after his death. His father also discovered that his classmates

"thought he was joking" about killing himself. It appears that media reports are far ahead of empirical research in their efforts to increase public awareness of the extensive emotional suffering that is linked to cyber bullying.

Further evidence supporting the need for research on this topic is the fact that mental health professionals are beginning to see clients who are facing a wide range of problems related to Internet use, including Internet harassment (e.g., posting defamatory or embarrassing information about others, impersonating others, stalking, threatening violence, or being emotionally abusive) (Mitchell, Becker-Blease, & Finkelhor, 2005). These researchers reported on results from a Survey of Internet Mental Health Issues (SIMHI) in 2003 indicated that 10% of the problematic Internet cases seen by mental health professional participants were related to Internet harassment. Approximately one-half of the clients who were identified as being victims of Internet harassment were under the age of 18 and many reported that the harassment they experienced had an underlying sexual component and were extensions of harassment that occurred at school. As stated by Snider and Borel (2004) "whether it occurs on the school yard or online, bullying is about power and control" and "getting slammed on a web site can be just as bruising as getting slammed against the playground wall" (p.1).

Cyber bullies:

In some ways cyber bullying seems similar to face-to-face bullying in that targets are being threatened, teased, ridiculed, and humiliated. In other ways, however, what is happening on the Internet may be much worse. For example, with face-to-face bullying, a smaller group of people may be involved, either as perpetrators or bystanders, whereas on the Internet, the click of a key can send nasty rumors, embarrassing photos, or hate mail

to a large number of people. Screen names and web sites allow bullies to hide behind the mask of anonymity, making their aggressive behaviors difficult to trace. Furthermore, individuals who may be hesitant or afraid to say hurtful things or make threatening remarks to someone face-to-face may be more apt to engage in these types of behaviors online.

Explanatory models that have been proposed regarding bullying behaviors, including the highly supported dominance theory (Olweus, 1993, 1994, 1995; Pelligrini 2002), may also apply to Internet bullying. According to the dominance theory, a need for dominance and control is highly related to bullying behaviors. Olweus (1994) described the typical bully as having an "aggression reaction pattern combined, in the case of boys, with physical strength" (p. 1180). However, Olweus (1994) points out that dominance does not always involve physical strength; dominance or leadership status may also be established through verbal abuse, threats, and other intimidating behaviors (e.g., sexually aversive behaviors) that are motivated by the individual's need for power, control and social status. Thus, for some individuals, the Internet may simply be another venue for dominating others.

In addition, because Internet bullying does not require physical strength, it may be a way for individuals who would not normally engage in physically aggressive behaviors to gain power and control over others. Similar to face-to-face bullying, Internet bullying may be a way in which individuals seek to secure higher social status, especially if the online bullying is observed by peers. For example, Pellegrini (1998) pointed out that face-to-face victims sometimes imitate bullying behaviors with less dominant peers. Thus, victims of face-to-face bullying may find the Internet a way to dominate others or

to retaliate against their perpetrators in order to regain power and control.

The role of self-esteem in traditional bullying has been extensively studied; however, the relationship between self-esteem and cyber bullying has not yet been examined. It has been widely proclaimed and well supported that victims of traditional bullying have low or unstable self-esteem compared to non-bullied individuals (Boulton & Smith, 1994; Egan & Perry, 1998; Grills & Ollendick, 2002; Lopez & DuBois, 2005; Olweus, 1994; Prinstein, Beorgers, & Vernberg, 2001). In contrast, traditional bullies have, by and large, been shown to have average or even above average self-esteem (Olweus, 1991; 1994; Rigby & Slee, 1993). The relationship between cyber bullying and self-esteem may be similar to that of traditional bullying and self-esteem. For example, the research on traditional bullying has found that certain aspects of self-esteem such as high defensive egotism (i.e., grandiose, self-enhancing attitude and defensiveness in response to criticism) are significantly related to aggressive behaviors (Machek, 2004; Salmivalli, Kaukiainen, Kaistaniemi, & Lagerspetz, 1999). This may also be true of cyber bullying. In other words, cyber bullies may be similar to face-to-face bullies who are commonly characterized as having maladaptive self-esteem (e.g., defensive egotism, implicit self-esteem, narcissism, defensive self-enhancement) that is strongly linked to aggression (Baumeister, Campbell, Krueger, & Vohl, 2003; Baumeister, Smart, & Boden, 1996; Machek, 2004; Raskin, Novacek, & Hogan, 1991; Salmivalli, Kaukiainen, Kaistaniemi, & Lagerspetz, 1999). Cyber bullies may also use aggressive behaviors on the Internet or cell phone as a way to restore, regulate, or enhance their self-esteem, a strategy that has been suggested in the literature on face-to-face bullying behaviors (Rigby & Slee, 1993; Sammivalli, Kaukiainen, Kaistaniemi, & Lagerspetz, 1999).

Cyber bullying may also be the result of a defensive response to being victimized either face-to-face or through the Internet. This type of aggressive behavior, which is called reactive aggression, has been differentiated in the traditional bullying literature from the goal-directed, deliberate aggression known as proactive aggression (Camodeca, Goossens, Terwogt, & Schuengel, 2002; Machek, 2004; Pellegrini, Bartini, & Brooks, 1999). Pellegrini at al. (1999) found significantly high emotionality among reactive aggressive victims and described reactive aggression as a "retaliatory, protective response to being bullied" (p. 223). Thus, as described in the literature on face-to-face bullying and victimization, reactive aggression through the use of technology may be viewed as a maladaptive way to counter bullying.

The ability to remain anonymous and the lack of direct repercussions may lead to reduced inhibitions and social constraints making the Internet "fertile territory" for engaging in hostile and malicious behaviors (Mitchell, Finkelhor, & Wolak, 2003, p. 9). It has also been suggested that the anonymity that is available with online bullying is related to de-individuation which may result in a weakened ability to regulate emotions and behaviors among perpetrators (McKenna & Bargh, 2000). De-individuation may also increase the tendency to react to situations based on emotional state without thinking through the potential consequences of behaviors as well as reduce awareness and/or concern of how behaviors may be affecting others. De-individuation may lead to impulsivity, disinhibition, and a lack of empathy which may increase the tendency to bully others in cyberspace. As one student put it, "on the Internet, you don't have to see their face….you don't have to look in their eyes and see their hurt" (Leishman, 2005, p. 4). Also, the adult presence that may serve to inhibit acts of aggression in traditional

forms of bullying is less likely to occur with online bullying, so this type of aggression may be less restrained by external oversight and contingencies. Finally, youth and adults may minimize or underestimate the ramifications of cyber bullying because the harm that is being inflicted on the victim may go undetected. Further research is needed to provide more information about the perpetrators of online aggression.

The same vulnerabilities that have been identified for victims of face-to-face bullying may also apply to victims of cyber bullying. Children and adolescents with certain personalities or who exhibit social, emotional, and/or behavioral problems may be targeted online instead of or in addition to face-to-face. Research has also shown that children who have been victimized in one environment are more likely to be targeted in other environments as well, such as different classroom or even if they move to a different school or town (Kumpulainen et al., 1999; Olweus, 1979; Perry et al., 1988). Therefore, a young person who has been victimized in one context (i.e. at school) may be more likely to be targeted in other contexts (e.g., on the Internet).

Cyber bully/victims:

It appears that youth who bully others online are often victims of online bullying as well. This was evidenced in Patchin and Hinduja's (2004) study which found that among their sample of youth under 18 years of age ($N = 384$), 11% had bullied others online, 29% were victims of online bullying and 75% of the online bullies were also victims. Responses to the online victimization included feeling frustrated, angry, and sad. Indications are that, similar to traditional bully/victims, youth who are both online aggressors and online targets have the poorest psychosocial functioning (e.g., depressive symptoms, parent-child relationship problems) compared to online victims-only and

online aggressors-only (Ybarra & Mitchell, 2004a). In fact, aggressor/targets of online bullying were "almost six times as likely to report emotional distress" compared to victim-only youth (Ybarra & Mitchell, 2004a). Although the research on cyber bullying and victimization is minimal, the evidence thus far suggests that, as with other forms of aggression, these experiences are emotionally distressing for some involved individuals.

Although it seems plausible that, similar to traditional bullying and victimization, cyber bullying and victimization would have long-lasting effects on children and adolescents, few empirical studies have focused on the psychosocial adjustment of this population. While a few studies have found that a relationships exists between depression and online victimization (Finkelhor, Mitchell, & Wolak, 2000, Ybarra, 2004b), the potential connection between online victimization and anxiety, loneliness, and low self-esteem have not been investigated. Peer victimization is thought to be a precursor to anxiety for children and adolescents that carries over into adulthood (Craig, 1998; Kumpulainen et al., 1999; Olweus, 1993). The cycle described previously in which victimization is related to anxiety and avoidance may occur with cyber bullying much in the same way that it does with face-to-face bullying. The ability to develop and maintain relationships is further compromised as a result.

Research evidence also supports a relationship between peer rejection and loneliness (Olweus, 1993, 1994). Since bullying can sometimes be an extreme form of peer rejection, it follows that loneliness may be highly related to being victimized by peers, whether it occurs face-to-face or online. Similarly, peer victimization has been found to have direct negative consequences on children and adolescents' self esteem (Grills & Ollendick, 2002; Lopez & DuBois, 2005). A retrospective study indicated that a

relationship exists between face-to-face peer victimization during childhood and low self-esteem and loneliness as adults (Tritt & Duncan, 1997). It seems highly plausible that victims of cyber bullying may also be at risk for experiencing loneliness and decreased self-esteem. The pathway that is suggested is that peer victimization is related to negative self-evaluation among victims which leads to withdrawal, isolation (i.e. loneliness) and lowered self-esteem (Lopez & DuBois, 2005). This pathway results in heightened vulnerability to social and emotional problems, including depression and anxiety. Thus, a better understanding of the relationships between psychosocial variables such as loneliness, self-esteem, and internalizing distress and online victimization would have important implications for intervention strategies.

The current study focused on the psychosocial constructs of depression, anxiety, loneliness, self-esteem, and externalizing symptoms such as aggression and rule-breaking behaviors that have been strongly linked in the research to peer victimization. The expectation was that adolescents victimized by cyber bullying would follow patterns similar to victims of face-to-face bullying in terms of exhibiting more internalizing distress than externalizing distress. Based on various pathways suggested by researchers, depression, anxiety, loneliness, and low self-esteem are each contributing factors to overall maladjustment related to peer victimization (Boivin, Hymel, & Bukowski, 1995; Egan & Perry, 1998; Hawker & Boulton, 2000).

It has even been suggested in some studies that self-esteem and loneliness may serve as mediating factors for anxiety and depression (Boivin et al., 1995; Grills & Ollendick, 2002: Lopez & DuBois, 2005). Given the importance of low self-esteem as both a vulnerability factor as well as a common negative outcome of face-to-face victimization,

it is important to assess this construct in regards to cyber bullying/victimization. Should self-esteem be found to correlate significantly with cyber victim status, a focus on increasing self-esteem for individuals at risk for online victimization should be included in intervention and prevention strategies. It is expected that adolescents who are victimized face-to-face as well as on the Internet would be especially vulnerable to decreased self-esteem (more so than those who are victimized only in one format) given that they are victimized in more than one setting.

Lonely children and adolescents are at elevated risk for depressed mood; it has been well-established that victimization puts individuals at risk for loneliness related to negative peer relationships, negative peer evaluations, and negative self-evaluations (Lopez & DuBois, 2005). Therefore, loneliness is also an important construct to examine in relation to cyber bullying/victimization. Examination of these important psychosocial characteristics among youth involved in cyber bullying/ victimization provides a better understand the relationship between this type of aggression/victimization and psychosocial adjustment. Similar to face-to-face bullying and victimization, individuals involved in cyber bullying as victims are likely to be less well adjusted than non-involved individuals.

Although the psychosocial characteristics of online bullies were examined as well, the primary focus of the study was to provide a better understanding of the experiences of victims of cyber bullying. The plight of this group of individuals is of particular concern because of the fact that approximately 50% of the youth who reported that they were involved in cyber bullying/victimization as “aggressor/targets” and 44% of them who were “targets” also indicated that they were targets of face-to-face bullying (Ybarra &

Mitchell, 2004a, p. 1313). This indicates that cyber bullying may be "an extension of the schoolyard, with victimization continuing after the bell and on onto the night" (Ybarra & Mitchell, 2004a, p. 1313). It makes sense that the individuals who are victims of both cyber bullying and face-to-face bullying would potentially be at elevated risk for psychosocial maladjustment; however, this has not been a focus in past research. Therefore, it is thought that this unique group of victims would exhibit poorer psychosocial adjustment than victims of one type of bullying, either online or face-to-face.

In summary, the purpose of the study included 1) exploration of the incidence rates of cyber bullying and victimization among a rural sample of middle school age youth, 2) further examination of the likelihood that adolescents who are engaging in face-to-face bullying are also engaging in online bullying, 3) examining the likelihood that victims of face-to-face bullying are engaging in online bullying, 4) examining the likelihood that victims of face-to-face bullying are also being victimized online, 5) examining gender differences in cyber bullying/victimization, 6) examining the psychosocial characteristics, including depression, anxiety, loneliness, peer and global self-esteem, and externalizing symptoms among victims, bullies, and bully/victims involved in cyber bullying/victimization to determine if, similar to involvement in face-to-face bullying/victimization, psychosocial maladjustment is related to cyber bullying/victimization, 7) examining the relative contribution of psychosocial variables, including internalizing symptoms, externalizing symptoms, loneliness, and peer and global self-esteem in predicting cyber victim status and 8) investigating the psychosocial characteristics of the unique group of individuals who are victims of both cyber bullying

and face-to-face bullying.

Hypotheses

1) Adolescents who engage in face-to-face bullying (e.g., physical, verbal, relational aggression) are more likely to engage in cyber bullying than adolescents who do not engage in traditional bullying.
2) Adolescents who are victims of face-to-face bullying are also more likely to engage in bullying others online (i.e., cyber bully) than individuals who are not victims of face-to-face bullying.
3) Adolescents who are victims of face-to-face bullying (e.g., physical, verbal, relational aggression) are more likely to be victims of cyber bullying than adolescents who are not victims of face-to-face bullying.
4) Both males and females will be involved in cyber bullying as bullies, victims, and bully/victims, but it is predicted that females will be more likely than males to be involved as cyber bullies, victims, and bully/victims because it is a more indirect form of peer aggression.
5) Adolescents who are involved in cyber bullying as bullies, victims, or bully/victims will exhibit poorer psychosocial adjustment as indicated by scores on the psychosocial measures of internalizing symptoms (depression, anxiety, and withdrawal), externalizing behaviors (aggression and delinquent behaviors), loneliness, and self-esteem than adolescents who are not involved in cyber bullying as bullies, victims, or bully/victims.
6) Adolescents who are both victims of cyber bullying and perpetrators of cyber bullying will exhibit poorer psychosocial adjustment as indicated by scores on the

psychosocial measures of internalizing distress (depression, anxiety, withdrawal), externalizing distress (aggression and delinquent behaviors), loneliness, and self-esteem than adolescents who are either victims or bullies, but not both.

7) Adolescents who are victims of both traditional bullying and cyber bullying will exhibit poorer psychosocial characteristics than victims who experience one form of bullying, either traditional or cyber bullying.
8) While depression has been strongly associated with face-to-face victimization, it is predicted that loneliness and self-esteem will be the strongest predictors of cyber victim status. Loneliness and self-esteem are thought to be predictors for cyber victimization as this form of victimization may target individuals who spend time on the Internet as a way of increasing social connectivity that may otherwise be lacking in their lives. In addition, it is thought that loneliness as well as low self-esteem may play a role in preventing cyber victims from disengaging from online social interactions that are harming them psychologically.

Method

Participants

Participants were sixth, seventh, and eighth grade males and females from four middle schools within a fifty mile radius of a mid-size town in the Rocky Mountain West who were given written consent by their parents or legal guardians and who also provided written assent to participate. Participation was voluntary and of the 584 middle school students enrolled in these four schools at the time of the study (February and March, 2007), 219 agreed to participate in the study. These students were informed that they could withdraw participation at any time during the study without consequence. Verbal

consent to conduct the study was given by each of the principals or superintendents of each of the participating schools, with the understanding that feedback would be provided to school officials regarding the aggregated results of incident rates and any significant associations among psychosocial variables and bully/victimization status. The study was approved by The University of Montana Institutional Review Board and data collection occurred in March, 2007.

Setting

The four middle schools that participated in the study were located between approximately five to fifty miles from a mid-size rural town in the northwest United States. The total enrollment of sixth, seventh and eighth graders in the four schools ranged from 106 to 182 and the numbers within each grade level for each of the four schools were fairly evenly distributed at around 30-35% for each grade level. The one exception to this was one school in which 44% of the middle-school students were in sixth grade, 25% were in seventh grade and 31% were in eighth grade.

Measures

Demographic Information: Parents were asked to fill out a demographic questionnaire (Appendix A) that was developed by the primary investigator specifically for this study regarding their child's Internet use, including how often their child uses the Internet on a weekly basis (e.g., not at all, 1-3 times a week, 4-6 times a week, every day,) the number of hours their child uses the Internet daily (e.g., less than an hour a day, 2-3 hours a day, more than 6 hours a day), and the types of activities in which their child engages during their time on the Internet (e.g., homework, chat rooms, online games). Parents were also asked to indicate whether or not their child has a cell phone and if so, to indicate whether

or not, their child sends and receives text messages.

Students were asked to complete a brief questionnaire (Appendix B) that was also developed for this study that included gender, age, grade level and race. Students were also asked the same questions as their parents regarding their daily and weekly Internet use and in which types of online activities they engage. In addition, students were asked to indicate whether or not they have a cell phone and whether or not they send or receive text messages.

Bullying/Victimization assessment: Face-to-face and cyber bullying and victimization was assessed using a Bullying/Victimization Questionnaire (Appendix C) that included some questions from the Peer Victimization Questionnaire (PVQ), additional questions that were developed by the researcher to assess face-to-face bullying and victimization, and questions that were also developed by the researcher to specifically assess cyber bullying and victimization. The PVQ is a 21-item, multidimensional self-report measure designed to tap face-to-face peer victimization among youth (Lopez, 1997). Internal consistency reliability for total frequency scores on the peer victimization items of the PVQ generated among a sample of 238, 6th and 7th graders was reported as .91. The Bullying/Victimization Questionnaire used for this study also assessed frequency of face-to-face and cyber bullying and victimization and the individual's perceived impact of endorsed incidents (i.e., students were asked *how much were you bothered by the incident*, with response choices of *none, some,* and *very* much). The Bullying/Victimization Questionnaire assessed involvement of participants in any of the following bullying/victimization behaviors since the beginning of the school year in September, 2006 (a six-month time frame as data collection occurred in the beginning of

March, 2007): face-to-face bullying (FFB), face-to-face victimization (FFV), cyber bullying (CB), and cyber victimization (CV). The questionnaire includes 54 items (thirteen face-to-face bullying questions, thirteen face-to-face victimization questions, fourteen cyber bullying questions, and fourteen cyber victimization questions). Each question required a yes or no response to the behavior in question, a response regarding the frequency of the endorsed behavior (e.g., 1-2 times, once a week, daily) and the participant's perception of how bothersome the behavior was for them. Estimated internal consistency reliability for scores generated from responses to the questions on the Bullying/Victimization Questionnaire for this sample was α=.90. Questions were asked about such acts of aggression as physical contact, stealing from others, threats of physical harm, and more indirect, relational forms of aggression such as excluding others from events or spreading lies or rumors about others.

Psychosocial Adjustment Variables:

Externalizing symptoms, internalizing symptoms, and total problems (overall behavioral and emotional functioning): The 2001 revised Youth Self Report (YSR), which was developed by Achenbach (1991) was used to assess the psychosocial characteristics of participants. It was designed for use among adolescents between the ages of 11 and 18 who have a mental age of at least 10 years and fifth grade reading skills. It contains two sub-areas: 1) 20 items measure the child's participation in hobbies, chores, friendships, and so forth and 2) 112 items measure eight sub-scale symptoms: withdrawn, somatic complaints, anxiety and depression, social problems, thought problems, attention problems, aggressive behaviors, and delinquent behaviors. Two broad groupings of syndromes are designated as Internalizing (withdrawn, somatic complaints,

and anxiety/depression scales) and Externalizing (aggressive behaviors and delinquent behaviors). Response choices are 0 (*not true*), 1 (*somewhat or sometimes true*) and 2 (*very true or often true*). The Internalizing score is the sum of the items on the three Internalizing scales and the Externalizing score is the sum of the items on the two Externalizing scales. A Total Problems score, which is the sum of all scales, measures overall behavioral and emotional functioning. Scores on the Internalization scale, the Externalization scale, and the Total Problem scale were used for this study. Score reliability was assessed by Achenbach (1991) using a sample of adolescent males and females with a modal age of 16. Internal consistency reliability for scores generated on the social problems scale, the externalizing problems scale, and the internalizing problems scale were reported as α = .68, .89 and .91, respectively. Test-retest over a seven day interval for scores on the problem scale was .65 for 11 to 14 year olds and .83 for 15 to 18 year olds. The psychometric properties for this measure have been well-established for ages 11 to18; thus, reliability of scores generated from this study sample of 11-14 year olds was not analyzed. The Youth Self-Report is copy-righted; thus, a copy of the measure was not included in the appendices.

Loneliness: Loneliness was assessed using the Children's Loneliness Questionnaire (CLQ), which was developed by Asher and Wheeler (1985). This 24-item measure (Appendix D) focuses on children's feelings of loneliness, social inadequacy, and subjective estimations of peer status (16 items) and contains filler items that ask about hobbies and other activities (8 items). Item responses range from 1 (*that's always true about me*) to 5 (*that's not true about me*). Scores for the 16 primary items are totaled producing a potential score range of 16-80. Items 6, 9, 12, 14, 17, 18, 20, 21, and 24 are

reverse scored. Higher scores reflect more loneliness. Internal consistency reliability was established (α=.90) for the 16 primary items using a sample of third through sixth grade students. The internal consistency reliability for scores generated on this study sample was α = .90.

Self-Esteem: Self-esteem was measured using the 28-item Self-Esteem Questionnaire-Short Form (SEQ-SF). The original Self-Esteem Questionnaire (Appendix E) was developed by DuBois, Felner, Brand, Phillips, and Lease (1996) and it includes 42 items. The SEQ-SF, which includes 28 items, was developed after fourteen items that were on the original SEQ were deleted due to "low item-total alpha correlation" (D. L. DuBois, personal communication, June, 2007). The SEQ and the SEQ-SF are designed to assess the dimensions of self-esteem that are consistent with the developmental-ecological perspective that includes major ecological contexts of adolescent development (i.e., peer, family, school) and other salient domains of experience with adolescents (i.e., sports/athletics and body image). It also assesses overall feelings of self-worth (i.e., global self-esteem). The sub-scales for assessing peer self-esteem and global self-esteem were chosen for this study as peer self-esteem is most likely to be related to adolescents' perception of their relationships with peers and negative effects on overall self-worth has been emphasized as a potential consequence of face-to-face bullying and victimization (Egan & Perry, 1998; Hawker & Boulton, 2000; Nishina, Juvonen, & Witkow, 2005). The peer subscale included items 1, 7, 13, and 19. The global self-esteem subscale included items 6, 12, 18, and 28. Response choices for each item are as follows: *strongly disagree, disagree, agree, and strongly agree*. Each item is scored one to four with higher scores indicating higher self-esteem on each of the domains. Score reliability for the SEQ

was assessed using a large sample of students in grades 5 through 8 and a large sample of students in grades 7 through 9 and strong internal consistency reliability (α = .86 and α = .81-.92, respectively) was found (DuBois et al., 1996). Score reliability for the SEQ-SF is in the preliminary stages. A study is currently being conducted using a large sample of students who are completing the measure at five points in time during grades 3 through 5; preliminary results indicated strong internal consistency for the six domains of the SEQ-SF as follows: α = .77-.80 for peer, school, family, appearance, sports/athletics, and global self-esteem (D. L. DuBois, personal communication, June, 2007). A reliability analysis was performed for this study sample and results indicated strong internal consistency (α = .81) for the peer items and for the global self-esteem items (α = .79).

Procedure

The primary investigator met with all of the middle school students in each of the four schools several weeks prior to the day of the study. The meeting was held either in individual classrooms or in an assembly format. The specifics of the study were explained to students as was confidentiality. In addition, students were informed about the protocol of referring students who endorsed experiencing suicidal thoughts or intentions to the school counselor. A packet of forms, which included an information sheet about the study (Appendix F), a letter to parents (Appendix G) explaining the study, the procedures that would be used to ensure confidentiality and information about who they should contact with questions regarding the study, a parental consent form (Appendix H), and the Internet and cell phone information form that parents were asked to complete, was distributed to students at this time. The letter to parents also explained that the results of the study would be aggregated and that no information would become

part of their student's file or affect students in any way. Students were asked to return the forms within two weeks. A week after the forms were due, notes were sent home with students reminding parents to turn in the forms if they had not already done so.

The consent form asked parents to state in writing whether or not their child would be allowed to participate in the study. Parents were instructed to place all of the forms back in the manila envelope, seal it, and have their child return it to the teacher. Each of the manila envelopes was number coded and each of the forms in the packet, including the Internet information form and the parental consent form were given the same number code. The signed consent forms and Internet information sheets were locked in separate file cabinets and only the primary investigator and project supervisor had access to this information. A master list of participant's names was created so that the number that was on the parental consent form and Internet information sheet could be matched to the number on each student's information form (i.e., assent form, demographic and Internet/cell phone information sheet, and measures). This master list was destroyed upon completion of data analysis.

During the initial meeting with students, they were told that a raffle that would occur after the deadline for returning consent forms to their teachers. The raffle was held on the day of the study in each of the homerooms and it included all students, regardless of whether or not permission was given for them to participate in the study. Each student's name was entered into a raffle for a prize valuing $10.00 (a gift certificate to a book/music/video store in the area).

On the day of the administration of the measures, the purpose of the study was explained again to students verbally as well as on the assent forms that were distributed at

that time. Each student who was given written consent by his/her parent or guardian to participate in the study was asked to sign a written assent form (Appendix I) stating that they agreed to participate in the voluntary study. They were informed verbally that even if they had been given parental permission to participate, they could elect not to be involved in the study and that they would not suffer any consequences for their decision. Confidentiality was explained to students and they were informed that they could decide at any time to withdraw from participation without consequence. Signed assent forms were attached to the parental consent forms and information sheets and were locked in a file cabinet. Once data was collected, it was stored in a separate locked file cabinet and it will be destroyed as soon as the data analysis has been conducted.

The operational definitions of face-to-face bullying and cyber bullying were provided verbally on the day of the administration of the measures. For this study, the definition of face-to-face bullying integrated definitions from Olweus (1978) and Crick & Grotpeter (1996) and thus, allowed for physical and relational forms of aggression. Face-to-face bullying was defined as follows:

> Bullying is when someone physically harms another person or people by doing things such as hitting, pushing, or kicking them, or by threatening to physically harm them.
>
> It is also bullying when someone teases, embarrasses, calls the person names, spreads nasty rumors or says mean things to a person or when the person excludes or ignores another person for a long time in order to hurt them.
>
> Usually the mistreatment happens over a period of time, but it can also be called bullying if it happens once or twice if it is really hurtful.
>
> The person who is being bullied feels like they are powerless and not able to stop the bullying.

> It is not called bullying if two people about the same size have an argument or decide that they do not want to be friends.

Cyber bullying was defined as follows:

> Cyber bullying is when a person does these same things but they do it over the Internet or cell phone.
>
> It can be things like sending hateful e-mails to someone, saying hurtful things in an instant message or spreading nasty rumors about someone on the Internet. Cyber bullying can also be ignoring someone in a chat room or while playing a game online, posting hurtful or embarrassing things about them on a web site, or teasing or making fun of someone on the Internet.
>
> Making threats over the Internet or cell phone to physically hurt someone is also cyber bullying.
>
> If these kinds of these are done by text-messaging, it is also cyber bullying. Taking digital photos of someone without permission is also considered cyber bullying.

A date and time was scheduled for administering the measures. Students who were given consent by their parents or legal guardians to participate and who signed the written assent forms were administered a packet of measures to be filled out in a fifty minute class period. Measures were administered by the principal investigator with the help of a team of research assistants. The teacher was present during the administration of the measures. Each classroom teacher was responsible for assigning activities (e.g., worksheets, homework) for the students who were not participating in the study.

Each student completed the demographic questionnaire about themselves (e.g., age, grade level, gender, and race) and about their Internet and cell phone use. In addition, the Bullying/Victimization Questionnaire, and the three psychosocial measures, the Youth Self Report, the Children's Loneliness Questionnaire, and the Self-Esteem Questionnaire-

Short Form were administered. Each student's measures were numbered to correspond with the numbers on the parental consent form, the assent form, and the parent's information form regarding their child's Internet and cell phone use. No names were written on any of the measures or questionnaires so identification of students was not possible. Students were given activities (e.g., crossword puzzles, sudukos, word searches or school related work) to complete if they completed the measures before others were finished to ensure that all students would be engaged during the entire fifty minute class period.

As students completed the measures and turned them in to the primary investigator or a research team member, the two questions on the Youth Self Report (#18 and #91) that addressed suicidal feelings or intentions were checked. The primary investigator spoke briefly with each student who endorsed suicidal thoughts or behaviors and reminded them that, as previously stated, they would be referred to the school counselor. Arrangements were made prior to setting a date for the administration of the measures for counselors to be available for students. Counselors contacted the individuals who were referred by the primary investigator to discuss their responses to the suicidal questions on the YSR and to decide on the appropriate course of action. Each school's policy involved contacting the student's parent(s) to inform them that their child had endorsed suicidal thoughts during the study. A total of twenty-two students were referred to the school counselor as they had endorsed one or both of the questions on the YSR regarding thoughts about self harm or suicide. Students who were referred to counselors included 6 sixth graders, 14 seventh graders, and 2 eighth graders. Each participant also received a debriefing sheet after they have completed the measures (Appendix J).

Data Analysis

Group membership:

Data analysis began with categorizing participants into the following groups based on their responses on the Bullying/Victimization Questionnaire: non-involved in face-to-face bullying or victimization (FFControl), non-involved in cyber bullying or victimization (Cyber control), face-to-face bullies (FFB), face-to-face victims (FFV), cyber bullies (CB), and cyber victims (CV). Categorization of non-involved individuals (FFControl and Cyber control) as well as FFB, FFV, CB, and CV group membership was based participants' yes/no responses to the items assessing the particular form of peer bullying/victimization as well as how many times the incident occurred.

It is important to highlight differences in the way in which face-to-face bullies and victims were categorized compared to cyber bullies and victims. Based on the definition of face-to-face bullying and victimization that is most often used in the extensive research that has been conducted on this topic (Olweus, 1978), it was decided that these types of incidents must have occurred once a week, a few times a month, almost every day, or daily for an individual to be categorized as FFBs or FFVs. Again, because the literature emphasizes that face-to-face bullying/victimization is a pattern of behavior as opposed to a behavior that occurs infrequently (Olweus, 1978), individuals who responded that face-to-face bullying or victimization occurred only 1-2 times within the six month time period were not categorized as FFBs or FFVs. Thus, in order to meet the criteria for face-to-face bully status, the individual must have answered yes and also responded that it had occurred once a week or more to one or more of the thirteen questions related to face-to-face bullying of others. Criteria was met for face-to-face

victim status if the individual answered yes and also responded that the incident occurred once a week or more to one or more of the thirteen questions related to face-to-face victimization.

In contrast to the vast amount of research on face-to-face bullying and victimization, there is a paucity of research on cyber bullying and victimization. It is not clear, due to the lack of research in this area, whether or not the repetitive nature that is emphasized with face-to-face bullying and victimization also applies to cyber bullying and victimization. It may be that a one or two time incident of cyber bullying or victimization results in severe negative consequences for the involved individual. It can also be said that online peer victimization can be repetitive simply by the nature of the way in which technology works (e.g., a defamatory web site can reach a wide audience over a long period of time). Therefore, due to the scarcity of research and the lack of knowledge about the potential psychosocial influences of this new form of peer victimization, the study included individuals in the category of CBs or CVs who indicated that cyber bullying or cyber victimization occurred 1-2 times or more (which included once a week, a few times a month, almost every day, or daily) since the beginning of the school year (a six month time period). The cyber bully category included individuals who responded yes to one or more of the fourteen questions regarding cyber bullying behaviors and followed up with a response that it occurred 1-2 times or more since the beginning of the school year. The cyber victim category included individuals who responded yes and also responded that the incident occurred 1-2 times or more since the beginning of the school year to one or more of the fourteen questions regarding cyber victimization.

It is also important to differentiate individuals who engage in bullying behaviors and

are also victims of bullying from those who fall into one category only (i.e., a bully or a victim) in order to assess possible differences in psychosocial characteristics among these groups of individuals. Thus, further categories were established for individuals who are *both* face-to-face bullies *and* face-to-face victims (FFB/V) and individuals who are *both* cyber bullies *and* cyber victims (CB/V). Individuals may also engage in *both* forms of bullying and thus would be categorized as face-to-face bullies *and* cyber bullies (FFB/CB) or may be victims of *both* forms of peer victimization and would therefore be categorized as face-to-face victims *and* cyber victims (FFV/CV). Membership in these groups followed previous criteria in that if the bullying or victimization was face-to-face, it had to have been endorsed a minimum of once a week or more whereas, if the bullying or victimization was on the Internet or cell phone, it could have been a one time incident or it could have occurred more frequently.

A sample power analysis was performed to determine the number of participants needed in each group in order to assess for significant differences among groups. Results indicated that for a power level of .80, 45 participants would be needed for each comparison group. This criterion was met for the face-to-face control group and the cyber control group. It was also met for the group that included face-to-face bully/victims, the group that included cyber bully/victims, and the group of face-to-face and cyber victims. It was not met, however, for the group that included those who were in the face-to-face bully group, those who were in the face-to-face victim group, those who were in the cyber bully group, and those who were in the cyber victim group. The reason that group membership in each of these groups was smaller than in the bully/victims groups is because overlapping group membership was not allowed. In other words, because so

many of the participants were involved in both bullying and victimization, there were fewer numbers in the groups that were strictly bullies or strictly victims. Therefore, fewer participants were in the mutually exclusive groups that were included in the chi-square analyses. Thus, in order to avoid any overlap in group membership, the optimal level of power was forfeited.

Results

Participant Demographics:

A total of 219 middle school students completed the study. Participants included 71 sixth graders, 80 seventh graders, and 68 eight graders; 95 participants were males and 124 were females. The majority of the participants were Caucasian (68%) and the remaining participants identified themselves as Native American (2%), Hispanic (2%), Asian (2%), Other/Bi-racial (26%). Participants ranged in age from 11 to 14, with a mean age of 12.6 (*SD* = .91). Demographics by grade level are provided in detail in Table 1.

Internet use:

According to the students' self-reports of Internet use on a *daily* basis, 3% *never* use the Internet, 58% use the Internet *less than one hour per day*, 31% use the Internet for *2 to 3 hours per day*, 6% use it for *4 to 6 hours per day*, and 1% use the Internet *more than 6 hours a day*. Two participants (1%) failed to respond to this question. Students' self-reports of their *weekly* Internet use resulted in the following: 2% *never* use the Internet, 18% *rarely* use the Internet, 33% use the Internet *1 to 3 times per week*, 14% use it *4 to 6 times per week,* 20% use it *almost everyday*, and 13% use the Internet *every day* during the week.

Table 1.

Participant Characteristics by Grade Level ($N = 219$)

6th Graders

Ages			Females	Males	Caucasian	Hispanic	Native American	Asian	Other/ Bi-racial
11	12	13							
23	47	1	35	36	49	1	1	0	20

Total $n = 71$

7th Graders

Ages			Females	Males	Caucasian	Hispanic	Native American	Asian	Other/ Bi-racial
11	12	13							
0	36	44	52	28	51	2	1	1	25

Total $n = 80$

8th Graders

Ages			Females	Males	Caucasian	Hispanic	Native American	Asian	Other/ Bi-racial
12	13	14							
0	26	42	37	31	49	1	2	3	10

Total $n = 68$
*missing data: race/8th graders $n = 3$.

Grand Totals:	**124**	**95**	**149**	**4**	**4**	**4**	**55**

The majority of students (80%) reported that they use the Internet for the purpose of doing homework and/or research. Other common uses of the Internet among students included e-mailing (51%), instant messaging (37%), playing online games (64%) and chatting on MySpace.com or a similar online socializing site (22%) and in chat rooms (7%). Very few students reported that they use the Internet to create web sites (5%). All 219 participants responded to the questions regarding their use of the Internet. About half of the students reported owning a cell phone (42%) and approximate one-third of these students send and receive text messages (33% and 36% respectively). Two participants failed to respond to the questions regarding cell phone use.

According to parents' reports of their children's *daily* Internet use, 3% *never* use the Internet, 65% use the Internet *less than one hour per day*, 17% use the Internet for *2 to 3 hours per day*, 1% uses it for *4 to 6 hours per day*, and none use the Internet *more than 6 hours a day*. Thirty one parents (14%) failed to respond to this question. Parents' responses regarding their children's *weekly* Internet use was as follows: 4% *never* use the Internet during the week, 20% *rarely* use it during the week, 30% use the Internet *1 to 3 times per week*, 17% use it *4 to 6 times per week*, 18% use it *almost everyday,* and 7% use the Internet *every day*. Eleven parents (5%) failed to respond to these questions.

Similar to students' reports, the majority of parents (85%) indicated that their students use the Internet primarily for homework and/or research. Other uses of the Internet that were reported by a large percentage of parents were for e-mailing (46%), playing online games (55%), and instant messaging (32%). A small percentage of parents reported the use of the Internet by their children for creating web sites (5%) and chatting on MySpace.com or other sites for socializing (16%) and in chat rooms (6%). Thirty four

percent of parents responded yes that their child has a cell phone and 53% responded yes that their child sends and receives text messages. Ten parents (5%) did not respond to questions regarding their child's cell phone use and seventeen (8%) failed to respond to the questions about text messaging. Descriptions of students' and parents' reports of *daily* and *weekly* Internet use, cell phone use, and Internet activities are provided in Table 2.

An exploratory analysis was performed to assess the agreement between parents' and students' reports of *daily* and *weekly* Internet use as well as parents' and students' reports regarding the activities that are engaged in while online. The purpose of this analysis was to provide a ballpark estimate regarding how much understanding parents have of the time spent and what their children are doing on the Internet. Results indicated that there was a significant correlation between students' and parents' reports on how frequently students used the Internet on a *daily* basis, $r(186) = .48$, $p < .01$) as well as on a *weekly* basis $r(186) = .62$, $p < .01$). In contrast, parents' and students' reports of the types of activities that students engaged in while online were not significantly correlated. Students' self-reports indicated higher usage of the Internet for e-mailing, instant messaging, playing online games, chat room socializing, and other network socializing such as MySpace than did parents' reports regarding their children's online engagement in these activities. Parent's reports of their students' use of the Internet for homework/research were slightly higher than students' reports (85% versus 80%, respectively). Parents' and students' reports of Internet use for creating web sites were similar, with both reporting infrequent use for this purpose.

Table 2.

Students' and Parents' Reports of Daily Internet Use

Daily Internet Use	Never	< 1 hr.	2-3 hrs.	4-6 hrs.	> 6 hrs.
Student's Reports	3%	58%	31%	6%	1%
Parents' Reports	3%	65%	17%	1%	0%

*missing data students' reports = 1% (*n* =2)
*missing data parents' reports = 14% (*n* =31)

Students' and Parents' Reports of Weekly Internet Use

Weekly Internet Use:	Never	Rarely	1-3x/week	4-6x/week	Almost everyday	Everyday
Students' Reports	2%	18%	33%	14%	20%	13%
Parents' Reports	4%	20%	30%	17%	18%	7%

*missing data parents' reports = 5% (*n*=11)

Students' and Parents' Reports of Internet Activities

	Homework/ Research	E-Mail	Instant Message	Online Games	Create Web Sites	Chat Room	MySpace/ Socializing
Students' Reports	80%	51%	37%	64%	5%	7%	22%
Parents' Reports	85%	46%	32%	55%	5%	6%	16%

Bullying/Victimization group status:

The method of categorizing participants into groups is described on pages 50, 51 and 52. The following groups were identified based on the previously outlined criteria:

Group 1: non-involved in face-to-face bullying or victimization – **FFcontrol**

Group 2: face-to-face bullies - **FFB**

Group 3: face-to-face victims - **FFV**

Group 4: face-to-face bully/victims – **FFB/V**

Group 5: non-involved in cyber bullying or victimization – **Cyber control**

Group 6: cyber bullies - **CB**

Group 7: cyber victims - **CV**

Group 8: cyber bully/victims – **CB/V**

Group 9: face-to-face victim/cyber victim (individuals who are both face-to-face victims and cyber victims) – **FFV/CV**

Group 10: face-to-face bully and cyber bully (individuals who engage in both face-to-face bullying and cyber bullying) – **FFB/CB**

Results indicated that 73% (n = 160) of participants reported that they had been involved in face-to-face bullying or victimization once a week or more within the past six months. Of those involved in face-to-face bullying or victimization, 11% (n=25) were **FFB**s and 18% (n=40) were **FFV**s. Almost half (43%; n = 95) of the individuals involved in face-to-face peer maltreatment bullied others and were also victims of bullying, **FFB/V**s. The 27% of participants (n =59) who did not participate in face-to-face bullying or victimization served as the **FFcontrol** group. Table 3 describes the incident rates for the categories related to face-to-face bullying and victimization.

Table 3.

Frequencies of Group Membership in Face-to-Face Bullying and Victimization ($N = 219$)

Face-to-Face Bullying and Victimization

Group	Frequency (*N*)	Percent
Face-to-face control group (FFControl)	59	26.9%
Face-to-face bullies (FFB)	25	11.4%
Face-to-face victims (FFV)	40	18.3%
Face-to-face bully/victims (FFB/V)	95	43.4%

Note: no group membership overlap

Results indicated that 69% (n = 150) of participants reported that they were involved in cyber bullying or victimization *1-2 times or more* within the past six months. Of those involved, 12% (*n*=26) were **CB**s and 19% (*n*=42) were **CV**s. Some of the participants (37%; *n*=82) were involved as both cyber bullies and cyber victims, **CB/V**s. A small percentage (.5%) of participants failed to respond to all of the questions regarding cyber bullying and victimization involvement. Findings indicated that 67 participants (31%) reported that they were not involved in cyber bullying or victimization and served as the **Cyber control** group. Table 4 describes the incident rates for the categories related to cyber bullying and victimization. Figure 1 illustrates frequency comparisons among the face-to-face and cyber bullying and victimization groups as well as the control groups.

Among participants who indicated that they had been victimized by peers, 41% (*n*=67) were victimized by *one* form of bullying *or* the other, **FFV** *or* **CV.** However, almost half of the participants, 59%, (*n*=95), were victims of *both* face-to-face *and* cyber bullying, **FFV/CV**. Data was missing for three participants for this analysis. Table 5 describes the incident rates for the categories related to victimization by *one* form of bullying and victimization and victimization by *both* face-to-face *and* cyber bullying.

Among the participants who indicated that they had engaged in bullying behaviors toward others, 54% (n=83) bullied others in *one* form**, FFB**s *or* **CB**s, and a slightly smaller percentage of individuals (46%; *n*=72) bullied others *both* face-to-face *and* on the Internet or cell phone, **FFB/CB.** Data was missing for two participants for this analysis. Table 5 also provides incident rates for these categories.

According to the criteria established for group membership as a **CB**, a **CV**, or a **CB/V**, individuals who endorsed that they experienced cyber bullying and/or

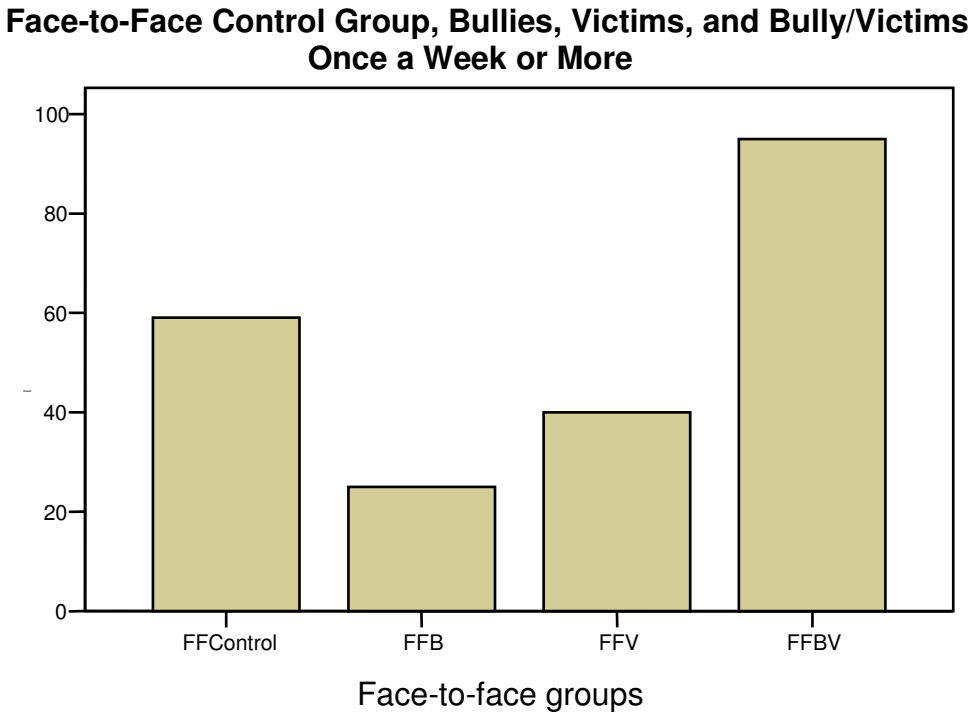
Table 4.

Frequencies of Group Membership in Cyber Bullying and Victimization (*N* = 219)

	Cyber Bullying and Victimization	
Group	Frequency (*N)*	Percent
Cyber control group (Cyber control)	67	30.6%
Cyber bullies (CB)	26	11.9%
Cyber victims (CV)	42	19.2%
Cyber bully/victims (CB/V)	82	37.4%

Note: no group membership overlap within categories
*missing data: *n*=2

Figure 1. Control groups and bully, victim, and bully/victim groups for face-to-face and cyber bullying and victimization.



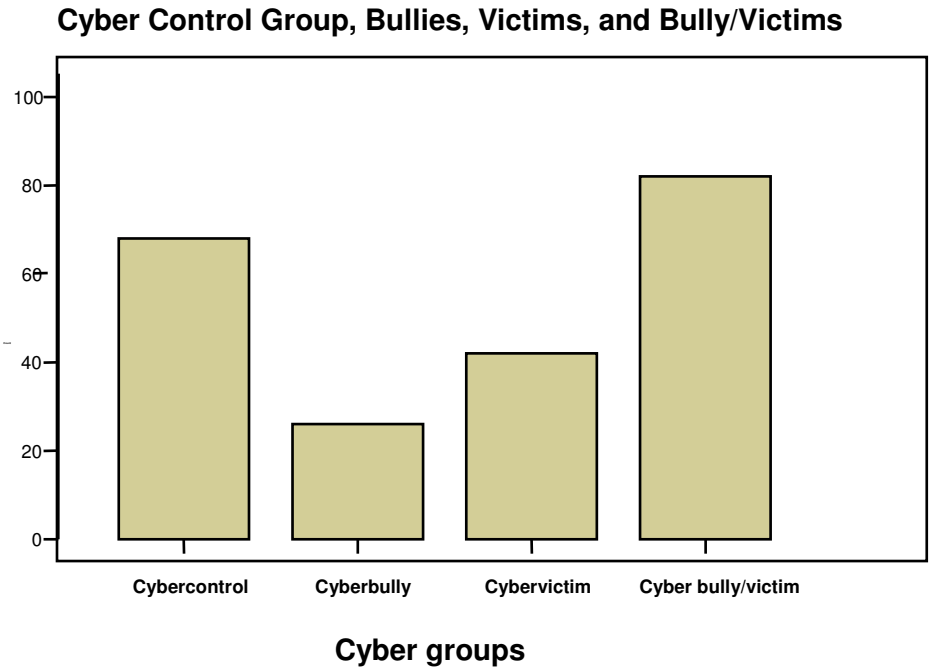


Table 5.

Group Comparisons

Comparison of Victims of Face-to-Face *and* Cyber Bullying to Victims of Face-to-Face *or* Cyber Victims (N = 162)

Group	Frequency	Percent
Victims of face-to-face *and* cyber bullying (FFV/CV)	95	59%
Victims of face-to-face *or* cyber bullying (FFV) or (CV)	67	41%

Comparison of Face-to-Face *and* Cyber Bullies to Face-to-Face *or* Cyber Bullies (N = 155)

Group	Frequency	Percent
Face-to-face bullies *and* cyber bullies (FFB/CB)	72	46%
Face-to-face bullies *or* cyber bullies (FFB) or (CB)	83	54%

victimization 1-2 times or more within the past 6 months were included within groups. It is important to note, however, that an exploratory analysis was performed to assess the frequency of cyber bullying and victimization *once a week or more*. Findings revealed that 6.8% (*n* = 15) of the sample of 219 students endorsed experiencing cyber victimization *once a week or more* during the past six months, 9.6 (*n* = 21) revealed that they cyber bullied others *once a week or more* during the past six months, and 10.5% (*n* = 23) were involved in both cyber bullying others and being cyber bullied *once a week or more* within the past 6 months. Thus, using a more conservative method of categorization (i.e., the incident occurred once a week or more as opposed to 1-2 times or more) resulted in the finding that 27% of the sample endorsed involvement in a pattern of cyber bullying and/or victimization since the beginning of the school year (a six month time period).

An exploratory analysis was performed to get an overall sense of how much individuals who were involved in cyber bullying and/or victimization were "bothered" by their experiences. Following the questions regarding cyber bullying acts were response choices asking participants who were involved in bullying and victimization to indicate how much they were "bothered" by the experience. Results revealed 79 responses of *none,* 51 responses of *some*, and 11 responses of *very much*, to the question about how much the behavior in which they engaged "bothered" the **CB**s.

This same question followed each of the questions about cyber victimization. Those who were **CV**s responded to the question (i.e., *how much did it bother you*) as follows: 75 endorsed *none*, 91 were "bothered" *some*, and 44 were "bothered *very much*. **CB/V**s' responses to this question included 114 responses of *none*, 91 responses of *some*, and 49 responses of *very much*.

Interestingly, **CB**s were the least "bothered" by their behaviors toward others; very few, in fact, were "bothered" *very much* by their acts of Internet or cell phone bullying toward peers. This is consistent with research on face-to-face bullies which portrays them as lacking empathy for their victims or remorse for their behaviors (Olweus, 1991, 1995). On the other hand, almost twice as many **CV**s were "bothered" *some* or *very much* as were "bothered" *none.* The **CB/V** group seemed to experience more distress than both cyber bullies and cyber victims, with 140 responses of being "bothered" *some* and *very much*. Surprisingly, however, almost half of their responses to the question were *none.* Further exploration into the qualitative experiences of individuals involved in this new form of peer victimization would be helpful to guide appropriate intervention strategies for the both the individuals who experience distress and also for those who lack awareness and/or empathy about the detrimental effects of their behaviors on others.

Group relationships:

It was hypothesized that students who are **FFB**s are more likely to be **CB**s compared to individuals who do not engage in face-to-face bullying (Hypothesis 1). A Pearson's chi-square test of independence was conducted to examine the relationship between involvement in face-to-face bullying and cyber bullying. Results indicated a significant likelihood that **FFB**s would also be **CB**s compared to those who do not engage in face-to-face bullying, $\chi 2$ (3, N = 217) = 12.15, $p < 0.001$. Among participants who endorsed engaging in face-to-face bullying, (n = 119), 61 % (n = 72) also reported engaging in cyber bullying. In contrast, among participants who reported that they did not engage in face-to-face bullying (n = 98), only 37 % (n = 36) reported engaging in cyber bullying. Thus, it was shown that there is a significantly higher likelihood for those who are

already engaging in face-to-face bullying once a week or more to engage in this newest form of peer victimization (i.e., cyber bullying) compared to those who do not engage in bullying others face-to-face. Table 6 illustrates the association between overlapping membership in the **FFB** and **CB** groups.

It was hypothesized that the students who are **FFV**s are more likely to engage in cyber bullying of others (**CB**s) than students who are not victims of face-to-face bullying (Hypothesis 2). A Pearson's chi-square test of independence was performed to examine the relationship between face-to-face victimization and cyber bullying of others. Results revealed a significant likelihood that **FFV**s would engage in cyber bullying (**CB**s) compared to those who were not victims of face-to-face bullying, $\chi 2$ (3, N = 217) = 8.29, p = 0.004. Among participants who endorsed being **FFV**s, (n = 134), over half (57%; n = 77) also endorsed being **CB**s. In contrast, among participants who reported that they were not victims of face-to-face bullying, (n = 83), only 37%, (n = 31), engaged in cyber bullying. Thus, there is a significantly higher likelihood of targeting other students in the form of cyber bullying for victims of face-to-face bullying compared to those who have not been victims of face-to-face bullying. Table 7 illustrates the association between overlapping membership in the **FFV** and **CB** groups.

It was hypothesized that the students who are **FFV**s are more likely to be **CV**s as well compared to those students who did not report having being victimized by face-to-face bullying (Hypothesis 3). A Pearson's chi-square test of independence revealed a significant difference in the likelihood that **FFV**s would also be **CV**s compared to those who were not victims of face-to-face bullying $\chi 2$ (3, N =216) = 27.82, p < 0.001. Among

Table 6.

Association between Face-to-Face Bully Status and Cyber Bully Status

	Cyber Bully	Non-Cyber Bully
Face-to-Face Bully	61%* (72)	39% (47)
Non-Face-to-Face Bully	37% (36)	63% (62)
		$\chi 2$ (1) = 12.15*

N = 217; Percentages sum to 100% across rows; absolute frequencies are provided in parentheses.
*$p < .001$.

Table 7.

Association between Face-to-Face Victim Status and Cyber Bully Status

	Cyber Bully	Non-Cyber Bully
Face-to-Face Victim	58% *	42%
	(77)	(57)
Non-Face-to-Face Victim	37%	63%
	(31)	(52)
		$\chi 2$ (1) = 8.29*

N = 217; Percentages sum to 100% across rows; absolute frequencies are provided in parentheses.
*p < .05

participants who were **FFV**s, 71% (*n* = 95) also endorsed that they were **CV**s, whereas only 35% (*n* = 29) of the individuals who were not victims of face-to-face bullying, (*n* = 83), reported that they were **CV**s. Thus, **FFV**s are significantly more likely to be targets of victimization on the Internet or cell phone compared to individuals who are not victimized by face-to-face bullies. Table 8 illustrates the association between overlapping membership in the **FFV** and **CV** groups.

Although a hypothesis regarding the relationship between **FFB**s and **CV**s was not originally included for analysis, an exploratory analysis was performed to determine whether or not **FFB**s would be more likely to be victimized online (**CV**s) compared to non-**FFB**s. A Pearson's chi-square analysis was performed and a significant likelihood for **FFB**s to be victimized online (**CV**s) was found, $\chi 2$ (3, N = 217) = 21.96, $p < .001$. Among participants who reported that they engaged in face-to-face bullying (*n* = 119), a large percentage, 71%, (*n* =85) were victims of cyber bullying. In contrast, among those who reported no involvement in face-to-face bullying (*n* = 98), only 40% (*n* = 39) were also cyber victims. Thus, not only are face-to-face bullies more likely to engage in cyber bullying, compared to non-face-to-face bullies, they are also more likely to experience cyber victimization. Table 9 illustrates the relationship between face-to-face bullies and cyber victims.

Gender differences:

It was predicted that although both genders would engage in cyber bullying as bullies, victims, or bully/victims, females would be more likely than males to engage in this form of peer victimization (Hypothesis 4). A Pearson's chi-square analysis was performed and support for this hypothesis was shown. A significant difference, $\chi 2$ (3, N = 218) = 7.62,

Table 8.

Association between Face-to-Face Victim Status and Cyber Victim Status

	Cyber Victim	Non-Cyber
Victim		
Face-to-Face Victim	71% *	29%
	(95)	(39)
Non-Face-to-Face Victim	35%	65%
	(29)	(54)
		$\chi 2$ (1) = 27.05*

N = 217; Percentages sum to 100% across rows; absolute frequencies are provided in parentheses.
*p < .001.

Table 9.

Association between Face-to-Face Bully Status and Cyber Victim Status

	Cyber Victim	Non-Cyber Victim	
Face-to-Face Bully	71%*	29%	
	(85)	(34)	
Non-Face-to-Face Bully	40%	60%	
	(39)	(59)	
			$\chi 2$ (1) = 21.96*

N = 217; Percentages sum to 100% across rows; absolute frequencies are provided in parentheses.
*$p < .001$.

$p = 0.006$, between male and female involvement in cyber bullying as bullies, victims, or bully/victims was found, with females more involved in cyber bullying and/or victimization than males. Among males participants ($n = 94$), 59% were involved in cyber bullying and/or victimization. In comparison, among female participants, ($n = 124$), 76% were involved in cyber bullying and/or victimization. Further analysis revealed that more females ($n = 18$) compared to males ($n = 8$) were **CB**s, more females ($n = 26$) compared to males ($n = 16$) were **CV**s and more females ($n = 50$) than males ($n = 32$) were **CB/V**s. Thus, findings revealed that 69% of all participants, males and females, endorsed involvement in cyber bullying and/or victimization, however, a significantly higher percentage of these was females. Table 10 illustrates gender differences for involvement in cyber bullying and cyber victimization.

Psychosocial characteristics:

A series of one-way ANOVAS using a Bonferroni correction with a family-wise error rate of .05 and a Tukey's HSD Post Hoc analysis was performed to assess the following psychosocial characteristics: internalizing symptoms, externalizing symptoms, total problems (overall emotional and behavioral adjustment), loneliness, peer self-esteem and global self-esteem for cyber bullying and victimization groups. These analyses were performed to assess the likelihood that the psychosocial characteristics of group members who endorsed involvement in cyber bullying as **CB**s, **CV**s, or **CB/V**s would reflect poorer psychosocial adjustment compared to individuals who were not involved in cyber bullying as bullies, victims, or bully/victims, the **Cyber control** group (Hypothesis 5). It was predicted that **CB**s, **CV**s, and **CB/V**s would exhibit poorer psychosocial adjustment than the **cyber control** group as indicated by their scores on the psychosocial measures of

Table 10.

Association between Gender and Involvement in Cyber Bullying and/or Victimization

	Males	Females
Cyber Bully, Victim, or Bully/Victim	37% (56)	63%* (94)
Non-Cyber Bully, Victim, or Bully Victim	56% (38)	44% (30)
		$\chi 2$ (1) = 6.56*

N = 218; Percentages sum to 100% across rows; absolute frequencies are provided in parentheses.
*p < .05.

internalizing symptoms (depression, anxiety, and withdrawal), externalizing behaviors (aggression and delinquent behaviors), total problems scores (overall emotional and behavioral adjustment), loneliness, and peer and global self-esteem. Measures included the YSR, the CLQ, and two subscales (peer self-esteem and global self-esteem) of the SEQ-SF.

Comparisons of cyber control group to cyber bullies, cyber victims, cyber bully/victims:

Results revealed that there were significant differences between the **cyber control** group and the groups of individuals involved in cyber bullying and/or victimization for internalizing symptoms, F (3, 217) = 3.74, p = .012, η2 = .05, externalizing symptoms, F (3,217) = 15.91, p < .001, η2 = .18, total problem scores, F (3,217) = 10.56, p < .001, η2 = .13, and peer self-esteem, F (3,217) = 4.49, p = .004, η2 = .06. According to the guidelines provided by Cohen (1988), the effect sizes for internalizing symptoms, externalizing behaviors, total problems, and peer self-esteem are considered medium. No significant group differences were found between the **cyber control group** and the cyber bully, victim, or bully/victim groups for loneliness, or global self-esteem. Table 11 provides means, standard deviations and variances for psychosocial characteristics among **CB**s, **CV**s, and **CB/V**s compared to the **control group**. Effect sizes for significant group differences are also included. A Tukey's HSD Post Hoc analysis clarified the significant differences among groups as follows:

Internalizing symptoms:

A Tukey's HSD Post Hoc analysis revealed significant differences between the **cyber control** group and the **CB/V** group on internalizing symptoms scores. The **CB/V** group had significantly higher scores on the internalizing scale than the **cyber control** group.

Table 11.

Means, Standard Deviations, and Analysis of Variance (ANOVA) Comparing Cyber Control Group to Cyber Bullies, Victims, Bully/Victims on Psychosocial Characteristics

	Cyber Control (n = 68)		Cyber Bully (n = 26)		Cyber Victim (n = 42)		Cyber Bully/Victim (n = 82)		ANOVA	
Psychosocial Characteristic	M	SD	M	SD	M	SD	M	SD	F (3, 217)	η2
Internalizing	50.49	10.53	51.65	12.35	55.62	10.90	55.88*	11.32	3.74*	.05
Externalizing	47.31	8.78	47.35	9.60	52.62*	8.51	57.46***	11.01	15.91***	.18
Total Problems	49.07	9.53	51.65	11.24	55.43*	11.13	58.50***	10.86	10.56***	.13
Loneliness	26.59	8.74	26.12	7.38	30.55	13.98	26.99	12.11	1.40	--
Peer Self-Esteem	13.26	1.96	13.12	1.90	11.76**	2.67	12.48	2.26	4.49**	.06
Global Self-Esteem	13.43	2.27	13.15	1.82	12.57	2.26	12.77	2.57	2.95	--

Note. η2 = effect size.
Alpha level was set at .05 for comparison of Cyber Control group to other groups.
*$p < .05$. ** $p < .01$. ***$p < .001$.

No significant differences were found between the **cyber control** group and the **CB** group or the **cyber control** group and the **CV** group on internalizing symptoms.

Externalizing behaviors:

A Tukey's HSD Post Hoc analysis revealed significant differences between the **cyber control** group and the **CV** group as well as the **CB/V** group on externalizing behavior scores. Both the **CV** group and the **CB/V** group had significantly higher scores on the externalizing behavior scale compared to the **cyber control** group. No significant differences in externalizing behavior scores were found between the **cyber control** group and the **CB** group.

Total Problems (overall emotional and behavioral adjustment):

Results from the Tukey's HSD Post Hoc analysis revealed significant group differences between the **cyber control** group and the **CV** group and the **CB/V** group on the total problem scores. The **CV** group and the **CB/V** group had significantly higher scores on the total problem scale compared to the **cyber control** group. No significant differences were found between the **cyber control** group and the **CB** group for total problems.

Peer self-esteem:

The Tukey's HSD Post Hoc analysis revealed significant differences for peer self-esteem between the **cyber control** group and the **CV** group. The **CV** group had significantly lower peer self-esteem scores compared to the **cyber control** group. The peer self-esteem scores did not differ significantly between the **cyber control** group and the **CB** group or the **cyber control** group the **CB/V** group.

Comparison of cyber bully/victim group to cyber bully group and to cyber victim group:

The series of one-way ANOVAS that was performed also compared the psychosocial characteristics of youth who are **CB/V**s (i.e., both perpetrators and victims of cyber bullying) to youth who were either **CB**s or **CV**s but not both (i.e., **CB/V**s). The prediction was that the **CB/V** group would exhibit poorer psychosocial adjustment than the **CB** group as well as the **CV** group because of their involvement as both perpetrators and victims (Hypothesis 6). Measures included the internalizing, externalizing and total problem scales of YSR, the CLQ, and two subscales (peer self-esteem and global self-esteem) of the SEQ-SF. The series of ANOVAS included a Bonferroni correction with a family-wise error rate of .05 and a Tukey's HSD Post Hoc analysis. Results revealed significant differences between individuals who were involved as **CB/Vs** compared to those who were *either* **CBs** or **CVs**, *but not both* for externalizing symptoms, F (3,217) = 15.91, $p < .001$, $\eta 2 = .18$, and for total problem scores, F (3,217) = 10.56, $p < .001$, $\eta 2 = .13$. The magnitude of effect for group differences is considered medium based on guidelines set forth by Cohen (1988). Table 12 provides the means, standard deviations and variances for psychosocial characteristics among **CB/V**s compared to the **CB** group and the **CV** group. Effect sizes for significant group differences are also included. A Tukey's HSD Post Hoc analysis clarified the following significant differences among groups:

Externalizing symptoms:

A Tukey's HSD Post Hoc analysis revealed significant differences in externalizing behavior scores between the **CB/V** group and both the **CV** group and the **CB** group. The

Table 12.

Means, Standard Deviations, and Analysis of Variance (ANOVA) Comparing Cyber Bully/Victims to Cyber Bullies and Cyber Victims on Psychosocial Characteristics

Psychosocial Characteristic	Cyber Bully/Victim (n = 82)		Cyber Bully (n = 26)		Cyber Victim (n = 42)		ANOVA	
	M	SD	M	SD	M	SD	F (3, 217)	η2
Internalizing	55.88	11.32	51.65	12.35	55.62	10.90	3.74	--
Externalizing	57.46	11.01	47.35***	9.60	52.62**	8.51	15.91***	.18
Total Problems	58.50	10.86	51.65**	11.24	55.43	11.13	10.56***	.13
Loneliness	26.99	12.11	26.12	7.38	30.55	13.98	1.40	--
Peer Self-Esteem	12.48	2.26	13.12	1.90	11.76	2.67	4.49	--
Global Self-Esteem	12.77	2.57	13.15	1.82	12.57	2.26	2.95	--

Note. η2 = effect size.
Alpha level was set at .05 for all comparisons.
*$p < .05$. ** $p < .01$. ***$p < .001$.

CB/V group exhibited higher scores on the externalizing scale than both the **CV** group and the **CB** group.

Total problems (overall emotional and behavioral adjustment):

A Tukey's HSD Post Hoc analysis revealed significant differences between the **CB/V** group and the **CB** group, with significantly higher total problems scores found for the **CB/V** group. No significant differences were found between the **CB/V** group and the **CV** group for total problem scale scores.

Face-to-face/Cyber victims versus face-to-face victims or cyber victims:

A 2 tailed, independent samples t-test was performed to assess group differences in psychosocial characteristics for individuals who are victims of *both* forms of bullying, face-to-face victims *and* cyber bully victims, **FFV/CV** group, and those who are victims of one form of bullying, *either* face-to-face, **FFV** group, *or* cyber bullying, **CV** group (Hypothesis 7). Significance was measured at an alpha level of .05. It was predicted that adolescents who are victims of traditional bullying *and* cyber bullying, **FFV/CV** group, would exhibit poorer psychosocial characteristics than victims who experience one form of bullying, *either* face-to-face victimization, **FFV**s, *or* cyber victimization, **CV**s. Results indicated that significant mean differences were found between FFV/CVs compared to those who were FFVs *or* CVs, *but not both*, for the scores generated on the following psychosocial measurement scales: the internalizing symptoms scale (YSR), the externalizing symptoms scale (YSR), the total problems scale (YSR), and peer self-esteem (SEQ-SF). No significant differences were found for loneliness (CLQ) or global self-esteem (SEQ-SF). Table 13 provides means, standard deviations, and effect sizes for significant group differences between the group of individuals who were involved in *both*

Table13.

Group Differences Between Face-to-Face *and* Cyber Victims and Face-to-Face *or* Cyber Victims on Psychosocial Characteristics

Psychosocial Characteristic	FACE-to-FACE *and* CYBER VICTIM M	SD	FACE-to-FACE *or* CYBER VICTIM M	SD	t (160)	d
Internalizing Symptoms	58.47	10.47	51.42	10.62	4.197***	.67
Externalizing Symptoms	57.65	10.00	50.03	8.93	4.990***	.80
Total Problems	60.13	10.11	52.19	9.91	4.957***	.79
Loneliness	30.63	13.74	25.99	8.82	2.43	--
Peer Self-Esteem	11.84	2.44	12.88	2.01	2.88***	.47
Global Self-Esteem	12.29	2.35	12.81	2.07	1.46	--

Alpha level was set at .05 for all comparisons.
***$p < .001$.

face-to-face victimization *and* cyber victimization and the group of individuals who meet criteria for only one group, *either* face-to-face victims *or* cyber victims.

Internalizing symptoms:

Internalizing symptoms were significantly higher for the group of individuals who endorsed being victims of *both* face-to-face *and* cyber bullying, **FFV/CV** group, compared to those who were victims of one form of bullying, *either* face-to-face, **FFV**, *or* cyber bullying, **CV**, (t (160) = 4.197, $p < .001$), $d = .67$). The magnitude of effect for the group differences is medium based on Cohen's (1988) guidelines for effect size interpretation.

Externalizing symptoms:

Externalizing symptoms were significantly higher for the group of individuals who endorsed being victims of *both* face-to-face *and* cyber bullying, **FFV/CV**, compared to those who were victims of one form of bullying, *either* **FFV** *or* **CV**, (t (160) = 4.990, $p < .001$, $d = .80$). This effect size is considered large based on Cohen's (1988) guidelines.

Total Problems (overall emotional and behavioral adjustment):

Individuals who experienced *both* face-to-face victimization *and* cyber victimization, **FFV/CV** group, had significantly higher scores on the total problem scales than did those who were **FFV**s *or* **CV**s, but not both, (t (160) = 4.957, $p < .001$, $d = .79$). This effect size is also considered large.

Peer self-esteem:

Significantly lower peer self-esteem was found between the group of individuals who were victims of *both* face-to-face bullying *and* cyber bullying, **FFV/CV** group, and the

group of individuals who were victims of only one of these forms of bullying, *either* **FFV** *or* **CV**, (t (160) = 2.883, p = .004, d = .47). According to Cohen's (1988) interpretation guidelines, this magnitude of effect is medium.

An exploratory analysis examined the psychosocial characteristics of the group of individuals who experienced cyber bullying, cyber victimization, and cyber bullying/victimization as frequently as *once a week or more* in order to compare these groups to the cyber control group as well as to determine significant differences among these groups. A series of one-way ANOVAS using a Bonferroni correction with a family-wise error rate of .05 and a Tukey's HSD Post Hoc analysis was performed to assess internalizing symptoms, externalizing behaviors, total problems, loneliness, peer self-esteem, and global self-esteem among these groups (i.e., cyber bullies who bullied *once a week or more*, cyber victims who were victims *once a week or more*, cyber bully/victims who were bullied and victimized *once a week or more*, and the cyber control group).

The analysis and follow-up Tukey's Post Hoc analysis revealed significant group differences among the *once a week or more* cyber victims and the control group on scale scores for internalizing symptoms, F (3,218) = 6.29, $p < .001$, externalizing behaviors, F (3,218) = 19.19, $p = < .001$, for total problems, F (3,218) = 14.21, $p < .001$, and for loneliness, F (3,216) = 6.33, $p < .001$. Thus, cyber victims who were victimized *once a week* or more endorsed significantly higher internalizing symptoms, externalizing behaviors, and total problems (overall emotional and behavioral adjustment) as well as higher degrees of loneliness compared to the cyber control group. Results for cyber bullies who bullied others *once a week or more* compared to the cyber control group indicated significant group differences for externalizing behaviors, F (3,218) = 19.19,

$p < .001$, and for total problems, F (3,218) = 14.21, $p < .001$, with cyber bullies exhibiting higher scores on these subscales of the YSR than the cyber control group. The group of cyber bully/victims who endorsed bullying and being bullied once *a week or more* had significantly higher scores on externalizing behaviors, F (3,218) = 19.19, $p < .001$, and total problems, F (3,218) = 14.21, $p < .001$, compared to the cyber control group.

Psychosocial adjustment among the groups of cyber bullies, victims and bully/victims who were involved *once a week or more* were compared to assess group differences. Results revealed that cyber victims who were victimized *once a week or more* had significantly higher scores on the measure of loneliness, F (3,216) = 6.33, $p < .001$, than cyber bullies and cyber bully/victims who bullied once a week or more. No other significant group differences were found.

Predictors of cyber victim group membership:

A discriminant analysis was performed to analyze group differences between cyber victims and non-cyber victims on variables thought to be predictive in the classification of cyber victims. Non-cyber victims include any participant who did not respond yes to any of the questions related to cyber victimization. Thus, this group could include cyber bullies as well as individuals involved in face-to-face bullying and/or victimization. The six predictor variables, which were entered simultaneously, included internalizing symptoms, externalizing symptoms, and total problems as measured by the YSR, loneliness as measured by the CLQ, and peer and global self-esteem as measured by the SEQ-SF. It was hypothesized that **CV** status would be predicted primarily by loneliness, followed by peer and global self-esteem (Hypothesis 8). The overall Wilks's Lambda of

.808 and eigenvalue of .238 indicated that a significant difference was found between the **CV** group and the non-cyber victim group, meaning that the psychosocial variables have a better than chance ability to predict group status of **CV**. **CV** group membership was reliably predicted for 69.8% of the cases ($N = 215$). The canonical correlation of .438, which when squared (.19), indicates that approximately 20% of the variation for group membership as a **CV** can be explained by the predictor variables. The test of equality of group means further indicated that group means of **CV**s and non-cyber victim differed significantly on all of the psychosocial variables, except for loneliness. The standardized canonical discriminant function coefficients which demonstrates the relative importance of the predictor variables, indicated that externalizing symptom and total problems (overall emotional and behavioral functioning) were the most predictive variables for cyber victim status, followed by peer self-esteem, internalizing symptoms and global self-esteem. The hypothesis that loneliness would be a highly predictive of status as a **CV** was not supported. Table 14 provides means, standard deviations, and the predictor status of the six psychosocial variables as a function of **CV** status. Table 15 illustrates the overall ability of the predictor variables to classify **CV** status.

Table 14.

Means, Standard Deviations, and Predictor Variables as a Function of Cyber Victim Status (N = 219)

	Cyber Victim		Non-Cyber Victim			
Predictor Variable	M	SD	M	SD	Wilks's ג	F (1, 213)
Internalizing	55.73	11.21	50.95	10.77	.955	9.94**
Externalizing	55.86	10.46	47.29	8.95	.842	40.01***
Total Problems	57.48	11.08	49.85	10.09	.888	26.99***
Loneliness	28.21	12.84	26.46	8.41	.994	1.30
Peer Self-Esteem	12.22	2.41	13.22	1.94	.952	10.63***
Global Self-Esteem	12.44	2.25	13.38	1.99	.955	9.96**

Alpha level was set at .05 for all comparisons.
** $p < .01$. ***$p < .001$.
Note. Missing data on at least one discriminating variable, n = 2.

Table 15.

Classification Analysis for Cyber Victim Status

Actual group membership	n	Predicted group membership: Cyber Victims	Predicted group membership: Non-Cyber Victims
Cyber Victims	122		
n		92	30
%		75.4	24.6
Non-Cyber Victims	93		
n		35	58
%		37.6	62.4

Note. Overall percentage of correctly classified cases = 69.8%.

Discussion

This study provides further evidence that in addition to the age-old problem of face-to-face bullying and victimization among school age peers youth are now experiencing a different form of peer maltreatment, that of cyber bullying and victimization. Furthermore, results show that cyber bullying and victimization is not merely a replacement for the more traditional, face-to-face acts of aggression toward peers; instead, technology is providing an additional vehicle in which school age children and adolescents can become both perpetrators and victims. Results also indicate that, similar to face-to-face bullying and victimization, psychosocial adjustment is negatively influenced by involvement in this newest form of peer aggression. The overall results suggest that the definition of peer victimization is in need of expansion to include cyber bullying and victimization and that increased research is warranted to further examine the impact that this new form of peer maltreatment has on youth.

Frequency/types of cyber use::

The study also confirmed the widespread use of the Internet among middle school students that has been suggested in the media and in surveys (Finkelhor, Mitchell, & Wolak, 2000; Lenhart, 2007; Lenhart, Rainie, & Lewis, 2001; Wolak, Mitchell, & Finkelhor, 2006). Findings indicate that among the two hundred and nineteen middle school students who participated in the study, 97% reported that they use the Internet. Almost half of the students (42%) also indicated the use of cell phones and approximately one third of participants reported that they send and receive text messages. Although the time that students reported spending on the Internet varied, the majority of students (80%) reported online use ranging from 1 to 3 times a week to every day. Some students

(31%) engaged in online activities for 2 to 3 hours a day and a small percentage (6%) were on the Internet from 4 to 6 hours a day. These results confirm findings from other studies that emphasize the rapidly increasing use of the Internet among youth (Lenhart, Rainie, & Lewis, 2001; Mitchell, Finkelhor & Wolak, 2000, Ybarra, Alexander, & Mitchell, 2005). Adolescents use the Internet more than any other age group. Among a sample of youth between the ages of 12 to 15, 97% reported using the Internet daily and more than half of the sample of 2,000 youth had their own cell phone (Lenhart et al., 2001). Mitchell et al. (2000) revealed that 74% of their youth sample had Internet access in their home and internet use averaged three days a week for about two hours a day in the Ybarra et al. (2005) youth sample. There is no denying that the Internet is a way of life for young people; therefore, studies such as this one are essential to further the understanding of the potential risks associated with its use.

Although research on the use of the Internet among youth is beginning to increase, few studies have actually sought to identify what types of activities middle school age youth are actually engaging in while online. This study begins to close this gap in the literature. While a majority of the participants (80%) take advantage of the Internet for doing homework and as a research tool, other common uses of the Internet involve socializing and entertainment. For example, a large number of participants (64%) use the Internet for online game playing. In addition, various methods of socializing online, including e-mailing, instant messaging, participation in chat rooms, and interacting with peers in social networking sites such as MySpace and Facebook were reported by a large percentage of participants (e.g., 51% e-mail, 37% instant messaging, and 22% social networking sites). Again, these findings are similar to other studies which emphasize that

the most common attraction of the Internet for teens is as a vehicle for communicating with friends (Gross, 2004; Lenhart & Madden, 2007; Ybarra, Alexander, & Mitchell, 2005). It should be noted, however, that this study was conducted with a rural sample; Internet use among an urban population may look different.

Parental awareness of use:

Based on the significant correlations found between the participants' and parents' reports regarding participants' daily and weekly Internet use and their ownership and use of cell phones for sending and receiving text messages, it appears that parents were adequately aware of the time their children spend using technology. The parental awareness was much less, however, for the types of activities their children engage in on the Internet. Overall, parents' reports of the use of the Internet by their child for e-mailing, instant messaging, playing online games, and socializing in chat rooms or on socializing network cites such as MySpace and Face Book were not significantly correlated with their children's reports. In fact, parents reported less use of the Internet for all of these activities than did participants. In contrast, parents' and participants' reports of students' use of the Internet for doing homework/research (highly reported activity by both parents and students) and for creating web sites (minimal use of the Internet for this purpose) were very similar, although not significantly correlated. These findings suggest that although parents recognize that their children are frequently using the Internet and that they sometimes use it for long periods of time, they are not looking over their shoulders to keep abreast of what their children are actually doing online. An increase in parental awareness of what youth are doing on the Internet is an important step toward keeping them safe from the many potential negative aspects of technology,

including peer maltreatment.

Risks involved in use of technology for youth:

While there is little doubt that there are many benefits to the tremendous advances that have been made in the past several decades in technology, there is increased recognition that there are also many risks, including online victimization. Although results from the current study as well as other studies indicate that the Internet is used by adolescents primarily for social connectivity and educational purposes, it is also apparent that they are using the Internet as a means to victimize their peers.

Frequency of cyber bullying/victimization:

Similar to other studies that have recently explored this new form of bullying (Finkelhor, Mitchell, & Wolak, 2000; Kowalski & Limber, 2007; Patchin & Hinduja, 2006; Williams & Guerra, 2007; Wolak, Mitchell, & Finkelhor, 2006; Ybarra, Diener-West, & Leaf, 2007), a liberal method of identifying cyber bullies, victims, and bully/victims was used in this current study. Cyber bullies, victims, and bully/victims were identified as individuals who endorsed involvement in these experiences 1-2 times or more within a six month time period. Again, this decision was made due to the exploratory nature of the study in an effort to determine the extent of and the potential psychosocial influence of this newest form of peer maltreatment.

It is important to note, however, that concerns have been raised in the recent literature on this phenomenon as to how best to capture the true picture of peer victimization through the use of technology. As pointed out by David-Ferdon & Hertz (2007b), the research on what they referred to as “electronic aggression” is still in its infancy and most studies are based on the literature on traditional bullying. One of the main issues being

considered in the research on this new form of peer victimization is whether or not cyber bullying/victimization can be viewed in the same manner as traditional, face-to-face bullying/victimization in terms of repetition. While traditional bullying/victimization emphasizes that a pattern of behavior occurs, researchers question whether this should also hold true for cyber bullying/victimization. Wolak, Mitchell, and Finkelhor (2007) pointed out that experiences of cyber bullying and victimization are more difficult to quantify than traditional forms of aggression. For example, an act of "electronic aggression" such as a hurtful website posting can be read by the victim and by others over and over and peers can even log on and add to the website or blog, which begs the question of whether or not this can be considered repetition. As research in this area increases, it is important to consider the unique aspects of this form of peer victimization and how that may contribute to defining and assessing perpetration and victimization.

Additional concerns within the research on cyber bullying and victimization are how cyber bullying and victimization experiences are operationalized and the time frame in which cyber bullying and victimization experiences are measured. For example, the large online victimization survey (Finkelhor et al., 2000) and follow-up survey (Wolak et al., 2006) that was conducted during the early stages of research in this area consisted of asking respondents two questions about "online harassment" within the past year. Youth were asked if they had felt "worried or threatened because someone was bothering you online" or if someone was "used the Internet to threaten or embarrass you by posting or sending messages about you for other people to see" (p. S44). Ybarra, Diener-West, and Leaf (2007) categorized targets of online bullying based on responding yes to at least one of three questions about Internet harassment within the past year. In contrast, Kowalski

and Limber (2007) assessed what they called "electronic aggression" using Olweus'1996 revision of the 39-item traditional bully/victim questionnaire and a 23-item electronic bullying questionnaire that was developed specifically for their study. They categorized bullies and victims based on responding yes that any of the events had occurred within the past couple of months. In summary, during this early, exploratory stage of research on cyber bullying and victimization, methodology varies greatly which makes it difficult to compare prevalence rates across studies. The problem of how to most accurately identify cyber bullies, victims, and bully/victims could be costly in terms of assessing prevalence rates and also in targeting those who are being negatively impacted by this type of peer aggression for intervention strategies. This is discussed in greater detail later.

Experiences of cyber bullying and victimization 1-2 times of more were reported in staggering amounts. Well over half of the participants (69%) were involved in cyber bullying as bullies (12%), victims (19%) or bully/victims (38%). As stated previously, there is no current standard for assessing cyber bullying and victimization; therefore, making meaningful comparisons between the rates found in the current study and those from other studies is challenging. Among the few studies that have assessed the frequency of cyber bullying and victimization, a sample of the rates of cyber bullying is as follows: 4 % of middle school students in a large sample indicated that they had "electronically bullied" at least once in the past month, 9.4% among a large sample of 5th, 8th, and 11th graders were "Internet bullies," 12% among a large sample of youth between the ages of 10 and 17 were "online aggressors," 15% of a large sample of youth were identified as "Internet harassers," and 21.4% of a small sample of 13 to 18 year olds were "electronic aggressors" (Finkelhor, Mitchell, and Wolak, 2000; Kowalski & Limber,

2007; Raskauskas & Stoltz, 2007; Williams & Guerra, 2007; Ybarra & Mitchell, 2004a). Rates of cyber victimization also varied widely as indicated in the following: Finkelhor et al. (2000) found that 6% of a large sample of youth were "harassed online" and this figure increased to 9% in a later survey (Wolak, Mitchell, & Finkelhor, 2006), 11% of middle school students were "electronically bullied" at least once in the past month (Kowalski & Limber, 2007), one in three (34.5%) of youth in the 2006 Growing Up with Media survey of youth ages 10 to 15 reported at least one incident of Internet harassment in the past year, with 8% reporting frequent harassment of once a month or more (Ybarra, Diener-West, & Leaf, 2007), 48.8% of a small sample of youth ages 13 to 18 were "electronic victims" (Raskauskas & Stoltz, 2007) and 4% of a large sample of youth ages 10 to 17 were "online targets" (Ybarra & Mitchell, 2004a). Only two studies provided rates for individuals involved as both bullies and victims (Ybarra & Mitchell, 2004a; Kowalski & Limber, 2007). The rates of bully/victims for these studies, 3% and 7% respectively, were much less than the rates of bully/victims in the current study (38%). Again, method of measurement, time frame, and sample characteristics are likely related to the wide variation in rates. This illustrates the importance of standardizing the way in which cyber bullying and victimization is assessed. In addition, the fact that the percentages of participants involved in this newest form of peer maltreatment is almost identical to the percentages of participants who reported involvement in the more traditional forms of aggression confirms that cyber bullying and victimization among youth warrants the attention of parents, educators, and society-at-large that is now being given to other forms of peer maltreatment.

Frequency of face-to-face involvement:

Results indicate that face-to-face bullying and victimization continues to be a common occurrence among youth, with 73% of participants involved in face-to-face bullying as bullies (11.4%), victims (18.3%), or bully/victims (43.4%). Research on traditional bullying and victimization has increased drastically over the past twenty years; however, figures regarding frequency vary widely due to methodological differences among studies. The percentages of individuals in this study who reported involvement in bullying and/or victimization are higher than those from many studies. For example, 35% of a sample of eight to nine year olds in Boulton and Smith's (1994) study were involved as bullies, victims, or bully/victims. A study conducted by Kumpulainen et al. (1998) revealed that among a large sample of eight year olds, 15.7% were bullies and 18.9% were victims; however, when the sample was broken down further into those who bullied and were victims, results were as follows: 8.1% bullies, 11.3% victims, and 7.6% bully/victims. Among a sample of middle-school students, 30.9% were victimized three or more times over the past year and 7.4% bullied others three or more times over the past year (Haynie et al., 2001). Half of the bullies were also victimized. A recent study revealed that 24% of a sample of seventh and eight grade students ($N = 454$) endorsed involvement in bullying. Finally, the largest study conducted in the U.S. ($N = 15, 686$) found that 29.9% of sixth through tenth graders reported moderate to frequent involvement in bullying, with 13% as bullies, 10.6% as victims, and 6.3% as bully/victims. Again, methods and sampling varied within these studies so making meaningful comparisons is difficult; however, it should be noted that the method of categorizing individuals as traditional bullies, victims, or bully/victims in this study was

based on a response of yes indicating that one or more bullying or victimization behaviors had occurred once a week or more within the past six months. The rate of individuals who were both bullies and victims in this study is especially high which suggests that future research should target this subset of youth as research indicates that they are the most likely to suffer numerous negative consequences.

Relationship between face-to-face bullying and cyber bullying:

As stated previously, traditional bullying/victimization continues to be a major problem among youth and evidence suggests that cyber bullying and victimization is not simply a replacement for this age-old form of aggression. Findings from this study indicate that a significant number of individuals (33%) who engaged in face-to-face bullying behaviors toward others also engaged in online bullying. Results suggest that, similar to the research on face-to-face bullying, certain characteristics that have been used to describe bullies such as a need for power and control, impulsivity, and domination may also be appropriate for describing individuals who engage in cyber bullying. The characteristics that are thought to play a role in individuals' tendencies to bully others face-to-face may be amplified by the de-individuation and anonymity of the Internet and thus, may explain the significant likelihood for face-to-face bullies to engage in cyber bullying. As stated by Ybarra & Mitchell (2004a), it appears that for face-to-face bullies, the Internet is "an extension of the schoolyard" (p. 1313).

Relationship between face-to-face victimization and cyber bullying:

Findings of this study suggest that one of the negative outcomes of being victimized by traditional, face-to-face forms of bullying is a significant tendency for victims to bully others online. A large percentage (57%) of face-to-face victims admitted to bullying

others using the Internet or cell phone. These findings support Ybarra and Mitchell's (2004a) research in which approximately half on the individuals who bullied others online were also targets of traditional bullying. Research on face-to-face bullying/victimization has indicated that anger and sadness are common reactions to peer victimization. In addition, victims of face-to-face bullying are characterized as having low self-esteem. It has been speculated in the research that responding to victimization with aggression (i.e., reactive aggression) may be a way for victims of bullying to manage or regulate their self-esteem, particularly if the individual is high in defensive egotism (Camodeca et al., 2002; Machek, 2004; Salmivalli & Nieminen, 2002; Sandstrom & Jordan, 2008). Other researchers have supported this proposed explanation for why victims bully others in their findings indicating that face-to-face victims are sometimes highly emotional and oppositional and engage in aggressive reactive behaviors in response to being bullied (Crick & Bigbee, 1998; Pellegrini, Bartini, & Brooks, 1999; Prinstein, Boergers, & Vernberg, 2001. Thus, face-to-face victims may victimize others using technology in retaliation for their own experiences of being bullied as a way to save face and make themselves feel better. Online bullying may be a response to provocation and may also serve as a strategy to counter the negative effects of being bullied face-to-face. Thus, targeting others without fear of negative repercussion by using the Internet may be one way in which victims of face-to-face bullying cope with their own victimization and re-gain power and enhance their deflated self-esteem.

Relationship between face-to-face bullying and cyber victimization:

The significant likelihood that face-to-face bullies will be cyber victims further suggests that online bullying may be a way in which individuals seek retribution toward

bullies by targeting them through the use of technology. The individuals who target bullies on the Internet or with cell phones may be seeking revenge for their own face-to-face victimization or they may simply be seeking justice for all victims of bullying. The anonymity of the Internet allows individuals who would not normally stand up to bullies to do so indirectly and fearlessly.

Relationship between face-to-face victimization and cyber victimization:

This study provided evidence that there is a significant likelihood that victims of traditional forms of bullying (i.e., physical aggression, verbal aggression, relational aggression) will also be victims of this newer form of peer victimization, cyber bullying. A majority (71%) of victims of face-to-face bullying were also victimized on the Internet and/or cell phone. This is concerning because it follows that the potential risks related to experiencing peer victimization are likely to increase when youth are exposed to more than one form of victimization. Vulnerability factors related to peer victimization have been identified in research on face-to-face bullying and victimization and it has been suggested that certain individuals may be more prone to victimization by bullies (Egan & Perry, 1998; Hodges & Perry, 1999; Kochenderfer & Ladd, 1996, Nishina, Juvonen, & Witkow, 2005; Schwartz, Dodge, & Coie, 1993). Externalizing behaviors such as argumentativeness and disruptiveness as well as internalizing symptoms such as loneliness, low self-esteem, and emotional problems are thought to invite or reinforce peer victimization (Olweus, 1978; Perry, Kusel, & Perry, 1988). Cyber victims endorsed externalizing behaviors and emotional and behavioral difficulties (YSR) as well as low peer self-esteem (SEQ-SF), which may be similar to the vulnerability factors that make face-to-face youth easy targets for aggressors. Further research is needed to better

understand the antecedents and risk factors of both cyber bullying and cyber victimization.

Gender differences in cyber bullying and victimization:

Although results indicated that both males and females engaged in cyber bullying and were victims of cyber bullying, the rate of involvement among females was significantly higher. Among the approximately two-thirds (69%) of participants who were involved in cyber bullying and/or victimization, 37% were male, whereas 63% were female. Higher rates of females were found for all three cyber bullying and victimization groups, bullies, victims, and bully/victims. These findings support other research that has found an over-representation of females in this form of bullying and victimization. A recent large scale study conducted by Kowalski and Limber (2007) found that females were significantly over-represented in "electronic" bullying and victimization. According to their study, 15% of the females in their sample compared to 7% of the males were victims only and 10% of the females compared to 4% of the males were bully/victims. Their study resulted in similar rates of females (4%) and males (5%) as bullies only. In addition, findings from a study that focused on problematic Internet experiences among individuals seeking mental health services indicated that 10% of the sample reported Internet harassment and twice as many females (65%) than males (35%) reported problems related to Internet harassment. Although the study sample included adults as well as youth, 35% of the sample was under the age of eighteen; youth clients had often been referred by parents or teachers because of their Internet harassment experiences, either as perpetrators or victims. Agatston, Kowalski, and Limber (2007) interviewed middle school and high school students in a focus group format and found that females more so than males view

cyber bullying as a serious problem at their schools.

Research on gender differences among the various types of peer maltreatment (i.e., overt forms of aggression such as physical and verbal abuse versus relational aggression) among youth has shown mixed results; however, much of the research in this area depicts females as more likely to be involved in indirect forms of aggression whereas males are more likely to engage in direct forms of aggression (Crick, 1996; Crick, Bigbee, & Howes, 1996; Crick & Grotpeter, 1995; Crick & Grotpeter, 1996; Nansel, Overpeck, Pilla, Ruan, Simons-Morton, & Scheidt, 2001). It has been suggested that females use indirect forms of aggression, such as relational aggression, toward each other as a way of rejecting peers and also to manipulate the rejection of peers by others (Crick, 1996; Crick & Grotpeter, 1995). Findings from this study support prior research indicating that gender may play a role in the types of peer maltreatment in which youth engage, with females being more prone to use covert ways (e.g. Internet bullying) to target their peers. The significantly higher frequency of females (more than twice the number of males) who reported cyber bullying others in this study may be indicative of a meaningful distinction in the dynamics of domination of Internet, or faceless bullying, for females. Knowledge about the role of gender in cyber bullying and victimization can be used to enhance intervention and prevention strategies. For example, understanding gender differences in this new form of peer maltreatment can inform prevention and intervention program developers as to the most effective strategies to use (e.g., similar to females who engage in relational aggression, females who cyber bully may benefit from training in prosocial behaviors).

Awareness has increased over that past decade about the deleterious consequences of

more covert forms of aggression such as relational aggression (i.e., spreading rumors or lies about peers or purposefully trying to harm peer relationships) (Crick & Bigbee, 1998; Crick & Grotpeter, 1995, 1996; Storch & Ledley, 2005). This led to a shift in the definition of peer maltreatment to include relational aggression. Findings from this study demonstrate the need for further expansion of the conceptualization of peer maltreatment to include cyber bullying and victimization to provide an even more balanced picture of peer maltreatment.

Psychosocial adjustment of cyber bullies and victims:

Support for the detrimental consequences of involvement in cyber bullying and/or victimization was demonstrated in the findings of this study; however, the patterns of psychosocial maladjustment varied among the different types of involvement. Results indicated that compared to the control group, cyber victims had significantly higher scores on the externalizing scale and the total problems scale (YSR) as well as lower peer self-esteem (SEQ-SF).

The general consensus in the face-to-face bullying/victimization research is that peer victimization is associated with internalizing symptoms more so than externalizing behaviors (Boulton & Underwood, 1992; Hawker & Boulton, 2000; Haynie, Nansel, Eitel, Crump, Saylor, Yu, & Simons-Morton, 2001). Similarly, recent studies on online bullying found that victims are more likely to experience depression related to their experiences compared to individuals who were not targeted online (Mitchell, Finkelhor, & Wolak, 2003; Ybarra & Mitchell, 2004b; Ybarra, Alexander & Mitchell, 2005). Each of these studies reported depressive symptomatology within the past month among cyber victims based on their self-reported endorsement of five of the nine symptoms of

depression as outlined by the Diagnostic Statistical Manual-IV and endorsement of functional challenges in either self-efficacy, personal hygiene, or school or work. Thus, it is somewhat surprising that cyber victims had significantly higher scores on the externalizing scale but not the internalizing scale (YSR).

There is also extensive research on face-to-face bullying and victimization, however, that demonstrates that bullying and victimization among peers is associated with a wide range of psychosocial adjustment difficulties, including externalizing behaviors (Crick & Bigbee, 1998; Harris & Petrie, 2002; Hawker & Boulton, 2000; Lopez & DuBois, 2005; Haynie, et al., 2001; Nansel et al., 2001). Studies have shown that both face-to-face bullies and victims reported significantly high levels of physical, verbal, and relational aggression toward peers as well as disruptive and oppositional behaviors that interfered with the social and emotional development and functioning of victims (Craig, 1998; Hanish & Guerra, 2002). Thus, the indications from the current study (i.e., victims of cyber bullying experienced externalizing symptoms such as aggression and deviant behaviors more so than the control group of non-involved individuals) may not be that unusual.

One proposed explanation for the significantly higher externalizing symptoms of cyber victims compared to the control group is based on the review of the face-to-face bullying/victimization research conducted by Pellegrini (1998) and Pellegrini, Bartine, and Brooks (1999). Two types of victims emerged in these studies:
1) “reactively aggressive” victims who are similar to bullies in that they behavior aggressively but their aggression (e.g., externalizing behaviors such as fighting, being easily angered, being uncooperative, and engaging in disruptive and impulse behaviors)

is reactive and 2) passive victims who are annoying and impulsive victims who "invite" or "provoke" bullies and then do not back down. It is possible that the individuals in the cyber victim group exhibit these types of behaviors and are similar to the types of victims described in past research (Olweus, 1978; Pellegrini, 1998; Pellegrini et al., 1999). Victims of peer maltreatment may have personal and interpersonal attributes that "invite" others to mistreat them. Perhaps similar characteristics are evident among cyber victims, which may put them at risk of being bullied by individuals who have no qualms about bullying others as well as individuals who would not normally bully others but may be more inclined to do so knowing that they can hide behind a computer screen or cell phone. Since very little research has been conducted on cyber bullying and victimization, theories about antecedents and consequences are in the early stages of being generated. More research is warranted to provide a better understanding of the mechanisms that place youth at risk for peer victimization.

In addition to endorsing externalizing symptoms, cyber victims in this study were also found to have significantly higher scores on the total problems scale (YSR) than the control group. The total problems subscale measures overall emotional and behavior difficulties such as not getting along with peers, getting teased, not being liked by others, unusual behaviors (i.e., twitching, picking skin), and attention problems such as daydreaming and impulsivity. Findings of the current study indicate that a relationship, possibly a bi-directional one, exists between these types of problems and behaviors and cyber victimization. Behaviors that are odd and annoying to peers may increase victims' vulnerability to be targeted; likewise targeted peers may develop social and emotional difficulties as a result of their maltreatment. Again, causation is not possible in a study

such as this so it is difficult to determine whether victimization is related to these vulnerability factors or if victims' social and emotional difficulties can be attributed to the victimization experiences. Research focusing on examining temporality would be important as it would increase our understanding of the role of vulnerability factors as well as the negative impacts related to this form of peer maltreatment (e.g., longitudinal).

Cyber victims scored significantly lower than the cyber control group on the measure of peer self-esteem, which suggests that these individuals are not satisfied with their peer relationships (e.g., how well they are liked, how happy they are with the number of friends they have, how well they get along with their peers). This supports the research findings on face-to-face victims which describe victims as experiencing peer rejection and peer neglect, difficulty making friends, and a lack of social connectiveness (Hodges & Perry, 1999; Nansel, Overpeck, Pilla, Ruan, Simons-Morton, & Scheidt, 2001). Peer self-esteem is a component of overall self-concept or global self-esteem that is important for healthy development at any age (DuBois, Tevendale, Burk-Braxton, Swenson, & Hardesty, 2000). It is particularly important, however, during adolescence as this is a time when positive peer relationships have been linked to successful identity formation, sense of self-worth, healthy self-esteem, and overall emotional well-being and adaptive functioning (DuBois et al., 1996; DuBois et al., 2000; Raskauskas & Stoltz, 2007). Peer victimization, which disrupts emotional and social development, has been well documented to be consistently and negatively correlated with self-esteem (Austin & Joseph, 1996; Boulton & Smith, 1994; Egan & Perry, 1998; Rigby & Slee, 1991; Salmivalli, Kaukiainen, Kaistaniemi, & Lagerspetz, 1999; Sharp, 1996). Therefore, evidence that cyber victimization is related to lower peer-self esteem strengthens the

rationale for including cyber bullying and victimization in a broader conceptualization of peer victimization.

Surprisingly, cyber bullies did not differ significantly from the control group on any of the six measures of psychosocial adjustment. This is a curious finding considering the vast amount of research on face-to-face bullies that indicates numerous deleterious consequences for bullies (Hawker & Boulton, 2000; Haynie, Nansel, Eitel, Crump, Saylor, Yu, & Simons-Morton, 2001; Kaltiala-Heino, Rimpela, Rantanen, & Rimpela, 2000). Results revealed group means on all of the psychosocial measures for cyber bullies that were strikingly similar to the means of the control group. Furthermore, externalizing behavior scores and total problem scores (YSR) for cyber bullies were lower than those endorsed by both cyber victims and cyber bully/victims which is an unusual finding according to the traditional bullying/victimization research.

There are several possible explanations for the lack of findings indicating psychosocial maladjustment among cyber bullies. One proposed explanation is that individuals who labeled themselves as cyber bullies were reluctant to endorse the psychosocial problems and deviant behaviors that are assessed with the Youth Self-Report, Children's Loneliness Questionnaire, and Self-Esteem Questionnaire, Short Form. Perhaps cyber bullies are detached from their victims such that they do experience symptoms or distress related to their aggression toward others. It may be, however, that they lack insight into their problems or that they are unwilling (perhaps because of guilt or shame) to endorse deviant and socially undesirable behaviors that are assessed with the YSR or loneliness and low self-esteem that were also measured. A social desirability measure was not included in the study; thus, under-reporting of symptoms by cyber

bullies in order to present themselves favorably is also a possibility. An additional possibility is that cyber bullies may have adopted a defensive stance to test taking and responded randomly to questions. An additional hypothesis for the lack of significant findings regarding externalizing behaviors among cyber bullies is that individuals who are psychosocially well adjusted may view cyber bullying as an acceptable practice. This perspective has been explored recently (Williams & Guerra, 2007) and findings revealed that moral acceptance of bullying, including physical, verbal, and internet, was significantly related to self-reported endorsement of involvement. Therefore, youth who do not necessarily fit the typical profile of bullies may engage in aggressive behaviors online if they consider it "normal" behavior. Unfortunately, the risk for cyber bullies who are experiencing distress but do not divulge it is that they may not be targeted for needed interventions (e.g., psychological services). Fortunately, the cyber bullies who were also victims of cyber bullying (i.e., CB/V) seemed to be more willing to disclose symptoms and maladaptive behaviors which can then be targeted.

Psychosocial adjustment of cyber bully/victims:

Sixty-nine percent of participants were involved in Internet or cell phone peer victimization and over half of these were cyber bully/victims. The high percentages of participants in this study who are online bullies *and* victims support Patchin and Hinduja's (2004) findings in which 75% of youth who bullied others online had themselves been victims of bullying. Ybarra and Mitchell (2004b) also found that individual who reported harassing others online were significantly more likely to be harassed by others online.

The group of cyber bully/victims differed significantly from the control group on the

internalizing, externalizing and total problem scales of the YSR. In addition, cyber bully/victims had significantly higher externalizing symptoms than individuals who were *either* cyber bullies *or* cyber victims. Cyber bully/victims also endorsed significantly higher total problem scores than individuals who were cyber bullies. The level of problems experienced by cyber bully/victims in this study is similar to findings from numerous studies on face-to-face bully/victims (Haynie, Nansel, Eitel, Crump, Saylor, Yu, & Simons-Morton, 2001; Kumpulainen, Rasanen, & Henttonen, 1999; Nansel, Overpeck, Pilla, Ruan, Simons-Morton, & Scheidt, 2001). These studies indicated that face-to-face bully/victims scored significantly less favorably than the comparison group of non-bullies and non-victims on a variety of psychosocial variables, including externalizing behaviors, internalizing symptoms, social and emotional functioning, academic functioning and deviant behaviors such as fighting, truancy, alcohol use and smoking. The level of psychosocial maladjustment for cyber bully/victims suggests that this group can be described similarly to face-to-face bully/victims as the most "disturbed" group. This unique group of individuals who are cyber bullies and are themselves victims of cyber bullying represents a high-risk population that warrants special attention.

As stated previously, females appear to be particularly at risk for involvement as cyber bully/victims. Findings from this study indicated that a larger percentage of females (61%) than males (39%) were cyber bully/victims. These findings support the research conducted by Ybarra and Mitchell (2004b) which found that females were three times more likely than males to be "aggressor/targets" (p.253). Kowalski and Limber (2007) also found that females involvement in "electronic aggression" was over twice that of males (S25).

Clinical description of cyber bullies, victims, bully/victims:

Given that the group mean scores on the externalizing, internalizing, and total problem scales (YSR) for each of the cyber bullying and victimization groups fell below what would be considered clinically significant (in spite of the statistical significant that was found between several of the groups), it important to pay close attention to the individual scores among cyber bullies, victims, and bully/victims to assess for clinically significant problems. Examining clinical significance of the psychosocial scores on the measures provides a clearer picture of whether or not cyber bullying and/or victimization may actually make a difference in the psychosocial functioning of those who are involved. Further inspection of the clinically significance (i.e., T-score greater than 65) revealed that 8% of the cyber bullies (n = 26), 29% of the cyber victims (n = 42), and 27% of the cyber bully/victims (n = 82) scored in the clinically significant range for internalizing symptoms (YSR). An additional 15% of these combined groups scored in the borderline clinical significant range (i.e., T-scores between 60 and 64) for internalizing symptoms.

Clinically significant scores on the externalizing scale (YSR) were indicated by 17% of the cyber victims and 28% of the cyber bully/victims. An additional 29% of these two groups combined scored in the borderline clinical range for externalizing symptoms. Scores for the cyber bullies were not clinically significant or borderline clinically significant on the externalizing scale (YSR).

Clinically significant scores on the total problem score scale for the YSR were indicated by 15% of the cyber bullies, 24% of the cyber victims, and 33% of the cyber bully/victims. An additional 37% of these combined groups scored in the borderline clinical range in the total problem scale.

It is also important to compare these clinical scores of cyber bullies, victims, and bully/victims to those of the cyber control group to get a clearer picture of how individuals involved in cyber bullying and victimization may look different. Although a small percentage of the cyber control group members (n =68) also scored in the clinically significant range, (9% internalizing scale, 4% externalizing scale and 9% total problem scale), these percentages were much less than those of the cyber victim and cyber bully/victim groups. The clinically significant scores for individuals involved in cyber bullying and victimization suggest that screening individuals who are exhibiting symptoms or are actually reporting problems that may be related to bullying and/or victimization experiences for clinically significant psychosocial difficulties would be helpful in designing interventions that could be appropriately matched to their specific needs. Screening can also identify individuals whose scores fall in the borderline clinically significant range such that early intervention strategies can be implemented.

The cyber involved groups (i.e., cyber bully, cyber victim, and cyber bully/victim) had mean scores that were not statistically significant compared to the cyber control group on the CLQ measure which suggests that loneliness may not a specific factor that is related to cyber bullying and victimization. However, between 8 and 18% of the combined groups of cyber bullies, cyber victims, and cyber bully/victims scored higher than the control group mean (M = 26.59; SD = 8.74) for loneliness. This suggests that some cyber victims and bullies may experience loneliness to a degree that negatively effects their psychosocial functioning.

In addition, a percentage (25 to 30%) of the combined group of cyber victims, cyber bullies, and cyber bully/victims scored below the mean score of the control group (M =

13.26; *SD* = 1.96) on peer self-esteem. This indicates that targeting low peer self-esteem among youth who are involved in cyber bullying and victimization may be a necessary treatment strategy.

Finally, low global self-esteem should be targeted as well as evidenced by the 22 to 28% of cyber bullies, victims, and bully/victims whose scores fell below the mean of the cyber control group (*M* = 13.40; *SD* = 2.05). Again, screening measures are a useful way to identify youth who could benefit from learning skills designed to increase positive social interactions and enhance their peer self-esteem and overall sense of self-worth. In summary, in addition to examining statistically significant group differences on psychosocial characteristics, it is also important to pay attention to the clinical picture for this population so that specific interventions can be implemented to address the clinical presentations that are commonly seen among cyber bullies, victims, and bully victims.

Psychosocial adjustment of face-to-face and cyber victims:

A staggering number of participants, (*n* =95), were victims of face-to-face bullying *and* victims of cyber bullying (i.e., face-to-face/cyber victims). These individuals, who were victimized in more than one setting or context, exhibited significantly poorer psychosocial adjustment than those who experienced *either* face-to-face victimization *or* cyber victimization. A wide range of behavioral, social, and emotional difficulties were endorsed at significantly higher levels by the youth who experienced both forms of victimization, including internalizing symptoms, externalizing symptoms, total problems (YSR), increased loneliness (CLQ), and low peer self-esteem (SEQ-SF) compared to those who experienced *either* face-to-face victimization *or* cyber victimization. Considering the significant likelihood for victims of face-to-face bullying to be cyber

victims as well, it is important to focus on vulnerability factors that may be related to being targeted in multiple ways (i.e., face-to-face bullying which includes physical, verbal, and relational acts of aggression and cyber bullying on the Internet or cell phone). As this group is the most at risk for problems, future research is warranted to try to identify the personal and interpersonal characteristics that place these individuals at such heightened risk. Again, bi-directionality should be considered when exploring the psychosocial characteristics of those who are victimized by traditional, schoolyard bullying along with this newest form of victimization through the use of technology. An understanding of the role of vulnerability factors related to all forms of peer victimization and an increased awareness of the negative consequences that have been linked to these experiences are critical to the development of effective prevention and intervention strategies.

Clinical description of face-to-face and cyber victims:

In addition to finding statistically significant differences for four of the six measures given between those who are victims of *one* form of bullying (*either* face-to-face *or* cyber) and those victimized by *both* forms (face-to-face *and* cyber), results also depict a disturbing clinical picture for those involved in both forms of victimization. Many of the individuals in the face-to-face/cyber victim group scored in the clinically significant range for internalizing (35%), externalizing (22%), and total problems (37%) on the YSR. A smaller percentage of the face-to-face/cyber victim group members scored in the borderline clinical range (T-score of 60-64) for these scales: internalizing (15%), externalizing (20%), and total problems (22%). A large percentage (64%) of this group also scored below the mean for individuals who were identified as non-face-to-face/cyber

victims (*M* = 13.86, *SD* = 1.65) on the peer self-esteem items. Many individuals (47%) who were members of the face-to-face/cyber victim group also scored below the mean of non-face-to-face/cyber victims (*M* = 13.94, *SD* =1.84) for global self-esteem. Finally, 43% of face-to-face/cyber victims endorsed high levels of loneliness compared to the those who were not face-to-face/cyber victims evidenced by mean scores that were much lower than the mean score for the non-face-to-face/cyber victim group (*M* = 23.87, *SD* = 6.62).

A close examination of the group status for the individuals (*n* = 22) who endorsed one or both of the questions on the YSR that asked about suicidal ideation revealed that all of these individuals were members of the face-to-face/cyber victim group. Victims, as well as bullies, involved in face-to-face bullying have been found to be at higher risk than non-victims for suicide (Rigby, 1996; Rigby & Slee, 1999; Roland, 2002). Thus, individuals who are victimized by more than one form may be at an even greater risk of suicide. Caution is advised, however, when linking peer victimization with suicidal ideation among youth because, as pointed out by the National Youth Violence Prevention Resource Center, numerous factors place this age group at high risk for suicide (Youth Suicide Fact Sheet, National Youth Violence Prevention Resource Center, http://www.safeyouth.org/scripts/facts/suicide.asp). The clinical picture for the individuals involved in *both forms of victimization* further emphasizes the need for personal assessments of mental health problems among those involved in cyber peer maltreatment.

Psychosocial adjustment of cyber bullies, cyber victims and cyber bully/victims once a week or more:

Exploratory analysis categorized cyber bullies, victims, and bully/victims who endorsed involvement *once a week or more* and further assessed the psychosocial characteristics of these individuals. This allowed for a discussion about how the individuals who were involved 1-2 times or more may differ from those who were involved more frequently, *once a week or more*. Results of this comparison revealed that while some of the psychosocial characteristics for cyber bullies, victims and bully/victims who were involved 1-2 times or more were similar to those of individuals involved more frequently (i.e., *once a week or more*), some were different. For example, cyber victims who were victimized *once a week or more* within the past six months (n = 15) endorsed significantly higher internalizing symptoms that the cyber control group. This was in contrast with the cyber victim group that was victimized 1-2 times or more. In addition, cyber bullies who engaged in this behavior *once a week or more* within the past six months (n = 21) had significantly higher scores on externalizing symptoms than the cyber control group whereas the cyber bullies who bullied 1-2 times or more did not. Significantly higher scores on the total problems scale of the YSR was evidenced by cyber bullies, victims, and bully/victims who were involved *once a week or more*; however, cyber bullies who bullied 1-2 times or more did not have significantly different scores on the total problems scale than the cyber control group. Whereas the cyber victim group that endorsed victimization 1-2 times or more did not differ significantly on loneliness compared to the cyber control group, findings revealed that participants who were victimized *once a week or more* had significantly higher loneliness scores than the

cyber control group.

Clinical description of cyber bullies, victims, and bully/victims once a week or more:

Examination of the clinical significance of psychosocial variables of cyber bullies, cyber victims, and cyber/victims who endorsed involvement *once a week or more* provided a clearer picture of the level of psychosocial maladjustment for these individuals compared to the non-involved individuals. In addition, it provided a better understanding of the differences in psychosocial functioning of individuals who are involved in cyber bullying and victimization on a more frequent basis compared to the groups of cyber bullies, victims, and bully/victims who may have been involved frequently but who also could have experienced this form of peer maltreatment only 1-2 times. Understanding the psychosocial difficulties for those more frequently involved will be helpful for designing interventions that can be appropriately matched to their specific needs.

Despite findings that group mean scores for internalizing symptoms (YSR) for cyber bullies, victims, and bully/victims involved *once a week or more* fell below what is considered clinically significant, 20% of cyber bullies, 43% of cyber victims, and 35% of cyber bully/victims involved *once a week or more* scored in the clinical significant range for internalizing symptoms (i.e., T-score greater than 65). Group mean scores for these groups on externalizing behaviors (YSR) also fell below the clinically significant cut-off; however, 53% of cyber bullies, 14% of cyber victims, and 48% of cyber bully/victims scored in the clinically significant range on externalizing behaviors. Total problem (YSR) group means for cyber bullies, cyber victims and cyber bully/victims who were involved *once a week or more* fell below the clinical significant cut-off as well. Further inspection,

however, revealed that 53% of cyber bullies, 43% of cyber victims, and 35% of cyber bully/victims scored in the clinically significant range for total problems.

Peer self-esteem (SEQ-SF) group means for cyber bullies, victims, and bully/victims involved *once a week or more* were similar to the control group mean (M = 12.82, SD = 2.11); however, 60% of cyber bullies, 57% of cyber victims, and 61% of cyber bully/victims scored below this control group mean, indicating that a large percentage of these individuals experienced low peer self-esteem compared to the cyber control group. In addition, global self-esteem (SEQ-SF) group means for cyber bullies, victims, and bully/victims involved *once a week or more* were also similar to the control group mean, (M = 13.00, SD = 2.05); however, 47% of cyber bullies, 50% of cyber victims, and 39% of cyber bully/victims scored below this control group mean, indicating that a large percentage of these individuals experienced low global self-esteem compared to the cyber control group.

Compared to the control group mean (M = 26.59, SD = 9.43) for loneliness (CLQ), 20% of cyber bullies who bullied *once a week or more* endorsed higher scores indicating increased loneliness compared to the cyber control group. In addition, 52% of cyber victims and 30% of cyber bully/victims who were involved *once a week or more* had loneliness scores higher than the control group mean, indicating increased loneliness.

In addition to comparing individuals involved *once or week or more* in cyber bullying and victimization to the cyber control group, differences among cyber bullies, victims, and bully/victims involved *once a week or more* and those involved 1-2 times or more were also examined. Results revealed that a pattern of more frequent involvement was associated with higher levels of maladjustment on many of the psychosocial variables

that were measured. For example, a larger percentage of cyber bullies (20%), victims (43%) and bully victims (35%) involved *once a week or more* scored in the clinically significant range for internalizing symptoms compared to those involved 1-2 times or more (cyber bullies, 8%, victims (29%) and bully/victims 27%). The cyber bully group that included those involved 1-2 times or more did not score in the clinically significant range for externalizing behaviors; however, a large percentage (53%) of cyber bullies involved *once a week or more* did. Similar percentages in the clinically significant range were found for cyber victims involved 1-2 times or more and those involved *once a week or more* for externalizing behaviors, 17% and 14% respectively. A much larger percentage (48%) of cyber bully/victims involved *once a week or more* scored in the clinically significant range for externalizing behaviors compared to those involved 1-2 times or more (28%). Similar percentages of clinically significant scores were found among the cyber bully/victims involved *once or week or more* and those involved 1-2 times or more for total problems, 35% and 33% respectively. A higher percentage, however, of scores fell in the clinically significant range on the total problem scale for cyber bullies involved *once a week or more* (53%) compared to those involved 1-2 times or more (15%). This was also true for cyber victims involved *once a week or more* compared to those involved 1-2 times or more (43% compared to 24%, respectively scored in the clinically significant range on the total problems scale).

Other psychosocial measures, which included peer self-esteem, global self-esteem, and loneliness, were compared for cyber bullies, victims and bully victims involved *once a week or more* and those involved 1-2 times or more. A comparison of each group's peer self-esteem scores, which were calculated for each of the specific time periods (1-2

weeks or more and once a week or more), revealed that the percentage of cyber bullies, victims, and bully/victims involved *once a week or more* whose scores fell below the control group mean was double that of those involved 1-2 times or more. Thus, peer self-esteem was much lower for those who were frequently involved in this form of peer maltreatment compared to non-involved individuals and those involved 1-2 times or more. Similar findings were revealed for global self-esteem and loneliness; a much larger percentage of those involved *once a week or more* compared to those involved 1-2 times or more scored in the clinically significant range, indicating decreased global self-esteem. While the percentage of scores in the clinically significant range for loneliness among cyber bullies who were involved 1-2 times or more and those involved *once a week or more* were similar, the percentages of scores in the clinically significant range for cyber victims and cyber bully/victims involved *once a week or more* were double those of cyber victims and cyber bully/victims involved 1-2 times or more. Cyber bullies who were involved more frequently than 1-2 times or more did not appear to exhibit increased loneliness compared to those involved more frequently where as increased involved did seems to be associated with increased loneliness for cyber victims and bully/victims.

The differences in psychosocial adjustment of individuals involved in cyber bullying and victimization 1-2 times or more with those who endorsed involvement once a week or more are provided to highlight the need for careful consideration of identifying a suitable cut-off point in classifying youth as cyber bullies, victims, and bully/victims. The extensive research on face-to-face bullying and victimization has addressed this issue over the years, which has resulted in face-to-face bullying and victimization being more clearly defined and operationalized as a pattern of behavior (Soldberg & Olweus, 2003).

In contrast, cyber bullying and victimization is a relatively new phenomenon that is in the early stages of this important process.

Soldberg and Olweus (2003) demonstrated the importance of a thorough deliberation of the methods used in assessing face-to-face bullying and victimization in terms of frequency and duration of the behavior. Although they ultimately concluded that "two to three times a month" was a suitable cut-off, they highlighted the results of their study that indicated that even those who bullied or were victimized "only once or twice" within the past couple of months had significantly poorer psychosocial adjustment than those who were categorized as non-bullies or non-victims. Soldberg and Olweus (2003) acknowledged that although a pattern of behavior is in line with the general definition of bullying, the risk of not including those who have been bullied infrequently is that "students who would be designated as "non-victims"/"non-bullies" but actually have marked victim/bully characteristics" would be left out (p. 262).

These important factors can also be applied to cyber bullying and victimization. The increased psychosocial maladjustment of individuals who experience cyber bullying and victimization *once a week or more* as opposed to 1-2 times or more suggests that these are the individuals that are most in need of attention. However, as emphasized by Solberg and Olweus (2003) in their research on face-to-face bullying/victimization, a strict criteria of categorizing youth as cyber bullies, victims, and bully/victims may reinforce that the focus should be on only extreme experiences and highly disturbed students. In addition, this view may influence the willingness for educators, parents, and society in general to consider this form of peer aggression as serious and take steps to develop interventions and prevention strategies.

Although strategically developing the criterion for classification of youth as cyber bullies or victims was not a major focus of this study, results demonstrated the importance of carefully considering the sensitivity and specificity of identifying individuals who experience this new form of peer maltreatment and measuring psychosocial adjustment related to it. While it is important to avoid the over-inclusion of youth as cyber bullies or victims, it is equally important to identify youth who are being psychologically affected by this new venue for targeting peers. It is also essential to note the unique aspects of cyber bullying and victimization, which are discussed below. For example, unlike face-to-face bullying/victimization, the very nature of technology allows for repetitious maltreatment of peers. In summary, as suggested by Soldberg and Olweus (2003) in their research on identifying face-to-face bully/victims, identifying youth who have tendencies toward cyber bullying and victimization in the early stages is important from a prevention and early intervention perspective.

As pointed out previously, the research on this new form of bullying/victimization is in the early stages; thus, it makes sense to continue to explore the association between frequency of involvement and psychosocial adjustment, being cautious not to eliminate individuals whose experiences are infrequent and yet are harmful because of the nature of technology to reach a wide audience and allow for repetition of the both the aggressive behaviors and the victimization. Recall that cyber victims who endorsed victimization 1-2 times within the past six months had significantly poorer psychosocial adjustment on measures of externalizing behaviors, total problems, and peer self-esteem compared to the cyber control group of non-bully/victims. In addition, cyber bully/victims had poorer psychosocial adjustment on measures of internalizing symptoms, externalizing behaviors,

and total problems than the cyber control group (as well as the cyber victim and cyber bully groups for externalizing scores). This suggests that even infrequent cyber bullying and victimization, particularly for those who are involved in both, is associated with psychosocial maladjustment.

Predictors of Cyber Victim Status:

Results from the discriminant analysis identified externalizing symptoms, internalizing symptoms, total problems, and low peer self-esteem as the psychosocial variables most predictive of group status as a cyber victim. The strong relationship between cyber victim status and externalizing symptoms, total problems, and low peer esteem is not surprising as these same psychosocial characteristics differentiated cyber victims from the control group in the analysis of variance. Although cyber victims did not differ significantly from the control group on internalizing distress, when cyber victims were also cyber bullies (i.e., cyber bully/victims) internalizing distress was endorsed significantly.

It is surprising that loneliness was not a predictor of cyber victim status, given that the research on traditional, or face-to-face bullying and victimization, has established loneliness as one of many detrimental effects on victims (Asher & Wheeler, 1985; Craig, 1998; Crick & Bigbee, 1998; Crick & Grotpeter, 1996; Salmivalli et al., 1999). It was predicted that loneliness would also be associated with cyber victimization based on the typical view of victims of peer maltreatment as lonely, disliked and socially inept individuals. However, findings from this study suggest that cyber victims may be more likely to exhibit externalizing symptoms more so than internalizing or loneliness.

Negative effects of peer victimization on global self-esteem were also predicted but

not supported. This too is surprising because of the numerous studies on face-to-face victimization that have documented consistently that low self-esteem is strongly linked to victimization (Austin & Joseph, 1996; Boulton & Smith, 1994; Egan & Perry, 1998; Rigby & Slee, 1991; Salmivalli et al., 1999; Sharp, 1996). The association that was found between cyber victim status and low peer self-esteem suggests that rather than affecting the overall, global self-esteem of cyber victims, cyber victimization results in perceptions of being disliked and rejected by peers. A better understanding of the psychosocial variables, including the role of self-esteem, that differentiate cyber victims and non-cyber victims can create a clearer picture of the risk factors related to cyber victimization.

Although the research on face-to-face victimization can serve as a foundation for better understanding the potential effects of cyber victimization, it seems that in many ways youth who are victimized through technology are very unique. Thus, further examination of the variables that predict group status as a cyber victim is warranted as this knowledge would guide prevention strategies.

Unique aspects of cyber bullying and victimization:

Although there are many similarities between face-to-face bullying and victimization and cyber bullying and victimization, there are also fundamental differences in how youth target one another through the use of the Internet and cell phones. In addition, cyber bullies, cyber victims and cyber bully/victims appear to have unique characteristics that differentiate them from face-to-face bullies and victims. Highlighting these differences can help guide prevention and intervention strategies.

An estimated forty-five million young people in the United States between the ages of 10 and 17 use the Internet daily (Williams & Guerra, 2007). In addition to greatly

enhancing social interaction capabilities among youth, the Internet also provides another forum for peers to taunt one another. Unlike face-to-face bullying and victimization, online bullying/victimization usually occurs in the home, a place where children and adolescents are supposed to feel safe and protected. Parental monitoring and supervision of Internet and cell phone activity varies greatly. Because Internet and cell phone bullying and victimization are less observable than face-to-face bullying and victimization, parents may be completely unaware that it is occurring and therefore, may not be available to protect their children from it or provide them with support when they have distressing experiences. In addition, adults and even the cyber bullies and cyber victims themselves may tend to minimize the seriousness of the bullying and victimization because the ramifications of it may be less obvious. Cyber bullies are more likely to be detached because they do not see the emotional reactions of their targets; thus, they are even less likely to feel regret, shame, or guilt, or even fear retaliation as they may with face-to-face bullying because they can remain anonymous. This places bullies at heightened risk for maladaptive adjustment because they have a venue for aggressing toward others without being held accountable for their actions. Because cyber victimization is so different from the more traditional forms of peer victimization, victims may not recognize their experiences as bullying and therefore, they may not report it or seek help for the emotional difficulties they experience.

The potential for causing harm to victims online is much greater in many ways than face-to-face victimization. Unlike schoolyard bullying, online bullying can occur at any time day or night, and targets can be embarrassed, humiliated, and intimidated in front of a much wider audience. For example, a slanderous e-mail or an embarrassing cell phone

picture can be distributed to large group of peers. Victims can be targeted repeatedly as well; they can be re-victimized each time they go online if the perpetrator continues to target them or if others join in the cyber bullying (e.g., a group of people repeatedly and intentionally excluding someone from an online game or a cyber bully convinces others to join him/her in spreading cruel rumors about someone). Finally, unlike face-to-face bullying and victimization, online bullying and victimization is not as obviously associated with an imbalance of power. The Internet, however, may provide an opportunity for people who feel powerless and weak to prey on others as a way of enhancing their own self-esteem. By virtue of these unique aspects, victims' vulnerabilities for maladjustment may also be heightened.

Unique characteristics of cyber bullies, victims, bully/victims:

In addition to understanding the unique aspects of cyber bullying and victimization, it is also important to identify any personal and interpersonal characteristics that may place individuals at risk for becoming involved in cyber bullying and/or victimization. One of the most interesting findings in the study is the over-representation of females involved in cyber bullying and victimization. Fewer male participants (37%) were involved in cyber bullying and victimization than female participants (63%). More females than males were cyber bullies, cyber victims, and cyber bully/victims. This is in contrast to the higher percentage of male involvement in face-to-face bullying and the almost equal percentages of male and female face-to-face victims and face-to-face bully/victims. These findings suggest that while males may be more likely to physically aggress toward their peers, females use the Internet and cell phone to target peers indirectly. Females are also more likely than males to be victimized online or with cell phones. These gender differences

may be associated with the type of harm that can occur with the use of technology (i. e., saying hurtful things to peers, starting rumors, ostracizing peers) that are similar to relational aggression. Crick and Grotpeter (1995 1996) identified this type of peer maltreatment (i.e., retaliating against other females and damaging peer relationships) as more characteristic of female aggressors and as equally damaging, psychologically, as other forms of aggression.

Based on the findings of the study, the profiles of cyber bullies, victims, and bully/victims are different in several ways from the typical face-to-face bullies and victims. For example, cyber victims endorsed symptoms of externalizing problems (i.e., aggressive, deviant, rule-breaking behaviors) and they also seem to experience an array of emotional and behavioral difficulties as measured by the YSR. This is in contrast to the typical face-to-face victim who frequently exhibits signs of depression, anxiety, passivity, and withdrawal. Based on the measures administered, cyber victims' problems may include not getting along with peers, being disruptive, lacking empathy or guilt, being disliked by peers, experiencing loneliness, and feeling that others are out to get them. Cyber victims' relationship difficulties with peers are evidenced by their endorsement of low peer self-esteem. They feel rejected by peers and are unhappy with the way others treat them.

The majority of cyber victims reported experiencing distress (i.e., were "bothered" *some* or *very much*) by their experiences; thus, it may be that cyber victims' aggressive behaviors toward others are reactive and retaliatory. Clinically, cyber victims reported experiencing internalizing symptoms, loneliness, and low overall self-esteem in addition to the externalizing and total problems (emotional and behavior problems) that were

previously discussed. The types of aggressive acts that cyber victims experienced in order of frequency included having cell phone pictures taken of them without their permission, being "put down" or embarrassed over the Internet, getting hurtful e-mails from peers, getting offensive, sexual e-mails from peers, having lies or rumors started about them over the Internet, and getting e-mails threatening them with physical harm. Table 16 describes the cyber victimization questions and responses.

Cyber bullies did not look like the typical bully that has been portrayed in the extensive bullying research. They did not endorse the characteristics that are usually associated with bullies such as aggression, deviant behaviors, and lack of remorse about their aggression toward others. It is unclear whether the cyber bullies in this sample were less aware of their aggressive behaviors or were unwilling to admit them. Cyber bullies may not view their aggressive behaviors on the Internet and cell phone as peer maltreatment; thus, denying or rationalizing their actions and the harm that it inflicts on others is easier. Cyber bullies appear to be aggressive in ways that are more cowardly than face-to-face bullies because they "hide" behind a computer screen. They are afforded less chance of facing any repercussions from their behaviors because they can remain invisible while preying on their peers. The types of aggressive acts that were most frequently reported by cyber bullies included calling people names on the Internet, taking cell phone pictures of someone without their permission, giving someone the "silent treatment" on the Internet, leaving someone out of things that they were doing with their friends on the Internet, such as playing online games, saying something mean to someone in MySpace or other socializing network cite, and saying things on the Internet to "put someone down" or embarrass them. Table 17 describes the cyber bully questions and

Table 16.

Cyber Victimization Questions and Responses

12. Kids have taken a **cell phone picture** of me without my permission.	**86**
23. Kids have said things to put me down or embarrass me **over the Internet.**	**28**
10. Kids have sent a hurtful **e-mail** to me (such as called me a bad name, said something mean, or made fun of me).	**27**
21. Kids have said something sexual to me **over the Internet** that was offensive.	**27**
45. Kids have told a lie or started a rumor about me **on the Internet.**	**24**
37. Kids have threatened to beat me up or hurt me **over the Internet.**	**21**
36. Kids have shown others an **e-mail** sent by me that was supposed to be confidential.	**20**
53. Kids have given me the "silent treatment" **over the Internet** (ignored me in chat rooms or instant messaging).	**19**
47. Kids have ignored me or excluded me from things **on the Internet (**such as online games).	**17**
46. Kids have said something mean or hurtful to me or about me **on a website or in a chat room such as MySpace or a site like this one.**	**16**
40. Kids have sent a threatening **e-mail** to me.	**12**
48. Kids have told a lie or started a rumor about me **in a text message**.	**9**
51. Kids have sent me a mean or threatening **text message**.	**9**
20. Kids have started a **web site** about me to make fun of me or spread rumors about me.	**1**

responses.

The high rate of participants who were cyber bully/victims is indicative of the widespread acceptance of this type of peer maltreatment among youth. Negative interactions among peers using the Internet and cell phone appear to be a normal part of socializing among today's technologically savvy youth (i.e., perpetrators and victims do not see anything wrong with their behaviors). The profile for cyber bully/victims includes many of the same psychosocial characteristics of cyber victims (i.e., externalizing symptoms and emotional and behavioral difficulties). In addition, cyber bully/victims were more psychosocially maladjusted than individuals who only cyber bullied. The clinical picture of cyber bully/victims involves numerous adjustment difficulties, including internalizing and externalizing symptoms, social and behavior problems, low peer self-esteem, low global self-esteem, and loneliness.

The most frightening scenario is one in which individuals are victims of *both* face-to-face *and* cyber bullying. These individuals get a "double whammy" of peer victimization that extends into both their school and home environments. It appears that individuals who are victimized in multiple ways and in more than one setting are at a much greater risk for experiencing extreme distress. This was supported by the individuals in this study as they were the most maladjusted group, having endorsed internalizing, externalizing, and total problems (social and behavioral difficulties) as well as low peer self-esteem, low global self-esteem, and loneliness. While victims of face-to-face bullying are often able to escape the bullying at times, the Internet is a 24/7 format for peers to target each other. The option of turning off the internet to avoid perpetrators is difficult for victims as

Table 17.

Cyber Bullying Questions and Responses

14. I have called people names **on the Internet** (such as in an e-mail or chat room or instant messaging).	**47**
15. I have taken a **cell phone picture** of someone without their permission	**43**
32. I have given someone the "silent treatment" **on the Internet** (ignored them or did not talk to them while chatting or instant messaging online)	**41**
9. I have left someone out of things that my friends and I were doing **on the Internet** (such as joining in a chat room or playing an online game)	**30**
35. I have said something mean or hurtful to someone or about someone on **MySpace or a website like it.**	**22**
42. I have said things **over the Internet** to put someone down or embarrass them.	**22**
38. I have told a lie about someone or started a rumor about them **over the Internet.**	**18**
16. I have shown an **e-mail** to someone that was supposed to be confidential.	**17**
34. I have sent someone a mean or threatening **text message.**	**12**
39. I have told a lie about someone or started a rumor about them **over a text message.**	**12**
28. I have said something sexual to someone **over the Internet** that was offensive to them.	**7**
52. I have threatened **over the Internet** to beat someone up or hurt them.	**7**
54. I have sent a threatening **e-mail** to someone.	**2**
33. I have started a website **on the Internet** about someone to say bad things about them or make fun of them or spread rumors about them.	**1**

the Internet is such an important social lifeline for youth. Thus, finding a way to decrease online bullying and victimization as well as cope with the potential negative consequences that are related to these experiences is important. This is especially critical for victims who are targeted both face-to-face and on the Internet and/or cell phone as they are at the most risk for detrimental outcomes.

Implications

The study expanded on the few studies that have been conducted on this form of peer maltreatment by providing evidence that cyber bullying is a real phenomenon that warrants attention. A majority of the sample (69%) of middle school students were involved in either cyber bullying, cyber victimization, or both bullying and victimization within the past six months. A high likelihood that youth are engaging in more than one form of bullying of peers and being victimized through more than one means was found. Findings strengthened the rationale for including this new form of peer maltreatment in the definition and conceptualization of peer victimization such that it can receive the same attention that face-to-face bullying/victimization has began to receive in the past decade.

Evidence was also provided to further clarify the increased vulnerability factors related to cyber bullying and victimization. The likelihood of being involved in cyber bullying and victimization is amplified because of the widespread use of the Internet and cell phones among youth as well as the ability for youth to be online/cell phone without adult supervision. Cyber bullying behaviors may be uninhibited because the chances of getting caught are extremely limited. Youth are also more able to rationalize their bullying behaviors online because it is easier to believe that the aggressive act will not

cause harm to the victim; the perpetrators may have the attitude that because I can't see you, I am not hurting you. Those individuals who are not likely to engage in harmful behaviors toward others may be more inclined to do so using the invisible veil of the Internet, especially if they are being targeted face-to-face or online.

As technology is increasingly becoming a format for peers to engage in negative interactions with each other, effective ways of countering these behaviors and the ramifications of them are needed. It is essential to approach the problem on numerous levels. The involvement of parents, educators, school counselors and psychologists as well as school policy makers are necessary to reduce the occurrence of and the risks of negative psychosocial outcomes associated with cyber bullying and victimization.

Parents are in a position to influence both the occurrence of cyber bullying and victimization and the outcomes for those involved in this form of peer maltreatment. Increased monitoring and supervision of their children and adolescent's online activities and behaviors can be an effective deterrent for cyber bullying and victimization. In addition to paying attention to what their children are doing on the Internet, parents can also create an environment in which their children feel comfortable and safe in disclosing involvement in cyber bullying and victimization. Youth may be reluctant to share their experiences with parents for fear that their online or cell phone privileges will be restricted or lost completely. Thus, creating an atmosphere in which cyber bullying and victimization can be openly discussed will increase the chances that bullies and victims will seek help and support from their parents when they become involved in uncomfortable and distressing situations online or with cell phones.

Parents can also play a role in teaching their children and adolescents about the

harmful effects of cyber bullying and victimization. Parents can educate their children about the detrimental consequences of cyber bullying and victimization and outline their expectations for behaving responsibly and appropriately online and with their cell phones. An important first step, however, is for parents to recognize the potential psychological problems that are related to cyber bullying and victimization. Educators and school psychologists can facilitate this increased awareness by providing parents with knowledge about the psychological outcomes that are common among youth who engage in aggression toward their peers and those who are victimized by their peers.

Although experiences of online bullying and victimization usually take place outside the school, the impact carries over into the school environment. The negative social and emotional effects of cyber bullying and victimization may disrupt students' ability to fully engage in and benefit from educational programs and activities. Youth may not feel that resources are available for them to help them manage the negative outcomes they experience related to this new form of peer victimization. Educators need to be clear with students that peer aggression in any form will not be tolerated and outline the consequences of these types of behaviors. They also need to be trained in recognizing the more subtle forms of bullying and victimization that occur through the use of technology and in detecting students' who may be experiencing distress related to bullying or being bullied. Educators are responsible for providing an atmosphere in which students are encouraged to report bullying knowing that they will be supported and that problem-solving strategies will be implemented to stop the bullying. Anti-bullying interventions that have been implemented in many schools within the past decade to deal with face-to-face bullying and victimization can be enhanced and expanded to target cyber bullying

and victimization as well. Guidelines are available to help educators plan and implement strategies to deal with cyber bullying and victimizations (Willard, 2007).

Olweus (1994) and other researchers (Reid, Monson, & Rivers, 2004) discussed the effectiveness of a "whole-school policy approach to bullying" that was introduced in countries other than the U.S. Outcomes have shown this approach to be effective in reducing face-to-face bullying and victimization and in changing the overall school climate to one in which students, educators, counselors and psychologists, and parents share the same values of regarding bullying and victimization as unacceptable (p. 1187). In addition to changing the school environment, this approach involves a commitment on the part of the adults to implement strategies to change students' attitudes about bullying, increase students' empathy and sensitivity toward victims, and help students cope with distress related to their experiences and adopt adaptive behaviors to counteract bullying. Incorporating cyber bullying and victimization into this whole school approach would involve increasing no-tolerance policies regarding bullying to include cyber bullying. It would also include strategies for cyber bullies to manage their aggressive behaviors and emotion dysregulation in more adaptive ways and strategies for cyber victims to cope with emotional distress and avoid reactive aggression. Adding programs such as anger management training and coping skills training (e.g., The Coping Cat) as well as suicide prevention programs to health curriculums would be appropriate strategies.

Finally, an important component of intervention and prevention is to educate youth about the possible ramifications of cyber bullying and victimization. Because of the ability to hide behind a computer screen and the lack of verbal and non-verbal cues from victims, it is highly likely that the effects of cyber bullying on victims are minimized or

ignored by cyber bullies. Victims of cyber bullying may not recognize that what they are experiencing is a form of bullying and thus, may minimize the seriousness of it. There are numerous websites for parents, educators, school psychologists, and students to access for information about cyber bullying and victimization and learn strategies to prevent bullying behaviors, protect victims, and empower bystanders to intervene to help their peers. These sites include www.isafe.org, www.wiredsafety.org, www.stopcyberbullying.org, and www.stopbullyingnow.org. Both victims and bullies will benefit from increased awareness about the seriousness of the problem as both groups may experience negative consequences related to cyber bullying and victimization.

The primary role of school policy makers is to expand anti-bullying programs to include cyber bullying and victimization. Many states require schools to have an anti-bullying policy; however, these policies may not explicit include cyber bullying and victimization. Considering the increase in the use of technology for peer victimization, schools should be proactive in developing intervention and prevention programs that address this newest form of bullying and victimization.

Disseminating the findings of this study through publication will benefit the fields of psychology and education as this study is one of only a few that has examined the relationships among a variety of psychosocial adjustment factors, including internalizing distress, loneliness, peer and global self-esteem, and externalizing behaviors related to cyber bullying and victimization. Results will provide a foundation for future studies. The goal of providing evidence that further establishes the emotional distress experienced through cyber bullying and victimization was reached. Based on the psychosocial

characteristics that were found to be significantly linked to psychosocial maladjustment, parents, educators, school officials and counselors and psychologists will have an increased ability to meet the needs of individuals involved as bullies and victims. The focus of future research should be to continue to explore how best to identify all youth who are at risk for experiencing negative consequences related to involvement in cyber bullying and/or victimization and develop ways of preventing or counteracting the ramifications of their experiences.

Limitations

Several limitations are acknowledged and directions for future research are provided. One of the most important limitations of the current study is the problem that has also been addressed in previous research in this area, that of not having a standardized operational definition for cyber bullying and victimization or a standardized method of measuring this phenomenon. Studies vary widely in the types and number of questions used to assess cyber bullying and victimization as well as frequency (e.g., the number of times it occurred and the time frame in which it was assessed). For example, one of the earliest studies on victims of this new form of peer maltreatment (Finkelhor, Mitchell, & Wolak, 2000) called it "online harassment" and individuals were assessed as based on responses to two situations that occurred within the past year, one having to do with experiencing worry as a result of online harassment and the other narrowly defining Internet harassment as being threatened or embarrassed by others. In contrast, a more recent study, which examined both traditional and cyber bullying and victimization used an extensive definition of traditional bullying based on the Olweus Bully/Victim Questionnaire and defined "electronic bullying" as "bullying through e-mail, instant

messaging, in a chat room, on a web site, or through a text message sent to a cell phone" (Kowalski & Limber, 2007, p. 524). These two examples illustrate the need for a more standardized approach to research on cyber bullying and victimization.

One of the problems that arose related to defining and measuring cyber bullying and victimization in the current study has to do with the sensitivity of the Cyber Bullying/Victimization Questionnaire that was used. Although participants were provided with a thorough definition of cyber bullying and victimization, the measure may have lacked sufficient capabilities to accurately differentiate between the various cyber bullying and victimization groups on the psychosocial variables of interest. For example, participants were categorized as cyber bullies if they responded yes to one or more of fourteen questions about cyber bullying, cyber victims were categorized as such if they responded yes to one or more of fourteen questions about cyber victimization, and cyber bully/victims were included if they responded yes to at least one of the cyber bully questions and at least one of the cyber victim questions. Participants had to have experienced an incident only 1-2 times to be included in the category. Thus, the membership within each of the groups may have been overly inclusion which may have influenced results. Future research should carefully evaluate how best to accurately identify cyber bullies, victims, and bully/victims and assess their psychosocial characteristics so that findings will provide a true reflection of the experiences related to this type of peer maltreatment on involved individuals.

A measurement error on the Cyber Bullying/Victimization Questionnaire may also be problematic. The response choices of once a week and a few times a month are ordered incorrectly as a few times a month is actually less than once a week. These two response

choices are similar enough that they could be combined into one response choice (i.e., a few times a month/once a week).

Given the cross-sectional design of the study, establishing causality regarding involvement in cyber bullying and victimization and psychosocial maladjustment is not possible; however, associations have been established as indicated by the significant association between status as a cyber bully, victim, bully/victim, and face-to-face/cyber victim and many of the psychosocial variables that were measured. Longitudinal research is needed to establish causal relationships among group status and psychosocial maladjustment and to examine the long-term effects of this new form of bullying/victimization.

An additional limitation of the study is that it was not possible to directly compare psychosocial adjustment of face-to-face bullies, victims, and bully/victims to cyber bullies, victims, and bully/victims because of the extensive overlap in group membership. As findings indicated, many participants were engaged in more than one form of bullying and many were victimized in more than one way. Thus, a more direct comparison to further determine how the psychosocial adjustment related to cyber bullying and victimization compared to that of face-to-face bullying and victimization would provide a clearer picture of the similarities and differences between these two forms of peer maltreatment.

Generalizability is limited because of the small sample size and the lack of ethnic diversity among participants. In addition, findings may not generalize to youth who reside in non-rural geographical settings or to different age groups. It is important to note, however, that results indicate that rural schools are not immune to this newest form of

peer maltreatment. Research suggests that face-to-face bullying and victimization peaks during middle school; however, we do not know enough about this new form of bullying and victimization to be certain that middle school youth are the most at risk population.

Although self-report methods where students are asked directly, under assurance of confidentiality, about their involvement in bullying has been shown in the extant literature to be the preferred method (Espelage & Swearer, 2003), it would also be useful to incorporate a multi-informant approach to identification of group status as concerns are that shared method variance may inflate effect sizes (Grills & Ollendick, 2002; Hawker & Boulton, 2000). Self-report designs may also be limiting in that adolescents may deny participating in bullying due to social undesirability or perhaps due to guilt or shame elicited by admitting to such behaviors. Victims may also deny being bullied because of shame from feeling powerless and submissive. In the case of cyber victimization, victims may not even recognize that what they are experiencing is a form of bullying or they may feel helpless in not knowing what resources are available to help them deal with their victimization. All of these specific limitations suggest that the incidence rates as well as the level of psychosocial maladjustment found in this study may be an under representation of the actual incidence and prevalence of cyber bullying and victimization and the severity of symptoms for cyber bullies, victims, and bully/victims. On the other hand, self-report has advantages in that they can capture episodes of victimization that peers are not aware of and they can be obtained in settings in which other informants' input is not available (e.g., clinical settings).

In spite of the limitations, this study is an important step toward extending knowledge about the seriousness of this new vehicle for bullying. A poll commissioned

by the Fight Crime: Invest in Kids group indicated that 13 million school children nationwide were bullied during the past school year (2006). The seriousness of this new form of bullying/victimization is also reflected in the recent decision of the Centers for Disease Control's to fund research on cyber bullying and victimization (2007). Findings from this study, combined with the extant literature on traditional peer victimization, can be used as a foundation for future studies. Ultimately, longitudinal studies are needed to provide information on the impact of this form of bullying/victimization over time. Because of the massive increase in the use of the Internet as a vehicle for bullying, it is critical that research on peer maltreatment be expanded to include cyber bullying to facilitate an increased understanding of the unique characteristics and potential negative effects of this type of peer aggression.

References

Achenbach, T. M. (1991). *Manual for the child behavior checklist/4-18 and 1991 profile.* Burlington, VT: Queen City Printers.

Agastston, P. W., Kowalski, R., & Limber, S. (2007). Students' perspectives on cyber bullying. *Journal of Adolescent Health, 41(6)*, S59-S60.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Arora, C.M. J. (1996). Defining bullying: Towards a clearer general understanding and more effective intervention strategies. *School Psychology International, 17,* 317-329.

Asher, S.R., & Wheeler, V.A. (1985). Children's loneliness: A comparison of rejected and neglected peer status. *Journal of Consulting and Clinical Psychology, 53(4),* 500-505.

Austin, S. & Joseph, S. (1996). Assessment of bully/victim problems in 8 to 11 year-olds. *British Journal of Educational Psychology, 66,* 447-456.

Baumeister, R.F., Campbell, J.D., Krueger, J.I., & Vohl, K.D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest, 4,* 1-44.

Baumeister, R.F., Smart, L., & Boden, J.M. (1996). Relation of threatened egotism to violence and aggression: The dark side of high self-esteem. *Psychological Review, 103(1),* 5-33.

Beckerman, L. & Nocero, J. (2003). *High-tech student hate mail. Education Digest, condensed from Principal Leadership, 3,* 37-40. Retrieved August, 2006, from www.eddigest.com.

Beran, T. & Li, Q. (2005). Cyber-harassment: A study of a new method for an old behavior. *Journal of Educational Computing Research, 32(3),* 265-277.

Blair, J. (2003). *New breed of bullies torment their peers on the Internet. Education Week, 22(21).* Retrieved August, 2006 from http://global.factiva.com.web.lib.lib.umt.edu: 2048/ha/defaultaspx.

Bogan, J. (2002, October 7). Dad says girl battled depression; Teasing at school preceded suicide, he says tearfully. *San Antonio Express-News.* Retrieved September, 2006, from http://web.lexis-nexis.com.weblib.lib.umt.edu: 2048/universe/printdoc.

Boivin, N., Hymel, S., & Bukowski, W. M. (1995). The role of social withdrawal, peer rejection, and victimization by peers in predicting loneliness and depressed mood in childhood. *Development and Psychopathology, 7,*765-785.

Boulton, M. J., & Smith, P. K. (1994). Bully/victim problems in middle-school children:

Stability, self-perceived competence, peer perceptions and peer acceptance. *British Journal of Developmental Psychology, 12,* 315-329.

Boulton, M. J., & Underwood, K. (1992). Bully/victim problems among middle school children. *British Journal of Educational Psychology, 62,* 73-87.

Callaghan, S., & Joseph, S. (1995). Self-concept and peer victimization among schoolchildren. *Personality and Individual Differences, 18(1),* 161-163.

Camodeca, M., Goossens, F. A., Terwogt, M. M., & Schuengel, C. (2002). Bullying and victimization among school-age children: Stability and links to proactive and reactive aggression. Malden, MA: Blackwell Publishers, Ltd.

Campbell, M. A. (2005). Cyber Bullying: An old problem in a new guise? *Australian Journal of Guidance & Counseling, 15(1),* 68-76.

Campbell, M. A., & Gardner, S. (2005). *Cyberbullying in high school.* Manuscript in preparation.

Carlson, E. (2004). National i-Safe Survey finds over half of students are being harassed online. Retrieved July, 2006 from http://www.isafe.org/imgs/pdf/outreach_pres.

Centers for Disease Control. (2007a) Youth Violence Prevention. Retrieved November, 2007 from http://www.cdc.gov/ncipc/dvp/electronic_aggression.

Centers for Disease Control. (2007b) CDC Review of Electronic Media and Youth Violence. Retrieved November, 2007 from http://www.cdc.gov/injury.

Cohen, J. (1988). Statistical Power Analysis for the Behavioral Sciences. (2nd ed.). New Jersey: Erlbaum.

Craig, W. M. (1998). The relationship among bullying, victimization, depression, anxiety, and aggression in elementary school children. *Personality and Individual Differences, 24(1),* 123-130.

Crick, N. R. (1996). The role of overt aggression, relational aggression, and prosocial behavior in the prediction of children's future social adjustment. *Child Development, 67,* 2317-2327.

Crick, N. R., & Bigbee, M. A. (1998). Relational and overt forms of peer victimization: A multi-informant approach. *Journal of Consulting and Clinical Psychology, 66(2),* 337-347.

Crick, N. R., Bigbee, M. A., & Howes, C. (1996). Gender differences in children's normative beliefs about aggression: How do I hurt thee? Let me count the ways. *Child Development, 67,* 1003-1014.

Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development, 66,* 710-722.

Crick, N. R., & Grotpeter, J. K. (1996). Children's treatment by peers: Victims of relational and overt aggression. *Development and Psychopathology, 8,* 367-380.

Cyber911 Emergency – Cyberstalking and Harrassment. Retrieved on March, 2006 from http://www.wiredsafety.org/cyberstalking_harrassment/csh3.html.

David-Ferdon, C., & Hertz, M. F. (Eds.). (2007a). Youth violence and electronic media: Similar behavior, different venues? (Special issue). *Journal of Adolescent Health, 41(6)*, S1-S68.

David-Ferdon, C. & Hertz, M.F. (2007b). Electronic media, violence, and adolescents: An emerging public health problem. *Journal of Adolescent Health, 41(6)*, S1-S5.

DuBois, D. L., Felner, R. D., Brand, S., Phillips, R. S. C., & Lease, M. A. (1996). Early adolescent self-esteem: A developmental-ecological framework and assessment strategy. *Journal of Research on Adolescence, 6(4),* 543-579.

DuBois, D. L., Tevendale, H. D., Burk-Braxton, C., Swenson, J. L., & Hardesty, J. L. (2000). Self-esteem influences during early adolescence: Investigation of an integrative model. *Journal of Early Adolescence, 20(1)*, 12-43.

Egan, S. K., & Perry, D. G. (1998). Does low self-regard invite victimization? *Developmental Psychology, 34(2),* 299-309.

Espelage, D. L., & Swearer, S. M. (2003). Research on school bullying and victimization: What have we learned and where do we go from here? *School Psychology Review, 32(3)*, 365-383.

Fight Crime: Invest in Kids. (2006). 1 of 3 Teens and 1 of 6 Preteens are Victims of Cyber Bullying. Retrieved January 2008 from http://www.fightcrime.org.

Finkelhor, D., Mitchell, K. J., & Wolak, J. (2000). Online victimization: A report on the Nation's youth. Retrieved August, 2006 from http://www.unh.edu/crcc/Youth_Internet_info_page.html.

Grills, A. E., & Ollendick, T. H. (2002). Peer victimization, global self-worth, and anxiety in middle school children. *Journal of Clinical and Adolescent Psychology, 31(1),* 59-68.

Gross, E. F. (2004). Adolescent Internet use: What we expect, what teens report. *Applied Developmental Psychology, 25*, 633-649.

Hanish, L. D. & Guerra, N. G. (2002). A longitudinal analysis of patterns of adjustment following peer victimization. *Development and Psychopathology, 14,* 69-89.

Harris, S., & Petrie, G. (2002). A studying of bullying in the middle school. *NASSP Bulletin, 86(633),* 42-53.

Hawker, D. S. J., & Boulton, M. J. (2000). Twenty years' research on peer victimization and psychosocial maladjustment: A meta-analytic review of cross-sectional studies. *Journal of Child Psychology and Psychiatry, 41(4),* 441-455.

Haynie, D. L., Nansel, T., Eitel, P., Crump, A. D., Saylor, K., Yu, K., & Simons-Morton, B. (2001). Bullies, victims, and bully/victims: Distinct groups of at-risk youth. *Journal of Early Adolescence, 21(1),* 29-49.

Hodges, E. V. E., & Perry, D. G. (1999). Personal and interpersonal antecedents and consequences of victimization by peers. *Journal of Personality and Social Psychology, 76(4),* 677-685.

Hsuan, A. (2006, June 7). Six teens suspended after MySpace threats. *Oregonian.* Retrieved June 7, 2006 from scanned document sent to personal e-mail, contact person: amyhsuan@ news.oregonian.com.

Jerome, L. & Segal, A. (2003). Bullying by Internet: Letter to the Editor. *Journal of the American Academy of Child and Adolescent Psychiatry, 42(7),* 751.

Kaltiala-Heino**,** R., Rimpela, M., Rantanen, P., & Rimpela, A. (2000). Bullying at school – an indicator of adolescents at risk for mental disorders. *Journal of Adolescence, 23,* 661-674.

Kochenderfer, B. J., & Ladd, G. W. (1996). Peer victimization: Cause or consequence of school maladjustment? *Child Development, 67,* 1305-1317.

Kowalski, R. M. & Limber, S. P. (2007). Electronic bullying among middle school students. *Journal of Adolescent Health, 41*, S22-30.

Kumpulainen, K., Rasanen, E., & Henttonen, I. (1999). Children involved in bullying: Psychological disturbance and the persistence of the involvement. *Child Abuse & Neglect, 23(12),* 1253-1262.

Kumpulainen, K., Rasanen, E., Henttonen, I., Almqvist, F., Kresanov, K., Linna, S., Moilanen, I., Piha, J., Puura, K., & Tamminen, T. (1998). Bullying and psychiatric symptoms among elementary school-age children. *Child Abuse & Neglect, 22(7),* 705-717.

Leishman, J. (2002, October 10). Cyber-bullying. *CBC News Online.* Retrieved February, 2006 from http://www.cbc.ca/news/background/bullying/cyber_bullying.html.

Lenhart, A., & Madden, M. (2007, January 7). *Social networking websites and teens: An overview.* Pew Internet & American Life Project Teens and Parents Survey, Oct.-Nov. 2006. Retrieved January, 2008 from http://www.pewinternet.org/PPF/r/211/report_display.asp.

Lenhart, A., Rainie, L., & Lewis, O. (2001). *Teenage life online: The rise of instant-messaging generation and the Internet's impact on friendships and family relationships.* Washington, DC: Pew Internet and American Life Project. Retrieved March, 2006 from http*://www.pewinternet.org/reports/pdf/PIP_Teens_Report.pdf.*

Limber, S. P., & Small, M. A. (2003). State laws and policies to address bullying in schools. *School Psychology Review, 32(3),* 445-455.

Loeber, R., & Dishion, T. J. (1983). Early predictors of male delinquency: A review. *Psychological Bulletin, 94,* 68-99.

Lopez, C. (1997). *Peer victimization: Preliminary validation of a multidimensional self-report measure for children and young adolescents.* Unpublished master's thesis, University of Missouri-Columbia.

Lopez, C., & DuBois, D. L. (2005). Peer victimization and rejection: Investigation of an integrative model of effects on emotional, behavioral, and academic adjustment in early adolescence. *Journal of Clinical Child and Adolescent Psychology, 34(1),* 25-36.

Machek, G. R. (2004). Defensive egotism, reactive aggression, proactive aggression and bullying behavior in school children. (Doctoral dissertation, Indiana University, 2004). Proquest Digital, AAT 3203868.

Markward, M. J., Cline, S., & Markward, N. J. (2001). Group socialization, the Internet and school shootings. *Violent Youth,* 135-146.

McKenna, K. Y. A., & Bargh, J. A. (2000). Plan 9 from cyberspace: The implications of the Internet for personality and social psychology. *Personality and Social Psychology Review, 4(1),* 57-75.

Mitchell, K. J., Becker-Blease, K. A., & Finkelhor, D. (2005). Inventory of problematic Internet experiences encountered in clinical practice. *Professional Psychology: Research and Practice, 36(5),* 498-509.

Mitchell, K. J., Finkelhor, D., & Wolak, J. (2003). Victimization of youths on the Internet. *Journal of Aggression-Maltreatment & Trauma, 2003.* Retrived online August, 2006 from http://www.hawthornpress.com/web/JAMT.

Moody, E. J. (2001). Internet use and its relationship to loneliness. *Cyber Psychology & Behavior, 4(3),* 393-401.

Morahon-Martin, J. (1999). The relationship between loneliness and Internet use and abuse. *Cyber Psychology and Behavior, 2,* 431-440.

Morahon-Martin, J., & Schumacher, P. (2003). Loneliness and social uses of the Internet. *Computers in Human Behavior, 19,* 659-671.

Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). *Journal of American Medical Association, 285(16),* 2094-2096.

National Center for Educational Statistics (1998). *Student victimization in schools.* Washington DC: Department of Education.

National Center for Educational Statistics. Indicators of school crime and safety: 2007. Retrieved March 15, 2007 from http://nces.ed.gov/programs/crimeindicatiors/crimeindicators2007.

National Children's Home Study (2002). NCH Children's Charities. Retrieved July 22, 2006 from http://www.nch.org.uk/information/index.php?i=237.

National Youth Violence Prevention Resource Center. Youth Suicide Fact Sheet. Retrieved February, 2008 from http://www.SafeYouth.org/scripts/facts/suicide.asp.

Nishina, A., Juvonen, J., & Witkow, M. R. (2005). Sticks and stones may break my bones, but names will make me feel sick: The psychosocial, somatic, and scholastic consequences of peer harassment. *Journal of Clinical Child and Adolescent Psychology, 34(1),* 37-48.

Olweus, D. (1978). Aggression in the schools: Bullies and whipping boys. New York: Wiley & Sons.

Olweus, D. (1979). Stability of aggressive reaction patterns in males: A review. *Psychological Bulletin, 86,* 852-875.

Olweus, D. (1980). Familial and temperamental determinants of aggressive behavior in adolescent boys: A causal analysis. *Developmental Psychology, 16,* 644-660.

Olweus, D. (1991). Bully/victim problems among schoolchildren: Basic facts and effects of a school-based intervention program. In D. J. Pepler & K. H. Rubin (Eds.). *The development and treatment of childhood aggression,* (pp. 411-448). Hillsdale, NJ: Erlbaum.

Olweus, D. (1993). Bullying at School: What we know and what we can do. Cambridge: Blackwell.

Olweus, D. (1994). Annotation: Bullying at school: Basic facts and effects of a school based intervention program. *Journal of Child Psychology and Psychiatry, 35(7),* 1171-1190.

Olweus, D. (1995). Victimization by peers: Antecedents and long-term outcomes. In K. H. Rubin & J. B. Asendorpf (Eds.). *Social withdrawal, inhibition, and shyness in childhood.* (pp. 315-341). Hillsdale, NJ: Erlbaum.

Patchin, J. W., & Hinduja, S. (2006). Bullies move beyond the schoolyard. *Youth Violence and Juvenile Justice, 4(2),* 148-169.

Paulson, A. (2003, December 30). Internet bullying. *Christian Science Monitor.* Retreived March 21, 2006 from http://www.csmonitor.com/2003/1230/p11s01-legn.htm.

Pellegrini, A. D. (1998). Bullies and victims in school: A review and call for research. *Journal of Applied Developmental Psychology, 19(2),* 165-176.

Pellegrini, A. D. (2002). Bullying, victimization, and sexual harassment during the transition to middle school. *Educational Psychologist, 37(3),* 151-163.

Pellegrini, A. D., Bartini, M., Brooks, F. (1999). School bullies, victims, and aggressive victims; factors relating to group affiliation and victimization in early adolescence. *Journal of Educational Psychology, 91,* 216-224.

Perry, D. G., Kusel, S. J. & Perry, L. C. (1988). Victims of peer aggression. *Developmental Psychology, 24(6),* 807-814.

Peterson, K. (2002, February 6). Kids spread hateful rumors online. *USA Today.* Retrieved March, 2006 from http://www.usatoday.com/tech/2001-*04-30-web-bully.htm*.

Pfeffer, C. (1990). Manifestations of risk factors. In G. MacLean (Ed). *Suicide in children and adolescents* (pp. 65-88). Toronto: Hogrefe & Huber.

Prinstein, M.J., Boergers, J., & Vernberg, E.M. (2001). Overt and relational aggression in adolescents: Social-psychological adjustment of aggressors and victims. *Journal of Clinical Child Psychology, 30(4),* 479-491.

Raskauskas, J., & Stoltz, A. D. (2007). Involvement in traditional and electronic bullying among adolescents. *Developmental Psychology, 43(3)*, 564-575.

Raskin, R., Novacek, J., & Hogan, R. (1991). Narcissistic self-esteem management. *Journal of Personality and Social Psychology, 60(6),* 911-918.

Reid, P., Monsen, J., & Rivers, I. (2004). Psychology's contribution to understanding and managing bullying within schools. *Educational Psychology in Practice, 20(3),* 241-258.

Rigby, K. (1996). *Bullying in schools and what to do about it.* London: Jessica Kingsley Publishers.

Rigby, K. (1997). What children can tell us about bullying in schools. *Children Australia, 22(2),* 28-34.

Rigby, K., & Slee, P. T. (1991). Bullying among Australian school children: Reported behavior and attitudes toward victims. *Journal of Social Psychology, 131*, 615-627.

Rigby, K., & Slee, P. T. (1993). Dimensions of interpersonal relation among Australian children and implications for psychological well-being. *The Journal of Social Psychology, 133(1),* 33-42.

Rigby, K**.** & Slee, P. (1999). Suicidal ideation among adolescent school children, involvement in bully-victim problems, and perceived social support. *Suicide and Life-Threatening Behavior, 29(2),* 119-130.

Rigby, K. Slee, P. Martin, G. & Cunningham, R. (1996). Health consequences of bullying in schools. Manuscript in preparation, University of South Australia.

Roland, E. (2002). Bullying, depressive symptoms and suicidal thoughts. *Educational Research, 44(1),* 55-67.

Salmivalli, C. & Nieminen, E. (2002). Proactive and reactive aggression among school bullies, victims, and bully-victims. *Aggressive Behavior, 29,* 30-44.

Salmivalli, C., Kaukiainen, A., Kaistaniemi, L., & Lagerspetz, K. M. J. (1999). Self-evaluated self-esteem, peer-evaluated self-esteem, and defensive egotism as predictors of adolescents' participation in bullying situations. *Personality and Social Psychology Bulletin, 25(10),* 1268-1278.

Sandstrom, M. J., & Jordan, R. (2008). Defensive self-esteem and aggression in childhood. *Journal of Research in Personality, 42,* 506-514.

Schwartz, D., Dodge, K. A., & Coie, J. D. (1993). The emergence of chronic peer victimization in boys' play groups. *Child Development, 64,* 1755-1772.

Sharp, S**.** (1996). Self-esteem, response style and victimization: Possible ways of preventing victimization through parenting and school based training programmes. *School Psychology International, 17,* 347-357.

Shaw, L. H. & Gant, L. M. (2002). In defense of the Internet: The relationship between Internet communication and depression, loneliness, self-esteem, and perceived social support. *CyberPsychology & Behavior, 5(2),* 157-171.

Slee, P. T. (1994). Situational and interpersonal correlates of anxiety associated with peer victimization. *Child Psychiatry and Human Development, 25(2),* 97-107.

Slee, P. T. (1995a). Bullying: Health concerns of Australian secondary school students. *International Journal of Adolescence and Youth, 5,* 215-224.

Slee, P. T. (1995b). Peer victimization and its relationship to depression among Australian primary school students. *Personality and Individual Differences, 18(1),* 57-62.

Slee, P. T. & Rigby, K. (1993). The relationship of Eysenck's personality factors and self-esteem to bully/victim behaviour in Australian school boys. *Personality and Individual Differences, 14,* 371-373.

Smith, P. K., & Levan, S. (1995). Perceptions and experiences of bullying in younger pupils. *British Journal of Educational Psychology, 65,* 489-500.

Snider, M. & Borel, K. (2004). Stalked by a cyberbully. *Maclean's, 117(21/22),* 76-78.

Solberg, M. E., & Olweus, D. (2003). Prevalence estimation of school bullying with the Olweus Bully/Victim Questionnaire. *Aggressive Behavior, 29,* 239-268.

Storch, E. A., & Ledley, D. R. (2005). Peer victimization and psychosocial adjustment in children: Current knowledge and future directions. *Clinical Pediatrics, 44,* 29-38.

Storch, E**.** A., & Masia-Warner, C. (2004). The relationship of peer victimization to social anxiety and loneliness in adolescent females. *Journal of Adolescence, 27(3),* 351-362.

Tritt, C., & Duncan, R.D. (1997). The relationship between childhood bullying and young adult self-esteem and loneliness. *Journal of Humanistic Education & Development, 36(1),* 35-45.

US Department of Education. *2005 Annual Report on School Safety.* Washington, DC: US Department of Education, 2005. Retrieved June, 2006 from http://www.nces.ed.gov/pubs2005/2005310.pdf .

U. S. Department of Justice, Bureau of Justice Statistics, School Crime Supplement to the National Crime Victimization Survey, 2003. Retrieved June, 2006 from http://www.nces.ed.gov/programs/crimeindicators .

Willard, N. (2007). An Educators Guide to Cyberbullying and Cyberthreats. Retrieved November, 2007 from http://www.cyberbully.org.

Williams, K. D., Cheung, C. K. T., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the Internet. *Journal of Personality and Social Psychology, 79(5),* 748-762.

Williams, K. R., & Guerra, N. G. (2007). Prevalence and predictors of Internet bullying. *Journal of Adolescent Health, 41(6)*, S14-S21.

Wolak, J., Mitchell, K., & Finkelhor, D. (2006). Online victimization of youth: Five years later. National Center for Missing and Exploited Children, Crimes Against Children Research. Retrieved online October, 2006 from http://www.unh.edu/ccrc/youth_internet_safety_survey_publications.html.

Wolak, J., Mitchell, K., & Finkelhor, D. (2007). Does online harassment by known peers and online-only contacts. *Journal of Adolescent Health, 41(6)*, S51-S58.

Wolf, M. (2003, June). Cyber brats: Bullies who taunt their peers with the click of a mouse. *Long Island Parenting News, a United Parenting Publication.* Retrieved July 24, 2006 from http://www.parenthood.com/articles.html?article_id-4335.

Ybarra, M. L., Diener-West, M. & Leaf, P. J. (2007). Examining the overlap in Internet harassment and school bullying. *Journal of Adolescent Health, 41(6)*, S42-S50.

Ybarra, M. L., & Mitchell, K. J. (2004a). Online aggressor/targets, aggressors, and targets: A comparison of associated youth characteristics. *Journal of Child Psychology and Psychiatry, 45(7),* 1308-1316.

Ybarra, M. L., & Mitchell, K. J. (2004b). Youth engaging in online harassment: Associations with caregiver-child relationships, Internet use, and personal characteristics. *Journal of Adolescence, 27,* 319-336.

Ybarra, M. L., Alexander, C., & Mitchell, K. J. (2005). Depressive symptomatology, youth Internet use, and online interactions: A national survey. *Journal of Adolescent Health, 36,* 9-18.

Youth Suicide Fact Sheet. (2008). National Youth Violence Prevention Resource Center. Retrieved March 16, 2008 from http://www.safeyouth.org/scripts/facts/suicide/asp.

Appendix A

Internet Information Form

Please fill out the following information about your child's Internet use:

CIRCLE ONE

1. My child uses the Internet….	Not at all	Rarely	1-3 times a week	4-6 times a week	Almost everyday	Every day

2. My child uses the Internet….	Not at all	Less than 1 hour a day	2-3 hours a day	4-6 hours a day	More than 6 hours a day

CIRCLE ALL THAT APPLY TO YOUR CHILD

3. My child uses the Internet for….	Homework or Research	E-mail	Chat rooms	Instant messaging (IM)	Online games	Creating Web sites	Chatting on MySpace or similar socializing sites

My child has a cell phone _____ Yes _____ No

My child knows how to send and receive text messages _____ Yes _____ No

Appendix B

ABOUT YOU AND THE INTERNET

About you:

Circle One			Race: **Circle One**
Male or Female	Age _____	Grade _____	Caucasian Native American Hispanic Asian Biracial/Other

About you and the Internet:

CIRCLE ONE

1. I use the Internet...	Never	Rarely	1-3 times a week	4-6 times a week	Almost Everyday	Everyday

CIRCLE ONE

2. I use the Internet...	Never	Less than 1 hour a day	2-3 hours a day	4-6 hours a day	More than 6 hours a day

CIRCLE ALL THAT APPLY TO YOU

3. I use the Internet for...	Homework or Research	E-Mail	Chat Rooms	Instant Messaging (IM)	Online games	Creating web sites	Chatting on MySpace or other socializing sites

I have a cell phone _____Yes _____No

I text message others _____Yes _____No

I receive text messages from others _____ Yes _____No

Appendix C

Cyber Bullying and Victimization Questionnaire

The statements below describe experiences that sometimes happen to people your age. For each statement, please circle yes or no to indicate if this experience has happened to you since the beginning of this school year. Then circle how many times it happened to you since the beginning of the school year. Finally, circle how much it bothered you when it happened.

Since the beginning of the school year…		**How many times?**	**How much did it bother you?**
1. kids have broken or destroyed my things	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
2. I have broken or destroyed someone's things	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
3. kids have said things to me that offended me	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
4. I have spread rumors about someone	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
5. I have excluded someone from a party or event	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
6. kids have called me names	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
7. I have acted like I was going to beat someone up or hurt them	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
8.. I have thrown things at someone	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
9. I have left someone out of things that my friends and I were doing **on the Internet** (such as playing an online games)	Yes No	1-2 times once a week few times a month almost every day daily	none some very much

10. kids have sent a hurtful e-mail to me (such as called me a bad name, said something mean, or made fun of me)	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
11. I have said things to someone to offend them (such as hurt their feelings or embarrass them)	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
12. kids have taken a **cell phone picture** of me without my permission	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
13. kids have threatened to beat me up or hurt me	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
14. I have called people names **on the Internet** (such as in an e-mail, chat room, or instant message)	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
15. I have taken a **cell phone picture** of someone without permission	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
16. I have shown an **e-mail** to someone that was supposed to be confidential	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
17. kids have giggled or laughed at me to be mean	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
18. kids have stolen or taken things from me	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
19. kids have given me the "silent treatment" (did not talk to me on purpose)	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
20. kids have started a **web site** to make fun of me or start rumors about me	Yes No	1-2 times once a week few times a month almost every day daily	none some very much

21. kids have said something sexual to me **over the Internet** that was offensive	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
22. I have stolen or taken things from someone	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
23. kids have said things to put me down or embarrass me **over the Internet**	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
24. I have called people names at school	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
25. kids have spread rumors about me at school	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
26. kids have beaten me up or physically hurt me in some way	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
27. I have tried to ditch or get rid of someone	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
28. I have said something sexual to someone **over the Internet** that was offensive to them	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
29. kids have left me sitting all alone at lunch	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
30. I have beaten someone up or physically hurt them in some way	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
31. kids do not invite me to parties or events	Yes No	1-2 times once a week few times a month almost every day daily	none some very much

32. I have given someone the "silent treatment" **on the Internet** (ignored them or did not talk to them while chatting or instant messaging online)	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
33. I have started a **web site on the Internet** about someone to say bad things about them or make fun of them or spread rumors about them	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
34. I have sent someone a mean or threatening **text message**	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
35. I have said something mean or hurtful to someone or about someone on **MySpace or a web site like it**	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
36. kids have shown others an **e-mail** sent by me that was supposed to be confidential	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
37. kids have threatened to beat me up or hurt me **over the Internet**	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
38. I have told a like about someone or started a rumor about them **over the Internet**	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
39. I have told a lie about someone or started a rumor about them **in a text message**	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
40. kids have sent a threatening **e-mail** to me	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
41. kids have thrown things at me	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
42. I have said things **over the Internet** to put someone down or embarrass them	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
43. I have given someone the "silent treatment" at school to be mean	Yes No	1-2 times once a week few times a month almost every day daily	none some very much

44. kids have tried to ditch or get rid of me	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
45. kids have told a lie or started a rumor about me **on the Internet**	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
46. kids have said something mean or hurtful to me or about me **on MySpace or a web site like it**	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
47. kids have ignored me or excluded me from things **on the Internet (like online games)**	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
48. kids have told a lie or started a rumor about me **in a text message**	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
49. I have giggled or laughed at someone to be mean	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
50. I have refused to sit near someone in class or at lunch	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
51. kids have sent me a mean or threatening **text message**	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
52. I have threatened to beat someone up or hurt them **over the Internet**	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
53. kids have given me the "silent treatment" **over the Internet (ignored me in chat rooms)**	Yes No	1-2 times once a week few times a month almost every day daily	none some very much
54. I have sent a threatening **e-mail** to someone	Yes No	1-2 times once a week few times a month almost every day daily	none some very much

Appendix D

Children's Loneliness Questionnaire

Below are 24 statements. Please read each statement and indicate how true it is for you using the following rating scale:

1 = That's always true about me
2 = That's true about me most of the time
3 = That's sometimes true about me
4 = That's hardly ever true about me
5 = That's not true about me

Please record your answers in the space to the left of each item.

___ 1. It's easy for me to make new friends at school.
___ 2. I like to read.
___ 3. I have nobody to talk to in my class.
___ 4. I'm good at working with other children in my class.
___ 5. I watch TV a lot.
___ 6. It's hard for me to make friends at school.
___ 7. I like school.
___ 8. I have lots of friends in my class.
___ 9. I feel alone at school.
___ 10. I can find a friend in my class when I need one.
___ 11. I play sports a lot.
___ 12. It's hard to get kids in my school to like me.
___ 13. I like science.
___ 14. I don't have anyone to play with at school.
___ 15. I like music.
___ 16. I get along with my classmates.
___ 17. I feel left out of things at school.
___ 18. There are no other kids I can go to when I need help at school.
___ 19. I like to paint and draw.
___ 20. I don't get along well with other children at school.
___ 21. I'm lonely at school.
___ 22. I am well liked by the kids in my class.
___ 23. I like playing board games a lot.
___ 24. I don't have any friends in class.

Appendix E

Self-Esteem Questionnaire-Short Form

These questions ask how you feel about yourself. For each question, chose the one answer that best describes how YOU feel about yourself. When answering the questions, think about how you want to be compared to how you are now. There are no wrong or right answers - - just give your HONEST opinion. Put a check mark in the appropriate box for each question.	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
1. I have as many close friends as I would like to have.	❑	❑	❑	❑
2. I am as good a student as I would like to be.	❑	❑	❑	❑
3. I feel OK about how important I am to my family.	❑	❑	❑	❑
4. I am happy with the way I look.	❑	❑	❑	❑
5. I am as good at sports/ physical activities as I want to be.	❑	❑	❑	❑
6. I am happy with myself as a person.	❑	❑	❑	❑
7. I am as well liked by other kids as I want to be.	❑	❑	❑	❑
8. I am doing as well on schoolwork as I would like to.	❑	❑	❑	❑
9. I get along as well as I'd like to with my family.	❑	❑	❑	❑
10. I like my body just the way it is.	❑	❑	❑	❑
11. I feel OK about how well I do when I participate in sports/physical activities.	❑	❑	❑	❑
12. I am the kind of person I want to be.	❑	❑	❑	❑
13. I feel good about how well I get along with other kids.	❑	❑	❑	❑
14. I get grades that are good enough for me.	❑	❑	❑	❑
15. My family pays enough attention to me.	❑	❑	❑	❑
16. I feel good about my height and weight.	❑	❑	❑	❑
17. I am happy about how many different kinds of sports/physical activities I am good at.	❑	❑	❑	❑
18. I am as good a person as I want to be.	❑	❑	❑	❑
19. I feel OK about how much other kids like doing things with me.	❑	❑	❑	❑
20. I feel OK about how good of a student I am.	❑	❑	❑	❑
21. I am happy about how much my family likes me.	❑	❑	❑	❑
22. I wish I looked a lot different.	❑	❑	❑	❑

23. I participate in as many different kinds of sports/physical activities as I want to.	❑	❑	❑	❑
24. I wish I had more to be proud of.	❑	❑	❑	❑
25. I am happy with the way I can do most things.	❑	❑	❑	❑
26. I sometimes think I am a failure (a “loser”).	❑	❑	❑	❑
27. I often feel ashamed of myself.	❑	❑	❑	❑
28. I like being just the way I am.	❑	❑	❑	❑

Appendix F

Participant Information

Cyber bullying: Psychosocial characteristics of bullies, victims, and bully/victims

Principal Investigator:
Delia C. Campfield, M. A.
Department of Psychology
The University of Montana
Missoula, MT 59812
(406) 243-2367

Project Supervisor:
Christine Fiore, Ph.D.
Department of Psychology
The University of Montana
Missoula, MT 59812
(406) 243-4521

Special instructions to the parent(s) of potential participants:

This consent form may contain words that are new to you. If you read any words that are unclear, please ask the principal investigator to explain them to you.

Purpose: You are being asked to give your child permission to take part in a research study examining the experiences of middle school students with face-to-face and Internet (cyber) bullying and victimization. The focus of the research study is to find out about the occurrence of both face-to-face and cyber bullying and victimization and about its effects on middle school students.

Procedures: If you agree to allow your child to participate in this study, he or she will be given a questionnaire about his/her experiences with face-to-face bullying and victimization and about Internet (cyber) bullying and victimization. He/she will also be asked to fill out three measures that are designed to assess whether students are experiencing depression, anxiety, loneliness, low self-esteem, aggression, or deviant behaviors such as stealing or lying. Your child's participation is confidential and is not shared with the school or does not become part of the school record. The questionnaires will be administered by the principal investigator and research team members during a fifty minute class period. The teacher will be present in the classroom during the administration of the questionnaires and measures.

Voluntary Participation/Withdrawal: Participation in this research project is entirely voluntary. Your child may withdraw at any time without any consequences. If you have any questions about the rights of research participants, please contact the Institutional Review Board at The University of Montana at (406) 243-6670.

Benefits: Students may find it helpful to be able to provide information about their bullying/victimization experiences. Students may also find it beneficial to participate in a study that is designed to address the problem of bullying and victimization in schools so that intervention and prevention strategies can be developed. Students will have the chance to win a raffle prize valued at $10.00 (music & book store gift card). Otherwise, students will not benefit directly from the study.

Risks/Discomforts: It is possible that some of the questions may elicit uncomfortable feelings for your child. Should this occur, please contact the principal investigator, Delia Campfield (406) 243-2367, Dr. Christine Fiore, project supervisor (406) 243-4521, or your child's teacher or school counselor. Each of these individuals is trained to assist your child. Should you have any questions about the study, please contact the principal investigator, Delia Campfield (406) 243-2367.

Confidentiality: Your child's responses to the questionnaires and the measures will be kept confidential. Each child's packet of information will be assigned a number. This number will be recorded on the parental consent form and the child's assent form as well as on the questionnaire and measures. The consent and assent forms will be locked away in a file cabinet in the project supervisor's lab at The University of Montana and will only be accessible to the principal investigator or project supervisor. The numbered questionnaires and measures will not be identifiable by name. The only exception to confidentiality is if your child indicated that he/she is experiencing suicidal thoughts or behaviors. By law, the principal investigator would be required to break confidentiality and report this information to the appropriate authorities such as the school counselor or principal. The results of the study will not specifically identify any child's information and should the results be written in a scientific journal or presented in any form, no names will be used. You will not have access to information provided by your child.

Compensation for Injury: Although the risk of injury is minimal, The University of Montana extends the following liability statement to research participants: "In the event that you are injured as a result of this research, you should individually seek appropriate medical treatment. If the injury is caused by negligence of the University or any of its employees, you may be entitled to reimbursement or compensation pursuant to the Comprehensive State Insurance Plan established by the Department of Administration under the authority of the M. C. A., Title 2, Chapter 9. In the event of a claim for such injury, further information may be obtained from the University's Claims representative or University Legal Counsel."

This project aims to better understand the occurrence and possible effects of both face-to-face and Internet bullying and victimization on middle school students. The data will be used to help parents, educators, counselors, and psychologists develop prevention and intervention strategies to address bullying and victimization. If you wish to obtain the results of the study upon its completion, you may contact the Psychology Department at The University of Montana at (406) 243-4521.

Even if you do not allow your child to participate in the study, please turn in the signed form on the following page indicating this. Students names are going to be entered into a raffle for a $10 gift card for a music or book store after all consent form are returned regardless whether or not the parent(s) has given consent for their child's participation. Thank you.

Please keep this form for your records.

Appendix G

Letter to Parents

Dear Parents,

The Internet is being increasingly used as a vehicle for bullying. A recent national survey indicated that 19% of the adolescent sample was involved in cyber bullying either as bullies, victims, or bully/victims. While there is extensive research on the potential problems that children and adolescents experience associated with face-to-face bullying, little is known about this form of bullying, called cyber bullying.

My name is Delia Campfield and I am a graduate student in the clinical psychology program at The University of Montana. I am studying cyber bullying for my doctoral dissertation. In particular, I am interested in finding out how much cyber bullying is occurring among middle school students and how this new form of bullying/victimization may be affecting middle school students.

My study has been well-received and supported by the principal and/or superintendent of your child's school. I am now asking if you will give your child permission to participate in my study. The study involves having students complete a questionnaire about their experiences with bullying or being a victim of bullying either face-to-face or on the Internet and 3 questionnaires about how these experiences may have affected them (for example, low self-esteem, loneliness, or anxiety). The questionnaires will be completed during a 50 minute class period. I am hoping to learn more about this new form of bullying (cyber bullying) so that people who work with children (parents, educators, counselors, and psychologists) can then develop appropriate strategies for prevention and intervention.

Please sign and return the attached consent form indicating whether or not you are allowing your child to participate in my study. An additional copy of the consent form is enclosed for you to keep. It is important to return the consent form even if your child is not participating in the study because after all of the forms have been turned in, all of the students will participate in a raffle for a $10.00 gift certificate to a store that sells music, books, and videos.

Please feel free to contact me (243-2367) or my dissertation chairperson, Dr. Christine Fiore, at The University of Montana (243-4521) if you have any questions about my study. Thank you in advance for your cooperation.

Delia Campfield, M.A.
Department of Psychology
The University of Montana
Missoula, MT 59812
(406)243-2367

Appendix H

Parental Consent Form

Statement of Parental Consent: I have read the above description of this research study. I have been informed of the risks and benefits involved and have had the opportunity to contact the principal investigator if I had questions. Furthermore, I understand that I may contact the principal investigator or project supervisor at any time in the future if I have questions about the study.

I voluntarily agree to allow my child to participate in this study.

_____	_____	_____
Print name of child	Signature of parent	Date

I do not agree to allow my child to participate in this study.

_____	_____	_____
Print name of child	Signature of parent	Date

****Please have your child return the signed copy to his/her homeroom teacher within one week. Keep an unsigned copy for your records.**

****Please return the completed Internet Information Form also.**

Appendix I

Child Assent Form

Internet Study

I would like to have you fill out a questionnaire that asks you about you and other kids at school and on the Internet and cell phone. I would also like for you to fill out some forms about how you feel and what you do. All of the questions will be on forms that you will complete in class. Your parent(s) have given permission for you to participate in this research project, but you can say yes or no. If you say yes and you decide later that you do not want to participate or you want to stop, you may do so without having any consequences.

The questions I am asking will provide information about what happens when kids chat on the Internet or are together at school. For example, I will ask you about things such as have you ever said mean things to someone in an e-mail or in person or if someone has done this to you. Or, I might ask you if you have ever purposely ignored someone or if someone has ever purposely left you out of an activity or game.

The information is confidential, which means that no one except for the person conducting the study or the project supervisor will see the answers to the questions. No one, not even your parents or teacher, will see the information you provide and it will not be part of your school file. No one will know how you answered the questions because your name is not on any of the forms. However, I will look at two questions that ask about suicidal thoughts or behaviors. If you mark that you are having suicidal thoughts or behaviors, I will talk with you about this and let the school counselor know so that he or she can help you. Otherwise, I am not interested in any one person's answers but in the overall results for middle school students. Please feel free to ask questions. Please check this form and sign it if you would like to participate in the study.

_____ Yes, I would like to participate in the study.

_____ _____

Signature **Date**

Appendix J

Debriefing Form

Thank you for participating in this research. If your participation has resulted in any uncomfortable feelings, **please let someone know.** You may contact the principal investigator, Delia Campfield (406) 243-2367 or the project supervisor, Dr. Christine Fiore, (406) 243-4521, or talk with your teacher or school counselor.