ABSTRACT

Cyberbullying: What are the Psychological Profiles of Bullies, Victims, and Bully-
Victims?

Ikuko Aoyama, Ph.D.

Mentor: Terrill F. Saxon, Ph.D.

The purposes of the present study were to classify youth into subgroups based on their involvement in cyberbullying, to examine group differences in terms of internalizing problems, and to examine moderator effects of peer relationships and sex. The research questions of the present study were: 1) Are there any differences between bullies, victims, bully-victims, and those not involved in cyberbullying, in terms of their internalizing problems (self-esteem, depression, anxiety, and stress)?; 2) Are there moderating effects of peer relationships between these groups and their internalizing problems?; and 3) Are there moderating effects of sex between these groups and their internalizing problems? In the present study, a cyberbullying survey was conducted with 463 public middle and high school students in central Texas. The participants were selected from two different school districts to include diverse samples. Students' cyberbullying experiences, self-esteem, depression, anxiety, stress, and peer relationships were measured. As a result of

group classification, 2.3% of the participants were categorized in the victim group, 2.0% were in the bully group, 10.9% were in the bully-victim group, and the rest of the students (84.9%) were categorized in the not-involved group. Participants who were involved reported higher levels of internalizing problems than those who were not involved. Among them, the bully-victim group scored significantly higher on depression, anxiety, and stress compared to the rest of the groups. With regard to interaction effects of peer relationship and sex, practical effects were very small. These findings indicate that both males and females have equal risk of developing internalizing problems due to cyberbullying and better peer relationship was not a strong buffer against internalizing problems.

Cyberbullying: What are the Psychological Profiles of Bullies, Victims and Bully-Victims?

by

Ikuko Aoyama, B.A.

A Dissertation

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Terrill F. Saxon. Ph.D, Chairperson

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Approved by the Dissertation Committee

_____
Terrill F. Saxon. Ph.D, Chairperson

_____
A. Alex Beaujean, Ph.D.

_____
Lucy Barnard-Brak, Ph.D.

_____
Tony L Talbert, Ed.D.

_____
James Kendrick, Ph.D.

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J. Larry Lyon, Ph.D., Dean

TABLE OF CONTENTS

# LIST OF TABLES

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CHAPTER ONE

Introduction

*Background of the Problem*

For the past 30 years, bullying among youth has been a serious social and educational problem throughout the world. Since Olweus disseminated his seminal work in the 1980s, many researchers have examined various aspects of bullying and found that a large number of youth worldwide were involved. Researchers also identified the subtypes of bullying which varies depending on students' sex, age, and culture and recognized possible risk factors, such as external deviations and some types of disabilities, for youth to be involved in bullying. In addition, diverse characteristics, such as sex differences, age differences, profiles of bullies and victims, long-term effects, family environments, and adults' perception have been identified (Duncan, 2004; Holt & Keyes, 2004; Ma, 2002;Olweus, 1993; Smith 1999). Even though bullying used to be considered a part of children's development (Campbell, 2005), bullying studies have significant implications because researchers have pointed out the relationship between bullying and negative emotional, physiological, and behavioral ramifications (Ledley, Storch, Coles, Heimberg, Moser, & Bravata, 2006; Olweus, 1993; O'Moore & Kirkham, 2001; Rigby & Slee, 1999). For example, victims of bullying are more likely to suffer from depression, anxiety, low self-esteem, and poor health (Olweus, 1993; O'Moore & Kirkham, 2001; Smith, 1999), and bullies are more likely to have criminal convictions later in life (Olweus, 1993).

Thirty years of bullying studies have helped researchers and educators understand a variety of characteristics of bullying; however, cyberbullying, a new problem among youth, is now creating serious challenges (Campbell, 2005; Lenhart, 2007; Li, 2006). Cyberbullying is defined as "an aggressive, intentional act or behavior that is carried out by a group or an individual, *using electronic forms of contact*, repeatedly and over time against a victim who cannot easily defend him/herself" (Smith et al., 2008, p. 376). Researchers have started examining the phenomenon during the last few years and have revealed the prevalence, subtypes, and sex differences of cyberbullying incidents (Hinduja & Patchin, 2008; Shariff, 2008; Willard, 2007). Researchers have also found that cyberbullying is related to negative behavioral and psychological consequences as in traditional bullying (Hinduja & Patchin, 2008; Ybarra, 2004). For example, cyberbullying victimization is significantly associated with problematic behaviors such as abusing substances, cheating on school tests, and skipping school (Hinduja & Patchin, 2007). On the other hand, perpetrators have low school commitment, use alcohol and cigarettes, and display problematic behaviors such as damaging property and assaulting others (Hinduja & Patchin, 2009).

Considering all of the facts above, it is possible that cyberbullying is a significant public mental health concern and has real implications for adolescent development (Hinduja & Patchin, 2007; Ybarra, 2004). Nevertheless, the number of studies is still limited; therefore, more empirical studies will be needed to better understand the new phenomenon.

*Statement of the Problem*

There are many studies available on computer-mediated communication (CMC) in a variety of fields, and studies have demonstrated how people behave differently in CMC (Wallace, 1999). On the other hand, victimization through cyberbullying is not yet fully explored (Hinduja & Patchin, 2008). Limited numbers of studies suggest that cyberbullying is becoming more prevalent among youth worldwide (Hinduja & Patchin, 2009; Li, 2006; Ybarra & Mitcheell, 2004). Nevertheless, studies suggest that adults often underestimate the incidents (Holt & Keyes, 2004). For example, "The percentage of parents reporting that their child was engaged in bullying on the Internet or via text messages was considerably lower (4.8%) than the percentage of children reporting to be engaged in bullying on the Internet or via text messages (17.3%)" (Dehue et al., 2008, p. 219). In addition, about 30% of prospective teachers ($N = 154$) do not believe that cyberbullying is a problem at school (Li, 2008). Moreover, poor parental monitoring on children's computer use is reported (Mason, 2008). As a result, most middle and high school students reported that they did not believe adults at school could help them if they were cyberbullied (Agatston, Kowalski, & Limber, 2007; Aoyama & Talbert, 2009; Juvonen & Gross, 2008). What is more, victims were reluctant to report cyberbullying to their parents because of the fear of losing online privileges or a restriction of Internet use (Agatston et al., 2007; Juvonen & Gross, 2008). Consequently, it may be difficult for adults to indentify the incidents and to intervene among youth.

In order to understand cyberbullying, researchers have started examining the phenomenon from various perspectives and methods for the past few years. Because many researchers thought cyberbullying was a new type of bullying, they examined the

phenomenon based on traditional bullying research. However, cyberbullying is dissimilar from traditional bullying in several ways such as anonymous nature and larger audience. In addition, the literature on this topic is characterized by a lack of conceptual clarity (Vandebosch & Van Cleemput, 2008). Therefore, the existing studies about cyberbullying have produced inconsistent results. The estimation of its prevalence, sex differences, age differences, and predictors of cyberbullying vary greatly. These variances are possibly due to the lack of operational definition (Vandebosch & Van Cleemput, 2008). For example, each researcher defines cyberbullying differently and measures different subtypes for his/her study. Moreover, researchers employ different sampling procedures and research methods. For instance, Hinduja and Patchin (2007) collected survey data online, and participants were youth who visited certain popular websites (e.g., Harry Potter's site, game site, and music artists' sites) which had a link to the survey. It is possible that the sample was biased because only youth who visited these websites were surveyed. These inconsistent research findings can confuse educators and parents. Therefore, in order to capture a clearer picture of the phenomenon, the participants need to be chosen carefully, and an operational definition of cyberbullying should be given to participants.

Second, little cyberbullying research has integrated moderating variables. As mentioned, cyberbullying is related to negative psychological outcomes; thus, it is important to find what possibly works as a buffer to these problems. This information will be helpful from a preventative perspective.

*Purpose of the Study*

The field of cyberbullying research is still in its infancy, and little is known about children's experiences of cyberbullying and its consequences. As many traditional school bullying studies suggest undesirable influences on both victims and bullies, it is probable that cyberbullying victims suffer from the same trajectories. In fact, a few studies indicate that cyberbullying has been empirically linked to maladaptive psychological outcomes. For example, Ybarra (2004) found that youth who were harassed online were more than two times as likely to have depressive symptoms when compared to those who were not victimized and perceive online harassment as threatening. Cyber-victimized youth also have significantly lower self-esteem (Hinduja & Patchin, 2009). Thus, as a next step, it is important to compare several different internalizing problems (e.g., depression, low self-esteem, anxiety) simultaneously in order to examine which internalizing problems are most common. In addition, it is necessary to identify what may moderate the effect of cyberbullying because not all students who are involved suffer from psychological distress. Several variables such as family contexts, parental monitoring, and/or problem solving strategies can serve as a moderator; however, for the present study, peer relationship quality was chosen because "close friends surpass parents as adolescents' primary source of social support" (La Greca & Harrison, 2005, p. 49).

In addition, sex differences are examined as well. In traditional bullying studies, sex differences are well-documented (e.g., Olweus, 1993; Rigby & Slee, 1999; Smith, 1999); however, in cyberbullying studies, sex differences are mainly discussed in terms of prevalence. Examining the moderator effect of sex in terms of group difference and

internalizing problems as a result of cyberbullying could add a new perspective to the field of study.

Therefore, the present study aims to 1) classify youth into subgroups based on their frequency of involvement in cyberbullying (i.e., as a bully, victim, bully-victim, or not involved in cyberbullying); 2) to examine group differences in terms of internalizing problems; and 3) to identify moderator effects of peer relationships and sex in order to fill the gaps in the literature.

*Significance of the Problem*

Considering the fact that traditional bullying victims can suffer from psychological problems, such as depression, anxiety, and social phobia, for long periods of time (Kowalski, Limber, & Agtston, 2008), and bullies have behavioral problems (Olweus, 1993), cyberbullying research has the potential to play an important role in the field of educational psychology. Researchers have already examined the prevalence of cyberbullying with different samples, and found that as many as 70% of youth have experienced cyberbullying (Juvonen & Gross, 2008). Thus, the next step will be to identify subgroups and examining the psychological profile of children who are involved in cyberbullying. Identifying subgroups is important because traditional bullying studies indicate that different groups showed different internalizing and externalizing problems. In addition, it will be significant to explore the psychological profiles of bullies, victims, and bully-victims of cyberbullying and moderating factors. The research findings have potential to help for schools, parents, and future researchers to understand the phenomenon better and to advance the field of cyberbullying research.

*Research Questions*

The research questions of the present study are: 1) Are there any differences between bullies, victims, bully-victims, and those not involved in cyberbullying, in terms of their internalizing problems (self-esteem, depression, anxiety, and stress)?; 2) Are there moderating effects of peer relationships between these groups and their internalizing problems?; and 3) Are there moderating effects of sex between these groups and their internalizing problems?

*Hypotheses*

First, it is hypothesized that students who are involved with cyberbullying will score lower level on measures of self-esteem and higher on measures of depression, anxiety, and stress when compared to those not involved in cyberbullying. Second, better peer relationships will work as a buffer to these internalizing problems. Third, there will be no significant interaction effects of sex. Even though research findings on sex difference are inconsistent, as for victimization, a meta-synthesis by Tokunaga (2010) found that "males and females are equally represented among victims" (p. 280). Thus, it is possible that both male and females are equally at risk for developing internalizing problems as a result of cyberbullying.

CHAPTER TWO

Review of the Literature

Cyberbullying among youth has received increased attention by scholarly research and media in recent years (Aricak et al., 2008; Hinduja & Patchin, 2007). Researchers have started examining and have uncovered several characteristics of cyberbullying; however, the literature on this topic is still scarce and lacks conceptual clarity (Vandebosch & Van Cleemput, 2008). Currently, there is no operational definition among scholars because cyberbullying is a relatively new phenomenon (Kowalski et al., 2008). Thus, the definition varies depending on researchers. Moreover, sampling methods and research designs also differ across studies. Due to these facts, research findings on the prevalence, sex and age differences of cyberbullying vary greatly. Therefore, in order to understand cyberbullying, literature on traditional bullying will be reviewed first because the field of traditional bullying has been well-studied for the last 30 years internationally. Understanding the background and research findings on traditional bullying is significant because it lays the basis for understanding and examining cyberbullying (Shariff, 2008).

*History of Bullying Studies*

Cyberbullying is a new type of bullying; however, traditional school bullying itself has not been recognized as a major social concern until the 1980s (Aricak et al., 2008; Juvonen & Gross, 2008). Historically, it was seen as a normal part of children's development rather than as a social problem (Campbell, 2005). The first scientific study

of bullying was conducted by Dan Olweus, a psychology professor in Norway. In the beginning of his career, Olweus was recognized as an international authority on aggression, and in the early 1980s, he was involved with a government-led nation-wide study on school bullying and conducted longitudinal large-scale research ($N = 130,000$). This study was the beginning of research on bullying (Aricak et al., 2008) and influenced other researchers in foreign countries as well (Rogby & Slee, 1999). For example, in England, the first large-scale ($N = 7,000$) survey was conducted in 1989, and based on the findings which showed that one in five children have been involved in bullying, the government supported a nation-wide intervention project in 1991 (Smith, 1999). In Australia, the first report on bullying among 685 children between 6 and 16 years was carried out in 1991 (Rogby & Slee, 1999). In Japan, the government administered a national survey with students ($N = 9,420$), teachers ($N = 557$), and parents ($N = 9,420$) between 1994 and 1995 (Morita, Soeda, Soeda, & Taki, 1999).

Bullying cases are now reported throughout the world including the United States, England, Germany, Italy, Japan, and Turkey (Aricak et al., 2008). Therefore, not only scholars, but also adolescents are aware of the seriousness, and youth aged between 8 and 15 believe that bullying is a "big problem" and rank it higher than racism, AIDS, and substance abuse (Mouttapa, Valente, Gallaher, Rohrbach, & Unger, 2004, p. 316).

*Research on Bullying in the United States*

Although international scholars have conducted bullying research since the 1980s, in the Unites States few studies have been conducted for decades after Olweus's early study (Kowalski et al., 2008) because bullying had been discussed within broader issues such as school safety or school violence (Harachi, Catalano & Hawkins, 1999). For

example, the National Youth Victimization Prevention Study in 1994 examined non-family assault among 2,000 children aged 10 to 16 by asking if they had been harassed, picked on, or hurt by other kids, and found 32.5% of youth had experienced non-family assault (Harachi et al., 1999). However, the term bullying was not used in the study. Thus, the majority of studies on bullying have been conducted in Europe and Australia (Raskauskas & Stoltz, 2007).

American scholars seemed to become more interested in bullying after a series of school shootings because shooters were reported as victims of bullying (Chapell et al., 2004; Harachi et al., 1999; Holt & Keyes, 2004). For example, two students who carried out the massacre of 12 peers and a teacher at the Columbine High School were reported to have been ostracized and bullied by their classmates; furthermore, analyses of 37 school shooting incidents from 1974 to 2000 reported that 71% of the shooters felt bullied, persecuted or injured by their peers prior to the incidents (Hinduja & Patchin, 2009). Additionally, the U.S. Secret Service interviewed 40 boys who were involved in school shootings and found that they had been humiliated and harassed by their peers over long periods of time (Crothers & Levinson, 2004). These findings have received media attention, and the number of articles on school bullying in the headlines of American newspapers, magazines, and other popular press periodicals were doubled after the Columbine incident (Kowalski et al., 2008). Moreover, the number of *Psychinfo* database citations using "bully" or "bullying" was only five in 1990, but after the Columbine incident, it increased to 94 in 2000. Then, in 2004, there were nearly 250 publications on the topic (Kowalski et al., 2008). However, there is still only one large-

scale study which was conducted by Nansel et al. (2001) with nationally representative samples of 15,686 U.S. students in grades 6th through 10th (Raskauska & Stoltz, 2007).

*The Definition of Bullying*

An agreed-upon and widely used definition of bullying among scholars is Olweus' (1993) definition: An aggressive, intentional negative act or behavior that is inflicted by a group or an individual repeatedly and over time against a victim who cannot easily defend himself/herself. Negative acts can be verbal (teasing and/or name-calling), physical (hitting, kicking, and/or pushing), and indirect forms such as dirty gestures and intentional social exclusion. In addition to negative actions, a bully's intention to harm the victim and power imbalance (e.g., physical strength and social competence) between victims and perpetrators are considered as elements of bullying. Thus, for example, fighting between two students with equal strength is not bullying (Olweus, 1993).

Although Olweus' definition is frequently used, the definition of bullying is complex because it seems to vary greatly depending on respondents' age, sex, and culture: the researchers' definition is sometimes different from that of students and teachers. For instance, only 7.9% of secondary school students ($N = 1,820$) and their teachers ($N = 225$) mentioned that bullying behavior has to be repeated, and only 3.9% of the students responded that negative actions by bullies were intentional (Naylor, Cowie, Cossin Bettencourt, & Lemme, 2006). In addition, only 6.1% of the pupils suggested that social exclusion was a type of bullying behavior. On the other hand, more than 30% of them defined bullying in terms of its effects on the victims (Naylor et al., 2006).

Just as children and researchers perceive bullying differently, people in different cultures define bullying differently. As for the English term bullying, there is often no

equivalent word to describe exactly the same idea in other languages (Eslea et al., 2003).
For example, in Japanese, a word, *Ijime,* is close; however, the concept of *ijime* is
different from the one in western society. *Ijime* often takes psychological and indirect
forms, such as ostracism/exclusion and systematic ignoring by a peer group, and the
whole class is involved (Treml, 2001). Oftentimes, multiple perpetrators target one
victim, and over 90% of Japanese students believed that only group-to-one harassments
were *ijime* (Maeda, 1999). In addition, parents from different countries have particular
and different sensitivities to diverse forms of aggression (Smorti, Menesini, & Smith,
2003). Thus, it is important to define clearly what researchers try to measure in their
survey research (Flower, 2009).

*Types of Bullying and Students' Categories*

Besides developing an operational definition, Olweus (1993) also identified two
types of bullying: *direct* and *indirect*. Direct bullying involves both physical violence
(e.g., kicking, hitting, punching, and pushing) and verbal attacks (e.g., teasing and name-
calling). In contrast, indirect bullying, also known as *relational* bullying, intends to
harass others by damaging the victim's social relations. Behavioral examples include
gossiping, rumor spreading, ignoring, and excluding the victim from the peer group.

In addition to categorizing the types of bullying, early bullying studies
characterized students into three groups: *bully*, *victim*, and *bully-victim* (Aricak et al.,
2008). Other than the three groups, there are a large number of bystanders/audience who
witness the bullying events but do not interfere due to the fear of being the next victim
(Campbell, 2005). The profiles of these students will be discussed more in a later section.

*The Prevalence of Bullying*

According to the early work of Olweus (1993), 15% of Norwegian students were involved, approximately 9% as bullies and 7% as victims.  In England, 27% of elementary students and 10% of secondary students ($N = 6,700$) reported being bullied sometimes or more frequently, and 12% have bullied others sometime or more frequently (4%) (Smith, 1999).  In Australia, 17% of boys and 13% of girls ($N = 685$) have been bullied "pretty often" (Rogby & Slee, 1999).  In Japan, 21.9% of primary, 13.2% of middle school, and 3.9% of high school students ($N = 9,420$) have been bullied, and 25.5% of primary, 20.3% of middle school, and 6.1% of high school students have bullied others (Morita et al., 1999).

In the United States, a study conducted by Nansel et al. (2001) ($N = 15,686$) showed that 19.4% of the students reported bullying others; 16.9% of them reported being bullied moderately or frequently; 6.3% experienced both.

*Sex Differences*

A number of studies have revealed how boys and girls are engaged in bullying differently.  Boys were more likely than girls to be involved in bullying (Ma, 2002; Olweus, 1993), and they were about twice as likely to be the "often bullied" group (Delfabbro et al., 2006).  Boys tend to engage in direct physical bullying; on the other hand, girls tend to experience indirect and psychological types of bullying (Olweus, 1993; Raskauskas & Stoltz, 2007; Rigby & Slee, 1999; Smith, 1999).  For instance, males were more likely than females to be bullied by being hit, slapped, or pushed; on the other hand, females more frequently reported being bullied through rumor spreading or sexual comments (Nansel et al., 2001).  Because more males engage in direct bullying

13

than females, they are more tolerant with indirect forms of aggression (Mouttapa et al., 2004).

As for bullies' sex differences, more than 80% of victimized boys were bullied by only boys. In contrast, 60% of victimized girls reported being bullied mainly by boys, and 15% to 20% of them were bullied by both boys and girls (Olweus, 1993). Similar findings were reported in Australia: Whereas girls were bullied by boys and girls equally, boys reported being bullied almost exclusively by other boys (Rogby & Slee, 1999). Furthermore, boys were more likely than girls to be picked on by teachers especially when the students' academic performance was poor (Delfabbro et al., 2006). Finally, boy victims retaliate with aggression more often than girl victims, and girl victims respond to bullying with feelings of helplessness more often than boy victims (Mouttapa et al., 2004).

*Profiles of Victims*

Although there is no single characteristic of victims, many studies have explored the profiles of victimized youth (Kowalski et al., 2008). For example, Olweus (1993) suggested that victims were more likely to be quiet, sensitive, insecure, anxious, and afraid of being hurt. Victims also usually react by crying when they are attacked by other students. Moreover, they have fewer friends (Ledley et al., 2006) and are less physically attractive (Delfabbro et al., 2006). Other studies also found that victims had lower social integration (Katzer, Fetchenhauer, & Belschak, 2009), poor physical conditioning (Ma, 2002), and poor psychosocial adjustment (Raskauskas & Stoltz, 2007). In addition, victims were often perceived as weaker by perpetrators, and students who were described as strange, shy, and/or small were also at risk of being the target of bullies (Vandebosch

14

& Van Cleemput, 2008). Similarly, Shariff (2008) stated, "The way people look and dress is a significant motivation to bully, especially for girls [, and] being different causes 10 percent to discriminate" (p. 18). In fact, the most frequent reason to bully others is that victims do not fit in (Holt & Keyes, 2004; Nansel et al., 2001).

Because being different can cause discrimination, marginalized groups are highly vulnerable to bullying (Holt & Keyes, 2004; Smith, 1999). For instance, approximately two-thirds of children with special needs reported being bullied (Shariff, 2008). Likewise, obese children or students with learning disabilities or attention deficit hyperactive disorder (ADHD) are at greater risk of being teased and bullied physically (Kowalski et al., 2008). Students with different sexual orientations are also highly susceptible to peer harassment. Surveys among gay and lesbian youth ($N = 140$) revealed that 80% had been teased about their sexual orientation, and more than half had been assaulted physically and ridiculed by other students or teachers (Smith, 1999).

Being different from others can increase the risk of being bullied; however, Olweus (1993) cautions that external negative deviations are not the cause of bullying. When he examined children's 14 external characteristics such as red hair, an unusual dialect, wearing glasses, and being obese, 75% of the students had at least one external deviation. The findings suggested that children were not bullied due to a single external deviation, but external deviations combined with negative psychological characteristics became risk factors for being bullied.

*Negative Effects of Bullying on Victims*

One well-documented area in bullying studies is the negative consequences on victims. The impact of bullying has been examined in the field of education, psychology,

counseling, sociology, psychiatry, and criminology (Hinduja & Patchin, 2009), and many studies have demonstrated that victimized youth suffer from various negative outcomes emotionally, physiologically, and behaviorally. Youth usually have a strong need to belong to and to be accepted by their peers; thus, being bullied by their peers can cause various negative effects on victims (Kowalski et al., 2008).

*Negative psychological and emotional effects*. Psychological and emotional negative effects on victims are the most studied areas. Among them, depression has been cited frequently as a common negative outcome of bullying (Hinduja & Patchin, 2009). Studies have argued that victimized students are more likely to have depression (Olweus, 1993; Rigby & Slee, 1999) and suicidal ideation (Delfabbro et al., 2006; Holt, Finkelhor, & Kantor, 2007; Ledley et al., 2006; O'Moore, & Kirkham, 2001). In fact, bullying victimization "increases the probability of experiencing suicidal thoughts by 10 percent in boys and by more than 20 percent in girls" (Hinduja & Patchin, 2009, p. 14). Furthermore, victims suffer from anxiety (Olweus, 1993; O'Moore & Kirkham, 2001), low self-esteem (Delfabbro et al., 2006; O'Moore & Kirkham, 2001; Rigby & Slee, 1999), social alienation (Delfabbro et al., 2006), and social phobia (Ledley et al., 2006). Then, these negative symptoms seem to continue into adulthood (Hinduja & Patchin, 2009; Kowalski et al., 2008; Ledley et al., 2006).

*Negative physiological effects*. In addition to the negative psychological and emotional influences, researchers have found numerous negative physiological effects. Victims often report sleeping difficulties, occasional headaches and stomach aches which often can be an early sign of peer victimization (Smith, 1999). Victims are also more

likely to suffer from eating disorders and chronic illnesses when compared to their non-victim peers (Hinduja & Patchin, 2008; Mason, 2008).

*Negative behavior effects*.   Finally, behavioral problems among victims are reported as well.   For example, victims tend to have school-related behavioral problems such as truancy and school-avoidance (Katzer et al., 2009; Shariff, 2008).   Also, they are more likely to bring weapons to school for protection than non-bullied students (Shariff, 2008).   Similarly, vandalism, shoplifting, dropping out of school, drug use, and fighting are also linked to bullying victimization (Hinduja & Patchin, 2009).   As discussed earlier, victimized experiences can play some roles in later violent outbursts; thus, the worst behavioral outcomes can be extreme violent acts like school shootings (Hinduja & Patchin, 2009).

*Profiles of Bullies*

*Psychological, emotional and social characteristics*.   As studies have identified the profile of victims, researchers have also examined bullies' profiles.   Bullies tend to be impulsive, physically stronger and bigger than their peers, have a dominant personality and more positive attitudes toward violence when compared to non-bully children (Olweus, 1993).   As for social characteristics, bullies have a larger friendship group, higher sociometric ranking, and earlier dating experiences (Mouttapa et al., 2004). However, Shariff (2008) argued that bullies lack self-confidence and self-assurance, and bullying behaviors "are driven by the need for power and recognition" (p. 17).   Likewise, O'Moore and Kirkham (2001) argued that the more these youth bully others, the lower self-esteem they possessed.   On the contrary, Ma (2002) discussed that aggressive

behaviors were not caused by anxiousness and insecurity; rather, bullies posses enough social skill to manipulate and organize victims. Similarly, researchers have discussed that aggressive behaviors were consequences of high rather than low self-esteem even though researchers used to believe that low self-esteem led to aggression (Salmivalli, Kaukiainen, Kaistaniemi & Lagerspetz, 1999).

*Behavioral characteristics*. With regard to the behavioral characteristics of the bully, bullies are more likely to be absent from school, shoplift (Rigby & Slee, 1999), and consume alcohol and smoke (Nansel et al., 2001). With regard to long-term consequences, Olweus (1993) found that aggressive behavior was a stable individual characteristic over time, and approximately 60% of boys who were identified as bullies in middle school had at least one criminal conviction by age the of 24 years. Moreover, bullies were about four times more likely to have three or more convictions when compared to their non-bully peers.

*Profiles of Bully-Victims*

Bully-victims are those who are involved as both bullies and victims. The literature focusing on bully-victims as a group is scant because most studies have examined either bullies or victims only (Marini, Dane, Bosacki, & Ylc-Cura, 2006). However, this group should not be overlooked because bully-victims experience double negative effects as both bullies and victims (Marini et al., 2006). In fact, their evaluation by teachers and peers is low. For example, they are "more clumsy and immature than their peers [, and] not only do peers find it difficult to associate with these children, but teachers and other school personnel frequently report that these children are among the

most difficult to work with in school settings" (Kowalski et al., 2008, p. 32). Thus, bully-victims report a higher rate of depression, somatization, and psychiatric referrals than their other peer groups (Ybarra & Mitchell, 2004). Likewise, bully-victims had lower self-esteem and more peer relational difficulties than bullies (Marini et al., 2006; O'Moore & Kirkham, 2001).

Finally, researchers have suggested that a child's status as a bully or victim could be easily interchanged; for instance, 35.7% of bullies reported experienced being victimized within the year, and 15.5% of them were currently being victimized as well (Morita et al., 1999). Similarly, Hayine et al. (2001) also found that more than half of the bullies reported victimization as well. Thus, anti-bullying intervention/prevention programs should include not only victims but also all students (Olweus, 1993).

*Measuring Traditional Bullying*

Bullying researchers cited so far have used various methods to measure bullying, and the most common way is to conduct a survey or use a self-report questionnaire. The most widely used questionnaire among researchers is *Olweus's Bully/Victim Questionnaire* (OBVQ), which asks students how frequently they bully others and how frequently they are victimized in various school contexts (Leff, Power, Goldstein, 2004). Researchers have demonstrated the OBVQ's acceptable reliability among adolescent (Kyriakidesm, Kaloyirou, Lindsay, 2006; Solberg & Olweus, 2003) and correlations with peer nomination measures (Crothers & Levinson, 2004). Construct validity was also demonstrated by using Rasch modeling (Kyriakidesm et al., 2006). Other than the OBVQ, instruments such as the *Bullying-Behavior Scale* (*BBS*)*, Name Calling Scale* (*NCS*)*, Peer Relations Questionnaire* (*PRQ*)*,* and *Peer Victimization Scale* (*PVS*)*,* are also available,

and many of them have adequate internal consistency reliability (Crothers & Levinson, 2004).

*Theoretical Background of Traditional Bullying*

The fundamental theoretical question is why bullying occurs among children. Researchers have tried to explain bullying behaviors from a number of theoretical perspectives. First, the well-supported theory is the *social cognitive theory* which argues that adolescents model their parents' or friends' aggressive behaviors (Duncan, 2004; Mouttapa et al., 2004). "The effect [of the model] will be stronger if the observer has a positive evaluation of the model, for example, perceives him/herself as tough, fearless, and strong" (Olweus, 1993, p. 43). In other words, observing an aggressive model makes aggressive behaviors less inhibited if observers see a model getting rewarded for the aggressive actions. In these cases, the reward means the bullies' victory over the victims. Because bullying is a type of peer aggression, all forms of bullying may be learned actions (Hinduja & Patchin, 2008)

Second, the *dominance theory* provides further explanations. The dominance theory posits that children use aggression against weaker peers to force them into a position of submission (Beran & Li, 2005) and gain access to resources, including money and high sociometric status among peers (Mouttapa et al., 2004). In other words, bullying behaviors occur because being dominant over others gives bullies satisfaction and prestige which rewards their aggressive behaviors (Olweus, 1993).

Third, the *frustration-aggression theory*, first proposed by a group of researchers at Yale University in 1939, argues that frustration brings out anger and aggressive responses, and then anger triggers a hostile action (Berkowitz, 1989). Since the

frustration theory was first introduced, various scholars have discussed its validity. For example, Berkowitz (1989) disputes that "the blockage of goal-directed activity can create an instigation to aggression" (p. 60) along with other supplemental factors such as personality and instrumental values of aggressive reaction. Various types of goal blockage can lead to aggression; however, the failure to attain monetary, autonomy, and masculinity goals have greater importance (Agnew, 2001). Thus, frustrated individuals might engage in aggressive behaviors to reduce the frustration.

The final theory is the g*eneral strain theory* (GST), which was proposed by Agnew (2001), a researcher of criminology. *GST* is similar to the *frustration-aggression theory* in that it argues that stressful life events produce negative emotion, such as anger, frustration, and sadness which can cause delinquent coping responses (Agnew, 2001). Thus, bullying can occur as a means of reducing strain, seeking revenge, or alleviating negative emotions especially when bullies lack the skills and recourses to cope with stressful events, are low in social support, and are low in self-control (Agnew, 2001). In fact, Tam and Taki (2007) state that bullying could be a psychological defense elicited by external stressors to decrease anxiety.

In sum, children may engage in bullying if they are exposed to aggression, learn that aggression is the way to solve problems, and have positive attitudes toward dominating others. Frustrated children may also tend to show aggressive responses, even though those aggressive behaviors can be a psychological defense mechanism.

*Summary of Literature on Traditional Bullying*

For the past 30 years, international researchers have examined various aspects of bullying since Olweus disseminated his seminal research. Studies have found that a large

number of youth worldwide were involved in bullying, and identified subtypes of bullying which vary dependent on students' sex, age, and culture. Then, in order to understand the phenomenon, researchers have identified psychological and behavioral profiles of bullies, victims, and bully-victims. Researchers have also found possible risk factors, such as external deviations and some types of disabilities, for youth to be involved in bullying.

With regard to outcomes, researchers have demonstrated that both victims and bullies face negative consequences emotionally (e.g., depression, low self-esteem), physiologically (e.g., headaches, stomach aches), and behaviorally (e.g., school-avoidance and vandalism), and these negative effects are long lasting.

As for assessing bullying, various self-report instruments with fair psychometric properties are available. Among them, *Olweus's Bully/Victim Questionnaire* (OBVQ) is the most widely used among researchers. Finally, the theoretical framework was discussed, and several theories, such as the *social cognitive theory,* the *dominance theory,* the *frustration-aggression theory,* and the g*eneral strain theory* (GST), provide an explanatory framework for bullying behaviors among youth.

*Cyberbullying*

Although researchers have revealed various aspects of traditional bullying, they faced new challenges in the 21st century when children found new ways to bully others by using electronic communication tools. This phenomenon has been referred to as *cyberbullying*, *electronic bullying*, and *Internet/online/cyberharassment* (Finn, 2004; Kowalski & Limber, 2007; Raskauska & Stoltz, 2007; Ybarra & Mitchell, 2004; Willard,

2007).  The term cyberbullying is used in the present study because more researchers seem to use this term in recent research.

Many researchers consider cyberbullying as a new type of bullying (Beran & Li, 2005; Campbell, 2005; Juvonen & Gross, 2008) and have examined the phenomenon from the traditional bullying perspective.  For example, researchers have tried to define cyberbullying, to investigate sex and age differences and negative effects based on findings from traditional bullying studies.  The next sections review literature on various aspects of cyberbullying.

*Definition of Cyberbullying*

As the scientific definition of traditional bullying is complex, defining cyberbullying is not simple.  Currently, there is no "typical" operational definition among researchers (Kowalski et al., 2008).   Therefore, the definition varies depending on researchers.  For example, Agatston et al. (2007) defined cyberbullying as "using the Internet or other digital technologies such as cellular phones and personal digital assistants to be intentionally mean or harass others" (p. 60).  Hinduja and Patchin (2007) defined cyberbullying as "willful and repeated harm inflicted through the medium of electronic text" (p. 90).  On the other hand, the distinction between cyberbullying and other online harassment is not clear.  For example, Finn (2004) described *cyberstalking* as "a variety of behaviors that involve (a) repeated threats and/or harassment, (b) by the use of electronic mail or other computer-based communication, and (c) that would make a reasonable person afraid or concerned for their safety" (p. 469).   Although other researchers made a distinction between cyberbullying which involves minors and

cyberstalking or cyber-harassment which involves adults (Kowalski et al., 2008), these two terms are often used interchangeably.

In addition to the definition, other researchers include several important elements to explain cyberbullying. First, as in traditional bullying, cyberbullying also involves malicious aggressors who enjoy mistreating others (Dehue, Bolman, & Völlink, 2008; Hinduja & Patchin, 2007). This point is supported by the study conducted by Vandebosch and Van Cleemput (2008) that showed that students aged between 10 and 19 in Belgium clearly differentiated cyberbullying from teasing via the Internet or mobile phone. Second, power imbalance (e.g., physical strength and social competence) between victims and perpetrators is another characteristic of cyberbullying, although the power imbalance is not explained only by physical strength, but by competence of technology use (Aricak et al., 2008). Finally, researchers have discussed that intentional harassment through electronic devices needs to be repeated over time (Hinduja & Patchin, 2007; Smith et al., 2008). However, adolescents consider a single negative harassment via Internet or mobile phone to be cyberbullying when it followed traditional bullying (Vandebosch & Van Cleemput, 2008).

In sum, a conclusive definition of cyberbullying, which referred to Olweus' definition, is "an aggressive, intentional act or behavior that is carried out by a group or an individual, *using electronic forms of contact*, repeatedly and over time against a victim who cannot easily defend him/herself" (Smith et al., 2008, p. 376).

*Unique Characteristics of Cyberbullying*

Cyberbullying can happen through various deliberate acts such as sending threatening or aggressive emails, text messages, and/or instant messages (Willard, 2007).

Other acts also include spreading malicious rumors, posting embarrassing pictures and/or videos online without permission, setting up a derogatory website, breaking into someone's e-mail or social networking sites (SNS) account to damage the person's reputation or relationships, excluding the victim from an online group, disclosing personal information, and attacking anonymously by using *avatars* (Campbell, 2005; Lenhart, 2007; Shariff, 2008). Cyberbullying is a new type of bullying, but is dissimilar from traditional bullying in several ways. First, the perpetrator of cyberbullying can remain anonymous. The hidden nature of cyberbullying makes it difficult for victimized youth to identify aggressors, and about half of the cyber-victimized students did not know who was bullying them (Kowalski & Limber, 2007). The relationship between the effect of anonymity and human behavior online will be discussed later as it relates to theory.

Second, unlike traditional bullies who need a physical location to harass others, cyberbullies can bully their victims anywhere and anytime (Mason, 2008); thus, there is less escape for victims (Juvonen & Gross, 2008). In traditional bullying, victims could retreat into protected environments, be recharged, and be encouraged by loved ones at home (Hinduja & Patchin, 2008). However, attacks from cyber-perpetrators continue after victims get home; as such, home may not be a safe and peaceful place anymore (Mason, 2008).

The final unique characteristic of cyberbullying regards the bystanders/audience. In traditional bullying, a limited number of children are involved. Contrarily, in cyberbullying "hurtful or humiliating content can be sent to a large number of people in a short period of time" (Hinduja & Patchin, 2009, p. 23). The materials posted online are

difficult to delete completely because they are easily copied or forwarded to many people, and a proof of harassment will last almost forever (Shariff, 2008).

*Prevalence of Cyberbullying*

The prevalence of cyberbullying varies greatly across studies depending on the definition, sample characteristics, and the types of technology examined (Juvonen & Gross, 2008). One of the earliest studies conducted between 1990 and 2000 by Ybarra and Mitchell (2004) showed that 19% of youth who use the Internet regularly ($N = 1,498$) were involved in cyberbullying: 13% as perpetrators, 4% as victims, and 3% as bully-victims. The prevalence of cyberbullying among adolescents seems to be increasing each year as technology devices get smaller and more ubiquitous (Willard, 2007). When other researchers collected data in 2004 ($N = 384$), approximately 30% of youth reported their victimization, and 11% had cyberbullied others (Hinduja & Patchin, 2009). Another study that surveyed nationally representative teenagers ($N = 935$) in 2006 also reported similar prevalence (Lenhart, 2007). The more recent study showed that 72% of the youth ($N = 1,454$) were victimized online at least once in the past year and 13% of them reported frequent victimization (Juvonen & Gross, 2008).

As with traditional bullying, cyberbullying cases occur internationally. In England, an early study conducted by the National Children's Home (NCH) in 2001 revealed that about 25% of youth aged between 11 and 19 ($N = 856$) had experienced cyberbullying (Hinduja & Patchin, 2009). Moreover, past studies indicated that sixteen children committed suicide due to cyberbullying each year (Anderson & Sturm, 2007; Li, 2006). Another study on British youth also demonstrated that "33 percent had received nasty comments sent via email, chat, instant message, or text message" (Willard, 2007, p.

32).  A study from the Netherlands showed that about 16% of the youth had engaged in cyberbullying, while about 23% of the youngsters had been cyber-victims (Dehue et al., 2008).  Similarly, 39% of pupils between $5^{th}$ and $11^{th}$ grade ($N$ = 1,700) in Germany reported they had been abused or insulted by other chatters during chat sessions (Katzer et al., 2009).  In Turkey, 36% of the students between $6^{th}$ and $10^{th}$ grade ($N$ = 269) have been exposed to cyberbullying (Aricak et al., 2008).

Cyberbullying is problematic not only in western culture but also in Asia.  In Japan, 71% of high school students and 65% of middle school students among 265 schools have experienced cyberbullying (Yomiuri Online).  Likewise, over 60% of students in China ($N$ = 202) have been involved with cyberbullying (Li, 2005).  Korea and India also report the incidents as well (Shariff, 2008).  These findings suggest that quite a large number of students are involved in cyberbullying worldwide.

*Sex Differences in Cyberbullying*

In traditional bullying, studies have shown that boys were more likely than girls to be involved in bullying overall; however, more girls experience indirect and psychological types of bullying than boys (Kowalski et al, 2008; Ma, 2002; Olweus, 1993; Raskauskas & Stoltz, 2007).  Therefore, researchers have pointed out that cyberbullying is more prevalent among girls (Anderson & Sturm, 2007; Willard, 2007) because cyberbullying is text-based, and girls tend to be more verbal than boys (Hinduja & Patchin, 2009).  However, research findings are inconsistent across studies.  Some studies found that males were more likely to engage in cyberbullying than females (Arıcak, 2009; Aricak et al., 2008; Dehue et al, 2008; Katzer et al., 2009; Shariff, 2008), and girls were more likely to be victimized online (Dehue et al., 2008; Smith et al.,

2008).  On the other hand, Li (2006) argues that more male students reported being cyberbullied than female students.  Other researchers, however, find no significant sex differences (Aoyama, 2009; Arıcak, 2009; Beran & Li, 2005; Hinduja & Patchin, 2008).

As for subtypes, it is hypothesized that boys and girls are involved with cyberbullying in different ways.  In fact, it is reported that boys' most popular activity online is gaming, and girls' favorite online activity is communication; therefore, more boys can engage in *flaming*, angry or rude messages sent directly to a victim or to an online group (Willard, 2007).  In contrast, more girls can be involved in *denigration*, harmful statements that are conveyed to others by forwarding emails and posting information about the victim on websites (Willard, 2007).

Finally, several studies have examined sex differences in terms of the venue of harassment.  Hinduja and Patchin (2007) state that females are significantly more likely than males to report being victimized via email, but there are no significant differences when considering the other venues such as chat room or text message.  On the other hand, Finn (2004) finds no sex differences among 339 college students in terms of e-mail harassment.

*Negative Influences on Cyber-victims and Bullies*

As many studies on traditional bullying suggest various undesirable influences on victims, cyberbullying has been empirically linked to maladaptive psychological and behavioral outcomes.  With regard to psychological effects, Ybarra (2004) finds that victimized youth are two times more likely to have depressive symptoms than those who are not involved in cyberbullying, and this association is stronger for males than females.

Cyber-victimized youth also have a significantly lower self-esteem and have a higher risk for suicide (Hinduja & Patchin, 2009).

As for behavioral problems, cyberbullying victimization is significantly associated with offline problem behaviors such as abusing substances, cheating on school tests, and skipping school (Hinduja & Patchin, 2007). In addition, cyber-victims were eight times more likely to carry a weapon to school than non-victims (Ybarra, Diener-West & Leaf, 2007). On the other hand, perpetrators were found to have low school commitment, to use alcohol and cigarettes, and to display problematic behaviors such as damaging property and assaulting others (Hinduja & Patchin, 2009). Considering the research to date, cyberbullying, as well as traditional bullying problems, is an important public mental health concern and has real implications for adolescent development (Hinduja & Patchin, 2007; Ybarra, 2004).

*Correlations between Traditional Bullying and Cyberbullying*

Examining the correlation between cyberbullying and traditional bullying is important because the findings can help researchers tell whether or not existing intervention programs for traditional bullying will also be effective for cyberbullying situations (Raskauskas & Stoltz, 2007). Overall, studies have found a positive relationship between the two types of bullying. Victims in traditional bullying are more likely to be victims in cyberbullying, and perpetrators in traditional bullying are more likely to be offenders on the Internet as well (Dehue et al, 2008; Hinduja & Patchin, 2007; Katzer et al., 2009; Raskauskas & Stoltz, 2007). For instance, "Youth who reported bullying others in real life in the previous six months were more than 2.5 times as likely to report bullying others online. Similarly, youth who were victims of

29

traditional bullying in the previous six months were more than 2.5 times as likely to be victims of cyberbullying" (Hinduja & Patchin, 2009, p. 59).

*Profiles of Victims of Cyberbullying*

First, students who try hard to fit in with a peer group and intentionally involve themselves in Internet communication have a higher risk of being victimized (Willard, 2007). Frequent users and active inhabitants of social networking sites (SNS) expose themselves to more opportunities to be victims, and about 40% of the students who use SNS have been cyberbullied compared to 22% of students who do not use SNS (Lenhart, 2007). Juvonen and Gross (2008) also discuss that adolescents who use instant messages (IM) are more likely to be cyberbullied repeatedly than non-users. Similarly, Katzer et al. (2009) suggests that cyber-victims of chat rooms often place themselves in situations where victimization is more likely. For example, they exhibit socially manipulative behaviors such as the spreading of lies or false information about their age or sex in chat rooms. However, those behaviors may serve a protective purpose, helping victims to avoid future bullying (Katzer et al., 2009).

Finally, students who identify themselves as gay, lesbian, bisexual, and transsexual (GLBT) are more likely to be a target of cyberbullying as in traditional bullying (Shariff, 2008; Willard, 2007) because gay bashing has to do with relationships and sexuality (McQuade, Colt, Meyer, 2009). A study shows that GLBT individuals are "twice as likely to experience cyberstalking or e-mail harassment from a stranger as were students who identified themselves as heterosexual" (Finn, 2004, p. 480). One of the worst cases was a 13-year-old boy in Vermont who was cyberbullied based on the rumor that he was gay committed suicide in 2003 (McQuade et al., 2009).

Because there are still few studies focusing on profiles of cyberbullying victims, these characteristics listed are not conclusive. In cyberspace, everyone including teachers, popular students, and ex-boy/girlfriends can be victims. Shariff (2008) discusses that some students engage in anti-authority cyber-expression and put down their teachers and school principals. For example, a new study by Ontario College of Teachers (OCT) reports that "84% of teachers have experienced cyber-bullying in the form of students publishing obscene or defamatory pictures or statements online; 41% know about this happening to other teachers" (Shariff, 2008, p. 155). Similarly, about half of the university students ($N = 462$) reported that they had seen material posted online that denigrates or puts down a school staff member (Aoyama, 2009).

*Profiles of Cyberbullies*

Little empirical study has been conducted to identify profiles of cyberbullies. However, researchers have mentioned that cyberbullies can be individuals who want to demonstrate their power in cyberspace (Kowalski et al., 2008). Also, victims of traditional bullying who may not be tough enough in real life can seek retribution through electronic devices because less powerful groups may be more powerful when on-line (Hinduja & Patchin, 2008). In these cases, cyberbullies may have low self-esteem and act aggressively to compensate for their weakness (Anderson & Sturm, 2007). However, some students may not realize that they engage in cyberbullying. Students believe it is okay to write anything on websites because nobody seems to be reproached for posting negative comments or rumors (Willard, 2007).

*Profiles of Bully-Victims of Cyberbullying*

Little is known about bully-victims of cyberbullying as well; however, research indicates that cybervictimization and cyberbullying are highly correlated with each other, $r = 0.89$ (Varjas, Henrich, Meyers, 2009). Another study also found a strong relationship between being a cyberbully and cybervictim (Erdur-Baker, 2010). Therefore, a child's status as a bully or a victim can be easily interchanged in cyberbullying as well as traditional bullying. As for behavioral problems of bully-victims, Ybarra and Mitchell (2004) found that youth engaging in problem behaviors, such as damaging property, stealing things, and physically assaulting others, were about four times as likely to being bully-victims.

*Peer Relationship as a Moderator Effect*

Researchers have indicated the relationship between cyberbullying victimization and psychological difficulties. However, not all victims suffer from psychological distress; thus, it is necessary to identify what may moderate the negative effect of cyberbullying. A moderator effect between cyberbullying and internalizing problems is not yet well researched. Several variables such as family contexts, parental monitoring, and/or problem solving strategies can serve as a moderator; however, for the present study, a peer relationship quality was chosen for the following reasons. First, adolescents spend a substantial amount of their time with friends; thus, the quality of close friendships is associated with youth emotional well-being (Flanagan, Erath, & Bierman, 2008). In fact, the important role of good peer relations on youth psychological well-being has been demonstrated in earlier studies. For example, good peer relations works as a buffer from internalizing problems, and children who report poor quality friendships

are at greater risk of developing depression and social anxiety (Flanagan et al., 2008; La Greca & Harrison, 2005; Woods, Done, & Kalsi, 2009).

Second, bullying victims use various coping strategies. Among these coping strategies are seeking social support (Naylor, Cowie, & Rey, 2001). Victims often seek social support from their friends because talking about painful experiences to someone who listens and cares makes victims feel more accepted and provides strength (Kochenderfer, Ladd, & Skinner, 2002; Naylor et al., 2001). Therefore, it is hypothesized that quality of peer relationships will be a moderator between cyberbullying involvement and internalizing problems. More specifically, internalizing problems as a result of cyberbullying will be worse or lessen depending on the quality of peer relations.

*Measuring Cyberbullying*

There is no standardized, accepted, reliable and valid instrument to measure youth's cyberbullying and victimization (Ybarra & Mitchell, 2004). Moreover, researchers who develop their own questionnaires rarely provided psychometric information and psychometrically analyze their questionnaire to make them valid instruments (e.g., Aricak et al., 2008; Juvonen & Gross, 2008; Li, 2006; Smith et al., 2008). A few studies have discussed reliability information, but validity information is rarely reported. For example, Hindja & Patchin (2009) developed the *Cyberbullying Victimization Scale* with 9 questions and the *Cyberbullying Offending Scale* with 5 questions, and Cronbach's alpha is 0.73 and 0.76, respectively. On the other hand, researchers in the Netherlands (e.g., Katzer et al., 2009) have developed an instrument with better reliability for the evaluation of victimization in Internet chat rooms by adopting the Olweus' victim scale, and tested with 1,700 youth between grades 5 and 11

33

(Cronbach's alpha = 0.86). However, the instrument measures cyberbullying victimization only on chat rooms and does not measure offending behaviors.

*Theoretical Background of Cyberbullying*

Researchers have linked bullying behaviors with theories of human behaviors and communication; however, fewer theories are available to explain cyberbullying because there is no single theory or factor to explain why cyberbullying occurs (McQuade et al., 2009). Hinduja and Patchin (2007) discuss that the majority of research is descriptive, and these studies have not attempted to apply social structure theories to understand cyberbullying. One theoretical model that can possibly explain the phenomena is *disinhibited behavioral effects* on the Internet (Hinduja & Patchin, 2009; Kowalski et al., 2008).

Joinson (1998) argues that people in cyberspace behave in a way they do not in real life because of the effects of disinhibition; "Disinhibition means that normal behavioral restraint can become lost or disregarded" (Mason, 2008, p. 328). For example, researchers have demonstrated people tend to behave more bluntly when communicating by e-mail or in other electronic venues. Moreover, misunderstandings, greater hostility, aggressive responses, and nonconforming behaviors are more likely in computer-mediated communication than in face-to-face communication (McKenna & Bargh, 2000). In face-to-face interaction, people read the emotional reactions of others and modulate their own behavior in response to the consequences (Kowalski et al., 2008). In other words, human behaviors are inhibited by social situations and public evaluations (Joinson, 1998). As mentioned earlier, aggression occurs as a result of frustration; however, "the absence of overt aggression after frustration was only due to inhibition evoked by the

threat of punishment" (Berkowitz, 1989, p. 61). In cyberspace, on the other hand, people have less social, contextual, and affective signs than in face-to-face communication; thus, they are less sensitive and remorseful for the types of behaviors that they exhibit (Mason, 2008). In cyberbullying, perpetrators have no direct social disapproval and punishment for engaging in bullying others and do not see that victims suffer (Willard, 2007). As a result, their behaviors are often disinhibited and become ruder, harsher, and more difficult to control (Hinduja & Patchin, 2009) In fact, studies have suggested that people in the computer-mediated communication groups exhibited significantly more disinhibited behavior than those in face-to-face communication groups (Mason, 2008).

*Asynchronicity* is also another important component of disinhibited effects. In cyberspace, people do not always interact with each other in real time, and sometimes it can take hours, days or even months to reply. Therefore, some people think that posting an emotional and hostile message and then leaving it out there is safe because they can leave it behind (Suler, 2004).

Disinhibition effects are caused by *deindividuation* (Joinson, 1998). Deindividuation can occur when accountability cues are reduced; in other words, anonymity can reduce concerns about others' reactions (Joinson, 1998). Deindividuation also occurs when an individual's self-awareness is blocked or reduced by external factors because "it decreases the influence of internal (i.e., self) standards of or guides to behavior, and increases the power of external, situational cues" (McKenna & Bargh, 2000, p. 61- 62).

Deindividuation in cyberspace has been discussed the most in the communication studies, and the negative effects of deindividuation include a weakened ability to regulate

one's own behaviors and to engage in rational and long-term planning. An individual also shows a propensity to react to immediate cues and care less what others think of his or her behaviors (McKenna & Bargh, 2000). Then, because of the decreased awareness of social feedback and disapproval, impulsive and disinhibited behaviors can emerge (Hinduja & Patchin, 2009; Kowalski et al., 2008). Moreover, "human brains governing decision making and risk taking are not fully developed until people are about 25 years of age" (McQuade et al., 2009, p. 51). In other words, adolescents do not analyze the contexts as rationally and thoroughly as adults do. Adolescents also have more difficulties in accurately interpreting what is happening when interacting with others (McQuade et al., 2009).

In sum, the effects of inhibition and deindividuation on the Internet combined with the lack of maturity in the teenage brain explain cyberbullying behaviors by suggesting that humans' behaviors are disinhibited due to the reduced social and contextual cues.

*Summary of Literature on Cyberbullying*

Cyberbullying has gained great attention from media and scholarly research recently. Although the number of empirical studies is limited, researchers have found that a number of youth were involved in cyberbullying as well as in traditional bullying. Also, both cybervictims and cyberbullies showed various negative psychological and behavioral effects. As for the prevalence, and sex/age differences, research findings were inconsistent across studies. With regard to the correlation between traditional and cyberbullying, positive relationships were reported (e.g., traditional victims and cyber-victims); however, cyberbullying is different from traditional bullying in terms of its

anonymity and ubiquity.  As for assessment, currently there is no psychometrically sound instrument to measure youth's cyberbullying behaviors and victimization.  Many researchers create their own questionnaires, and they rarely study reliability and validity.  Finally, theoretical frameworks are discussed.  The effects of inhibition and deindividuation on the Internet possibly help to explain cyberbullying behaviors because it has been shown that human behaviors are disinhibited due to the reduced social and contextual cues.  For the past few years, researchers have found unique characteristics and the prevalence of cyberbullying.  However, as discussed above, little is known about psychological profiles of youth who are involved in cyberbullying as a bully, a victim, and a bully-victim yet.  Therefore, the present study will examine the psychological characteristics of cyberbullies, victims, and bully-victims and interaction effect of peer relationship and sex.

CHAPTER THREE

Method

*Participants*

Participants were 463 middle and high school students from two independent school districts (ISD) in central Texas (male = 47%, female = 50.9%; middle school = 26.1%, high school = 72.6%). Table 1 provides more details on the demographics of participants' information.

Table 1.Demographic descriptive information

| Grade | Percent |
| --- | --- |
| 6th | 6.5% ($n = 30$) |
| 7th | 0.0% ($n = 0$) |
| 8th | 19.6% ($n = 91$) |
| 9th | 23.4% ($n = 108$) |
| 10th | 19.1% ($n = 88$) |
| 11th | 140.8% ($n = 69$) |
| 12th | 15.3% ($n = 71$) |
| Ethnicity | Percent |
| White | 24.7% ($n = 114$) |
| African American | 26.7% ($n = 124$) |
| Hispanic | 34.6% ($n = 160$) |
| Asian | 1.1% ($n = 4$) |
| Native American Indian | 0.9% ($n = 4$) |
| Mixed Ethnicity | 10.3% ($n = 48$) |

The two different school districts were chosen to increase the chance of including students with diverse backgrounds. Most of the students in one school district (District A) were ethnic minority and economically disadvantaged; while, most of the students from another district (District B) were Caucasian from middle class families (Council of Chief State School Officers, n.d.). In addition, District B is smaller, located in a rural

area, and has only one middle and high school.  In contrast, District A is larger, located in a suburban area, and has six middle schools and six high schools including magnet and alternative schools.  Table 2 provides more details on the districts information

Table 2.School district information

| School | District A | | District B | |
|---|---|---|---|---|
| Demographic | High School | Middle School | High School | Middle School |
| Number of Students (2008) | 1765 | 541 | 470 | 505 |
| % of economically disadvantaged | 70.0% | 73.2 % | 12.6% | 17.8% |
| Enrollment of racial/ethnic group | 44.4 % Black 35.6% Hispanic 19.3 White | 35.7% Black 380.8% Hispanic  24.0 % White | 89.4% White 9.4% Hispanic | 85.7% White 11.7% Hispanic |

Source: School Data Direct by the Council of Chief State School Officers
http://www.schooldatadirect.org

*Procedures*

First, the researcher sought approval from the Institutional Review Board (IRB) at the sponsoring university.  Further approval was sought through the superintendents of two school districts and parents of the students by using informed consent.  Once IRB approved the present study, parental consent forms were sent to schools.  After parental consent forms were collected, a pilot study was conducted.  The informed consent form is attached in Appendix B.

*Pilot Study*

Participants of the pilot study included 100 students (50 from middle school and high school students each) who were recruited both from school district A and B and given an online survey at the computer room in their schools. There were three purposes of the pilot study: 1) to examine frequencies of responses, 2) to make sure students in each grade were able to understand the content of the survey, and 3) estimate how much time would be needed to complete the entire survey. These procedures are necessary because if few students had ever experienced cyberbullying either as a victim or a bully, group comparisons would not be possible. Second, if some words were too difficult or technical for younger students' literacy levels, the questions needed to be replaced with different wording. In the beginning of the pilot survey, participants were encouraged to ask questions about the survey if some words were unfamiliar or did not make sense. Finally, a part of class time was used for the survey; thus, it was necessary to ensure that the participants had enough time to complete the survey.

*Data Collection*

After the pilot study, the survey was group administered during class time at each school. "One of the greatest strengths of group-administered surveys… is the high rate of response. …When students in classrooms … are asked to complete questionnaires, the rate of responses is near 100%" (Flower, 2009, p. 75). Before the survey was administered, the purpose of the present study was explained to the participants. The participants were told that the survey was anonymous, they were free to withdraw anytime, and assistance was available for students who had reading difficulty. The same information was provided at the beginning of the survey. The survey was uploaded

online, and the participants filled out the online survey by using school computers. It took about 10 to 20 minutes to complete the survey.

*Survey Instrument*

A self-administered survey was created based on the revised *Olweus' Bully/Victim Questionnaire* (OBVQ; Olweus, 1996). The survey also referred to cyberbyullying questions developed by Hinduja and Patchin (2009), Kite, Gable and Fillipelli (2009), and Kowalski and Limber (2007). Self-report methods are the most widely used to examine the prevalence of bullying and victimization (Leff et al., 2004) and "thought to be best because the respondent does not have to admit directly to an interviewer a socially undesirable or negatively valued characteristic or behavior" (Flower, 2009, p. 74). At first, the definition and examples of cyberbullying were provided for the students. This is an important element to avoid participants' subjective interpretation of cyberbullying (Solberg & Olweus, 2003). A definition and several examples were given to participants at the beginning of the survey and was modeled after a similar one provided on the OBVQ:

"We say a student is being cyberbullied when another student or several other students
- Say mean and hurtful things or make fun of him or her or call him or her mean and hurtful names via email, text messages, instant messages (IM) and/or online.
- Completely ignore or exclude him or her from their group of friends or leave him or her out of things on purpose online.
- Tell lies or spread false rumors about him or her or try to make other students dislike him or her; and
- Do other hurtful things like that online. "

The survey instrument consisted of 57 multiple-choice questions including demographic information, questions about students' cyberbullying experiences, self-

esteem, depression, anxiety, stress, and peer relationships. Cyberbullying questions asked its frequency of occurrence. As in most studies of traditional bullying, asking about the frequency of specific behaviors helps to obtain more accurate results (Cole, Cornell, & Sheras, 2006). "Recent events are reported better than events that occurred in the more distant past…. For example, although it may be desirable to have respondents report all the crimes that happened in the last year, there will be less reporting error if they are asked to report for only 6 months" (Flower, 2009, p. 107). The OBVQ asks about students' bullying experiences in the past two months; other studies limit the time frame in the last 30 days (Hindja & Patchin, 2009), in the past a couple of months (Kowalski & Limber, 2007), and during a semester (Dehue et al., 2008). In the present study, a rough average was estimated, and the survey questions limited the respondents' experiences to the past three months. The survey questions are listed in Appendix A.

*Measures*

   *Cyberbullying and cybervictim experiences.* Bullying and victimization experiences were identified with seven questions, respectively. Response choices were the same as on the OBVQ except with a limited time frame: "Several times a week" (coded as 5), "once a week" (4), "2 to 3 times a month"(3), "only once or twice in the past 6 months" (2), and "never happened" (1).

   *Self-esteem (SE).* Self-esteem was measured by using the *Rosenberg Self-Esteem Scale* (Rosenberg, 1965). It consists of ten Likert scale questions with four-point scale items-from strongly agree (SA) to strongly disagree (SD) (Rosenberg, 1989). For items 1, 3, 4, 7, and 10, SA was scored as 3, and SD as 0, and for items 2,

5, 6, 8, and 9, scores were reversed in valence (e.g., Q1: "On the whole, I am satisfied with myself", Q2 "At times, I think I am no good at all"). The scale ranges from 0 to 40, and higher scores indicate higher self-esteem. This frequently used scale was standardized with 5024 high school students and generally has acceptable reliability for various samples (i.e., test-retest, $r = 0.82$ and Cronbach's alpha $= 0.88$) (Rosenberg, 1989; Fleming & Courtney, 1984, cited in Blascovich & Tomaka, 1991). Cronbach alpha for the present sample was 0.83.As for validity, the *Rosenberg Self-Esteem Scale* correlated 0.72 with the *Lerner Self-Esteem Scale* and 0.55 with the *Coopersmith Self-Esteem Inventory* (Blascovich & Tomaka, 1991).

*Depression, anxiety, and stress.* In order to measure depression, anxiety, and stress, the *Depression Anxiety Stress Scale* (DASS-21) (Lovibond & Lovibond, 1995) was used. DASS-21 is a short version of a 42 item full scale. In general, the full DASS is often preferable for clinical work, and the DASS-21 is often best for research purposes (Lovibond & Lovibond, 1995). It consists of 21 questions, seven items per scale, and four-point scale items (ranging from "did not apply at all" to "apply to me very much"). The DASS-21 scale has been reported to have acceptable internal consistency among adolescents and adults (Depression $= 0.81$, Anxiety $= 0.73$, Stress $= 0.81$) and correlations with well-established scales such as the *Beck Depression Inventory* (BDI) ($r = 0.74$) and *Beck Anxiety Inventory* (BAI) ($r = 0.81$) (Lovibond & Lovibond, 1995). The DASS-21 is suitable for screening normal adolescents because it is standardized on non-clinical samples (1044 males and 1870 females with an age range of 17-69). The present study included younger participants; however, "given the necessary language proficiency, there seems no compelling case against use of the

scales for comparative purposes with children as young as 12 years" (Lovibond & Lovibond, 1995, p. 3). The participants of the present study fit the criteria; thus, the DASS-21 is desirable for the research purpose. Higher scores indicate the higher level of each variable, and Cronbach alphas for this sample were as follows: depression = 0.86, anxiety = 0.85, and stress = 0.84.

*Peer relationships.* For the present study, the quality of friendship was included as a moderator and was measured by the *Friendship Quality Questionnaire* (FQQ; Parker & Asher, 1993). FQQ has 41 questions with a 5-point scale (e.g., "Not at all true" to "Really true") and consists of six subscales: *Validation and Caring* (Cronbach alpha = 0.90), *Conflict Resolution* (Cronbach alpha = 0.73), *Conflict and Betrayal* (Cronbach alpha = 0.84), *Help and Guidance* (Cronbach alpha = 0.90), *Companionship and Recreation* (Cronbach alpha = 0.75), and *Intimate Exchange* (Cronbach alpha = 0.86) (Parker & Asher, 1993). In the present study, questions from *Validation and Caring* and *Help and Guidance* were included because bullying victims often seek social support as a coping strategy (Kristensen & Smith, 2003). *Caring* and *Guidance* from good friends can be a strong source of social support, and these constructs have the highest reliability among the six constructs. Thus, these two constructs were chosen for the present study. Higher scores indicate better peer relationships and friendship quality. Cronbach alpha for the present sample was 0.85.

*Content validity.* Content validity of the survey items are supported through the literature and the OBVQ (Dehue et al., 2008; Katzer et al., 2009; Kite et al., 2009; Kowalski & Limber, 2007; Hindja & Patchin, 2009; Solberg & Olweus, 2003).

Educational psychology scholars were consulted and examined each item to check for ambiguity and the selection of age-appropriate wording for middle and high school students.

*Data Analysis*

The research questions of the present study are: 1) Are there any differences between participants when they are grouped as: bullies, victims, bully-victims, or those not involved, in terms of the level of self-esteem, depression, anxiety, and stress?; 2) Are there moderating effects of peer relationships between groups and internalizing problems?; and 3) Are there moderating effects of sex between the groups and internalizing problems? To answer these questions, the following steps were taken. First, the participants were categorized into four groups as either a bully, a victim, a bully-victim, or not involved. Students who scored 1 standard deviation (SD) above the mean of current group on the cybervictimization measure were grouped in the "victim group," and students who scored 1 SD above the mean of current group on the cyberbullying measure were grouped in the "bully group," and those who scored 1 SD above the mean on both cybervictimization and cyberbullying were grouped in the "bully-victim group." The rest of the participants were categorized in the "not-involved" group. This classification method was employed by Georious and Stavrinides (2008) and Marini et al. (2006).

These groups were then dummy coded for data entry into regression models. This is the most frequently used procedures in dealing with categorical variables in regression equations (Aiken & West, 1991). The baseline was the not-involved group (coded as 0), and a bully, a victim, and a bully-victim groups were compared with the baseline

separately. For example, for dummy variable 1, not-involved vs. victim, for dummy variable 2, not-involved vs. bully, and for dummy variable 3, not-involved vs. bully-victim were compared. For example, the first dummy variable (not-involved vs. victim group) shows the difference in dependent variable scores (e.g., self-esteem) for the not involved and the victim group.

Finally, missing items were treated by using the multiple imputation (MI) method. This method is better than traditional methods, such as listwise (LD) and pair-wise (PD) deletion since these methods disregard some variable information (Schafer, 1999). In fact, APA's (American Psychological Association) Task Force on Statistical Inference discourages using these traditional methods (Peugh & Enders, 2004). Moreover, MI can be used for data which is not missing completely at random (MCAR). MCAR occurs when "the missing values on a particular variable X are unrelated to other variables in the data as well as the underlying values of X itself" (Peugh & Enders, 2004, p.526). The SPSS Missing Values Analysis (MVA) option support's Little's MCAR test, which is a Chi-square test for MCAR. If the $p$ value for Little's MCAR test is not significant at the 0.05 level, then the data may be assumed to be MCAR (SPSS Inc, n.d.). Appropriate treatment of missing data is important to avoid biased sample statistics (Peugh & Enders, 2004). SPSS 17.0 was used for all data analyses.

CHAPTER FOUR

Results

*Descriptive Statistics*

The means and standard deviations of the total score on each variable were
summarized in table 3. In all cases, the higher the score, the higher the indication of the
variable.

Table 3.Descriptive statistics total on all variables

| Measures | Mean | S.D |
|---|---|---|
| Cybervictimization | 9.43 | 30.88 |
| Cyberbullying | 9.05 | 3.71 |
| Self-esteem | 27.10 | 5.27 |
| Depression | 10.47 | 4.4 9 |
| Anxiety | 10.30 | 4.33 |
| Stress | 11.73 | 4.58 |
| Peer relationship | 23.57 | 5.20 |

*Note*. The scale ranges 5-35 for cybervictimization and cyberbullying, 0-40 for self-
esteem, 6-35 for peer relationship, and 5-28 for depression, anxiety, and stress.

*Missing Data Analysis*

There were 425 missing responses in total, and each question had missing item
ranging from 0.2 to 2.6 %. Thus, the overall missing items were small. The result of
Little's MCAR test indicates that the pattern of missing data is not MCAR: $\chi^2$ (4333) =
5924, $p$ = 0.00.If the $p$ value for Little's MCAR test is not significant at the 0.05 level,
then the data may be assumed to be MCAR (SPSS Inc, n.d.). Therefore, the use of
multiple imputation procedure for handling missing data was appropriate.

The participants were categorized into 4 groups, victim, bully, bully-victim, and not-involved, based on the classification method explained earlier. Subsequently, 2.3% of the participants were categorized in the victim group, 2.0% were categorized in the bully group, 10.9% were categorized in the bully-victim group, and the rest of the students (84.9%) were categorized in the not-involved group. The not-involved group scored highest on self-esteem and peer relationship measures, and lowest on depression, anxiety, and stress measures compared to the rest of the groups. In contrast, the bully-victim group scored the highest on depression, anxiety, and stress measures than the rest of the groups. Table 4 provides a summary of groups on all assessed variables.

Table 4.Descriptive statistics by groups on all variables

| Variables<br>*Mean* (*SD*) | Victims<br>(*n* = 9) | Bullies<br>(*n* = 10) | Bully-Victims<br>(*n* = 53) | Not-involved<br>(*n* = 393) |
|---|---|---|---|---|
| Cybervictimization | 14.4 8 (3.16) | 11.19 (1.07) | 18.22 (4.66) | 8.11 (1.48) |
| Cyberbullying | 8.45 (0.83) | 18.31(3.21) | 15.56 (6.17) | 8.00 (1.54) |
| Self-esteem | 26.83 (4.39) | 24.01(4.38) | 24.57(5.56) | 27.51 (5.16) |
| Depression | 14.26 (4.24) | 13.14(20.85) | 15.02(5.95) | 9.72 (30.84) |
| Anxiety | 13.55 (40.81) | 130.85(4.12) | 15.24(5.91) | 9.49 (3.50) |
| Stress | 16.44 (3.51) | 14.62(3.33) | 16.71(5.60) | 10.90 (3.93) |
| Peer relationship | 22.00 (5.77) | 20.48(4.76) | 21.59 (5.35) | 23.94 (5.08) |

*Note*. The scale ranges 5-35 for cybervictimization and cyberbullying, 0-40 for self-esteem, 6-35 for peer relationship, and 5-28 for depression, anxiety, and stress.

*Groups Differences and Internalizing Problems*

First, dummy groups were entered as independent variables (IVs) on each internalizing problems separately (i.e., self-esteem, depression, anxiety, and stress). Second, in order to examine the interaction effects of peer relationships, separate

regression models were run by entering the total score of peer relationship, dummy group, and interaction between peer relationship and group as IVs on each internalizing problem. Finally, in order to examine the interaction effects of sex, separate regression models were performed by entering sex, dummy group, and interaction of sex and group as IVs on each internalizing problem. Tables 5 through 8 summarize regression analyses of groups and interaction effects of peer relationships and sex on internalizing problems.

*Self-esteem (SE).* Both bully ($B = -3.5$, $p < 0.001$) and bully-victim ($B = -2.94$, $p < 0.001$) groups scored significantly lower on the self-esteem (SE) measure than those classified as not-involved. The effect sizes also indicate moderate and strong differences. Participant groups explained about 4% of the variance in the change in level of SE.

Table 5. Regression analysis of group x moderator on self-esteem

| Variables | B | β | Std E | t | p | $R^2$ | Cohen's d |
|---|---|---|---|---|---|---|---|
| *Main effect* | | | | | | 0.03 | |
| Not involved vs victim | -0.67 | -0.01 | 0.68 | -0.98 | 0.32 | | 0.14 |
| Not involved vs bully | -3.50 | -0.09 | 0.70 | -4.94 | 0.00 | | 0.73 |
| Not involved vs b/v | -2.94 | -0.17 | 0.31 | -9.23 | 0.00 | | 0.54 |
| *Peer interaction* | | | | | | | |
| x Dummy 1 | -0.03 | -0.00 | 0.11 | -0.28 | 0.77 | 0.04 | |
| x Dummy 2 | -0.15 | -0.02 | 0.14 | -1.05 | 0.29 | 0.05 | |
| x Dummy 3 | 0.05 | 0.01 | 0.05 | 0.84 | 0.39 | 0.06 | |
| *Sex interaction* | | | | | | | |
| x Dummy 1 | 0.36 | 0.01 | 1.61 | 0.22 | 0.82 | 0.00 | |
| x Dummy 2 | -4.86 | -0.20 | 1.53 | -3.17 | 0.00 | 0.01 | |
| x Dummy 3 | 0.31 | 0.02 | 0.66 | 0.47 | 0.63 | 0.03 | |

As for moderator effects, regression analyses was run separately, and none of the groups showed a statistically significant interaction effect of peer relationship, which means that the level of self-esteem was not moderated by the peer relationship. Only in the bully group was there a statistically significant interaction effect of sex ($B = -4.86$, $p < 0.01$). The score of SE is 4.86 points lower because of the change from male to female. In other words, females in the bully group scored lower on SE than males in the same group.

*Depression.* All comparison groups, victim ($B = 4.53$, $p < 0.001$), bully ($B = 3.41$, $p < 0.001$), and bully-victim ($B = 5.29$, $p < 0.01$), scored significantly higher on depression than those classified as not-involved. Being involved with cyberbullying, whether as a victim, bully or bully-victim, was associated with higher levels of depression, and 15.8% of the variance in the change in level of depression can be explained by the grouping of the participants.

As for effects of peer relations, only bully ($B = -0.30$, $p < 0.05$) and bully-victim ($B = 0.12$, $p < 0.05$) groups showed significant interaction effects. The regression coefficients for interaction terms indicate the amount of change in the slope of the regression of dependent variable on the independent variable that results from a one-unit change in the moderator variable (Aiken & West, 1991). Thus, as peer relationship increases one-unit, the level of depression increase -0.3 points in the bully group and increases 0.12 points in the bully-victim group. In other words, better peer relationship moderated depression in the bully-victim group, but not in the bully group. The depression level increased as peer relationship increased in the bully group. This is contradicting, however, it can be ignored because the practical effect was negligible ($R^2 =$

0.017 for the bully group and 0.12 for the bully-victim group). Only 1% of the variation in depression was explained by the bully group status. None of the groups showed statistically significant interaction effects of sex, and effect sizes were all small. Thus, the level of depression was not moderated by participants' sex.

Table 6.Regression analysis of group x moderator on depression

| Variables | B | β | Std. E | t | p | $R^2$ | Cohen's d |
|---|---|---|---|---|---|---|---|
| *Main effect* | | | | | | 0.15 | |
| Not involved vs victim | 4.53 | 0.14 | 0.53 | 8.48 | 0.00 | | -1.12 |
| Not involved vs bully | 3.41 | 0.10 | 0.55 | 6.12 | 0.00 | | -1.02 |
| Not involved vs b/v | 5.29 | 0.36 | 0.25 | 20.99 | 0.00 | | -1.08 |
| *Peer interaction* | | | | | | | |
| x Dummy 1 | -0.006 | -0.00 | 0.10 | -0.05 | 0.95 | 0.02 | |
| x Dummy 2 | -0.30 | -0.05 | 0.12 | -2.40 | 0.01 | 0.01 | |
| x Dummy3 | 0.12 | 0.05 | 0.04 | 2.56 | 0.01 | 0.12 | |
| *Sex interaction* | | | | | | | |
| x Dummy 1 | 0.74 | 0.03 | 1.31 | 0.56 | 0.57 | 0.01 | |
| x Dummy 2 | 2.51 | 0.12 | 1.28 | 1.95 | 0.05 | 0.00 | |
| x Dummy3 | 0.11 | 0.01 | 0.52 | 0.21 | 0.82 | 0.13 | |

*Anxiety*. All groups, victim ($B = 4.06$, $p < 0.001$), bully ($B = 4.35$, $p < 0.001$), and bully-victim ($B = 5.75$, $p < 0.001$), scored significantly higher on the anxiety measure compared to those classified as not-involved. For example, the bully-victim group had 5.75 points higher anxiety scores than the not-involved group, and 19.8% of the variance in the change in level of anxiety can be explained by grouping the participants.

Table 7.Regression analysis of group x moderator on anxiety

| Variables | B | β | Std. E | t | p | $R^2$ | Cohen's d |
|---|---|---|---|---|---|---|---|
| *Main effect* | | | | | | 0.19 | |
| Not involved vs victim | 4.06 | 0.13 | 0.50 | 7.99 | 0.00 | | -0.97 |
| Not involved vs bully | 4.35 | 0.14 | 0.53 | 8.22 | 0.00 | | -1.14 |
| Not involved vs b/v | 5.75 | 0.41 | 0.23 | 24.22 | 0.00 | | -1.22 |
| *Peer interaction* | | | | | | | |
| x Dummy 1 | 0.28 | -0.05 | 0.09 | -2.90 | 0.00 | 0.01 | |
| x Dummy 2 | -0.08 | -0.01 | 0.12 | -0.71 | 0.47 | 0.01 | |
| x Dummy3 | 0.11 | 0.05 | 0.04 | 2.60 | 0.00 | 0.16 | |
| *Sex interaction* | | | | | | | |
| x Dummy 1 | 1.44 | 0.06 | 1.26 | 1.14 | 0.25 | 0.01 | |
| x Dummy 2 | 2.25 | 0.11 | 1.24 | 10.81 | 0.06 | 0.01 | |
| x Dummy3 | 0.55 | 0.05 | 0.49 | 1.13 | 0.26 | 0.17 | |

As for effects of peer relationship, the victim ($B = 0.28$, $p < 0.01$) and bully-victim ($B = 0.11$, $p < 0.01$) groups showed significant moderating effects with peer relationship. In other words, better peer relationship moderated anxiety in the victim and the bully-victim group, and the association was about 10 times stronger for the bully-victim group. However, the effect sizes were small ($R^2 = 0.01$ and 0.16). Thus, the influence of peer relationship on the associations between cyberbullying and the level of anxiety is also small. None of the groups showed significant interaction effects of sex, and effect size were all small. Therefore, the level of anxiety was not moderated by participants' sex.

*Stress.* All comparison groups, victim ($B = 5.54$, $p < 0.001$), bully ($B = 3.72$, $p < 0.001$), and bully-victim ($B = 5.80$, $p < 0.001$), scored statistically significantly higher on

the stress measure than those in the not-involved group, and 18.8% of the variance in the

change in level of stress was explained by grouping the participants.

Table 8.Regression analysis of group x moderator on stress

| Variables | B | β | Std. E | t | p | $R^2$ | Cohen's d |
|---|---|---|---|---|---|---|---|
| *Main effect* | | | | | | 0.18 | |
| Not involved vs victim | 5.54 | 0.17 | 0.53 | 10.34 | 0.00 | | -1.48 |
| Not involved vs bully | 3.72 | 0.11 | 0.55 | 6.66 | 0.00 | | -1.02 |
| Not involved vs b/v | 50.80 | 0.39 | 0.23 | 22.99 | 0.00 | | -1.20 |
| *Peer interaction* | | | | | | | |
| x Dummy 1 | -0.12 | -0.002 | 0.10 | -0.11 | 0.90 | 0.02 | |
| x Dummy 2 | 0.16 | 0.02 | 0.13 | 1.27 | 0.20 | 0.00 | |
| x Dummy3 | 0.16 | 0.06 | 0.04 | 3.45 | 0.00 | 0.14 | |
| *Sex interaction* | | | | | | | |
| x Dummy 1 | -5.05 | -0.22 | 1.31 | -30.83 | 0.00 | 0.02 | |
| x Dummy 2 | 3.62 | 0.18 | 1.29 | 20.80 | 0.00 | 0.01 | |
| x Dummy3 | 0.18 | 0.01 | 0.52 | 0.34 | 0.82 | 0.17 | |

As for moderator effects, only the bully-victim ($B = 0.16$, $p < 0.01$ $R^2 = 0.14$)

group showed statistically significant interaction effects of peer relationship. As the level

of peer relationship increases one-unit, the level of stress increases 0.16 points. Thus, the

peer relationship does not work as a buffer as hypothesized. With regard to sex

differences, only the victim ($B = -5.05$, $p < 0.001$) and bully ($B = 3.62$, $p < 0.01$) groups

showed statistically significant interaction effects of sex. Males in the victim group

scored higher levels of stress than females in the same group. On the other hand, females

in the bully group scored higher levels of stress than males in the same group. However,

the effect sizes are small; thus, the practical sex differences are negligible.

*Summary of Results*

As a result of group classification, 2.3% of the participants were categorized in the victim group, 2.0% were categorized in the bully group, 10.9% were categorized in the bully-victim group, and the rest of the students (84.9%) were categorized as not-involved. The majority of participants who were involved with cyberbullying were bully-victims. As for internalizing problems, cyberbullying had negative influences on self-esteem, depression, anxiety, and stress. Especially, the bully-victim group scored higher on depression, anxiety, and stress measures than the rest of the groups. Moderator effects of peer relationships were found between the bully-victim group and depression, anxiety, and stress; however, effect sizes were small. Thus, practical effects of peer relationship as a moderator were negligible. Finally, there were no interaction effects of sex between groups and depression, and anxiety. Only with self-esteem (SE) and stress levels were there interaction effects of sex. Females in the bully group scored lower on SE and higher on stress than male, and in the victim group, males scored higher on stress. However, the effect sizes are small; thus, the practical sex differences are negligible.

CHAPTER FIVE

Discussion

The purposes of the present study were 1) to classify participants into subgroups based on their frequency of involvement in cyberbullying (i.e., as a bully, victim, bully-victim, or not involved), 2) to examine group differences in terms of internalizing problems (i.e., self-esteem, depression, anxiety, and stress), and 3) to examine moderator effects (peer relations and sex). It was hypothesized that participants who were involved with cyberbullying would score lower on self-esteem and higher on depression, anxiety, and stress when compared to those not involved in cyberbullying. A second hypothesis was that better peer relationships would work as a buffer to these internalizing problems. Finally, it was hypothesized that there would be no significant interaction effects with sex.

As for classification, very few students were categorized in exclusively either the victim or the bully group. The majority of participants who were involved with cyberbullying were categorized in the bully-victim group. Over two percent of the participants were categorized in the victim group, 2% were in the bully group, 10.9% were in the bully-victim group, and the rest of the participants (84.9%) were not involved in cyberbullying. In traditional bullying, physical strength, age, and assertiveness can be considered main factors to determine student status as bullies or victims; on the other hand, it may be easy for cyber-victims to get back at cyberbullies because they can avoid face-to-face interactions. Thus, it is possible that victimized students may seek revenge

by cyberbullying those who have cyberbullied them. That is why a child's status as a bully or a victim can be easily interchanged in cyberbullying. The results also support the findings of Varjas et al.(2009); they found that cybervictimization and cyberbullying were strongly correlated with each other ($r = 0.89$). Another study also found a strong relationship between being a cyberbully and cybervictim (Erdur-Baker, 2010). Therefore, as Hayine et al. (2001) stated, "bullying and victimization should not be thought of as opposing behaviors" (p. 44). In fact, another study which categorized high school students based on their cyberbullying experiences via cluster analysis did not identify pure cyberbullies and/or pure cybervictims as well (Aoyama, Barnard-Brak, & Talbert, in press). Another explanation could be in the method of grouping. Researchers have argued that classification methods used in traditional bullying studies use different cut-off points, and these cut-off criteria are arbitrary; a statistically stronger method such as latent class analysis might be better in order to estimate subgroups (Notelaers, Einarsen, Witte, & Vermunt, 2006).

Second, as hypothesized, students who were involved with cyberbullying reported higher levels of internalizing problems (i.e., self-esteem, depression, anxiety, and stress) than students who were not involved. These results are consistent with many traditional bullying studies (e.g., Olweus, 1993; O'Moore & Kirkham, 2001; Rigby & Slee, 1999). Even though cyberbullying is not physically harmful to victims, it is emotionally and psychologically painful and hurtful and has negative influences on adolescents. The results here are also consistent with past cyberbullying studies indicating that cyberbullying is related to higher depression symptoms and lower self-esteem (e.g., Hinduja & Patchin, 2009; Ybarra, 2004). Hayine et al. (2001) argued that the relations

between depressive symptoms and bullying could be the result of involvement in negative peer relationships. As discussed earlier, the quality of close friendship is associated with youth emotional well-being (Flanagan et al., 2008). Bullying does not occur in the circle of good friends; this explanation might also be applicable in the cyberbullying context. Students who are involved in cyberbullying may not have good peer relationships, and poor peer relationships are related to internalizing problems. Among four internalizing problems, stress seemed to be the most affected, and self-esteem appeared to be the least affected. The results here indicated that cyberbullying was a stressful experience for students who were involved.

With regard to group comparisons, the bully-victim group scored significantly higher on depression, anxiety, and stress when compared to the rest of the groups. Even though there are few cyberbullying studies focusing on the bully-victim group, the results here are consistent with traditional bullying studies where the bully-victims have higher levels of depression and lower self-esteem when compared to "pure" bullies and those not involved in bullying (Hayine et al., 2001; Marini et al., 2006).

As for interaction effects, peer relationship/friendship quality moderated the association between the bully-victim group and depression, anxiety, and stress. Higher quality peer relationships appeared to moderate those internalizing problems among bully-victims. However, the effect sizes indicated that practical moderating effects were small. No moderator effects were found in the victim and bully groups. Therefore, the second hypothesis that better peer relationships work as a buffer to these internalizing problems was partially supported in the present study. In traditional bullying studies, better peer relationships and friendship quality worked as a protector to internalizing

problems, but this was not always the case in the cyberbullying context. A possible explanation of this finding is the anonymous nature of cyberbullying. In traditional bullying, victims may turn to a friend who is not a member of the bullying network, and victims can receive help and support from friends (Woods et al., 2009). However, in a cyberbullying situation, perpetrators can remain anonymous; victims may not know the identity of the bullies. In addition, when hurtful gossip or rumors are spread on social networking sites, it is highly probable that the whole class or the entire school knows the fact of harassment. In those cases, victimized students may feel too embarrassed to ask for someone's emotional help. Or, victims may doubt all of their peers indiscriminately because victims cannot identify the perpetrators due to the anonymous nature of cyberbullying. Therefore, it is probable that good peer relationships would not serve as a protective factor for the cyberbullied victim.

Finally, interaction effects of sex were found only between some groups on self-esteem (SE) and stress. In the victim group, males scored higher on stress, and in the bully group, females scored lower on self-esteem and higher on stress. However, effect sizes indicated that practical differences are negligible. No interaction effects were observed for depression, and anxiety. These results indicate that both male and female students who are involved with cyberbullying have equal risks of having depression and anxiety. With these findings, it can be concluded that the third hypothesis of no sex difference or moderating effects was supported. Lastly, it needs to be mentioned that the three way interactions between groups, peer relationships, and sex were conducted; however, some groups had such a small number of participants (e.g., $n = 9$ in the victim group) and acceptable levels of statistical power were not observed. This being the case,

three way interaction effects (e.g., group x peer relationship x sex on depression) were omitted from further analyses and discussion.

*Implications*

The present research extends previous cyberbullying studies by identifying the prevalence of negative effects of cyberbullying on internalizing problems. Past research indicated the relationships between cyberbullying victimization and psychological distress (e.g., depression and self-esteem); however, the present study compares several different internalizing problems at the same time in order to examine which internalizing problems might be more affected. The results showed that involvement of cyberbullying negatively influenced self-esteem, depression, anxiety, and stress, and it suggests that cyberbullying has various harmful psychological effects on youth's internalizing problems.

In addition, the present study included the bully and the bully-victim groups because past studies have focused mainly on the victim group. Identifying additional subgroups is important because traditional bullying studies have indicated that different groups show different internalizing and externalizing problems. In particular, the bully-victim group should not be overlooked because they experience "double negative effects" as both bullies and victims (Marini et al., 2006). Therefore, prevention and intervention strategies should target not only victims, but also bullies and their audience. Positive and safe school climate is an important consideration in understanding bullying (Swearer, Espelage, Vaillancourt, & Hymel., 2010); as such, raising awareness toward cyberbullying all together is necessary.

Finally, the present study integrated and explored possible moderator effects (i.e., peer relationship quality and sex). Few past studies included these interactions; however, testing only linear relationships between cyberbullying and psychological negative outcomes do not appear very meaningful. Further identification of possible buffers to the negative effects of cyberbullying is an important area for teachers, administrators and school psychologists. Many possible moderating variables can be thought of; however, in the present study, peer relationship was the focus because cyberbullying is one of the forms of peer victimization. As discussed earlier, the information on moderating factors is important for the future researcher who wishes to develop prevention and intervention programs. Although our analyses revealed acceptable levels of statistical power ($1 - \beta =$ 0.90 to 0.99), strong moderating effects of peer relationship was not observed in this present study, and the results suggest the difficulty of intervening with cyberbullying. Thus, future researchers should explore several other variables such as coping skills or resilience as possible buffers against the negative influences of cyberbullying among youth.

The field of cyberbullying research is still in its infancy, and there are many areas to be examined. The present study is one of the first that identifies a bully-victim group as a distinct and potentially important group. The present study also served to understand cyberbullying problems among youth in terms of internalizing problems and to guide future research.

*Limitations and Future Research Recommendations*

One limitation of the present study was the classification method for identifying bullies, victims, bully-victims and those not involved. Even though cyberbullying is a

new type of bullying, the way students are involved appears to be different. Future cyberbullying research should employ a more objective estimation than the self-labeling approach used here; a more empirically powerful method than that than used in traditional bullying classification methods is needed (Notelaers et al., 2006).

Second, the results of this study should be interpreted with caution because self-report measures were employed. Although it was an anonymous survey, it is possible students did not want to admit that they have cyberbullied others. Additionally, some students may not realize that they engage in cyberbullying. As mentioned earlier, students believe it is okay to write anything on websites because nobody seems to be reproached for posting negative comments or rumors (Willard, 2007). In fact, the number of participants who reported to be involved in cyberbullying was smaller than previous studies. Moreover, even though the participants were recruited from two different school districts, the majority of the participants (83.5%) were from the school district in which most of the students are ethnic minority and economically disadvantaged. Cyberbullying involves technology tools such as cell phones or Internet-connected computers. It is likely that fewer students from the district have their own technology tools than another district; as a result, cyberbullying appeared less common. Even though the participants in the district have access to Internet at schools, school computers often block social network sites where cyberbullying is more likely to occur. There is no study to compare the prevalence of cyberbullying between the different levels of socioeconomic status (SES), but this would serve as an interesting future research venue.

Finally, no causality inferences can be made because this is a cross-sectional study. As such, future research should examine the duration of internalizing problems. As many traditional bullying studies have shown, that negative effects were long lasting; it is important to investigate if it is the same for cyberbullying. Thus, generalizability of research findings awaits further replication of research.

*General Conclusions*

For the past few years, researchers have discussed the problem of cyberbullying. Their research has found that cyberbullying is becoming more prevalent among youth and is negatively related to mental health. The present study also supported past studies' findings that middle and high school students were involved in cyberbullying, and those who were involved reported more internalizing problems than those who were not involved. In addition, the present study found that the majority of those who were engaged were both victims *and* bullies. There are still few studies focusing on the bully-victim group, but these bully-victims should not be overlooked because they scored significantly lower on self-esteem and higher on depression, anxiety, and stress when compared to the other groups. The present study also examined moderator effects of peer relationship and sex. Unlike traditional bullying contexts, peer relationships did not appear to buffer these internalizing problems. The results suggest the difficulty and complexity of cyberbullying. Therefore, future researchers should be directed to identify moderators that possibly help students avoid psychological problems. Then, they should put much effort to develop prevention and intervention programs based on their findings. An ultimate goal of cyberbullying research is to decrease and eradicate the problem in order for students to have safe school lives without experiencing peer victimization.

Thus, it is hoped that the research findings of the present study will be helpful for schools, parents and future researchers to better understand the phenomenon, advance the field of cyberbullying research, and eventually prevent further tragedies such as teen suicide due to cyberbullying

APPENDICES

APPENDIX A

Questionnaire


*Internet Use and Cyberbullying Survey*

In this survey, I would like to know about your experiences regarding cyberbullying, the use of the Internet, and other electronic tools. I also want to know about your peer relationships and psychological construct such as self-esteem and stress. Your help is needed to understand cyberbullying and to improve Internet safety. Only a small portion of students in your school has been selected and you will be representing many students who are similar to yourself. Therefore, your time and help are appreciated! The survey is anonymous and your privacy is protected. You are free to withdraw from the survey anytime. Please let me know if you have a question regarding the survey: e-mail Ikuko_aoyama@baylor.edu or tel 254-652-5356.

Before you start the survey, I would like to give you the definition and example of cyberbullying.

We say a student is being cyberbullied when another student or several other students
- Say mean and hurtful things or make fun of him or her or call him or her mean and hurtful names via email, text messages, instant messages (IM) and/or online.
- Completely ignore or exclude him or her from their group of friends or leave him or her out of things on purpose online.
- Tell lies or spread false rumors about him or her or try to make other students dislike him or her; and
- Do other hurtful things like that online.

**1.Has someone taken a private email, instant message (IM), or text message that you sent them and forwarded it to someone else or posted it where others could see in the last 3 months?**
☐Yes, several times a week
☐Yes, once a week

☐Yes, 2 to 3 times a month
☐Yes, only once or twice
☐No, never happened

2. **Has someone sent you a threatening, upsetting, or/and aggressive e-mail , IM, or text messages in the last 3 months?**
☐Yes, several times a week
☐Yes, once a week
☐Yes, 2 to 3 times a month
☐Yes, only once or twice
☐No, never happened

3. **Has someone posted embarrassing pictures/videos of you online without your permission in the last 3 months?**
☐Yes, several times a week
☐Yes, once a week
☐Yes, 2 to 3 times a month
☐Yes, only once or twice
☐No, never happened

4. **Has someone spread rumors about you online in the last 3 months?**
☐Yes, several times a week
☐Yes, once a week
☐Yes, 2 to 3 times a month
☐Yes, only once or twice
☐No, never happened

5. **Has someone teased you or made fun of you through e-mail, IM, text message, a chat room, or/and a website in the last 3 months?**
☐Yes, several times a week
☐Yes, once a week
☐Yes, 2 to 3 times a month
☐Yes, only once or twice
☐No, never happened

6. **Has someone logged onto your IM and/or SNS (e.g., Myspace & facebook) account and pretended to be you in the last 3 months?**
☐Yes, several times a week
☐Yes, once a week
☐Yes, 2 to 3 times a month
☐Yes, only once or twice

☐No, never happened

**7. Has someone abused or insulted you while you were online in the last 3 months?**

☐Yes, several times a week

☐Yes, once a week

☐Yes, 2 to 3 times a month

☐Yes, only once or twice

☐No, never happened

**8. How often have you taken part in cyberbullying another student(s) in the last 3 months?**

☐ Several times a week

☐ Once a week

☐ 2 to 3 times a month

☐ Only once or twice

☐ Never happened

**9. Have you sent an e-mail, IM, or text messages that may be considered threatening, upsetting, or/and aggressive in the last 3 months?**

☐Yes, several times a week

☐Yes, once a week

☐Yes, 2 to 3 times a month

☐Yes, only once or twice

☐No, never happened

**10. Have you spread false rumors about another student and tried to make others dislike them in the last 3 months?**

☐Yes, several times a week

☐Yes, once a week

☐Yes, 2 to 3 times a month

☐Yes, only once or twice

☐No, never happened

**11. Have you taken a picture/video of someone and posted it online without that person's explicit permission in the last 3 months?**

☐Yes, several times a week

☐Yes, once a week

☐Yes, 2 to 3 times a month

☐Yes, only once or twice

☐No, never happened

**12. Have you logged onto a friend's IM and/or SNS (e.g., Myspace & facebook) account and pretended to be them in the last 3 months?**

☐Yes, several times a week

☐Yes, once a week

☐Yes, 2 to 3 times a month

☐Yes, only once or twice

☐No, never happened

**13. Do you think you may have abused or insulted someone while you were online?**

☐Yes, several times a week

☐Yes, once a week

☐Yes, 2 to 3 times a month

☐Yes, only once or twice

☐No, never happened

**14. Have you forwarded a private e-mail, instant message (IM), or text message that someone sent to you or posted it where others could see in the last 3 months?**

☐Yes, several times a week

☐Yes, once a week

☐Yes, 2 to3 times a month

☐Yes, only once or twice

☐No, never happened

**15. Have you called someone mean names, made fun of , or teased them in a hurtful way through e-mail, IM, text message, a chat room, or/and a website?**

☐Yes, several times a week

☐Yes, once a week

☐Yes, 2 to3 times a month

☐Yes, only once or twice

☐No, never happened

**16. On the whole, I am satisfied with myself.**

☐Strongly agree     ☐Agree     ☐Disagree     ☐Strongly disagree

**17. At times, I think I am no good at all.**

☐Strongly agree     ☐Agree     ☐Disagree     ☐Strongly disagree

**18. I feel that I have a number of good qualities.**

☐Strongly agree     ☐Agree     ☐Disagree     ☐Strongly disagree

**19. I am able to do things as well as most other people.**

☐Strongly agree     ☐Agree     ☐Disagree     ☐Strongly disagree

**20. I feel I do not have much to be proud of.**
☐Strongly agree     ☐Agree     ☐Disagree     ☐Strongly disagree

**21. I certainly feel useless at times.**
☐Strongly agree     ☐Agree     ☐Disagree     ☐Strongly disagree

**22. I feel that I am a person of worth, at least on an equal plane with others.**
☐Strongly agree     ☐Agree     ☐Disagree     ☐Strongly disagree

**23. I wish I could have more respect for myself.**
☐Strongly agree     ☐Agree     ☐Disagree     ☐Strongly disagree

**24. All in all, I am inclined to feel that I am a failure.**
☐Strongly agree     ☐Agree     ☐Disagree     ☐Strongly disagree

**25. I take a positive attitude toward myself.**
☐Strongly agree     ☐Agree     ☐Disagree     ☐Strongly disagree

**Think of your very best friend(s) and answer the following questions.  These questions are not a test; there are no right or wrong answers.**

**26.  My friend(s) and I make each other feel important and special**

Not at all true   A little true   Somewhat  true   Mostly  true    Really  true

**27.    My friend(s) sticks up for me if others talk behind me**

Not at all true   A little true   Somewhat  true   Mostly  true    Really  true

**28.    My friend(s) cares about my feelings**

Not at all true   A little true   Somewhat  true   Mostly  true    Really  true

**29.    My friend(s) would like me even if others didn't**

Not at all true   A little true   Somewhat  true   Mostly  true    Really  true

**30.    My friend(s) gives advice with figuring things out**

Not at all true   A little true   Somewhat  true   Mostly  true    Really  true

**31.    My friend(s) and I count on each other for good ideas on how to get things done**

   Not at all true   A little true   Somewhat true   Mostly true     Really true

Please read each statement and circle a number 0, 1, 2 or 3 that indicates how much the statement applied to you ***OVER THE PAST WEEK***.    There are no right or wrong answers.   Do not spend too much time on any statement.

**32. I found it hard to wind down**
        Did not apply to me at all
        Applied to me to some degree, or some of the time
        Applied to me to a considerable degree, or a good part of time
        Applied to me very much, or most of the time

**33.I was aware of dryness of my mouth**
         Did not apply to me at all
        Applied to me to some degree, or some of the time
        Applied to me to a considerable degree, or a good part of time
        Applied to me very much, or most of the time

**34.I couldn't seem to experience any positive feeling at all**
         Did not apply to me at all
        Applied to me to some degree, or some of the time
        Applied to me to a considerable degree, or a good part of time
        Applied to me very much, or most of the time

**35.I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)**
        Did not apply to me at all
        Applied to me to some degree, or some of the time
        Applied to me to a considerable degree, or a good part of time
        Applied to me very much, or most of the time

**36.I found it difficult to work up the initiative to do things**
        Did not apply to me at all
        Applied to me to some degree, or some of the time
        Applied to me to a considerable degree, or a good part of time
        Applied to me very much, or most of the time

**37. I tended to over-react to situations**
        Did not apply to me at all
        Applied to me to some degree, or some of the time
        Applied to me to a considerable degree, or a good part of time
        Applied to me very much, or most of the time

**38. I experienced trembling (e.g., in the hands)**
         Did not apply to me at all
        Applied to me to some degree, or some of the time
        Applied to me to a considerable degree, or a good part of time

Applied to me very much, or most of the time

**39. I felt that I was using a lot of nervous energy**
Did not apply to me at all
Applied to me to some degree, or some of the time
Applied to me to a considerable degree, or a good part of time
Applied to me very much, or most of the time

**40. I was worried about situations in which I might panic and make a fool of myself**
Did not apply to me at all
Applied to me to some degree, or some of the time
Applied to me to a considerable degree, or a good part of time
Applied to me very much, or most of the time

**41. I felt that I had nothing to look forward to**
Did not apply to me at all
Applied to me to some degree, or some of the time
Applied to me to a considerable degree, or a good part of time
Applied to me very much, or most of the time

**42. I found myself getting agitated**
Did not apply to me at all
Applied to me to some degree, or some of the time
Applied to me to a considerable degree, or a good part of time
Applied to me very much, or most of the time

**43. I found it difficult to relax**
Did not apply to me at all
Applied to me to some degree, or some of the time
Applied to me to a considerable degree, or a good part of time
Applied to me very much, or most of the time

**44. I felt down-hearted and blue**
Did not apply to me at all
Applied to me to some degree, or some of the time
Applied to me to a considerable degree, or a good part of time
Applied to me very much, or most of the time

**45. I was intolerant of anything that kept me from getting on with what I was doing**
Did not apply to me at all
Applied to me to some degree, or some of the time
Applied to me to a considerable degree, or a good part of time
Applied to me very much, or most of the time

**46. I felt I was close to panic**
Did not apply to me at all

Applied to me to some degree, or some of the time
Applied to me to a considerable degree, or a good part of time
Applied to me very much, or most of the time

**47. I was unable to become enthusiastic about anything**
Did not apply to me at all
Applied to me to some degree, or some of the time
Applied to me to a considerable degree, or a good part of time
Applied to me very much, or most of the time

**48. I felt I wasn't worth much as a person**
Did not apply to me at all
Applied to me to some degree, or some of the time
Applied to me to a considerable degree, or a good part of time
Applied to me very much, or most of the time

**49. I felt that I was rather touchy**
Did not apply to me at all
Applied to me to some degree, or some of the time
Applied to me to a considerable degree, or a good part of time
Applied to me very much, or most of the time

**50. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)**
Did not apply to me at all
Applied to me to some degree, or some of the time
Applied to me to a considerable degree, or a good part of time
Applied to me very much, or most of the time

**51. I felt scared without any good reason**
Did not apply to me at all
Applied to me to some degree, or some of the time
Applied to me to a considerable degree, or a good part of time
Applied to me very much, or most of the time

**52. I felt that life was meaningless**
Did not apply to me at all
Applied to me to some degree, or some of the time
Applied to me to a considerable degree, or a good part of time
Applied to me very much, or most of the time

**53. What grade are you in?**
□5th  □6th  □7th  □8th  □9th  □10th  □11th  □12th

**54. What is your sex?**  □Male  □Female

**55. What is your ethnicity?**

▫White

▫ African American

▫Hispanic

▫Asian

▫Native Indian

▫Mixed ethnicity

**56. Which school do you go to?**

▫ Lorena Middle School

▫ Lorena High School

▫ Tennyson  Middle School

▫ Waco High School

Thank you very much for your help and time!!!!

Informed Consent Form

**Baylor University**
**Statement of Parental Consent for Minor Children to Participate in Research**
**Principal Investigator(s): Ikuko Aoyama, Department of Educational Psychology**

This form asks for your consent to allow your child to participate in an educational research project entitled – **Cyberbullying:** *What are the psychological profiles of bullies, victims and bully-victims?*   The purpose of the study is to examine the relationship between students' cyberbullying experiences and psychological well-being. For this research, your child will be asked to complete an anonymous online survey and respond to questions focusing on her/his experiences with cyberbullying and psychological constructs such as self-esteem, anxiety, depression, and stress.   It is anticipated that the entire survey takes about 20 minutes.  All data collected will be confidentially coded with no personal distinguishing identity markers.  However, as you may be aware, electronic communication may be subject to interception illegally by another party while the information is in transit.  Therefore, it is possible that your child's information might be seen by another party, and I cannot control whether that happens.

There are no physical risks or implied benefits that your child will experience by participating in this research project.  You and your child may elect at any time during the study to withdraw from participation.  You should understand that your child's participation is completely voluntary.  While there are no anticipated psychological risks associated with this study, student participants may utilize the Baylor Psychology Clinic, should need for these services arise during or after the completion of this study.  Contact information for the Baylor Psychology Clinic is (254)-757-0535.

You may desire to share this information with your minor child.  While only you as a parent or legal guardian are capable under the law to consent to your child's participation in this study, it is preferable that your child be made aware (consistent with your child's age and level of understanding) that he/she is part of a study.  If you discern that your child is not comfortable with participating in the study, you may consider (as a parent or legal guardian) not consenting to your child's participation.  Results of this research project will be published in the coming months and will be available for you and your child to review should you wish to see the outcome.  If you have any questions regarding your rights as a participant, or any other aspect of the research as it relates to you as a participant, please contact the Baylor University Committee for Protection of Human Subjects in Research, Dr. Michael Sherr, Chair, Baylor University, P.  O.  Box 97320, Waco, TX 76798.Dr. Sherr may also be reached at (254) 710-4483.You may also contact the principle investigators Ms.  Ikuko Aoyama at (254) 652-5356 or e-mail

ikuko_aoyama@baylor.edu or her adviser, Dr. Terrill Saxon, at (254) 710-6101 should you have questions regarding this research project.

I have read and understood this form, am aware of my rights as a participant, and have agreed to participate in this research.

Name (Parent signature):_____ Date: _____

Name (Student's signature): _____ Date: _____

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