ARE THERE DIFFERENCES IN BULLIES? AN ANALYSIS OF BULLYING AND SOCIAL SKILLS

by

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(Under the Direction of Pamela Orpinas)

ABSTRACT

Bullying is a serious problem in schools throughout the world. Cook (2005) estimates 65% of young adolescents experience some type of bullying, the results of which can lead to serious physical, social, and psychological problems. A number of studies have been conducted on the causes and effects of bullying, however little research has been conducted on the different types of bullies and interventions that would work best for each type of bully.

The objective for this study is to examine whether bullies differ in their social skills levels. If they do, an assessment of whether the different types of bullies and non-bullies differ significantly on personal, peer, school, and family characteristics will be conducted. Social Cognitive Theory was applied to better understand the relationship between the personal, peer, school, and family characteristics and the results of the study. A questionnaire assessing demographic information and the following scales: bullying, victimization, social skills level, self-efficacy for alternatives to violence, life satisfaction, positive and negative peer influences, school connectedness, school connectedness to an adult, academic achievement, parental support for violence, and parental support for non-violence was utilized.

Completed information was obtained for 90% of the students in the study school. According to the data, bullies do differ significantly in their social skills levels. Low social skills bullies represented the largest percent of bullies (40%), moderate social skills bullies represented the smallest percent of bullies (29%), and high social skills bullies represented a third of the sample (31%). Low social skills bullies, moderate social skills bullies, high social skills bullies, and non-bullies were similar on some predictor variables and differed significantly on others. In relation to grade level, all groups were similar except low social skills bullies and non-bullies. Each bully type was significantly different from each other in gender, but high social skills bullies did not differ from non-bullies.

These findings support the hypotheses that bullies differ in their social skills levels and factors related to bullying behavior. This information can inform interventions and programs designed to reduce bullying in schools.

INDEX WORDS: bullying, victimization, bullying behaviors, personal, behavioral, environmental

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DEDICATION

I would like to dedicate this dissertation to my family. I do not know what I would do without your support and love. You have always been there for me and let me know I could accomplish anything I set my mind to. Scott, you are a true blessing in my life. I thank God for you everyday. Mom and Dad, thanks for everything you do. I have been blessed to have you as parents. Kenneth and Keith, thank you for being supportive brothers and friends. To the rest of my family, thank you for everything.

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CHAPTER 1

INTRODUCTION

Adolescents face many public health problems, such as exposure to violence and early sexual behavior. Bullying is a major issue that adolescents face. Bullying is defined as behaviors done with the intent to hurt, such as physical aggression, name calling, and social exclusion, directed at an individual or group of individuals repeatedly and over time (Olweus, 1993). Bullying is a serious problem in schools throughout the United States, with prevalence ranging from 14% to 65% (Brown, Birch, & Kancherla, 2005; Cook, 2005; Glew, Fan, Katon, Rivara, & Kernic, 2005; Pelligrini, Bartini, & Brooks, 1999). In this proposal, I will use the term “bully” to refer to adolescents who bully others. This term is not meant to imply that adolescents who report bullying do so continuously or that I intend to label adolescents; I only use it to simplify the writing process. I will use the terms “bullying” and “aggression” interchangeably.

Research indicates that students involved in bullying behaviors, both as bullies and as victims, suffer physically and psychologically (Baldry, 2004; Whitted & Dupper, 2005). These effects can be long term and serious and include depression, suicidal ideations, and criminal activity. It is not known whether the mental health problems, such as depression, occur as a result of being involved in bullying behaviors or if depression leads to bullying behavior. Bullying is a serious problem regardless of why it occurs and requires further research and intervention strategies.

Research has been conducted on the characteristics of bullies; however, little if any of this research has been focused on differences among bullies. Therefore, interventions are based on data about the victim and average characteristics of bullies, but do not include data about

potential differences among bullies. A better understanding of the differences among bullies will increase knowledge, and in turn, improve future interventions.

The popular stereotype of bullies as socially deficient individuals—those who have poor social skills and, therefore; have a hard time relating to their peers—may not be a completely accurate assessment of bullies. Sutton, Smith, and Swettenham (1999) counter that stereotype by suggesting that some bullies are actually quite skilled in social situations. Recently, more research has focused on relational bullying, such as exclusion and starting rumors that actually requires high social skills and knowledge. Bjorkqvist, Lagerspetz, and Kaukainen (1992) stated that this type of relational/indirect bullying is dependent on manipulating a highly developed social infrastructure, which cannot be accomplished by someone with little or no social skills.

In my experience as a teacher, both types of bullies—ones with low social skills and ones with high social skills—exist. Some students are unsure of themselves in social situations and bully as a result of their uncertainty about how to communicate with their peers. For example, “Mike” does not know how to interact with his peers. When Mike’s peers are talking about the game they played the previous day, Mike does not seem to know how to join in the conversation. So he tells his peers how stupid the sport is and ends up insulting the other students. When they ignore him, he calls them names and threatens them. If Mike’s social skills improved, he might not react to the other students this way and might get along better with his peers.

Some students have very good social skills and use those skills to manipulate the people around them to participate in the bullying behavior with them. “Sarah,” a popular middle school student, is an example of this type of bully. She is captain of the cheerleading squad and has many friends. Sarah likes to make fun of students who are less popular than she. If students are poor or have few friends, Sarah calls them names, spreads rumors about them, and excludes them

from activities in which she is involved. Sarah convinces her friends to join her in harassing other students. Sarah has very good social skills and uses them to bully others. My experience as a teacher of both types of bullies has influenced the proposed study.

Social cognitive theory is the theoretical basis for this study. Reciprocal determinism, one of the main constructs of Social Cognitive Theory, will help explain the results of the study. Reciprocal determinism contends that personal, behavioral, and environmental factors continuously interact to influence people and their behavior (Bandura, 1986). For example, if an adolescent is abused at home (environment), he or she may become depressed (personal), and begin bullying at school to feel in control of some aspect of life (behavior). The personal, school, peer, and family factors that will be assessed in this study interact to influence adolescent behavior; therefore, Social Cognitive Theory is essential to understanding bullying behavior.

Significance of the Study

A number of studies have examined the causes and effects of bullying and whether social skills is related to bullying; however, to this researcher's knowledge, no studies have been conducted to evaluate if bullies differ in their social skills level. A better understanding of this issue can help in the development of more effective interventions. If researchers have a better understanding of the types of bullies related to their social skills, they can develop interventions specific to bullies' characteristics. The increased knowledge may improve interventions and make them more effective in reducing or eliminating bullying.

Purpose of the Study and Research Questions

Given the seriousness of bullying in schools in the United States and the increased awareness of bullying behavior, effective interventions are necessary to prevent and reduce this problem. However, to develop more successful interventions, a better understanding of bullies would be beneficial. Some researchers have suggested that bullies have no or low social skills

(Crick & Dodge, 1999), while others (Sutton, Smith, & Swettenham, 1999) speculate that some bullies actually possess high social skills. The purpose of this study is to investigate whether students who bully differ on their social skills levels. This study will examine this distinction. The study addresses the following questions:

1. Do bullies differ in their social skills competencies? If bullies differ in their social skills levels, I will examine whether these groups also differ in personal, behavioral, and environmental (family, school, and peers) factors.
2. Does each level of bullies and non-bullies differ on their scores for personal factors (i.e., self-efficacy for alternatives to violence and life satisfaction), peer influence (i.e., positive and negative peers), school factors (i.e., school connectedness and academic achievement), and family factors (i.e., parental support for violence)?

To answer these questions the study used a cross-sectional survey design. Within a middle school in a suburban Georgia county, students completed a survey to assess their social skills level; personal, peer, school, and family factors; and aggression and victimization. The information will be used to evaluate prevalence of bullying in the study school, to distinguish between the social skills levels of bullies and to compare each level of bully to non-bullies.

CHAPTER 2

REVIEW OF LITERATURE

Bullying occurs in a variety of places including schools, homes, and workplaces. Because of the high prevalence of bullying in middle schools and the potential for serious consequences later in life, the present study focuses on this age group. This literature review is organized in five sections. The first section defines bullying and discusses its prevalence, the second section explains consequences for the victims of bullying, and the third section details factors associated with bullying. The fourth section explains the theoretical background of this study, and the final section discusses the contradictory research findings related to social skills and bullying.

Definition and Prevalence

The first step in the public health model is to thoroughly understand the behavior under study, in this case, recognizing what behaviors bullying encompasses. Researchers define bullying a number of ways (Espelage, Bosworth, & Simon, 2000; Olweus, 1993). For this study, it is defined as behaviors done with the intent to hurt, such as physical aggression, name calling, social exclusion, and relational aggression, directed at an individual or group of individuals (Olweus, 1993).

The different types of bullying behaviors include physical, verbal, relational, and sexual bullying. A relatively new form of bullying is cyberbullying. Physical bullying occurs when intentional force is used against another person. Examples of physical bullying include hitting, pushing, and shoving. Verbal bullying occurs when someone uses words with the intent of causing psychological or emotional harm, such as teasing and name calling. Relational bullying is defined as manipulation of peer friendships or relationships that cause harm to others.

Relational bullying includes spreading rumors about a person or excluding them from a group or group activities. Sexual bullying occurs when one or more individuals harass another student repeatedly in a sexual manner (Ma, Stewin, & Mah, 2001). Sexual bullying can include making overt sexual contact, telling sexual jokes, or looking at someone in a way that makes him or her feel uncomfortable. Finally, cyberbullying includes, but is not limited to, using the internet to spread rumors, to send threatening messages, or to put embarrassing pictures or information on the internet so that it is available for others to see.

Researchers have distinguished between types of bullies. Orpinas and Horne (2006) distinguish three types of bullies: aggressive, follower, and relational bullies. An aggressive bully is one that is most easily recognized by teachers and peers. They use physical or verbal threats or intimidation to accomplish their goals (Olweus, 1994). The social adeptness or ineptness of these bullies is unclear. According to Salmivalli (1999) some of these students are quite popular with numerous friends while others have very few friends, if any. This is an important gap in the research that this study addresses. The follower is not as likely as the aggressive bully to start the bullying; however, they participate if the behavior is rewarded (Orpinas & Horne, 2006). These individuals may be trying to increase their self-esteem by encouraging or reinforcing the behavior of the aggressive bully (Salmivalli, 1999). Relational bullies are those who bully others by excluding them from a group or from activities, or by spreading rumors about another person to ostracize them from their peers.

Bullies and victims may not be mutually exclusive, as some individuals both bully and are victims of bullying. Veenstra et al. (2005) reported that bully/victims demonstrate high levels of both aggression and depression. These individuals may also demonstrate low academic

achievement, inadequate self-control, and poor self-esteem, and may also be involved in other problem behaviors such as alcohol abuse and delinquency.

In addition to understanding the characteristics of the behavior, the prevalence of bullying gives an indication of its public health importance. It is difficult to determine the exact prevalence of bullying due to the variety of measures, definitions, and methods used to gain this information. However, regardless of the measures, definitions, or methods used, it is clear that bullying is a serious public health problem in the United States and in other developed countries.

The World Health Organization (WHO) conducted an international study of 11-, 13-, and 15-year-old adolescents about a variety of health related issues, including bullying (Currie, Hurrelmann, Suttertobulte, Smith, & Todd, 2000). As shown in Table 2.1, boys and girls in the United States scored consistently above or around the international average. Overall, when compared to 35 other countries, the United States ranked 19th for 11- year-olds, 9th for 13-year-olds, and 14th for 15-year-olds in prevalence of bullying. In other words, the United States ranked in the top half for bullying behavior except for 11-year-olds (Table 2.1).

Table 2.1: Percent of students bullied at least once in the previous couple of months

Age and gender	United States	International
Boys		
age 11	33.2%	37.0%
age 13	48.8%	44.6%
age 15	43.8%	44.0%
Girls		
age 11	27.2%	23.5%
age 13	39.5%	31.0%
age 15	29.8%	28.1%

Nansel et al. (2001), who conducted the WHO study in the United States , reported that 10.6% of the sample admitted bullying others *sometimes*, and an additional 8.8% admitted to bullying *frequently* (once a week or more). The prevalence of victimization was similar to the bullying prevalence, with 8.5% reporting being bullied *sometimes*, and 8.4% reported being

BULLIED *frequently*. Nansel et al. found that, of the total sample, 29.9% of students reported being involved in some form of moderate or frequent bullying, as a bully, a victim, or both. The sample consisted of a nationally representative sample of 15,686 sixth- through tenth grade-students in public and private schools throughout the United States.

Smaller studies have been conducted at various grade levels from elementary to middle to high schools (Table 2.2). Elementary school studies are detailed first. Glew et al. (2005) conducted a cross-sectional study of third, fourth, and fifth graders from an urban, west coast public school district. The results indicated that 14% reported bullying, while 6% reported being victimized by bullying. Pelligrini, Bartini, and Brooks (1999) conducted a study of fifth graders. The participants of this study were sampled from a total population of fifth grade students in a rural, northeast Georgia county. Based on the students' responses to the Olweus Senior Questionnaire, the students were placed in one of four groups: bullies, victims, aggressive victims, and non-aggressive or victimized. To be assigned to a group, a student had to score .8 standard deviations (SD) above the mean for their classrooms. The results of this study indicated that 14% reported bullying, while 16% reported victimization. Finally, Brown, Birch, and Kancherla (2005) conducted a study of 9- to 13-year-olds who visited a health education center. These centers were located in Illinois, Indiana, Michigan, North Carolina, Ohio, Pennsylvania, and Wisconsin. Each center solicited between 100 and 200 respondents each. The prevalence rates in this study are much higher than in the other studies mentioned. This could be due to the fact that this study was conducted at health education centers in seven states while the other studies were conducted in public schools.

Prevalence of bullying in middle schools was higher than in elementary, as summarized in Table 2.2. Seals and Young (2003), in a study of seventh and eighth graders from the northern

delta region of Mississippi, reported a prevalence of bullying of 24%, but did not report the prevalence of victimization. Another study conducted at six public middle schools in Roanoke, Virginia found that 37% of students had been bullied (Unnever & Cornell, 2004).

Table 2.2: Results of prevalence studies involving school aged students.

Authors	Grade Level or Age Group	# of participants	% bullies	% victim	% bully-victim
Glew, Fan, Katon, Rivara, & Kernic, 2005	Third–fifth graders	3530	14%	6%	2%
Pelligrini, Bartini & Brooks, 1999	Fifth graders	154	14%	19%	5%
Brown, Birch, & Kancherla, 2005	9 to 13 year olds	1229	40%	50%	N/A
Seals and Young, 2003	Seventh and Eighth graders	454	24%	N/A	N/A
Unnever & Cornell, 2004	Sixth–Eighth graders	2437	37%	N/A	N/A

Consequences for Victims

To understand the public health implications of the bullying problem, this section reviews the consequences of bullying for the victims. Being a victim of bullying may have physical and psychological consequences for adolescents (Salmon, James, & Smith, 1998). The most common physical consequences are bruises, cuts, or scratches. However, in many cases the victims suffer from psychological effects, such as anxiety, depression, and suicidal ideations.

Victims often feel high levels of anxiety. They anticipate being victimized and this anticipation leads to anxious feelings even before the event occurs. Nishina and Juvonen (2005) reported that students experience an increase in anxiety when they are victims and when they are

witnesses of bullying. Likewise, Bond and colleagues (2001) found a strong association between victimization and self-reported anxiety. Persistent anxiety may then lead to depression.

Depression is more prevalent in victims than in non-victims (Baldry, 2004; Bond, Carlin, Thomas, Rubin, & Patton, 2001; van der Wal, de Wit, & Hirasing, 2003). This association is true of both boys and girls; however, in one study physical bullying was only associated with depressive symptoms in girls. van der Wal et al. found that approximately 43% of girls who were bullied had depressive symptoms, as compared to 6% of girls who were not bullied. Continued depression may lead to suicidal ideations (Pelligrini, Bartini, & Brooks, 1999).

Suicidal ideation (thoughts of committing suicide) is greater in victims than in non-victims. Kaltiala-Heino et al. (1999) and Eisenberg et al. (2003) reported a relation between being a victim and suicidal ideation. The relation between being a victim and suicidal ideations was strongest for those who were both victims and bullies. Kaltiala-Heino et al. also found that girls who were bullied were more likely to have suicidal thoughts than girls who were not bullied.

Factors Associated with Bullies

Although most bullying research has focused on how bullying impacts the victims' lives, some research has investigated the characteristics associated with bullies. Those who bully suffer numerous problems including depression, suicidal ideation, criminal behavior, delinquent behavior, and violence in adulthood (Kaltiala-Heino, Rimpela, Marttunen, Rimpela, & Rantanen, 1999; Whitted & Dupper, 2005). Because these studies are not longitudinal, it is unknown whether these characteristics were actually the result of being a bully or if these characteristics caused the bullying behaviors. However, it is important to understand these characteristics and the effects they can have on an adolescent. This section also examines the relation between bullying and gender.

Depression and suicidal ideations

Some bullies suffer from high levels of depression (Baldry, 2004; Henry, 2004). Research has shown that bullies report higher levels of depression than those not involved in bullying (Eisenberg, Neumark-Sztainer, & Perry, 2003; Kaltiala-Heino, Rimpela, Marttunen, Rimpela, & Rantanen, 1999; Saluja et al., 2004). The relation between victimization and depression seems clear; however, the relation between bullying and depression is less obvious. The relation between bullying and depression could be caused by the factors that lead to their role as bullies, such as witnessing violence at home or poor relationships with their peers. Depression can also be a consequence of having fewer friends due to the bullying.

Bullies also report higher levels of suicidal thoughts than non-bullies (Kaltiala-Heino, Rimpela, Marttunen, Rimpela, & Rantanen, 1999; van der Wal, de Wit, & Hirasing, 2003). Kaltiala-Heino et al. (1999) found that bullies who reported being depressed had the highest risk for suicidal ideation.

Delinquency and criminal behavior

Being a school bully can lead to serious, possibly criminal behaviors. For instance, bullies are more likely to be involved in delinquent behaviors, such as shoplifting and alcohol misuse (van der Wal, de Wit, & Hirasing, 2003; Whitted & Dupper, 2005). Whitted and Dupper reported that bullies gravitated toward other delinquent adolescents and become involved in gangs. This behavior may be a precursor to more serious aggressive behaviors in the future (Ma, Stewin, & Mah, 2001). The findings by Ma et al. were supported by Craig and Pepler (1999), who found a tendency for students identified as bullies in elementary school to be involved in increasingly aggressive behaviors as they get older.

A 22-year longitudinal study of 8-year-old students labeled as bullies, conducted by Eron and Huesmann (1984), showed that most of these children had at least one criminal conviction in adulthood, and 25% had a criminal record by age 24. Another study showed that 60% of boys identified as bullies between sixth and ninth grades had at least one criminal conviction, while 40% had more than three convictions (Whitted & Dupper, 2005).

Kaltiala-Heino et al. (1999) found that being a bully was associated with violence later in adulthood. Some studies have even shown that adults sometimes pass this violent tendency to children. Ma, Stewin, and Mah (2001) reported that childhood bullies were likely to abuse their spouse and children.

Gender

Boys are more likely to participate in bullying than girls, especially physical or direct (Craig & Pepler, 2003; Salmon, James, & Smith, 1998). For example, Salmivalli (2001) found that boys, as compared to girls, exhibit more physical aggression and Orpinas, Murray, and Kelder (1999) found that boys scored significantly higher on aggressive behaviors including fighting, injuries due to fighting, and carrying a weapon. Not only do boys exhibit greater levels of bullying compared to girls, Unnever and Cornell (2004) reported that boys were more likely to identify with the culture of bullying. In other words, boys are expected to be more aggressive than girls; therefore, it is considered acceptable for boys to participate in aggressive or bullying behaviors. As a matter of fact, the boys might be rewarded in some way by peers or adults in the schools (Unnever & Cornell, 2003). This tendency for boys to identify with the culture of bullying might be related to socialization within school environments that tolerate bullying primarily perpetuated by boys (Leach, 2003). Not surprisingly, Eslea and Smith (1998) found

that interventions based on reducing physical bullying were more effective for boys than for girls.

While boys evaluate physical bullying more positively, Crick and Werner (1998) reported that girls evaluate relational bullying more positively than boys. Some research has shown that girls are more likely to be involved in relational bullying than boys (Crick & Werner, 1998; Fekkes, Pijpers, & Verloove-Vanhorick, 2005). Besag (2006) reported that girls' bullying is more subtle and less physical than that perpetrated by boys. Besag also stated that the emotional effects can be more destructive and long lasting than physical bullying. This type of bullying is also often overlooked by adults. It has also been reported that girl bullying relies on psychological methods which are relational, indirect, or socially motivated (Bjorkqvist, Lagerspetz, & Kaukianinan, 1991).

Social Cognitive Theory

The theoretical foundation of this study is Social Cognitive Theory (SCT), formulated by Albert Bandura. Bandura was born in Alberta, Canada in 1925. He received his doctorate in psychology from the University of Iowa in 1952 and was then offered a position at Stanford University in 1953 (Schunk, 2004).

Prior to the late 1950s and early 1960s, behavioral theories dominated the psychology scene. These theories were based on the premise that learning could be explained in terms of environmental events and that mental decision making was not necessary to explain learning (Schunk, 2004). An example of this type of learning is classical conditioning, as seen in Pavlov's well-known experiment with dogs. Pavlov's study and other experiments showed that learning can take place by simply conditioning responses, with no mental thought involved in the process of learning (Schunk, 2004).

Operant conditioning focuses on learning through the effects of one's actions. In other words, if the behavior leads to a positive outcome, the behavior is continued, but if it led to a negative outcome, the behavior is discontinued (Schunk, 2004). In this type of learning, responses are automatic and unconscious leaving no room for knowledge or judgment. These theories did not explain why individuals continued participating in behaviors that led to negative outcomes. This gap, among others, in the explanation of learning led to the development of Social Cognitive Theory.

Bandura sought to better understand learning due to the incomplete explanations of acquisition and performance of prosocial and deviant behaviors. Bandura developed a more comprehensive theory of observational learning that he believed would better explain acquisition of behaviors. He expanded Social Learning Theory (SLT) to include acquisition and performance of skills, strategies, and behaviors (Schunk, 2004). The new theory, Social Cognitive Theory, was founded on causal relationships between three factors: personal, behavioral, and environmental. Bandura (1986) based this theory on what is known as reciprocal determinism where personal factors, behavioral patterns, and environmental events interact and influence each other. In other words, Bandura reported that people were not just hosts for their brains to be influenced by the environment, but that people were actually agents in life. Agency is defined as a person's ability to make choices and to act on those choices in ways that will change their lives. Bandura (1999) hypothesized that the human mind was not just reactive, but could also generate and create thoughts and ideas, and that people are proactive and self-reflective.

For the purposes of this research, the three components of reciprocal determinism—personal, behavioral, and environmental—have been separated for a more clear explanation of

each. However, the separation of the components is not meant to imply that the components are separate entities. As explained in Social Cognitive Theory these components are inter-related. For example, parental attitudes toward violence can affect people's behaviors through the environment in which they live. Likewise, people's knowledge of alternatives to violence can increase their self-efficacy, which can affect behavior and their environment.

Personal factors

Personal factors include cognitive, affective, and biological characteristics. The theory was further extended to include ways in which people seek control over life events through self-regulation of their thoughts and actions. Seeking control over life events involves goal setting, judging anticipated outcomes, evaluating progress, and self-regulating thoughts, emotions, and actions. Social Cognitive Theory was based on the premise that people do not participate in behaviors or activities just to suit others as is implied by the earlier behavioral theories; people are motivated internally. People are motivated and regulated by their own personal standards and by self evaluation (Schunk, 2004). In other words, people make choices not based solely on the reaction they will receive, but based on their own thoughts and emotions.

Personal factors that will be evaluated in the proposed study are social skills, self-efficacy for alternatives to violence, and life satisfaction. A review of studies related to these factors follows.

Social skills, a person's ability to interact and communicate with others, are an example of Social Cognitive Theory's behavioral capability. Behavioral capability is the knowledge and skill to perform a behavior. Poor social skills may make adolescents vulnerable to bullying (Dill, Vernberg, Fonagy, Twemlow, & Gamm, 2004). If adolescents have a difficult time making friends, are shy, or have other social inadequacies, they are prone to being victims. Victims have

been found to have fewer friends (Unnever, 2005).. Fox and Boulton (2005) reported that individuals, peers, and teachers perceived the social skills of victims as lacking . Fox and Boulton found that social skills significantly discriminated victims from non-victims, as victims had significantly lower social skills. Likewise, Larke and Beran (2006) found that adolescents who engage in physical and relational bullying exhibit poor prosocial skills.

However, Fox and Boulton (2003) found that an intervention program to increase social skills in victims was not effective in reducing victimization. While the intervention group increased their feelings of self-worth, their levels of victimization did not decrease. The social skills of bullies, that are central to this study, are discussed in a separate section later in the proposal.

One of the major constructs of the personal component of reciprocal determinism is self-efficacy. Self-efficacy is people's belief that they can learn or perform tasks or goals at a certain level of mastery (Bandura, 1986). This belief is the foundation for human agency. If people do not believe they can accomplish a task or behavior, there is little reason to attempt any task, especially in the face of difficulties. Despite other motivators, people's belief that they can bring about change is central to their attempts at learning or accomplishing new things. Self-efficacy gives people options to consider when making a decision. Implementing and sticking with a course of action based on people's belief that they can succeed is an essential aspect of Social Cognitive Theory (Bandura, 1999). In a study of self-efficacy and bullying behavior, it was reported that bullying behavior was predicted by low self-efficacy for assertion, learning and performance, and high expectations that aggression will lead to status reward with peers (Andreou & Metallidou, 2004). Another study (Andreou, Vlachou, & Didaskalou, 2005) found that high self-efficacy scores for aggression was associated with both bullying and victimization,

while high self-efficacy scores for assertion was associated with lower scores on physical victimization.

Life satisfaction has been shown to be related to aggressive behavior. Reduced life satisfaction was associated with having ever carried a gun, ever carried a knife/club, ever been in a physical fight, and ever needing medical attention because of a physical fight (Valois, Paxton, Zullig, & Huebner, 2006). MacDonald and colleagues reported similar results. Adolescents with low life satisfaction were more likely to carry a weapon and be involved in physical fights than those with high life satisfaction (MacDonald, Piquero, Valois, & Zullig, 2005). MacDonald et al. also reported that those students who scored lowest in life satisfaction and highest in cigarette smoking and sexual promiscuity were much more likely to be involved in self-reported violence.

Behavioral factors

The second component of reciprocal determinism is behavioral factors. Modeling is part of the behavioral aspect of reciprocal determinism. Modeling refers to changes made through watching others and adapting behaviors to mimic the ones observed. People model the behaviors of others to get similar outcomes or responses as the people they are mimicking (Schunk, 2004). If an individual sees someone getting a positive response from others for a specific behavior, that person is likely to model that behavior to get the same reaction. However, modeling someone else's behavior does not mean that a person's responses are automatic and unconscious. People extract rules from observing and then use those rules to make judgments and decisions about whether they will model the observed behavior. Modeling can take the form of cognitive learning, rule learning, or motor skill learning. The rate at which people learn is based on their level of development. As people get older, they are better able to pick up on cues in modeling, retain the behavior, and use judgment and thought to decide whether or not to incorporate the

behavior into their lives. The behavioral factors measured in the proposed study will be bullying behaviors, victimization, and academic achievement. Bullying behaviors and victimization were examined in the previous sections.

Eisenberg et al. (2003) reported that students who earn higher grades are less likely to be involved in violent activities including bullying. In their study, Eisenberg et al. found that "B" students were the least victimized, not the "A" students as they had hypothesized. This unexpected result could indicate that being good academically, but not academically outstanding may be more acceptable in adolescence. Another study of third through fifth graders indicated that students who did not feel they fit in at their school and had lower academic achievement were more likely to be bully-victims, while students who felt they belonged and had higher academic achievement were less likely to be bully-victims (Glew, Fan, Katon, Rivara, & Kernic, 2005). Although the above studies do not directly relate to high and low social skills bullies, they demonstrate a relation between academic achievement and bullying behavior that will be tested in this study.

Environmental factors

The final aspect of the triad of reciprocal determinism is the environment. Social Cognitive Theory divides the environment into three types: imposed, selected, and constructed. The imposed environment is one that is thrust upon people; therefore, people have to live with that environment regardless of how they feel about it. An example of an imposed environment is the family into which people are born or the neighborhood where people grow up. However, people do have some say in how they react to that environment. Our behavior determines what the experienced environment will actually be despite a person's imposed environment. In other words, even if people are born into an environment where there is little support from family,

people can still succeed if they choose to work through their environment and make changes in their lives (Bandura, 1999).

The selected environment is a person's choice of associates and activities. A major difference in this type of environment is the aspect of choice. The ability to make a choice links back to the previous example of choosing to succeed and making changes in one's life. If a person chooses to associate with individuals with low self-efficacy for a specific behavior then the chance of changing that behavior is unlikely. However, if a person associates with people who are a positive influence, positive changes are more likely.

Finally, the environment is not just sitting there waiting to be chosen. People construct these environments through their choices. Individuals can construct a healthy, positive environment if they make the correct choices or people can construct an unhealthy, negative environment if they make other choices. A person's reaction to the imposed environment, and selection and construction of environments affect the reciprocal determinism. The role of people's environment affects personal and behavioral choices as well.

In this study, I will examine three levels of environmental influence: school connectedness, peer influences, and family characteristics. School connectedness is how comfortable and supported a person feels at school. Peer influences can be either positive or negative, both of which will be evaluated in the proposed study. Finally, the family characteristic evaluated for this study is parental support for violence. If adolescents perceive that their parents support violent reactions to conflicts, the adolescents are more likely to react to conflicts in violent ways.

Support for the inclusion of these environmental factors in the proposed study is demonstrated next. Students who feel more connectedness to their school are less likely to

participate in risky behaviors such as bullying, smoking, and using drugs (Eisenberg, Neumark-Sztainer, & Perry, 2003). Eisenberg et al. also reported that students who reported feeling more connected to their school reported less victimization, while those who reported feeling less connected to their school experienced more frequent victimization. Likewise, Simons-Morton et al. (1999) found that a sense of school connectedness helps protect adolescents from risky health behaviors including bullying.

An important aspect related to school connectedness which is assessed in this study is friendship. A number of studies have shown a connection between friendship and protection from bullying (Bollmer, Milich, Harris, & Maras, 2005; Fox & Boulton, 2005; Savage, 2005). The more friends a person has and the quality of the friendships are moderating factors in bullying. Specifically, Fox and Boulton found that peer acceptance of a person's best friend is a protective factor against bullying.

Peers are very influential during early adolescence. At no other time in a person's life are friends and their opinions more important (Simons-Morton, Crump, Haynie, & Saylor, 1999). Peer influence can be positive or negative. The need to fit in and be like everyone else drives some adolescents to participate in behaviors in which they may not normally participate. Therefore, many boys and girls bully to get peer approval and fit in with others (Simons-Morton, Crump, Haynie, & Saylor, 1999). This is true for boys and girls. It is not unusual for adolescents to bully someone because they are with their friends who are bullying another student. For example, Rigby (2005) found that 55% of the students in his study felt their friends either expected them to support the bully or do nothing. Similarly, Smith et al. (2004) reported adolescents bully to make social gains such as becoming more popular. Also, Sutton and Keogh (2000) found that the peer culture rewarded bullies with the power and popularity they seek.

Parent-child interaction is another predictor of aggressive behavior or bullying. Generally, adolescents who received low levels of monitoring by their parents were more likely to participate in aggressive bullying behaviors than those who receive higher levels of parental monitoring (Farrington, 1989). Likewise, Perry, Perry, and Boldizar (1990) reported that the following factors were associated with aggression in children: lack of parental monitoring, parental permissiveness and lack of limits, parental aggression and abusive discipline, inter- and intra-parent inconsistencies, parental rejection, and poor parenting skills. Orpinas et al. (1999) found that aggressive behavior increased as parental monitoring decreased. Similarly, Espelage, Bosworth, and Simon (2000) found that students who spent time without parental supervision or lacked parent-child interaction reported higher levels of bullying behavior. Finally, Black (2002) found that lower levels of parental interaction, specifically with mothers, resulted in adolescents displaying perfunctory problem solving behaviors with their friends, which in turn may lead to more maladaptive behaviors such as bullying.

A specific aspect of parent-child interaction evaluated in this study is parental support for violence. Research shows that parental attitudes toward fighting are related to a child's participation in aggressive behavior. Generally, if parents support "standing up for oneself" or "fighting back," the child is more likely to be involved in aggressive behaviors. Conversely, Ohene, Ireland, McNeely, and Borowsky (2006) reported that perceived parental disapproval of the use of violence decreased the likelihood that a child would participate in physical fighting. A similar result was reported by Orpinas, Murray, and Kelder (1999). Their study of more than 8000 middle school students showed that the strongest indicator of aggression was the child's perception of their parents' attitudes toward violence. If children believed that their parents

supported aggression, they were more likely to report aggressive behaviors like fighting and carrying weapons.

The concepts of expectations and expectancies in Social Cognitive Theory play an important role in this factor. Expectations are the anticipated outcomes of the behavior, while the expectancies are the value placed on a given outcome (Glanz, Lewis, & Rimer, 1990). If adolescents anticipate a positive outcome (expectation) from their parents, the adolescents are more likely to continue the behavior. Therefore, if the parents encourage bullying behaviors, an adolescent is going to expect a positive outcome and continue the behavior. This seems especially true if the adolescent places a high value on the outcome (expectancy).

Social Skills and Bullying Behavior

Most research compares bullies to non-bullies, but has not investigated differences between types of bullies. Most research has treated bullies as a homogeneous group (Crick & Dodge, 1999; Heinrichs, 2003), rather than researching whether bullies are actually a heterogeneous group. However, a few researchers have proposed that adolescents who bully are more heterogeneous (Sutton, Smith, & Swettenham, 1999). The proposed study is based on the tenant that the group usually defined as bullies is comprised of a diverse group of students. The present study evaluates whether differences among types of bullies in terms of levels of social skills exist. This section reviews the literature that represents bullies as a homogeneous group and the research that represents bullies as a heterogeneous group, concluding with a justification for the present study.

Heinrichs (2003) and Smokowski and Kopasz (2005) have described bullies as a homogeneous group. These researchers stated that bullies are physically stronger than their victims; are physically effective in play, sports, and fights; and desire to dominate others and assert themselves. Bullies may also be described as being hot-tempered, impulsive, and good at

talking their way out of situations, as showing little empathy for their target, not being insecure, and having above average self-esteem.

Crick and Werner (1998) and Smokowski and Kopasz (2005), who also studied bullies as a homogeneous group, reported that physically aggressive children evaluated aggressive responses positively, unlike other children. Crick, Grotpeter, and Bigbee (2002), found that physically aggressive children exhibit more hostile attributional biases than non-physically aggressive children. Likewise, Smokowski and Kopasz also reported that bullies were more likely to interpret others' behaviors as aggressive when they were not meant to be aggressive. Wolke, Woods, Bloomfield, and Darstadt (2000) reported that physically aggressive children have significantly more problem behaviors, hyperactivity, peer problem scores, and lower pro-social behavior scores than the control group. Likewise, Nansel (2001) reported that bullies have higher levels of conduct problems and dislike for school. Finally, Crick and Dodge (1999) report that all bullies have low social skills, furthering the idea that bullies are a homogeneous group.

As mentioned in the last paragraph, some researchers believe that all bullies have low social skills. Crick and Dodge (1999) use the Social Information Processing Theory (SIP) to explain bullying. They hypothesize that bullies have difficulty in social situations. In other words, the adolescent does not have the social skills needed to effectively interact with peers in various social situations. Arsenio and Lemerise (2001) support Crick and Dodge, but add variations of children's emotion processing including emotionality regulation and reactive and proactive aggression.

The above-mentioned studies support the idea that bullies are a homogeneous group; however, there are studies that do not support that idea. Average or above-average popularity and academic achievement is also common for some bullies (Heinrichs, 2003). Another study found

that bullies reported greater ease in making friends than other students (Nansel et al., 2001). Farmer et al. (2002) distinguished between popular and unpopular aggressive bullies. Farmer et al. reported that popular aggressive bullies associated with other popular students and did not suffer any negative social consequences from their bullying behavior, while unpopular aggressive bullies were rejected by other students. The popularity of some bullies deviates from the idea of homogeneous bullies, who do not have the social skills to communicate effectively with their peers. A possible explanation for the differences in popularity among these aggressive bullies might be their social skills level as proposed by the current study. The popular aggressive bullies might have high social skills while the unpopular aggressive bullies might have low social skills. Determining the existence of a possible difference in social skills level in bullies is the main purpose of the proposed study. Sutton et al. (1999) stated that relational bullying actually necessitates high levels of social skills to assess and manipulate individuals around them. The idea that some bullies need high social skills to bully further supports the hypothesis of the proposed study. Sutton et al. stated that to use relational bullying, bullies must understand the social setting which they are in and know what behaviors will be accepted and by whom before they act. An ability to manipulate the people around them to join in the bullying or to support them by not interfering is necessary.

CHAPTER 3

METHODS

This chapter describes the methodology of this study, and is composed of four sections. Section one presents the goals, design, and research questions. Section two explains how the sample was obtained. Section three details the measures used in the study. The last section details the data management and data analysis.

Goals, Design, and Research Questions

This study has two goals. The first goal is to examine whether bullies differ in their social skills. If bullies differ in their social skills, the second goal is to examine the prevalence and characteristics of bullying behavior by social skills levels. In addition, I will examine whether bullies and non-bullies differ. As discussed in Chapter 2, there is some controversy about the social skill level of bullies. Some researchers believe that bullies have low social skills and bully as a result of their lack of ability to relate to their peers (Crick & Dodge, 1999). Other researchers believe that some bullies actually have high social skills and use those social skills to bully and manipulate others around them (Sutton, Smith, & Swettenham, 1999). Social Cognitive Theory is used as the theoretical framework to help understand the characteristics related to social skills levels.

This study used a non-experimental, cross-sectional design. Data were collected at one point in time from all students in one middle school of approximately 1000 students. The school and county Board of Education granted permission to use data that the school had collected as part of their bullying prevalence evaluation. The UGA IRB reviewed and approved the study authorizing use of the data for the current study.

All students whose parents signed consent forms at the beginning of the school year completed a self-report survey to ascertain information about bullying perpetration and victimization. The survey included questions related to the personal level (social skills level, self-efficacy for alternatives to violence, and life satisfaction), peer level (positive and negative peer influence and victimization), school level (school connectedness, school connectedness to an adult, and academic achievement), and family level (parental support for violence, parental support for non-violence). Appendix A shows the student survey. Students completed the surveys using a paper and pencil format. Teachers conducted the survey during connections classes and were available to answer students' questions.

The following research questions guided this study.

1. Do bullies differ in their social skills competencies?

   Hypothesis 1: Adolescents who bully will significantly differ in their social skills.

2. Do low, moderate, and high social skills bullies and non-bullies differ on their scores in personal, peer, school, and family characteristics?

   Hypothesis 2: Low social skill bullies will score worse than high social skills bullies on:

   - Personal characteristics: self-efficacy for alternatives to violence (lower) and life satisfaction (lower)
   - Peers influences: positive peer influence (lower), negative peer influence (higher), and victimization (higher)
   - School characteristics: school connectedness (lower), school connectedness with an adult (lower), and academic achievement (lower)
   - Family characteristics: parental support for violence (higher) and parental support for non-violence (lower)

Hypothesis 3: Low, moderate, and high social skills bullies will score worse than non-bullies on:

- Personal characteristics: self-efficacy for alternatives to violence (lower) and life satisfaction (lower)
- Peers influences: positive peer influence (lower), negative peer influence (higher), and victimization (higher)
- School characteristics: school connectedness (lower), school connectedness with an adult (lower), and academic achievement (lower)
- Family characteristics: parental support for violence (higher) and parental support for non-violence (lower)

Sample

The setting for this study was a middle school in a Georgia school district with a median income of $31,000. The county serves over 28,000 students; 1,005 of which attended the middle school where this study took place. The percentage of children on free and reduced-price lunch was 9%. On the day of the survey, approximately 10% were absent or would not participate. Only one survey was deleted because the student did not complete the social skills scale. Thus, the final sample of this study is 908 students (454 boys, 449 girls, and 5 students who did not report their gender). The sample was evenly distributed by grade level. The majority of students were White (77%) (Table 3.1). The mean age for 6^{th} graders was 11.8 (SD=.55), for 7^{th} graders 12.7 (SD=.52), and for 8^{th} graders 13.7 (SD=.45). This school was chosen because of their interest in the topic. In addition, the majority of studies have been conducted in high risk schools. This middle class school, with a mostly White student population, would give a different perspective on the problem.

Table 3.1 Demographic Data

	Total (n=908) %	Boys (n=454) %	Girls (n=449) %
Grade			
6th grade	34.3	35.2	33.2
7th grade	36.2	35.2	37.2
8th grade	29.5	29.5	29.6
Race			
White	76.6	77.8	75.6
Asian	8.3	6.7	9.9
Hispanic	5.5	5.3	5.6
Black	3.4	4.2	2.7
Other, mix race	6.1	6.0	6.3
Age			
11-year-olds	10.4	10.8	10.0
12-year-olds	33.4	31.1	35.4
13-year-olds	34.0	34.6	33.6
14-year-olds or older	22.2	23.6	20.9

Note: Five students did not report gender, two students did not report their grade, nine students did not report race, and three students did not report age.

Sample size calculations

The current study has ten predictor variables: self-efficacy for alternatives to violence, life satisfaction, positive and negative peer influences, two variables for school connectedness, academic achievement, parental support for violence, parental support for alternatives to violence, and victimization. Using the sample size tables for ANOVA with a *large* effect size of .4 and power of .8, the needed sample size for each group would be 18.

Measures

The student survey consisted of a general demographic information section, plus the following scales: bullying, victimization, social skills level, self-efficacy for alternatives to violence, life satisfaction, positive and negative peer influences, school connectedness, school

connectedness to an adult, academic achievement, parental support for violence, and parental support for non-violence. Table 3.2 summarizes the scales used in this study.

The demographic information assessed in the survey was grade level (response categories: *6th, 7th,* or *8th grade*), age (*10* to *15 years of age*), gender, and race/ethnicity (*Black, Native American, White, Hispanic, Asian,* or *Other*).

The Reduced Aggression and Victimization Scales (Orpinas & Horne, 2006) were used to assess frequency of aggressive behaviors that the students perpetrated or were the victim of during the week prior to the survey. Response categories are *0 times* through *6 or more times*, in a 7-point scale. Higher scores on the Reduced Aggression Scales indicate greater bullying behaviors, and higher scores on the Reduced Victimization Scale indicate greater victimization. The internal consistency, as measured by Cronbach's alpha, in the current study was .89.

Social skills level was assessed by one subscale from the Child Behavior Scale, labeled Prosocial Behaviors (Ladd & Profilet, 1996). The Child Behavior Scale was originally developed as a teacher assessment of elementary school children. Dr. Ladd revised the scale to be used by middle school students as a self-assessment; then shared that scale with me for the current study. The prosocial behaviors scale assesses how comfortable and confident students feel around peers, and includes the following items: "I help my peers," "I show recognition of the feelings of others," "I feel concerned when others are distressed," "I am kind toward peers," "I work well with peers," "I show concern for moral issues (e.g.; fairness, welfare of others)," and "I offer help or comfort when others are upset". Response categories are *almost never* (0), *sometimes* (1), *often* (2), and *almost always* (3). The response categories were changed from the original scale to increase variability of responses. The original response categories were *doesn't apply* (1), *applies sometimes* (2), and *certainly applies* (3). The scale score was calculated as the mean of

the seven items. Thus, a higher score on the prosocial behavior scale indicated higher social skills. The internal consistency of the scores, measured by Cronbach's alpha, in the current study was .81.

The self-efficacy for alternatives to violence scale is composed of seven items that assess how confident students are that they can control anger and resolve potential conflicts in non-violent ways. The scale was developed for the Multisite Violence Prevention Project (MMVP) (2004); however, four items were originally obtained from the Teen Conflict Survey (Bosworth & Espelage, 1995). Students rate how confident they feel in their ability to use alternatives to violence. Response categories for the current study range from *not at all confident* (1) to *very confident* (5). The scale score was calculated as the mean of the seven items. Thus, a high score reflects a high level of confidence in the student's ability to control anger and resolve potential conflict in a non-violent way. The internal consistency of the scores, measured by Cronbach's alpha, was .81 in the current study.

The Life Satisfaction Scale comprises six items that assess an adolescent's satisfaction with specific areas of life, including family, friendship, school experience, and overall life satisfaction. The six items are based on domains from the Multidimensional Students' Life Satisfaction Scale (Huebner, Laughlin, Ash, & Gilman, 1998). The students rated their satisfaction in each area with responses ranging from *terrible* (1) to *delighted* (7). The scale score was calculated as the mean of the six items. A high score indicates high life satisfaction. The internal consistency of the scores, as measured by Cronbach's alpha, in this study was .87.

The peer influence scales were derived from the California Healthy Kids survey (Constantine & Benard, 2001). Adolescents assess their friends' positive (four questions) and negative behaviors (four questions) with answers ranging from *not at all true* (1) to *very much*

true (4). The scale score was calculated as the mean of the items. A higher score for positive peer influence indicates that the respondent has positive peer support, while a higher score for negative peer influence indicates that the respondent has negative peer support. Positive peer influence questions are "I have friends about my own age…who really care about me, who talks with me about my problems, who helps me when I'm having a hard time, who is really fun to be around". Negative peer influence questions are "My friends…get into trouble at school, drink alcohol, skip school without an excuse, hit someone with the idea of really hurting that person". The internal consistency, as measured by Cronbach's alpha, was .84 in the current study for positive peer influence and .80 for negative peer influence.

The school connectedness scale is derived from the Substance Abuse and Mental Health Services Administration (SAMHSA, 1999). The school connectedness scale contains five questions about how strongly students agreed with positive statements about their school. Response categories range from *strongly disagree* (1) to *strongly agree* (5). The questions on the school connectedness scale are: "I feel close to people at this school," "I am happy to be at this school," "I feel like I am part of this school," "Most teachers at this school treat students fairly," and "I feel safe in my school." The scale score was calculated as the mean of the five items. Higher scores indicate a strong feeling of school connectedness. In the current study, the internal consistency, as measured by Cronbach's alpha, for school connectedness was .83.

The scale on school connectedness to an adult contains six questions regarding a student's feelings of connectedness to a teacher or adult in the school. Response categories range from *not at all true* (1) to *very much true* (4). The questions on the school connectedness to an adult scale are: "At my school, there is a teacher or some other adult….who really cares about me, who tells me when I do a good job, who notices when I'm not here, who always wants me to

do my best, who listens to me when I have something to say, who believes that I will be a success." The scale score was calculated as the mean of the six items. Higher scores indicate a stronger feeling of school connectedness to an adult. The internal consistency for the school connectedness with an adult scale, as measured by Cronbach's alpha, was .90.

Academic achievement was assessed with two questions: "What grade did you receive on your last report card in English?" and "What grade did you receive on your last report card in math?" Response categories were *Mostly As* (4), *Mostly As and Bs* (3), *Mostly Bs and Cs* (2), *Mostly Cs and Ds* (1), and *Mostly Ds and Fs* (0). However, these last two response categories were combined into one score due to the low frequency of responses. The English and math items were significantly correlated with a Pearson's correlation of .64. The two items were, therefore, combined into one composite score for academic achievement calculated as the mean of the two items.

The Parental Support for Violence Scales (Orpinas, Murray, & Kelder, 1999) measures students' perceptions of their parents' support for aggressive and non-aggressive solutions to conflict. The measure contains two subscales: Parental Support for Fighting (5 items) and Parental Support for Peaceful Solutions (5 items). Response categories are *no* (0) or *yes* (1). The internal consistency, as calculated by Cronbach's alpha, for support for fighting was .71 and the support for peaceful solutions was .73.

Table 3.2: Psychometric Properties of Survey Scales: Current Study

	Instrument	Psychometric Properties	Scoring in Current Study
Bullying and Victimization			
Aggression	Reduced Aggression Scale (Orpinas & Horne, 2006)	6 items Alpha .89	Number of times in week prior to survey, 7 point scale (0 to 6 + times). Higher score indicates aggression/bullying
Victimization	Reduced Victimization Scale (Orpinas & Horne, 2006)	6 items Alpha .87	Number of times in week prior to survey, 7 point scale (0 to 6+ times). Higher score indicates victimization.
Social Skills Competence			
Prosocial Behaviors	Child Behavior Scale (Ladd & Profilet, 1996)	7 items Alpha .81	Almost never (0), Sometimes (1), Often (2), Always (3) Higher score indicates high prosocial behavior.
Personal Characteristics			
Self-efficacy for Alternatives to Violence	Based on Teen Conflict Survey (Miller-Johnson, Sullivan, Simon, & Project, 2004)	7 items Alpha .81	Very confident (1), Somewhat confident (2), Unsure (3), Not very confident (4), Not at all confident (5) Higher score indicates high self-efficacy
Life Satisfaction	Life Satisfaction Scale (Valois, et al., 2001)	6 items Alpha .87	Terrible (1), Unhappy (2), Mostly dissatisfied (3), Mixed (about equally satisfied and dissatisfied) (4), Mostly satisfied (5), Pleased (6), Delighted (7) Higher score indicate high life satisfaction
Peer Characteristics			
Positive Peer Influence	California Healthy Kids (Constantine and Benard, 2001)	3 items for positive peer influence Alpha: .84	Not at all true (1), A little true (2), Pretty much true (3),Very much true (4)
Negative Peer Influence		4 items for negative peer influence Alpha: .80	Higher score for positive peer influence indicates positive peer relations.
School Characteristics			
School Connectedness	Substance Abuse and Mental Health Services Administration, 1999	5 items Alpha .83	Strongly disagree (1), Disagree (2), Neither disagree or agree (3), Agree (4), Strongly agree (5) Higher score indicates a stronger connectedness to the school.
School Connectedness – Adult	Substance Abuse and Mental Health Services Administration, 1999	6 items Alpha: .90	Not at all true (1), A little true (2), Pretty much true (3), Very much true (4) Higher score indicates a stronger relationship with an adult within the school.
Academic Achievement		2 items (Grades in English and Math)	Mostly As (4), Mostly As & Bs (3), Mostly Bs & Cs (2), Mostly Cs, Ds, & Fs (1) Higher scores indicate better academic achievement.
Family Characteristic			
Parental Support for Violence	Students for Peace Project (Orpinas, Murray, & Kelder, 1999)	5 items for support for fighting Alpha .71	No (0) Yes (1)
Parental Support for Non-violence		5 items for support for peaceful solutions Alpha .73	A higher score on support for fighting indicates more support for fighting; a higher score on support for peaceful solutions indicates stronger support for peaceful solutions.

Data Management and Data Analyses

Data Management

The study school collected the data as part of a program to evaluate bullying in their school. The data were collected anonymously. I input data into Microsoft Excel, and imported into SPSS for data analysis. Accuracy of data input was checked twice by the researcher and verified by two other individuals. Student security was insured by having no personal identifiers and no school name listed anywhere.

Data Analyses

First, prevalence of bullying and victimization were described by gender, grade level, and race, by indicating the frequency of reporting any behavior at least once during the week prior to the survey. In addition, means and standard deviations for aggression and victimization were calculated by demographic characteristics of students.

Second, I distinguished between bullies and non-bullies using the aggression scale. All students who reported bullying at least once in the 7 days prior to the survey were defined as bullies.

Third, I examined the social skills level of students, using scores of the prosocial behavior scale. Based on the distribution of this scale, all students were categorized into low social skills, moderate social skills, and high social skills bullies by splitting the data into thirds. The groups were split into thirds so that all all available data would be used instead of focusing on extreme cases and ensure that enough students were in each category to maintain sufficient power. Next, I further examined prosocial skills among bullies. Using ANOVA, I analyzed whether mean prosocial behavior scores differed among groups.

Fourth, to examine hypotheses two and three, I conducted two different analyses. In the first analysis I used categorical groups based on bullying and social skills as the dependent variable, and in the second analysis I used bullying as a continuous variable as the dependent variable. For the categorical analyses, I divided the sample into four mutually exclusive groups; 1) low social skills bullies, 2) moderate social skills bullies, 3) high social skills bullies, and 4) non-bullies, independent of their social skills level. I examined whether these four groups differed on gender, self-efficacy for alternatives to violence, life satisfaction, positive and negative peer influence, school connectedness, school connectedness to an adult, academic achievement, parental support for violence and alternatives, and victimization. Since the outcome variables are slightly correlated and MANOVA is a more sensitive test than ANOVA, I initially analyzed the data using MANOVA. However, in MANOVA, there was a violation of the homogeneity of variance matrices. This violation would not have been an issue if the sample sizes were even; however, since the sample sizes were uneven, I had to further examine the problem. Next, I examined the log determinants and sample size correlations. Since the correlations between the log determinants and sample size were negative, I could not use MANOVA because the p-values would be too small and the mean difference would be too liberal (Huberty & Olejnik, 2006). Therefore, ANOVA (analysis of variance) was used to answer the hypotheses of whether the four groups differed on specific scales. The Welch test was used to adjust the degrees of freedom for a valid test of equality of group means. When the Welch test was statistically significant, the Games-Howell procedure was used to alleviate any potential problems associated with the violation of the homogeneity of variance assumption.

Finally, I conducted a follow-up analysis using aggression as a continuous dependent variable, rather than a categorical, to explore more in depth which variables were the strongest

predictors of aggression. I decided to use regression because it provides a natural measure of effect size (R squared), it is a more flexible procedure because both continuous and categorical independent variables can be analyzed, and unbalanced designs are not problematic in regression. In addition, multiple regression permits the examination of several independent variables on aggression, rather than examining the effect of one variable at a time. Therefore, I analyzed the effect of the previously stated predictor variables, plus social skills, on bullying as a continuous dependent variable using regression analysis. The first model included gender and social skills (adjusted R squared = .057); the second model included gender, social skills, self-efficacy for alternatives, and life satisfaction (adjusted R squared = .142); the third model included the same predictor variables as in model two plus positive friends, negative friends, and victimization (adjusted R squared = .270); the fourth model included the previously mentioned variables plus school connectedness, school connectedness to an adult, English grade, and math grade (adjusted R squared = .272); the final model included the previously mentioned variables plus parental support for fighting and parental support for alternatives (adjusted R squared = .308).

CHAPTER 4

RESULTS

Results will be analyzed in two ways. The first analyses categorize bullies and non-bullies into social skills levels and makes comparisons. The second analysis uses aggression as the dependent continuous variable. Chapter four consists of four sections. Section one describes the prevalence of bullying and victimization. Section two responds to the first research question, using a categorical dependent variable: *Do bullies differ in their social skills levels?* Section three examines the second research question: *Do low social skills bullies, moderate social skills bullies, high social skills bullies and non-bullies differ in their scores in personal, peer, school, and family characteristics?* The last section examines the relative importance of the predictor variables on aggression, when aggression is used as continuous dependent variable.

Prevalence of Bullying and Victimization

Students who indicated that they had bullied at least once in the 7 days prior to the survey were defined as bullies, and students who reported being the target of an aggressive behavior at least once in that same time period were defined as victims. Table 4.1 shows the percent of bullying and victimization and means and standard deviation by demographic data.

Over half of the students (56%) indicated they had bullied another student at least one time in the seven days prior to the survey. More boys (63%) than girls (49%) reported bullying. Seventh graders were more likely to report bullying than children in other grade levels. The lowest prevalence was observed among Asian students (48%) (Table 4.1).

Sixty-eight percent of the respondents reported being the victim of bullying at least once in the seven days prior to the survey. More boys (74%) than girls (63%) reported being the

victim of bullying. Sixth grade students were more likely to report being the victim of bullying than the other grades. The lowest prevalence of victimization was observed among Asian students (52%).

Table 4.1: Prevalence of bullying and victimization by demographic variables

	Bullying		Victimization	
	%[a]	Mean (SD)	%[a]	Mean (SD)
Total	56.1	0.41 (0.81)	68.2	0.83 (1.16)
Gender				
Boys	63.1	0.53 (0.95)	73.6	0.99 (1.30)
Girls	49.0	0.28 (0.61)	62.8	0.67 (0.98)
Grade				
6th grade	49.8	0.28 (0.47)	71.4	0.85 (1.14)
7th grade	62.0	0.47 (0.92)	67.8	0.92 (1.24)
8th grade	56.2	0.48 (0.94)	64.8	0.70 (1.08)
Race				
White	54.6	0.38 (0.80)	68.8	0.87 (1.21)
Asian	48.0	0.27 (0.61)	52.0	0.50 (1.01)
Hispanic	67.3	0.64 (0.80)	67.3	0.62 (0.77)
Black	74.2	0.54 (0.55)	67.7	0.63 (0.71)
Other	70.8	0.94 (1.64)	79.2	1.05 (1.03)
Mix race	58.1	0.27 (0.40)	83.9	1.07 (1.34)

[a] Percent of students reporting bullying behaviors or being victimized at least once during the week prior to the survey.

Do bullies differ in their social skills levels?

The prosocial scale, which had a reliability of .81, had a possible range of 0 to 3 with a score of 3 indicating high prosocial skills. The overall mean was 2.05 with non-bullies scoring slightly higher than bullies. The distribution is slightly skewed toward higher values (Table 4.2). See Appendix B for the distribution of scores on the prosocial scale by bullying.

Table 4.2: Distribution of scores in the prosocial scale by bullying

	Total (n=908)	Not Bully (n=399)	Bully (n=509)
Actual Range	0 to 3	0.86 to 3	0 to 3
Mean (SD)	2.05 (.55)	2.22 (.50)	1.92 (.56)
Skewness (SE)	-0.34 (.08)	-0.32 (.12)	-0.27 (.11)
Kurtosis (SE)	-0.22 (.16)	-0.61 (.24)	-0.16 (.22)

Based on the distribution of the total sample, all students were divided into three social skills groups. The groups were created this way by dividing the total sample into thirds (low social skills = 0 to 1.83, moderate social skills = 1.86 to 2.17, and high social skills = 2.28 or higher). Table 4.3 shows the percent of bullies and non-bullies at each social skill level. To verify that the social skills groups were statistically different, group mean scores on social skills were compared. For the total sample, the mean social skills scores were significantly different among the three groups: low social skills: mean=1.41 (SD=.31); moderate social skills: mean=2.01 (SD=.12); high social skills: mean=2.60 (SD=.55); $F(2,905) = 113.47$, $p < .0001$. The post hoc analysis for multiple comparisons, using the Games-Howell test, demonstrated significant differences between all pairs of groups, when social skills level is used as the dependent variable. Furthermore, significantly more non-bullies scored high on social skills than bullies (Chi-square = 45.34, $p < .0001$). Nevertheless, almost one-third of the bullies scored high on social skills. Within the bullies, mean scores by social skill group were significantly different between pairs of social skills groups: low social skills: mean=1.37 (SD=.34); moderate social skills: mean=1.99 (SD=.12); high social skills: mean=2.57 (SD=.22); $F(2,508) = 1003.71$, $p < .0001$.

Table 4.3: Social skills level of non-bullies and bullies

	Total (n=908) %	Not Bully (n=399) %	Bully (n=509) %
Low Social Skills	32.5	22.6	40.3
Moderate Social Skills	27.3	25.8	28.5
High Social Skills	40.2	51.6	31.2

In addition, I compared the mean aggression score by level of social skills among the three bully groups (Table 4.4). Students in the low social skills group reported a significantly higher mean aggression score than the other two groups, $F(2,508)= 5.28$, $p = .005$. Table 4.5 shows the percent of students in each group by gender, grade and race. Large differences were observed by gender. The majority of the low social skills bullies (75%) and moderate social skills bullies (55%) were boys, while the majority of the high social skills bullies (66%) and non-bullies (58%) were girls. Some differences were observed by grade, in particular, almost half (46%) of low skills bullies were in 7^{th} grade, and a larger number of non-bullies were in 6^{th} grade (39%). No differences were observed by race.

Table 4.4: Mean Aggression Scores by Level of Social Skills

	N	Mean	Std. Deviation
Low social skills	205	0.91	1.19
Moderate social skills	145	0.62	0.75
High social skills	159	0.62	0.87
Total	509	0.74	0.99

Table 4.5: Percent of Students in Social Skills & Bullying Group by Demographic Characteristics

	Low Social Skills bullies %	Moderate Social Skills bullies %	High Social Skills bullies %	Non-bullies %
Gender				
Boys	33.7	17.4	11.9	37
Girls	11.4	14.5	23.2	51
Grade				
6th grade	15.4	17.7	16.7	50.2
7th grade	28.4	13.7	19.8	38.1
8th grade	23.6	16.9	15.7	43.8
Race				
White	21.9	15.4	17.3	45.4
Asian	14.7	14.7	18.7	52
Black	35.5	6.5	32.3	25.8
Hispanic	32.7	20.4	14.3	32.7
Other	29.2	29.2	12.5	29.2
Mix	19.4	22.6	16.1	41.9

Do low, moderate, and high social skills bullies and non-bullies differ in their scores in personal, peer, school, and family characteristics?

Analysis of variance was used to investigate the differences between low social skills bullies, moderate social skills bullies, high social skills bullies, and non-bullies. Table 4.6 details the means and standard deviations for each predictor variable by bullying groups, as well as the Univariate F statistic and p-values.

Multiple ANOVAs were performed, using the Games-Howell test to examine paired comparisons within the four groups: low social skills bullies, moderate social skills bullies, high social skills bullies, and non-bullies. The Bonferroni method was used for school connectedness and school connectedness to an adult because homogeneity of variance was not violated on these predictor variables. See Appendix C for paired comparisons results.

Paired comparisons indicated that the mean scores of the four groups were significantly different from each other in three variables: self-efficacy, life satisfaction and school connectedness. In other words, mean scores were significantly different among all pairs of

groups (low vs. moderate, low vs. high, low vs. non-bullies, moderate vs. high, moderate vs. non-bullies, and high vs. non-bullies). As expected, in all three variables, non-bullies had the highest scores, followed by high, moderate, and low social skills bullies.

Paired comparisons indicated that mean scores among three bully groups significantly differed from each other, but the high social skills group did not differ from the non-bullies in three variables: positive friends, school connectedness to an adult, and parental support for alternatives to violence. High social skills bullies and non-bullies reported the highest scores in these variables, while the low social skills bullies had the lowest.

Low social skills bullies reported significantly higher parental support for violent solutions than all other groups. Non-bullies had the lowest support but did not differ significantly from high social skills bullies.

Low social skills bullies reported significantly higher mean scores in negative friends, and non-bullies reported significantly lower scores. Moderate and high skills bullies did not differ from each other.

Non-bullies reported significantly lower victimization than the three bully groups, which did not differ among each other. The low social skills bullies reported significantly lower academic achievement than the other three groups, which did not differ from each other.

Regression Analysis

Table 4.7 gives the correlations between study variables. The collinearity between some of the predictor variables might influence on the regression results. If two variables are highly correlated (e.g., parental support for fighting and parental support for alternatives) and combined

Table 4.6: Means and standard deviations for predictor variables by bullying groups

Predictor Variables	Low Social Skills Mean (SD)	Moderate Social Skills Mean (SD)	High Social Skills Mean (SD)	Non Bullies Mean (SD)	Univariate F (3, 873)	P-value
Personal Characteristics						
Self Efficacy	3.40 (0.85)	3.77 (0.65)	4.04 (0.73)	4.30 (0.61)	75.84	< .0001
Life Satisfaction	5.41 (1.07)	5.65 (0.99)	5.91 (0.94)	6.26 (0.78)	42.06	< .0001
Peer Influences						
Positive Friendships	3.09 (0.73)	3.38 (0.63)	3.65 (0.51)	3.57 (0.59)	33.09	< .0001
Negative Friendships	1.68 (0.72)	1.42 (0.53)	1.45 (0.52)	1.20 (0.39)	37.70	< .0001
Victimization	0.86 (0.35)	0.90 (0.30)	0.88 (0.33)	0.44 (0.50)	82.00	< .0001
School Factors						
School Connectedness	3.39 (0.83)	3.67 (0.71)	3.88 (0.78)	4.10 (0.73)	41.08	< .0001
School Connectedness				3.53 (0.59)	34.44	< .0001
Adult	3.00 (0.69)	3.15 (0.66)	3.41 (0.66)			
Academic Achievement	2.89 (0.82)	3.13 (0.76)	3.20 (0.74)	3.29 (0.68)	12.92	< .0001
Family Factors						
Parental Support for				0.08 (0.15)	36.82	< .0001
Violent Solutions	0.27 (0.30)	0.15 (0.22)	0.12 (0.21)			
Parental Support for Non-				0.88 (0.22)	19.49	< .0001
Violent Solutions	0.72 (0.30)	0.80 (0.28)	0.88 (0.22)			

in a regression analysis, the b-value will be lower than if they are entered alone. When variables are highly correlated it is difficult to obtain reliable estimates of individual regression coefficients.

Five models were run. The first model only included social skills and gender, the two variables of interest in this study. Using forced entry regression, the following four models added personal factors (self-efficacy and life satisfaction), peer factors (negative friends, victimization, and positive friends), school factors (grade math, school connectedness to an adult, grade English, and school connectedness), and family factors (parental support for fighting and parental support for alternatives).

The adjusted R squared increased with each new model. Model one explained only 6 % of the variance (adjusted R squared = .059); the second model explained 14% of the variance (adjusted R squared = .142), the third model explained 27% of the variance (adjusted R squared = .270), the fourth model explained 27% of the variance (adjusted R squared = .272), and the final model explained 31% of the variance (adjusted R squared = .308).

Model five explained 31% of the variance of aggression. In this final model, only five independent variables were significantly related to aggression: social skills, negative friends, victimization, English grade, and parental support for fighting. Table 4.8 details the results of this analysis. Social skills were a negative predictor of aggression, meaning that as the social skills increased, aggression decreased. Negative friends, victimization, and parental support for fighting were positive predictors of aggression, meaning that students who had higher levels of each of these predictors also reported more aggression. An unexpected result was that higher grades in English were related to higher aggression, even though the simple correlation between grades and aggression showed that Math and English grades are negatively correlated with

Table 4.7: Correlation coefficients between study variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Self-efficacy for alternatives	--											
2. Life satisfaction	.40	--										
3. Positive friends	.26	.41	--									
4. Negative friends	-.41	-.26	-.21	--								
5. Victimization	-.27	-.39	-.22	.22	--							
6. School connectedness	.39	.59	.40	-.27	-.34	--						
7. School connectedness-adult	.38	.43	.42	-.29	-.23	.56	--					
8. English	.25	.25	.17	-.24	.11	.21	.26	--				
9. Math	.21	.19	.07	-.21	-.09	.15	.17	.64	--			
10. Parental support for fighting	-.46	-.22	-.23	.40	.16	-.26	-.27	-.21	-.21	--		
11. Parental support for alternatives	.45	.20	.22	-.38	-.10	.27	.34	.20	.15	-.64	--	
12. Social Skills	.44	.30	.44	-.26	-.09	.40	.37	.25	.16	-.31	.30	--
13. Aggression	-.36	-.28	-.17	.40	.38	-.23	-.23	-.10	-.11	.40	-.28	-.24

aggression.

Table 4.8: Significant regression coefficients with aggression as dependent variable

	Unstandardized Coefficients		Standardized Coefficients	t	Sig. Std.
Model	B	Std Error	Beta	B	Error
Student gender	.052	.056	.032	.932	.352
Social skills	-.173	.054	-.117	-3.222	.001
Self-efficacy	-.068	.039	-.065	-1.762	.078
Life satisfaction	-.033	.032	-.040	-1.039	.299
Positive friends	.073	.045	.058	1.626	.104
Negative friends	.284	.048	.194	5.941	.000
Victimization	.214	.023	.304	9.470	.000
School connectedness	.056	.040	.055	1.393	.164
School connectedness-Adult	-.048	.044	-.040	-1.092	.275
Grade English	.081	.040	.077	2.048	.041
Grade math	-.008	.034	-.008	.229	.819
Parental support for fighting	.859	.141	.236	6.073	.000
Parental support for alternatives	.037	.123	.012	.301	.763

CHAPTER 5

DISCUSSION, IMPLICATION, AND RECOMMENDATIONS

The primary focus of this study was to investigate whether students who bully differ on their social skills levels. Social cognitive theory (SCT) was the theoretical framework used to further understand the findings. To answer this question, a cross-sectional survey was conducted in a middle school with 908 students participating. This final chapter is organized in four sections: discussion of the findings, implications and recommendations, limitations, and suggestions for further research.

Findings of the Study

The primary research question in the current study was whether bullies differed in their social skills levels. Results indicated that bullies differed significantly on their social skills level. While other research has not specifically tested social skills levels and bullying, there is some support for the findings in this study. For instance, Heinrichs (2003) reported that some bullies have average or above average popularity, which necessitates high social skills. Nansel et al. (2001) stated that bullies reported greater ease in making friends. Finally, Sutton et al. (1999) stated that relational bullying actually necessitates high social skills levels to manipulate other people to join in bullying of other people.

The stereotypical bully is typically male, has difficulty relating to peers, and struggles in school. This student my bully others due to the frustration caused by these difficulties or general lack of skills to relate to others. In this study, low social skills bullies fit this profile. Low social skills bullies represented a larger percent of bullies (40%), had the highest level of aggression,

were more likely to be a boy, and had the lowest scores on self-efficacy for alternatives to violence, life satisfaction, positive friends, school connectedness, school connectedness to an adult, academic achievement, and parental support for non-violent solutions. These data support the study hypotheses, which predicted that low social skills bullies would score lower than other groups on the predictor variables. One hypothesis that was not confirmed was that low social skills bullies would score higher on victimization than moderate and high social skills bullies. Low social skills bullies actually had a lower mean score than moderate social skills bullies and high social skills bullies. While the differences among groups were not statistically significant, it is still somewhat surprising that low social skills bullies scored lower on victimization. There are a number of possible explanations. First, because low social skills bullies are more aggressive, other students may be afraid of them and therefore do not bully them. Second, low social skills bullies may not realize that others are calling them names or making fun of them, so they were less likely to report victimization. There was a significant difference between low social skills bullies and non-bullies in victimization, however. Low social skills bullies were significantly more likely to be victimized than non-bullies. A potential cause for this difference could be that bullies spend more time with other aggressive students than non-bullies do and therefore are bullied by these aggressive peers.

Moderate social skills bullies represented the smallest percent of bullies (29%) and did not differ significantly from high social skills bullies on level of aggression, victimization, negative friends, and parental support of violence. As expected, moderate social skills bullies scored higher than low social skills bullies on self-efficacy, life satisfaction, positive friends, school connectedness, school connectedness to an adult, academic achievement, and parental support for non-violent solutions. Moderate social skills bullies scored significantly lower than

high social skills bullies on self-efficacy for alternatives to violence, life satisfaction, parental support for non-violence, school connectedness, school connectedness to an adult, positive friends, and academic achievement.

High social skills bullies represented a third of the sample (31%) and had a similar mean score for aggression as moderate social skills bullies. High social skills bullies were more likely to be girls (66%) and, as hypothesized, have higher levels of self-efficacy, life satisfaction, positive friends, school connectedness, school connectedness to an adult, academic achievement, and parental support for non-violence than low or moderate social skills bullies. While not a specific question addressed by this study, a possible explanation of the higher prevalence of girls in the high social skills bullies group is that girls participate in more relational bullying which requires good social skills (Bjorkqvist, Lagerspetz, & Kaukianinan, 1991; Bright, 2005). A possible explanation for the high scores on the positive scales is that high social skills bullies were able to make friends easily; and therefore, had more positive friends, get along well with teachers and other adults and are more satisfied with their lives than other bullies. These students may not suffer the same negative stigma as other bullies. High social skills bullies may also have the ability to manipulate others because of their social skill level and feel a sense of importance or accomplishment. High social skills bullies scored lower on negative friends than low social skills bullies, but did not differ from moderate social skills bullies. Once again, these individuals have good social skills and know how to relate to others making finding positive friends easier. Finally, high social skills bullies did not differ from non-bullies in positive friends, school connectedness to an adult, parental support for violence, and parental support for non-violence. These findings did not support the predicted hypotheses. High social skills bullies were similar to

non-bullies in these categories possibly because they are socially adept and have a high level of confidence in themselves and their abilities.

Non-bullies were more likely to be girls (58%), and to be in 6th grade. As predicted, non-bullies scored statistically higher than low, moderate, and high social skills bullies on self-efficacy, life satisfaction, school connectedness, and academic achievement. Non-bullies also scored lower on negative friends and victimization than low, moderate, and high social skills bullies. The lack of negative friends and victimization may explain the higher scores on other predictor variables. If a student is not worried about being victimized, they may be able to focus in school and will feel better about themselves than someone who lives in fear at school.

The fifth model explained the most variance at 31%. As predicted, students who have low social skills, negative friends, are the victims of bullying, have low grades in English, and have parents who support fighting explain the highest level of variance in aggression according to this analysis. When the predictor variables entered in model five are combined, social skills, negative friends, victimization, English grade, and parental support for fighting are the most predictive of aggression.

In addition to examining the association of each individual variable with categories of bullying and social skills, a regression analysis was conducted using aggression as a continuous dependent variable. This analysis also supported that low social skills was a significant predictor of aggression. In addition, as posited by social cognitive theory, having negative friends, being the victims of bullying, and having parents who support fighting were significantly associated with aggression. An unexpected result was that grades in English were also positively associated with aggression. Since the correlation between grades and aggression was low and there is

collinearity between grades and other variables in the model, the presence of a suppressor effect may explain this result (Pedhazur, 1997).

Over half (56%) of the students surveyed reported bullying another student at least once in the 7 days prior to the study. This percentage is greater than the percentages reported by Seals and Young (2003) and Unnever and Cornell (2004), as seen in Table 2.2. Other findings from this study were similar to studies mentioned in the literature review. For instance, boys reported more bullying behaviors than girls. Other studies, such as Orpinas, Murray, and Kelder (1999), also found that boys were significantly more likely to bully than girls. Bullying, in the current study, was higher for seventh graders than for sixth or eighth graders. Similar findings were reported in a study that found that 13- year-olds (7^{th} graders) were more likely, both in the United States and internationally, to bully (Currie, Hurrelmann, Suttertobulte, Smith, & Todd, 2000).

Prevalence of victimization was also high with 68% of students reporting that they had been the victim of bullying at least once in the 7 days prior to the survey. Once again, boys and seventh graders were more likely to be victims of bullying which seems logical since these students are more aggressive. These students possibly spend more time with other aggressive students and therefore, may be more likely to be victimized.

Social cognitive theory was beneficial in understanding the results because personal, behavioral, and environmental factors all played significant roles in bullying behaviors. Specific hypotheses were related to how personal (social skills, self-efficacy for alternatives to violence, life satisfaction), behavioral (bullying, victimization, academic achievement), and environmental (school connectedness, school connectedness to an adult, positive peer influence, negative peer influence, parental support for violence, parental support for non-violence) factors differed

between low social skills bullies, moderate social skills bullies, high social skills bullies, and non-bullies. Most of the hypotheses were supported by the data which solidifies social cognitive theories importance in understanding bullying behaviors. None of the factors by themselves explain bullying behaviors, but when taken together as stated in the social cognitive theory, a better understanding of influential factors is possible. Social cognitive theory also includes self-efficacy as an important component. In each of the analysis except regression, self-efficacy for alternatives to violence was significant.

Implications and Recommendations

The current study supports the hypothesis that bullies are not a homogeneous group and that if interventions are based on what type of bully a person is, the intervention may be more effective. For example, for low social skills bullies, interventions should focus on increasing social skills and self-efficacy for alternatives to violence. If individuals can improve in these areas then other areas such as life satisfaction, positive friends, and school connectedness might increase as well.

High social skills bullies seem to have the ability and knowledge to be good friends, but also have the ability and willingness to bully. High social skills bullies reported more positive friends yet they bully other students, which supports Bandura's assumption that people can be very mean and aggressive with one target and be kind and compassionate with another target. Further research is needed to understand this group. Results from this study highlight the importance of increasing life satisfaction, self-efficacy for alternatives to violence and school connectedness.

Parental support for violence and non-violence played significant roles in differences between some of the four groups. Thus, for a bullying intervention to be fully effective, parental inclusion might be necessary. Some studies (Fekkes, Pijpers, & Verloove-Vanhorick, 2005;

Orpinas, Murray, & Kelder, 1999) have included parental components in obtaining data about bullying influences and in interventions. The current study supports the importance of including parental components in the understanding of bullying behavior and in interventions.

Limitations of the Study

The study had some limitations that warrant discussion. The first limitation is that the study was conducted at only one school and the students were mostly middle class White. This lack of diversity limits the generalization of results. The second limitation is that the study is based on a self-report survey. Several limitations of self-report data warrant discussion. First, the students might not have answered honestly due to possible social stigmas related to behaviors such as aggression and victimization. Students may not want other students or teachers to believe that they bully others or that they are bullied. To help alleviate this concern, the surveys were anonymous. Second, students may not have completely understood some of the questions on the survey. Teachers who conducted the survey were trained on the meaning of each question in the survey. The teachers were also available during the survey to answer any of the students' questions. Finally, retrospective recalling may have been difficult as it requires remembering behaviors over time.

Further Research

This study needs to be repeated with a more diverse population. The study should be conducted in a number of schools that serve urban, suburban, and rural communities. The students themselves should be from a variety of backgrounds and races to see if the results of this study are consistent across populations and therefore, can be generalized to other middle school students. It would also be beneficial to conduct the study at all levels of school: elementary, middle, and high school.

It would also be helpful to conduct the study using a different theoretical framework. Social cognitive theory is useful because it focuses on personal, behavioral, and environmental factors that influence bullying behaviors, but other theories might be as beneficial or maybe more beneficial. Examples might include ecological or problem behavior theory. Ecological or transactional view of behavior is based on behavioral-environmental interactions. Problem behavior theory has the fundamental premise that all behavior is the result of person-environment interaction. Either of these theories might add to the understanding of bullying behaviors (Jessor & Jessor, 1997).

Next, more research needs to be conducted to find other predictors of aggression. In the regression analysis, only 30% of the variation in aggression was explained. That leaves 70% of aggression unexplained. It might be beneficial to include a qualitative portion to the study to unearth other factors that may play a role in aggression.

Finally, more should be done to include parents in studies and interventions involving bullying behavior. It has proven to be difficult in the past to include parents in both research and interventions, but more effort needs to be put into getting parents involved (E. P. Smith et al., 2004).

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APPENDIX A

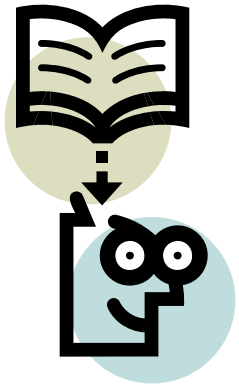
STUDENT QUESTIONNAIRE

This survey is about you, your school, and your thoughts. The information you give will be used to develop better violence-prevention programs for young people like you.

DO NOT write your name on this survey. The answers you give will be kept private, no one will know what you answered. Answer the questions based on what you really do or think.

The questions about your background will only be used to describe the types of students completing this survey.

Thank you for your help.



The following questions are about your background.

1. My grade is:
a. 6th grade
b. 7th grade
c. 8th grade

2. My age is:
a. 10
b. 11
c. 12
d. 13
e. 14
f. 15

3. I am a:
a. Boy
b. Girl

4. I describe myself as: (You can pick more than one)
a. Black
b. Native American/Indian
c. White
d. Hispanic
e. Asian
f. Other – please specify _____

5. What kind of grades did you receive on your last report card in English?

a. Mostly As
b. Mostly As and Bs (90s and 80s)
c. Mostly Bs and Cs (80s and 70s)
c. Mostly Cs and Ds (70s and 60s)
e. Mostly Ds and Fs (60s and lower)

6. What kind of grades did you receive on your last report card in Math?

a. Mostly As
b. Mostly As and Bs (90s and 80s)
c. Mostly Bs and Cs (80s and 70s)
d. Mostly Cs and Ds (70s and 60s)
e. Mostly Ds and Fs (60s and lower)

Please consider the descriptions contained in each of the following items below and rate the extent to which each of these descriptions **applies to you**.

	Question	Almost Never	Sometimes	Often	Almost always
7.	I prefer to be alone.	0	1	2	3
8.	I help my peers.	0	1	2	3
9.	I show recognition of the feelings of others.	0	1	2	3
10.	I compliment other students.	0	1	2	3
11.	I keep peers at a distance.	0	1	2	3
12.	I feel concerned when others are distressed.	0	1	2	3
13.	I am kind toward peers.	0	1	2	3
14.	I listen to others when they are talking.	0	1	2	3
15.	I work well with peers.	0	1	2	3
16.	I am friendly toward other people.	0	1	2	3
17.	I like to be with my peers.	0	1	2	3
18.	I show concern for moral issues (e.g.; fairness, welfare of others)	0	1	2	3
19.	I avoid peers.	0	1	2	3
20.	I offer help or comfort when others are upset.	0	1	2	3
21.	I withdraw from peer activities.	0	1	2	3
22.	I compliment others	0	1	2	3
23.	I congratulate others when good things happen to them.	0	1	2	3
24.	I say “please” and “thank you”.	0	1	2	3
25.	I try to bring out the best in other people.	0	1	2	3

In this section, think about how many times this has happened **to you** in the **past 7 days**.

	In school the past 7 days how many times did a kid from your school…	0 times	1 time	2 times	3 times	4 times	5 times	6 +
26.	tease you?	0	1	2	3	4	5	6
27.	push, shove, or hit you?	0	1	2	3	4	5	6
28	call you a bad name?	0	1	2	3	4	5	6
29.	say that they were going to hit you?	0	1	2	3	4	5	6
30.	leave you out on purpose?	0	1	2	3	4	5	6
31.	make up something about you to make other kids not like you anymore?	0	1	2	3	4	5	6

In this section, think about how many times **you did this to others** in the **past 7 days**.

	In school the past 7 days, how many times did you…	0 times	1 time	2 times	3 times	4 times	5 times	6 +
32.	tease a kid from your school?	0	1	2	3	4	5	6
33.	push, shove, or hit a kid from your school?	0	1	2	3	4	5	6
34.	call a kid from your school a bad name?	0	1	2	3	4	5	6
35.	say that you would hit a kid from your school?	0	1	2	3	4	5	6
36.	leave out another kid on purpose?	0	1	2	3	4	5	6
37.	make up something about other students to make other kids not like them anymore?	0	1	2	3	4	5	6

The next set of questions is about things you could do when you disagree with another student. How **confident** are you that you would be able to do the following things if you wanted to?

How confident are you that you would be able to do the following things if you wanted to?		Very Confident	Somewhat Confident	Unsure	Not Very Confident	Not At All Confident
38.	Stay out of fights by choosing other solutions?	1	2	3	4	5
39.	Talk out a disagreement?	1	2	3	4	5
40.	Calm down when you are mad?	1	2	3	4	5
41.	Ignore someone who is making fun of you?	1	2	3	4	5
42.	Avoid a fight by walking away?	1	2	3	4	5
43.	Apologize to the other student?	1	2	3	4	5
44.	Seek help from an adult?	1	2	3	4	5

The questions below are about your life satisfaction. Answer how you feel **most** of the time, not just today**.**

	I would describe my satisfaction with…	Terrible	Unhappy	Mostly dis-satisfied	Mixed (about equally satisfied and dissatisfied)	Mostly satisfied	Pleased	Delighted
45	my **family** life as:	1	2	3	4	5	6	7
46	my **friendships** as:	1	2	3	4	5	6	7
47	my **school experience** as:	1	2	3	4	5	6	7
48	**myself** as:	1	2	3	4	5	6	7
49	where I **live** as:	1	2	3	4	5	6	7
50	my **overall life** as:	1	2	3	4	5	6	7

The next questions ask about what you think your parents would say in these situations.

	Would your parent say….	YES	NO
51.	If someone hits you, hit them back.	Y	N
52.	If someone calls you names, hit them.	Y	N
53.	If someone calls you names, call them names back.	Y	N
54.	If someone calls you names, ignore them.	Y	N
55.	If someone asks you to fight, hit them first.	Y	N
56.	If someone asks you to fight, you should try to talk your way out of a fight.	Y	N
57.	You should think the problem through, calm yourself, and then talk the problem out with your friend.	Y	N
58.	If another student asks you to fight, you should tell a teacher or someone older.	Y	N
59.	If you can't solve the problem by talking, it is best to solve it through fighting.	Y	N
60.	No matter what, fighting is not good; there are other ways to solve problems.	Y	N

How strongly do you agree or disagree with the following statements about your **school?**

		Strongly disagree	Disagree	Neither disagree or agree	Agree	Strongly Agree
61.	I feel close to people at this school.	1	2	3	4	5
62.	I am happy to be at this school.	1	2	3	4	5
63.	I feel like I am part of this school.	1	2	3	4	5
64.	Most teachers at this school treat students fairly.	1	2	3	4	5
65.	I feel safe in my school.	1	2	3	4	5

At my school, there is a teacher or some other adult…..

		Not at all true	A little true	Pretty much true	Very much true
66.	who really cares about me.	1	2	3	4
67.	who tells me when I do a good job.	1	2	3	4
68.	who notices when I'm not here.	1	2	3	4
69.	who always wants me to do my best.	1	2	3	4
70.	who listens to me when I have something to say.	1	2	3	4
71.	who believes that I will be a success.	1	2	3	4

I have friends about my own age…..

		Not all true	A little true	Pretty much true	Very much true
72.	Who really cares about me.	1	2	3	4
73.	Who talks with me about my problems.	1	2	3	4
74.	Who helps me when I'm having a hard time.	1	2	3	4
75.	Who is really fun to be around.	1	2	3	4

My friends…

		Not at all true	A little true	Pretty much true	Very much true
76.	Get into trouble at school.	1	2	3	4
77.	Drink alcohol.	1	2	3	4
78.	Skip school without an excuse.	1	2	3	4
79.	Hit someone with the idea of really hurting that person.	1	2	3	4

80. How many friends would you consider close friends?

a. none
b. one
c. two or three
d. four or five
e. six to nine
f. ten or more

APPENDIX B

Frequency distribution in the prosocial behavior scale-TOTAL SAMPLE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	1	.1	.1	.1
	.14	1	.1	.1	.2
	.29	2	.2	.2	.4
	.57	3	.3	.3	.8
	.67	1	.1	.1	.9
	.71	6	.7	.7	1.5
	.83	1	.1	.1	1.7
	.86	8	.9	.9	2.5
	1.00	18	2.0	2.0	4.5
	1.14	17	1.9	1.9	6.4
	1.25	1	.1	.1	6.5
	1.29	34	3.7	3.7	10.2
	1.33	1	.1	.1	10.4
	1.43	52	5.7	5.7	16.1
	1.50	3	.3	.3	16.4
	1.57	68	7.5	7.5	23.9
	1.67	5	.5	.6	24.4
	1.71	67	7.4	7.4	31.8
	1.83	6	.7	.7	32.5
	1.86	74	8.1	8.1	40.6
	2.00	82	9.0	9.0	49.7
	2.14	87	9.6	9.6	59.3
	2.17	5	.5	.6	59.8
	2.29	69	7.6	7.6	67.4
	2.33	3	.3	.3	67.7
	2.43	72	7.9	7.9	75.7
	2.50	2	.2	.2	75.9
	2.57	61	6.7	6.7	82.6
	2.67	7	.8	.8	83.4
	2.71	64	7.0	7.0	90.4
	2.80	1	.1	.1	90.5
	2.83	2	.2	.2	90.7
	2.86	45	4.9	5.0	95.7
	3.00	39	4.3	4.3	100.0
	Total	908	99.8	100.0	
Missing	System	2	.2		
Total		910	100.0		

NOT BULLY

Frequency distribution in the prosocial behavior scale- NON BULLIES

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.86	1	.3	.3	.3
	1.00	6	1.5	1.5	1.8
	1.14	3	.8	.8	2.5
	1.29	5	1.3	1.3	3.8
	1.33	1	.3	.3	4.0
	1.43	17	4.3	4.3	8.3
	1.57	23	5.8	5.8	14.0
	1.67	2	.5	.5	14.5
	1.71	30	7.5	7.5	22.1
	1.83	2	.5	.5	22.6
	1.86	20	5.0	5.0	27.6
	2.00	37	9.3	9.3	36.8
	2.14	44	11.0	11.0	47.9
	2.17	2	.5	.5	48.4
	2.29	37	9.3	9.3	57.6
	2.33	2	.5	.5	58.1
	2.43	36	9.0	9.0	67.2
	2.50	2	.5	.5	67.7
	2.57	31	7.8	7.8	75.4
	2.67	4	1.0	1.0	76.4
	2.71	35	8.8	8.8	85.2
	2.80	1	.3	.3	85.5
	2.83	1	.3	.3	85.7
	2.86	29	7.3	7.3	93.0
	3.00	28	7.0	7.0	100.0
	Total	399	100.0	100.0	

BULLY

Frequency distribution in the prosocial behavior scale- BULLIES

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	1	.2	.2	.2
	.14	1	.2	.2	.4
	.29	2	.4	.4	.8
	.57	3	.6	.6	1.4
	.67	1	.2	.2	1.6
	.71	6	1.2	1.2	2.8
	.83	1	.2	.2	2.9
	.86	7	1.4	1.4	4.3
	1.00	12	2.4	2.4	6.7
	1.14	14	2.7	2.8	9.4
	1.25	1	.2	.2	9.6
	1.29	29	5.7	5.7	15.3
	1.43	35	6.9	6.9	22.2
	1.50	3	.6	.6	22.8
	1.57	45	8.8	8.8	31.6
	1.67	3	.6	.6	32.2
	1.71	37	7.3	7.3	39.5
	1.83	4	.8	.8	40.3
	1.86	54	10.6	10.6	50.9
	2.00	45	8.8	8.8	59.7
	2.14	43	8.4	8.4	68.2
	2.17	3	.6	.6	68.8
	2.29	32	6.3	6.3	75.0
	2.33	1	.2	.2	75.2
	2.43	36	7.1	7.1	82.3
	2.57	30	5.9	5.9	88.2
	2.67	3	.6	.6	88.8
	2.71	29	5.7	5.7	94.5
	2.83	1	.2	.2	94.7
	2.86	16	3.1	3.1	97.8
	3.00	11	2.2	2.2	100.0
	Total	509	99.8	100.0	
Missing	System	1	.2		
Total		510	100.0		

APPENDIX C

Dependent Variable: Student gender
Games-Howell

(I) Bullying & social skills groups	(J) Bullying & social skills groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Bully-low skills	Bully-medium skills	-.201(*)	.052	.001	-.33	-.07
	Bully-high skills	-.408(*)	.049	.000	-.53	-.28
	Not bully	-.327(*)	.039	.000	-.43	-.23
Bully-medium skills	Bully-low skills	.201(*)	.052	.001	.07	.33
	Bully-high skills	-.207(*)	.056	.002	-.35	-.06
	Not bully	-.125(*)	.048	.050	-.25	.00
Bully-high skills	Bully-low skills	.408(*)	.049	.000	.28	.53
	Bully-medium skills	.207(*)	.056	.002	.06	.35
	Not bully	.081	.045	.276	-.04	.20
Not bully	Bully-low skills	.327(*)	.039	.000	.23	.43
	Bully-medium skills	.125(*)	.048	.050	.00	.25
	Bully-high skills	-.081	.045	.276	-.20	.04

* The mean difference is significant at the .05 level.

Dependent Variable: Victimization scale

Games-Howell

(I) Bullying & social skills groups	(J) Bullying & social skills groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Bully-low skills	Bully-medium skills	-.09575	.13160	.886	-.4357	.2442
	Bully-high skills	-.06170	.13426	.968	-.4084	.2850
	Not bully	.82847(*)	.09319	.000	.5877	1.0692
Bully-medium skills	Bully-low skills	.09575	.13160	.886	-.2442	.4357
	Bully-high skills	.03406	.14601	.996	-.3431	.4113
	Not bully	.92422(*)	.10944	.000	.6406	1.2078
Bully-high skills	Bully-low skills	.06170	.13426	.968	-.2850	.4084
	Bully-medium skills	-.03406	.14601	.996	-.4113	.3431
	Not bully	.89017(*)	.11262	.000	.5985	1.1819
Not bully	Bully-low skills	-.82847(*)	.09319	.000	-1.0692	-.5877
	Bully-medium skills	-.92422(*)	.10944	.000	-1.2078	-.6406
	Bully-high skills	-.89017(*)	.11262	.000	-1.1819	-.5985

* The mean difference is significant at the .05 level.

Dependent Variable: Life satisfaction

Games-Howell

(I) Bullying & social skills groups	(J) Bullying & social skills groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Bully-low skills	Bully-medium skills	-.26355	.11334	.094	-.5562	.0291
	Bully-high skills	-.54282(*)	.10725	.000	-.8197	-.2660
	Not bully	-.86765(*)	.08707	.000	-1.0926	-.6427
Bully-medium skills	Bully-low skills	.26355	.11334	.094	-.0291	.5562
	Bully-high skills	-.27928	.11063	.058	-.5651	.0066
	Not bully	-.60411(*)	.09121	.000	-.8403	-.3679
Bully-high skills	Bully-low skills	.54282(*)	.10725	.000	.2660	.8197
	Bully-medium skills	.27928	.11063	.058	-.0066	.5651
	Not bully	-.32483(*)	.08352	.001	-.5408	-.1088
Not bully	Bully-low skills	.86765(*)	.08707	.000	.6427	1.0926
	Bully-medium skills	.60411(*)	.09121	.000	.3679	.8403
	Bully-high skills	.32483(*)	.08352	.001	.1088	.5408

* The mean difference is significant at the .05 level.

Dependent Variable: Parental Support for Fighting

Games-Howell

(I) Bullying & social skills groups	(J) Bullying & social skills groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Bully-low skills	Bully-medium skills	.12723(*)	.02797	.000	.0550	.1994
	Bully-high skills	.16386(*)	.02659	.000	.0952	.2325
	Not bully	.20126(*)	.02230	.000	.1436	.2589
Bully-medium skills	Bully-low skills	-.12723(*)	.02797	.000	-.1994	-.0550
	Bully-high skills	.03662	.02461	.446	-.0270	.1002
	Not bully	.07402(*)	.01989	.001	.0225	.1256
Bully-high skills	Bully-low skills	-.16386(*)	.02659	.000	-.2325	-.0952
	Bully-medium skills	-.03662	.02461	.446	-.1002	.0270
	Not bully	.03740	.01790	.160	-.0089	.0837
Not bully	Bully-low skills	-.20126(*)	.02230	.000	-.2589	-.1436
	Bully-medium skills	-.07402(*)	.01989	.001	-.1256	-.0225
	Bully-high skills	-.03740	.01790	.160	-.0837	.0089

* The mean difference is significant at the .05 level.

Dependent Variable: Parental support for alternatives

Games-Howell

(I) Bullying & social skills groups	(J) Bullying & social skills groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Bully-low skills	Bully-medium skills	-.08258(*)	.03179	.048	-.1647	-.0005
	Bully-high skills	-.16915(*)	.02776	.000	-.2408	-.0975
	Not bully	-.15971(*)	.02438	.000	-.2227	-.0967
Bully-medium skills	Bully-low skills	.08258(*)	.03179	.048	.0005	.1647
	Bully-high skills	-.08657(*)	.02912	.017	-.1618	-.0113
	Not bully	-.07713(*)	.02591	.017	-.1442	-.0100
Bully-high skills	Bully-low skills	.16915(*)	.02776	.000	.0975	.2408
	Bully-medium skills	.08657(*)	.02912	.017	.0113	.1618
	Not bully	.00944	.02078	.969	-.0442	.0631
Not bully	Bully-low skills	.15971(*)	.02438	.000	.0967	.2227
	Bully-medium skills	.07713(*)	.02591	.017	.0100	.1442
	Bully-high skills	-.00944	.02078	.969	-.0631	.0442

* The mean difference is significant at the .05 level.

Dependent Variable: School connectedness

Bonferroni

(I) Bullying & social skills groups	(J) Bullying & social skills groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Bully-low skills	Bully-medium skills	-.30613(*)	.08265	.001	-.5247	-.0876
	Bully-high skills	-.51707(*)	.08108	.000	-.7315	-.3027
	Not bully	-.72978(*)	.06563	.000	-.9033	-.5562
Bully-medium skills	Bully-low skills	.30613(*)	.08265	.001	.0876	.5247
	Bully-high skills	-.21095	.08791	.100	-.4434	.0215
	Not bully	-.42365(*)	.07391	.000	-.6191	-.2282
Bully-high skills	Bully-low skills	.51707(*)	.08108	.000	.3027	.7315
	Bully-medium skills	.21095	.08791	.100	-.0215	.4434
	Not bully	-.21270(*)	.07214	.020	-.4035	-.0219
Not bully	Bully-low skills	.72978(*)	.06563	.000	.5562	.9033
	Bully-medium skills	.42365(*)	.07391	.000	.2282	.6191
	Bully-high skills	.21270(*)	.07214	.020	.0219	.4035

* The mean difference is significant at the .05 level.

Dependent Variable: School connectedness to adult

Bonferroni

(I) Bullying & social skills groups	(J) Bullying & social skills groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Bully-low skills	Bully-medium skills	-.16815	.06959	.095	-.3522	.0159
	Bully-high skills	-.43463(*)	.06827	.000	-.6151	-.2541
	Not bully	-.53819(*)	.05531	.000	-.6844	-.3919
Bully-medium skills	Bully-low skills	.16815	.06959	.095	-.0159	.3522
	Bully-high skills	-.26648(*)	.07402	.002	-.4622	-.0708
	Not bully	-.37004(*)	.06227	.000	-.5347	-.2054
Bully-high skills	Bully-low skills	.43463(*)	.06827	.000	.2541	.6151
	Bully-medium skills	.26648(*)	.07402	.002	.0708	.4622
	Not bully	-.10356	.06079	.533	-.2643	.0572
Not bully	Bully-low skills	.53819(*)	.05531	.000	.3919	.6844
	Bully-medium skills	.37004(*)	.06227	.000	.2054	.5347
	Bully-high skills	.10356	.06079	.533	-.0572	.2643

* The mean difference is significant at the .05 level.

Dependent Variable: Positive friends

Games-Howell

(I) Bullying & social skills groups	(J) Bullying & social skills groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Bully-low skills	Bully-medium skills	-.30283(*)	.07310	.000	-.4916	-.1141
	Bully-high skills	-.58390(*)	.06606	.000	-.7544	-.4134
	Not bully	-.49238(*)	.05957	.000	-.6462	-.3386
Bully-medium skills	Bully-low skills	.30283(*)	.07310	.000	.1141	.4916
	Bully-high skills	-.28107(*)	.06604	.000	-.4518	-.1104
	Not bully	-.18955(*)	.05955	.009	-.3436	-.0355
Bully-high skills	Bully-low skills	.58390(*)	.06606	.000	.4134	.7544
	Bully-medium skills	.28107(*)	.06604	.000	.1104	.4518
	Not bully	.09152	.05066	.272	-.0393	.2224
Not bully	Bully-low skills	.49238(*)	.05957	.000	.3386	.6462
	Bully-medium skills	.18955(*)	.05955	.009	.0355	.3436
	Bully-high skills	-.09152	.05066	.272	-.2224	.0393

* The mean difference is significant at the .05 level.

Dependent Variable: Negative friends

Games-Howell

(I) Bullying & social skills groups	(J) Bullying & social skills groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Bully-low skills	Bully-medium skills	.28633(*)	.06867	.000	.1091	.4636
	Bully-high skills	.26483(*)	.06713	.001	.0916	.4381
	Not bully	.50810(*)	.05628	.000	.3626	.6536
Bully-medium skills	Bully-low skills	-.28633(*)	.06867	.000	-.4636	-.1091
	Bully-high skills	-.02150	.06083	.985	-.1787	.1357
	Not bully	.22177(*)	.04860	.000	.0959	.3476
Bully-high skills	Bully-low skills	-.26483(*)	.06713	.001	-.4381	-.0916
	Bully-medium skills	.02150	.06083	.985	-.1357	.1787
	Not bully	.24327(*)	.04639	.000	.1232	.3633
Not bully	Bully-low skills	-.50810(*)	.05628	.000	-.6536	-.3626
	Bully-medium skills	-.22177(*)	.04860	.000	-.3476	-.0959
	Bully-high skills	-.24327(*)	.04639	.000	-.3633	-.1232

* The mean difference is significant at the .05 level.

Dependent Variable: self-efficacy

Games-Howell

(I) Bullying & social skills groups	(J) Bullying & social skills groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Bully-low skills	Bully-medium skills	-.36266(*)	.08057	.000	-.5707	-.1546
	Bully-high skills	-.64152(*)	.08319	.000	-.8563	-.4268
	Not bully	-.88763(*)	.06726	.000	-1.0614	-.7139
Bully-medium skills	Bully-low skills	.36266(*)	.08057	.000	.1546	.5707
	Bully-high skills	-.27887(*)	.07869	.003	-.4822	-.0756
	Not bully	-.52497(*)	.06160	.000	-.6843	-.3656
Bully-high skills	Bully-low skills	.64152(*)	.08319	.000	.4268	.8563
	Bully-medium skills	.27887(*)	.07869	.003	.0756	.4822
	Not bully	-.24610(*)	.06499	.001	-.4142	-.0780
Not bully	Bully-low skills	.88763(*)	.06726	.000	.7139	1.0614
	Bully-medium skills	.52497(*)	.06160	.000	.3656	.6843
	Bully-high skills	.24610(*)	.06499	.001	.0780	.4142

* The mean difference is significant at the .05 level.

Dependent Variable: academic achievement

Games-Howell

(I) Bullying & social skills groups	(J) Bullying & social skills groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Bully-low skills	Bully-medium skills	-.236(*)	.086	.033	-.46	-.01
	Bully-high skills	-.323(*)	.082	.001	-.53	-.11
	Not bully	-.412(*)	.067	.000	-.58	-.24
Bully-medium skills	Bully-low skills	.236(*)	.086	.033	.01	.46
	Bully-high skills	-.087	.087	.748	-.31	.14
	Not bully	-.176	.073	.076	-.36	.01
Bully-high skills	Bully-low skills	.323(*)	.082	.001	.11	.53
	Bully-medium skills	.087	.087	.748	-.14	.31
	Not bully	-.090	.067	.545	-.26	.08
Not bully	Bully-low skills	.412(*)	.067	.000	.24	.58
	Bully-medium skills	.176	.073	.076	-.01	.36
	Bully-high skills	.090	.067	.545	-.08	.26

* The mean difference is significant at the .05 level.