April 2017

Physical, Verbal, Relational and Cyber-Bullying and Victimization: Examining the Social and Emotional Adjustment of Participants

Melanie Mcvean
University of South Florida, m_mcvean@hotmail.com

Follow this and additional works at: http://scholarcommons.usf.edu/etd
Part of the Social Psychology Commons, and the Social Work Commons

Scholar Commons Citation
Mcvean, Melanie, "Physical, Verbal, Relational and Cyber-Bullying and Victimization: Examining the Social and Emotional Adjustment of Participants" (2017). Graduate Theses and Dissertations.
http://scholarcommons.usf.edu/etd/6897

This Dissertation is brought to you for free and open access by the Graduate School at Scholar Commons. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of Scholar Commons. For more information, please contact scholarcommons@usf.edu.
Physical, Verbal, Relational and Cyber-Bullying and Victimization:

Examining the Social and Emotional Adjustment of Participants

by

Melanie L. McVean

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
Department of Social Work
College of Behavioral and Community Sciences
University of South Florida

Co-Major Professor: Anne Strozier, Ph.D.
Co-Major Professor: Tiina Ojanen, Ph.D.
   Nan Park, Ph.D.
   Roger Boothroyd, Ph.D.

Date of Approval:
March 27, 2017

Keywords: cyberbullying, psychosocial, aggression, online, media, prosocial, antisocial

Copyright © 2017, Melanie L. McVean
DEDICATION

I would like to dedicate this dissertation to my parents who encouraged me and offered practical assistance like childcare without which the whole project would have been impossible. I would also like to dedicate this to my son who brought many wonderful distractions during this long and arduous process, as well as great joy to my life that far outshines even this great accomplishment. I would also like to dedicate this to my aunt who passed away on the first day of my data collection, but who I knew was proud of the goal I was working toward.
ACKNOWLEDGMENTS

I would like to thank the University of South Florida and the Social Work department for supporting this degree program. I would like to thank Dr. Anne Strozier for serving as my co-chair and providing ongoing support and guidance. I would like to thank Dr. Roger Boothroyd for working closely with Dr. Strozier and me and for assistance with methodological issues. I would like to thank Dr. Nan Park for supporting me and the doctoral program throughout this process. I would also like to thank Dr. Tiina Ojanen for serving as my co-chair, for allowing me to work with her students and lab, and for providing useful feedback. I would like to thank Dr. Danielle Findley-Van Nostrand for her assistance with the data collection and other practical matters. I enjoyed and appreciated working with all of you.
TABLE OF CONTENTS

List of Tables ........................................................................................................................................ iv
Abstract ................................................................................................................................................... v

Chapter One: Introduction ......................................................................................................................... 1
  Purpose Statement ................................................................................................................................. 3
  Research Questions/ Hypotheses ........................................................................................................... 4
    Research Questions ........................................................................................................................... 4
    Hypotheses ......................................................................................................................................... 4
  Theoretical Framework ......................................................................................................................... 6
  Significance ............................................................................................................................................ 8

Chapter Two: Review of the Literature ....................................................................................................... 10
  Defining Cyber-Bullying ....................................................................................................................... 10
  Characteristics of Online Communication that May Facilitate Cyber-Bullying .............................. 12
  Research Supporting Differences Between Traditional and Cyber-Bullying .............................. 14
  Cyber-Bullying Prevalence Debate ..................................................................................................... 15
  Characteristics of Cyber-Bullying Participants .................................................................................. 17
    Gender ............................................................................................................................................... 17
    Age/ Grade ......................................................................................................................................... 18
    Psychosocial Adjustment .................................................................................................................. 19
    Self-esteem ......................................................................................................................................... 19
    Depression .......................................................................................................................................... 20
  Suicidal Ideation and Attempts ............................................................................................................. 21
  Prosocial Behavior ............................................................................................................................... 23
  Family Structure/ Parental Support ....................................................................................................... 23
  Number of Friends ............................................................................................................................... 24
  Friendship Quality ............................................................................................................................... 25
  Antisocial Peer Group Affiliation ......................................................................................................... 25
  Perception of Peers ............................................................................................................................... 26
  Social Goals .......................................................................................................................................... 26
  Status of the Existing Research on Traditional and Cyber-Bullying .............................................. 28
  Contributions of This Study ................................................................................................................ 31

Chapter Three: Methodology ..................................................................................................................... 34
  Design and Participants ....................................................................................................................... 34
  Measures ............................................................................................................................................. 35
  Data Collection Tools ......................................................................................................................... 35
  Bullying Status ..................................................................................................................................... 36


Self-reported physical, verbal and relational bullying and victimization ..........................................................36
Self-reported cyber-bullying and victimization ..........................................................38
Peer-reported bullying status ......................................................................................39
Demographic and Adjustment Variables ..................................................................40
  Gender ..................................................................................................................40
  Self-esteem ...........................................................................................................40
  Depression ............................................................................................................40
  Prosocial behavior ................................................................................................41
  Parental support ....................................................................................................41
  Number of friends ..................................................................................................42
  Friendship quality ..................................................................................................42
  Antisocial peer group affiliation ...........................................................................42
  Perception of peers ................................................................................................43
  Social goals ............................................................................................................43
Procedure ..................................................................................................................43
Statistical Analyses ..................................................................................................45
  Data Coding ........................................................................................................45
  Bullying Categorization .......................................................................................47
  Bivariate Correlations and Descriptive Statistics ....................................................47
  Linear Regressions ................................................................................................48

Chapter Four: Findings ...............................................................................................49
  Descriptive Statistics of Bullying Involvement .........................................................49
  Bivariate Correlations .............................................................................................56
  Linear Regressions ..................................................................................................62
  Comparing Regressions ..........................................................................................62
    Peer-report physical bullying ...............................................................................62
    Peer-report physical victimization .......................................................................63
    Peer-report verbal bullying ..................................................................................63
    Peer-report verbal victimization ..........................................................................64
    Peer-report relational bullying ............................................................................64
    Peer-report relational victimization ....................................................................65
    Peer-report cyber bullying ..................................................................................65
    Peer-report cyber victimization ..........................................................................65
Conclusions ..................................................................................................................66

Chapter Five: Discussion and Recommendations ....................................................72
  Discussion ...............................................................................................................72
  Demographic and Adjustment Variables ................................................................72
    Gender ..................................................................................................................72
    Self-esteem ..........................................................................................................73
    Depression .............................................................................................................73
    Prosocial behavior ...............................................................................................74
    Parental support ...................................................................................................74
    Number of friends .................................................................................................74
Friendship quality .................................................................75
Antisocial peer group affiliation ...........................................75
Perception of peers ...............................................................76
Social goals ...........................................................................77
Cyber-Bullying Prevalence and Methodological Issues ............77
Major Contributions of the Study ..........................................78
Limitations ...........................................................................81
Recommendations .................................................................82
Practice ................................................................................82
Research .............................................................................84
References .............................................................................87
Appendix A: Self-Report Measures ........................................94
Appendix B: Peer-Report Measures ........................................95
Appendix C: USF IRB Approval Letters: Initial and Continuing Review ....................................................96
Appendix D: School District Approval .....................................100
Appendix E: Informed Consent Documents .............................102
LIST OF TABLES

Table 1: Frequency of Bullying Involvement Based on Both Self- and Peer-Report..............50

Table 2: Frequency of Bullying Involvement Based on Both Self- and Peer Report by Gender.................................................................................................................................51

Table 3: Frequencies of Bullying and Victimization Roles both Self- and Peer-Report.............53

Table 4: Frequencies of Bullying and Victimization Roles both Self- and Peer-Report by Gender.................................................................................................................................54

Table 5: Frequencies of Victim/Perpetration both Self- and Peer-Report .................................55

Table 6: Correlations, Means, and Standard Deviations of Peer-Report Study Variables.........59

Table 7: Correlations, Means, and Standard Deviations of Self-Report Study Variables ..........60

Table 8: Correlations, Means, and Standard Deviations of Self and Peer-Report Variables .................................................................................................................................61

Table 9: Stepwise Linear Model of Predictors of Peer-Identified Physical Bullying...............63

Table 10: Stepwise Linear Model of Predictors of Peer-Identified Physical Victimization.......63

Table 11: Stepwise Linear Model of Predictors of Peer-Identified Verbal Bullying ..................64

Table 12: Stepwise Linear Model of Predictors of Peer-Identified Verbal Victimization ............64

Table 13: Stepwise Linear Model of Predictors of Peer-Identified Relational Bullying ..........65

Table 14: Stepwise Linear Model of Predictors of Peer-Identified Relational Victimization .................................................................................................................................65

Table 15: Stepwise Linear Model of Predictors of Peer-Identified Cyber Bullying..................65

Table 16: Stepwise Linear Model of Predictors of Peer-Identified Cyber Victimization ..........66
ABSTRACT

Cyber-bullying has been gaining in popularity as online technology use has greatly expanded in the past decade. There has been quite a bit of research on traditional forms of bullying, which has demonstrated links to various demographic and psychosocial factors. Participation in cyber-bullying and victimization has been linked to some characteristics that are different from other types of bullying. There has been some discussion in the literature regarding whether cyber-bullying is significantly different from other forms of bullying. The literature has also noted the need for more studies utilizing peer-report data. This study utilized peer-report bullying data to examine self-reported psychosocial and emotional adjustment correlates of physical, verbal, relational and cyber-bullying and victimization in middle school. Adjustment indices included self-esteem, depression, prosocial behavior, perceived parental support, and variables measuring friendship adjustment (e.g., number of friends, perceived friendship quality, antisocial peer group, perception of peers, social goals). Cross-sectional associations between peer-reported bullying status and self-reported social and emotional adjustment were examined in adolescents. The data supported many of the hypotheses regarding various social and emotional adjustment indices being linked to the different forms of bullying and victimization. Results have theoretical and practical implications for understanding the social and emotional impact of bullying. Limitations and future directions are discussed.
CHAPTER ONE:
INTRODUCTION

Bullying is defined as repeated, abusive behaviors by someone in a position of greater power with intent to harm someone in a position of lesser power, the victim of the abuse (Olweus, 2006, 2012; Solberg & Olweus, 2003). There are many different types of bullying behaviors, such as physical (e.g. hitting, kicking), verbal (e.g. name-calling), relational (e.g. social isolation, spreading rumors) and cyber (e.g. texts, social media; Smith et al., 2008; Wang, Ianotti & Nansel, 2009). Physical and verbal bullying can be referred to as direct bullying, with relational referred to as indirect bullying (Olweus, 1991). Forms of bullying that take place in person, such as physical, verbal and relational, are frequently called traditional or face-to-face bullying; bullying that takes place online is frequently called cyber-bullying.

There has been quite a bit of research on traditional forms of bullying, which has demonstrated links to various demographic and psychosocial factors such as social supports, peer-related adjustment, and psychosocial adjustment. Both similarities and differences have been found between various forms of bullying and victimization and their psychosocial correlates. Participation in cyber-bullying and victimization has been linked to some different characteristics than traditional bullying; however, there has been some discussion in the literature regarding whether cyber-bullying is significantly different from traditional bullying. There is a question of whether the more recent research on cyber-bullying is finding similar associations.
and profiles to those that have been established in the traditional bullying research or if new patterns are emerging as more is learned about those who are involved in these behaviors online.

Cyber-bullying is a relatively new phenomenon, one meta-analysis found no articles published on the phenomenon before 2004 (Tokunaga, 2010), which has sadly garnered notoriety in the media due to some teen suicide cases that seemed to be the result of the victim experiencing bullying online. This connection is concerning because suicide is the third leading cause of death in adolescents (Anderson, 2002), and 20.1% of high school students report being bullied on school property, with 7.8% having attempted suicide (Centers for Disease Control and Prevention, 2012). Bullying and victimization have been linked with suicide, depression, substance use, and antisocial behavior (Kim & Leventhal, 2008).

The advent of the Internet as well as cell phones and other types of technology that students often carry with them has created an environment in which potential victims are available to bullies at any time. These new mediums are also often semi-permanent in that pictures, videos, or text posted on many public forums will remain public indefinitely, potentially causing victims to feel the humiliation of that content over and over again. Whereas some are unaware of the dangers of this phenomenon, this increased availability of victims and the likelihood of victims being re-traumatized by the lasting nature of online bullying-related content has led many to wonder whether online bullying might be as damaging or even more damaging than traditional forms such as physical, verbal, and relational bullying.

As online technology use increases, 93% of adolescents are online, which has been consistent since 2006 (Lenhart, Purcell, Smith & Zickuhr, 2010), there are more opportunities for adolescents to be bullied online. Because cyber-bullying is a relatively recent phenomenon, there is less established research on this type of bullying and victimization than on traditional
forms. Some researchers argue that cyber-bullying is likely just as damaging to adolescents as traditional forms of bullying due in part to the easy accessibility of sending hurtful statements to bullying targets or posting them where they can easily be seen by the target and others; the prevalence of online media use by adolescents meaning the victim is accessible to the bully virtually all the time; the permanence of online messages, which often cannot be deleted; the difficulty of finding and punishing the bully, whose identity may not be known; and the fact that the use of social technology is growing and new types are constantly being developed (Hinduja & Patchin, 2010).

Although there has been a considerable amount of research relating traditional bullying with various factors, there have been fewer studies differentiating between physical, verbal and relational bullying, and even fewer still that include the more recent phenomenon of cyber-bullying. Two recent meta-analyses found few to no studies that utilized peer-report data to examine the relationships between adjustment variables and cyber-bullying and victimization (Guo, 2016; Kowalski, Giumetti, Schroeder & Lattanner, 2014). One variable that has been found in the literature to be relevant to traditional and cyber-bullying is gender. Some potentially relevant psychosocial factors include self-esteem, depression, prosocial behavior, and parental support. Some potentially relevant peer adjustment related factors include number of friends, perceived friendship quality, antisocial peer group, perception of peers and social goals.

**Purpose Statement**

Guided by general strain theory (Agnew, 1992), social dominance theory (Hawley, 1999), and social cognitive theory (Bandura, 2002), this study examined psychosocial and emotional adjustment correlates of physical, verbal, relational and cyber-bullying in middle
school. Gender was included in analyses as meaningful demographic information because it has been found to be relevant to various forms of bullying. Adjustment indices included emotional/behavioral (e.g., self-esteem, depression, prosocial behavior among peers at school), perceived parental support, and variables measuring friendship adjustment (e.g., number of friends, perceived friendship quality, antisocial peer group, perception of peers, social goals).

**Research Questions/Hypotheses**

**Research Questions:**

Question 1: How do physical, verbal, relational or cyber-bullying behaviors relate to gender and psychosocial and emotional factors such as self-esteem, depression, prosocial behavior, perceived parental support, and friendship adjustment (e.g., number of friends, perceived friendship quality, antisocial peer group, perception of peers, social goals)?

Question 2: Are any of the examined factors of gender, self-esteem, depression, prosocial behavior, perceived parental support, and friendship adjustment (e.g., number of friends, perceived friendship quality, antisocial peer group, perception of peers, social goals) predictors of physical, verbal, relational or cyber-bullying behaviors?

**Hypotheses:**

Based on the current literature, the following hypotheses will be proposed:

Hypothesis 1: The degree of involvement in physical, verbal, relational and cyber-bullying and victimization behaviors will be differentially related to gender.

a. Boys will be more likely to be participants in physical, verbal, relational and cyber-bullying than girls.
b. Boys will be more likely to be involved in physical bullying and victimization than girls.

Hypothesis 2: The degree of involvement in physical, verbal, relational and cyber-bullying and victimization behaviors will be differentially related to specific dependent variables related to emotional and behavioral adjustment (e.g., self-esteem, depression, prosocial behavior).

a. Higher levels of physical, verbal, relational and cyber-bullying victimization will be related to lower self-esteem.

b. Higher levels of physical, verbal, relational and cyber-bullying victimization will be related to higher levels of depression.

c. Higher levels of physical, verbal, relational and cyber-bullying behaviors will be related to lower levels of prosocial behavior.

Hypothesis 3: The degree of involvement in physical, verbal, relational and cyber-bullying and victimization behaviors will be differentially related to perception of parental support.

a. Higher levels of involvement in victimization of any kind will be related to lower levels of parental support.

Hypothesis 4: The degree of involvement in physical, verbal, relational and cyber-bullying and victimization behaviors will be differentially related to specific dependent variables within the domain of friendship adjustment (e.g., reported number of friends, perceived friendship quality, antisocial peer group, perception of peers, social goals).

a. Higher levels of physical, verbal, relational, and cyber-victimization will be related to having fewer friends.
b. Higher levels of physical and verbal victimization will be related to greater perceived friendship quality.

c. Higher levels of physical, verbal, relational or cyber-bullying will be related to a higher reported level of deviant peer group affiliation.

d. Increased levels of physical, verbal, relational or cyber-victimization will be related to a less positive perceptions of peers.

e. Higher levels of physical, verbal, relational and cyber-bullying will be found to be related to higher levels of agentic goals.

Hypothesis 5: Certain variables will be found to be strong predictors of victimization, others will be found to be strong predictors of bullying.

a. Depression will be a strong predictor of victimization.

b. Number of friends will be a strong predictor of physical, verbal and relational victimization, but not cyber-victimization.

c. Antisocial peer group will be a strong predictor of bullying.

Theoretical Framework

This research is grounded in social cognitive theory (Bandura, 1977, 2002), social dominance theory (Hawley, 1999), and general strain theory (Agnew, 1992). These theories can be applied to bullying and victimization to assist in understanding these behaviors as a function of different types of social interactions and goals.

Social cognitive theory (Bandura, 1977, 2002) is the idea that people are shaped by their interactions with others, which supports associations between bullying and various psychosocial factors. Social cognitive theory explains bullying as a function of adolescents modeling their
peers’ behavior, which includes aggressive behaviors. Because bullying is a social behavior it impacts the social milieu as a whole, and in turn the social milieu also has a reciprocal effect on bullying and victimization behaviors. This can be applied to cyber-bullying and victimization as well in that real world interactions and experiences inform interactions on the Internet, and experiences that take place on the Internet can impact other milieus as well.

Another concept within social cognitive theory that is relevant to bullying and victimization is the idea of moral disengagement. Bandura, Barbaranelli, Caprara and Pastorelli (1996) found that moral disengagement allows individuals to reconstrue their own harmful conduct as moral by linking it to worthy purposes, deemphasizing or displacing personal responsibility, minimizing the injurious effects on others, and vilifying the victims by blaming and dehumanizing them. Several researchers have proposed moral disengagement as an appropriate theoretical model in understanding traditional and cyber-aggression and bullying behaviors (Pornari & Wood, 2010; Runions & Bak, 2015).

Social dominance theory (Hawley, 1999) suggests that individuals are motivated by power and status within social groups. It suggests that groups always organize back into hierarchical groups with greater and lesser degrees of hierarchy-supporting behaviors by various people within the groups. Social dominance theory suggests that in bullying, individuals utilize aggression against weaker peers to improve their social status. Social dominance theory supports the idea that participation in bullying may lead to poorer psychosocial outcomes, as those who are bullied experience increased social stress.

General strain theory (Agnew, 1992), posits that experiencing any strain may predispose an individual toward deviant behavior. For example, experiencing rejection, hostility or victimization from parents, peers or others, may predispose an individual toward deviant
behavior, such as bullying or self-harm (Agnew, 1992). Examples of strain in the context of this project include the experience of victimization as well as any other examined adjustment factors that might lead to individuals enacting bullying behaviors.

Agnew (2001) suggested that peer abuse is a type of strain that is likely to be an important predictor of deviance because it satisfies all four conditions of serious strain: it is perceived as unjust; it is perceived as important to adolescents, who generally seek peer acceptance; it is not associated with social control because it happens outside the realm of adult authority; and it exposes the strained individuals to models of deviant behavior, the bullies themselves. Hay and Meldrum (2010) assert that general strain theory may be used to explain externalizing behaviors such as aggression and bullying behaviors, as well as internalizing behaviors such as violence toward oneself, and that the literature indicates a positive correlation between strain and deviance.

**Significance**

A study of this kind has the potential to impact the safety and well-being of middle school students. If it can be determined which student characteristics are correlated with participation in the different forms of bullying-related behaviors that may assist in identifying individual students who are at increased risk of each different type of bullying. Then interventions can be developed that are tailored to students who have certain characteristics that put them at greater risk of each of physical, verbal, relational and cyber-bullying. Different types of students may be likely to participate in each different form of bullying and victimization. Consequently, different interventions may be able to be developed to target those at risk of each different form of bullying to aid in prevention both in schools and online.
If cyber-bullying is shown to be as potent as other forms of bullying, schools may realize that it is a real threat, despite the fact that it takes place outside of school hours and grounds. Schools are required by federal law to address bullying and harassment, even if it happens online because it impacts the school climate, but schools and parents may not realize how important it is to intervene in these situations. If similar risks are found for cyber-bullying participants as have been found for traditional bullying participants, schools and parents may begin to intervene earlier to protect victims.

If research can illuminate how support from parents and peers is related to bullying and victimization, schools and parents may take action to intervene and provide support to prevent further negative outcomes. If the characteristics of adolescents who are at increased risk of victimization can be identified, schools and parents can take action to prevent victimization by targeting interventions toward adolescents who are determined to be at increased risk and provide increased social support to help mediate the effects of bullying.
CHAPTER TWO:
REVIEW OF THE LITERATURE

Defining Cyber-Bullying

As the defining characteristics of traditional bullying are intent to harm, repetition of abuse and an imbalance of power (Olweus, 2006, 2012; Solberg & Olweus, 2003), the definition of cyber-bullying then is repeated, aggressive acts performed via electronic means with the intent to harm a victim who cannot easily defend him or herself (Belsey, 2005; Hinduja & Patchin, 2009; Rigby, 2002; Smith et al., 2008; Willard, 2006). These acts of aggression may include “offensive e-mails or text messages, insults through chat rooms or instant messaging, photos or videos on mobile or web, exclusion from social networks or appropriation of others’ credentials and identity information” (Menesini & Spiel, 2012, 163).

There are so many technological mediums, and new ones are being developed at a staggering rate. Examples of these types of media are email, texting, smart phones, social networking sites, interactive online gaming sites, chat rooms, online message boards, and instant messaging. Many of these media have become embedded in our culture and are often religiously utilized by teens in particular. Studies indicate that electronic communication has become a major component of the social life of adolescents (Williams & Guerra, 2007). It is likely that adolescents use technology at a high rate because they are often even more proficient with it than adults, and also because it provides additional opportunities for socialization which is an
important priority for adolescents (Valkenburg & Peter, 2011). Some researchers are examining
the impact these new technologies have on self-presentation, communication and friendship
among young people (Livingstone, Haddon, Go¨ rzig, O´ lafsson, 2011; Valkenburg & Peter,
2011).

Unfortunately in these technological media, just as in the physical world, people are not
always nice to each other; and each of these new technologies creates a new opportunity for
adolescents to mistreat each other. Both traditional and cyber-bullying increase in middle
school, decline in high school (Williams & Guerra, 2007), and develop out of adolescents’
increased ability to use technology and their great interest in peer interactions (Menesini & Spiel,
2012).

Many researchers have examined whether cyber-bullying can be defined using similar
criteria to traditional bullying or whether the differences in the online experience point to the
need for different defining criteria (Dooley, Pyzalsky, & Cross, 2009; Gradinger, Strohmeier, &
Spiel, 2010; Menesini, Nocentini, & Calussi, 2011; Nocentini et al., 2010). There are issues in
the literature regarding defining and measuring cyber-bullying such as whether repetition should
be considered a necessary criterion as it is in traditional bullying. It may be that because online
material is imbedded in a semi-permanent and often public medium, repetition is not necessary.
In fact, it is the lasting nature of online media that makes cyber-bullying attacks so hurtful; a
person may say something mean to someone in person and all evidence of it disappears in a
moment, but to state something unkind about someone else in a public and permanent medium
creates a record of the unkind act which may be referenced by anyone over and over again.

Due to these characteristics of online communication, some researchers are suggesting
that publicity and anonymity may be more integral to defining cyber-bullying than repetition
(Menesini, 2012; Menesini & Nocentini, 2009; Slonje & Smith, 2008; Tokunaga, 2010). A
study to determine what criteria children consider when designating a behavior as cyber-bullying
found that adolescents considered an imbalance of power, intentionality and anonymity over
repetition and publicity in determining an event as cyber-bullying. Adolescents were also more
likely to perceive a situation as cyber-bullying if it was intentional and non-anonymous than if it
was unintentional and was anonymous (Menesini et al., 2012). Hoff and Mitchell (2009) found
that when cyber-bullying victims did not know who was bullying them, it increased their feelings
of powerlessness and fear. This indicates that while the traditional bullying criteria of
intentionality and imbalance of power are also seen as relevant in cyber-bullying, adolescents
tend to focus on anonymity rather than repetition as a defining characteristic.

**Characteristics of Online Communication that May Facilitate Cyber-Bullying**

The idea of online anonymity may, in the best cases, lead to less concern about one’s
physical appearance which may allow some adolescents to feel less self-conscious and gain
social acceptance (Valkenburg, Peter & Schouten, 2006). Less positive outcomes of online
anonymity include cyber-aggressors behaving in a more impulsive, less inhibited or even
insulting manner, as is the case in cyber-bullying and online harassment (Valkenburg & Peter,
2011). The anonymity in many online communication forums reduces “social accountability”
which means some people may feel protected to say and do things that they might not say and do
in person (Herring, 2004).

Another characteristic of online communication is asynchronicity, the idea that
information presented on the Internet can be edited to a much greater degree than words spoken
in person. This greater ability to edit online content can, at its best, allow adolescents to explore
their identity via their online self-presentation. Unfortunately, it can also allow them to meticulously craft online content to intentionally create painful experiences for others (Valkenburg & Peter, 2011). These two characteristics of online communication, anonymity and asynchronicity, may lead to less inhibited behavior as well as the decreased likelihood that the cyber-bully will witness or be held accountable for the damage resulting from their bullying; additionally, cyber-bullying content is immediately and indefinitely accessible to the victim, bully and others (Dehue, Bolman & Vollick, 2008).

Never before have adolescents had such vast opportunities “to explore their identities with such a multiplicity of means and without supervision by traditional socialization agents, such as parents and schools” (Valkenbug & Peter, 2011, p. 124). By virtue of the fact that online communication is largely unsupervised, cyber-bullying is relatively invisible; a child may be brutally tormented for months without anyone else being aware of it. This is possible because adolescents are generally more technologically savvy than their parents. As a result parents may not realize that their child is harming others or suffering due to interactions online.

There is a perception that children are safe at home, but the shift toward online socializing brings all the dangers of the outer world into the child’s bedroom or even pocket. Parents and other adults may not realize how potentially devastating online bullying situations may be for adolescents, since young people are more embedded in this virtual world than adults. The Internet has changed the social landscape forever and created a divide between those who grew up during the ascendancy of social media and those who did not. One study found that over half of the students in its sample reported knowing someone who had been cyber-bullied, while the majority of these cyber-bullying incidents had not been reported to adults (Li, 2006).
Research Supporting Differences Between Traditional and Cyber-Bullying

Menesini (2012) asserts that cyber-bullying is distinct from traditional bullying in that anonymity is a more significant factor in cyber-bullying, whereas physical strength is a non-issue (Kiriakidis & Kavoura, 2010; Tokunaga, 2010). Another difference is the pervasive nature of cyber-bullying, which can occur at any time and any place; and that cyber-bullies are often less aware of their victim’s distress (Kowalski & Limber, 2007) and other consequences of their behavior (Raskauskas & Stoltz, 2007).

Due to the Internet having no physical boundaries, cyber-bullying victims are always vulnerable and cannot escape (Slonje & Smith, 2008) because cyber-bullies may attack them at any time, and previously perpetrated cyber-bullying incidents may continue to haunt them online. Also, the lack of direct physical contact with victims may lead cyber-bullies to have less concern for the feelings of the victim, which can lead to increasingly harsh bullying (Ang & Goh, 2010). Cyber-bullying has several characteristics that are different from traditional bullying such as, it is indirect, it has a large audience, it is difficult to escape, the bystander role is complex, and the bully doesn’t see the victim’s reaction. These characteristics may point to cyber-bullies having different motives than traditional bullies (Smith et al., 2008).

Several studies have indicated that there is an overlap between traditional and cyber-bullies and their victims (Ybarra, Diener-West & Leaf, 2007; Gradinger, Strohmeier, & Spiel, 2009), but some cyber-victims report that they are not victims of traditional bullying (Menesini & Spiel, 2012). One study in the United States found that 88% of students reported that they were in the same role of either bully or victim both in cyber and traditional bullying (Olweus, 2012). Another study reported finding a correlation of .87 between verbal bullying and cyber-bullying and .66 between physical bullying and cyber-bullying (Williams & Guerra, 2007).
study of a school-based population found a correlation of .71 for traditional and cyber-bullying and .57 for traditional and cyber-victimization (Menesini et al., 2012). When research is done using a sample recruited online, the correlation between traditional and cyber-involvement is often found to be lower than when a school-based population is used. It follows that an online sample found that 64% of children who were bullied online were not bullied at school (Ybarra et al., 2007).

While most studies have found either similar rates of traditional and cyber-bullying or lower rates of cyber-bullying (Olweus, 2012), it appears that a certain percentage of cyber-victims are not bullied by traditional means, which indicates that cyber-bullying is not always an extension of traditional bullying (Menesini, 2012). In a survey of middle school students, 23% of traditional bullying victims were also victims of cyber-bullying, while 9% were actually perpetrators of cyber-bullying; 19% of traditional bullies were also victims of cyber-bullying, while only 20% had perpetrated cyber-bullying; 9% of students who were not involved in traditional bullying were victims of cyber-bullying, while 5% had bullied others online (Kowalski, Limber & Agatston, 2008; Kowalski & Limber, 2007).

**Cyber-Bullying Prevalence Debate**

Just as there is somewhat of a debate about whether cyber-bullying is essentially an extension of traditional bullying or if it is a distinct phenomenon with overlapping but slightly different criteria and participants, there is also a debate regarding prevalence. Researchers agree that traditional bullying is declining, and that media coverage of cyber-bullying is increasing; but they disagree about whether cyber-bullying is actually increasing or not (Rigby & Smith, 2011).
The question is whether it is just the publicity and hype surrounding cyber-bullying that is increasing, or if the incidence of cyber-bullying is actually increasing.

One study found traditional verbal bullying rates to be 15-18% while cyber-bullying rates were relatively low at 4-5% (Olweus, 2012), which remained constant for four years. In contrast, Rigby and Smith (2011) found that while internationally, traditional bullying has declined over the past 20 years, cyber-bullying has not. Two studies found that 16.7% and 18% of their samples had been cyber-bullied (Kowalski & Limber, 2007; Smith et al., 2008), whereas others found that 19% and 22% had been involved in cyber-bullying in some capacity in the previous year (Kowalski & Limber, 2007; Ybarra & Mitchell, 2007) and 13.6% had been involved in some capacity in the past two months (Wang et al., 2009).

Most of these studies were conducted on students in schools, but the numbers are even higher in studies conducted online (Menesini & Spiel, 2012). Patchin and Hinduja (2006) found that of students surveyed online 29% identified themselves as cyber-victims, while 40% were involved in cyber-bullying as either victim or perpetrator. Other studies have found cyber-bullying victimization rates to be as high as 53% (Kiriakidis & Kavoura, 2010; Kowalski et al., 2008; Juvonen & Gross, 2008). One study indicates that some of the discrepancies in prevalence statistics could be related to how adolescents define cyber-bullying. When asked to identify themselves as having been a victim or perpetrator of cyber-bullying, 10% reported that they had cyber-bullied others and 15% reported being cyber-bullied; but when the bullying behaviors were described rather than labeled, the numbers increased to 20% reporting participating in bullying and 45% reporting having been victimized (Feldman, 2011).
Characteristics of Cyber-Bullying Participants

Possibly because some of the students who engage in cyber-bullying and those who are cyber-victimized are not involved in traditional bullying, some characteristics of cyber-bullies and victims have been found to be different from traditional bullies and victims (Smith et al., 2008). It appears that the advent of online technologies may have increased the likelihood of harassment for some adolescents who might not have been bullied by traditional means; these new mediums may have created a vulnerability in these new cyber-victims that they might not have experienced elsewhere (David-Ferdon & Hertz, 2007). The above studies indicate that the new technology may have also created some new cyber-bullies who might not have otherwise bullied their peers in person.

Gender

There are mixed findings on gender differences in cyber-bullying versus traditional bullying. Some studies have found no significant gender differences in cyber-bullying behaviors (Katzer, Fetchenhour & Belschak, 2009; Slonje & Smith, 2008; Williams & Guerra, 2007). Another study found girls to be more involved in cyber-bullying than boys, but found fewer gender differences in cyber-bullying than in traditional bullying (Kowalsky & Limber, 2007). A few studies found that boys were more likely to be cyber-bullies (Dehue et al., 2008; Li, 2006; Wang et al., 2009), and girls were more likely to be cyber-victims (Dehue et al., 2008; Hoff & Mitchell, 2009; Kowalski & Limber, 2007; Wang et al., 2009). One study examined gender differences between traditional and cyber-bullying participants and found that boys were more than twice as likely as girls to be involved in physical bullying as bully, victim or victim/perpetrator. Boys were also more likely than girls to be verbal victim/perpetrators or
cyber-bullies. Girls on the other hand were more likely than boys to be cyber-victims or relational victims or victim/perpetrators (Wang et al., 2009). This study indicates significant differences in both traditional and cyber-bullying involvement based on gender.

**Age/Grade**

The literature seems to indicate that cyber-bullying victimization is the most prevalent among middle school aged students. A study of fifth, eighth and eleventh graders found that 4.5% of fifth graders reported victimization, 12.9% of eighth graders reported victimization, while 9.9% of eleventh graders reported victimization (Williams & Guerra, 2007). Two studies demonstrated that cyber-victimization increases with age from around the age of ten to around the age of fifteen (Kowalski & Limber, 2007; Ybarra, Mitchell, Wolak & Finkelhor, 2006), whereas other studies found that victimization decreased with age from around the age of twelve to around the age of twenty (Dehue et al., 2008; Slonje & Smith, 2008). The hypothesis that cyber-bullying victimization increases with age, peaking at around seventh and eighth grades, then declining over high school and college is consistent with the literature on traditional bullying, except the peak of traditional bullying is earlier (Slee, 1995; Tokunaga, 2010). Another study found that students in 7th, 8th, 9th and 10th grades were all significantly less likely to be victims of all traditional forms of bullying than 6th graders, while 9th and 10th graders were significantly less likely than 6th graders to be victim/perpetrators of any form of traditional bullying or physical bullies (Wang et al., 2009). In contrast, there were no significant differences between 6th, 7th and 8th graders in cyber-bullying behavior, and the only significant difference for 9th and 10th graders was that they were significantly less likely to be cyber-bullies than 6th graders (Wang et al., 2009).
Psychosocial Adjustment

The literature indicates that adolescents who are either the victim or perpetrator of bullying are more likely to experience depression, hopelessness, loneliness, and lower self-worth (Graham & Juvonen, 1998; Hawker & Boulton, 2000; Joiner & Rudd, 1996). Both cyber and traditional bullies have externalizing difficulties, engage in risk behaviors (Wang et al., 2009), and have poor psychosocial functioning (Haynie et al., 2001). Victims of both cyber and traditional bullying display elevated stress, psychological distress (Ybarra et al., 2006), embarrassment, depression (Finkelhor, Mitchell & Wolak, 2000; Ybarra, 2004), isolation, and social anxiety (Juvonen & Gross, 2008). A meta-analytic review of traditional bullying victimization and psychosocial maladjustment found that of the variables studied, victimization was most strongly associated with depression, self-esteem, and social self-concept in that order (Hawker & Boulton, 2000). Both cyber and traditional victim/perpetrators tend to exhibit even greater psychopathology than students who are either just bullies or just victims (Feldman, 2011; Kim & Leventhal, 2008).

Self-Esteem

The literature on how Internet usage impacts self-esteem in adolescents indicates that youth tend to experience a sense of mastery and control from the process of creating homepages and blogs, which is associated with higher self-esteem (Schmitt, Dayanim & Matthias, 2008). Valkenburg et al. (2006) also found that for most adolescents, increased use of social networking sites led to increased positive reactions from others on those sites, which led to higher self-esteem. However, 7% of the adolescents received mostly negative reactions from others to their online self-presentation profile and their self-esteem deteriorated (Valkenburg et al., 2006).
Other studies found that victims of cyber-bullying had lower levels of self-esteem (Feldman, 2011; Katzer et al., 2009).

**Depression**

Adolescents who are involved in bullying in any capacity are more likely to experience depression (Graham & Juvonen, 1998; Hawker & Boulton, 2000; Joiner & Rudd, 1996; Kim & Leventhal, 2008). Victims of both cyber and traditional bullying report elevated levels of depression (Finkelhor et al., 2000). One study found that adolescents who report symptoms of major depression are three times more likely to also report being the victim of Internet harassment (Ybarra, 2004). One study found that cyber-victims and cyber-victim/perpetrators had greater depression than cyber-bullies or cyber-uninvolved students (Feldman, 2011). A meta-analytic review of traditional bullying victimization and psychosocial maladjustment found that of the possible negative effects included victimization was most strongly associated with depression (Hawker & Boulton, 2000).

A recent study on a large nationally-representative sample found that compared with students who were not involved in bullying, those who were involved as either bully, victim or both in physical, verbal, relational or cyber-bullying reported higher levels of depression. Gender was not found to be a significant factor in this relationship. Additionally, for all groups except those involved in cyber-bullying as bullies, students who reported more frequent involvement also reported significantly higher levels of depression. Both verbal and relational victims and victim/perpetrators reported greater levels of depression than bullies. Frequent cyber-victims reported significantly greater depression than frequent cyber-bullies (Wang, Nansel & Iannotti 2011).
Another study found that adolescents who reported being victims of both verbal and relational bullying reported significantly more depressive symptoms, medication use, and hospitalization for self-injury than those who did not report being victimized. Similarly, students who reported being victims of physical, verbal, social exclusion, spreading rumors and cyber-bullying reported significantly more depressive symptoms and other negative psychological outcomes than those who were the victims of just verbal and relational bullying. Although there were more boys who reported being victims of all types of bullying and more girls who reported being victims of primarily verbal and relational bullying, the association between victimization and depression and poorer psychological outcomes was stronger in girls (Wang, Iannotti, Luk & Nansel, 2010).

Another concern related to depression is its established association with suicide. One study found that depression mediated the association between traditional bullying victimization and suicide attempts for both genders; however, it only mediated the link between both traditional bullying behaviors and cyber-bullying victimization and suicide attempts in girls. Depression did not mediate the association between cyber-bullying perpetration and suicide attempts in either gender (Bauman, Toomey & Walker, 2013).

**Suicidal Ideation and Attempts**

Adolescents who are involved in bullying either as the victim or perpetrator are at an increased risk for suicidal ideation, attempts and completed suicides (Baldry & Winkel, 2003; Rigby & Slee, 1999; van der Wal, De Wit, & Hirasing, 2003, etc.). One study indicated that compared to an average of 1% of the overall sample, 4% of boys and 8% of girls who were bullied and 8% of both boys and girls who bullied others exhibited suicidal ideation (Kaltiala-
Heino, Rimpela, Marttunen, Rimpela & Rantanen, 1999). Another study found that perpetrators of traditional bullying were 2.1 times more likely to have attempted suicide than adolescents who were uninvolved in bullying, while traditional bullying victims were 1.7 times more likely to have attempted suicide than uninvolved students. Victims of cyber-bullying were 1.9 times more likely, and perpetrators of cyber-bullying were 1.5 times more likely to have attempted suicide than uninvolved students (Hinduja & Patchin, 2010).

There have not been a lot of studies focusing specifically on cyber-bullying and suicide in the literature. In fact Cash and Bridge (2009) asserted that no research had been published on the connection between the two at that time. A review of the literature on traditional bullying and suicide indicated that twelve studies reported that bullying victims have an increased risk of suicidal ideation and attempts of 1.4 to 5.6 times the risk of non-bullying-involved adolescents. Eight studies found that bullying perpetrators have increased risk of suicidal ideation with ORs from 1.4 to 9.0, while two studies reported increased risk of suicide attempts with ORs of 2.3 to 9.9. Increased risk of suicidal ideation in victim-perpetrators was found in five studies with ORs from 1.9 to 10.0. Four of these studies reported that the risk of suicidal ideation was higher in victim-perpetrators than in either bullies or victims (Kim & Leventhal, 2008).

Three studies reported that as victimization or perpetrating behaviors became more frequent, the risk of suicidal ideation increased, while one of these demonstrated that the risk of suicide attempts increases as well. One study found a significantly higher risk of suicidal ideation in female bullies, victims, and victim-perpetrators than in their male counterparts. In studies on special populations, four reported increased risk of suicidal ideation and six reported increased risk of suicide attempts in juvenile offenders and homosexual or bisexual students, with ORs of 1.4 to 4.6 (Kim & Leventhal, 2008).
**Prosocial Behavior**

Prosocial behavior has frequently been examined in relation to different types of aggression. The two constructs are typically viewed as opposites with a negative association found between prosocial behavior and aggressive behavior (Erdley & Asher, 1998). Aggression research has found a distinction between proactive aggression, which is intended to achieve a goal, and reactive aggression, which is enacted as an emotional response to a perceived provocation (Dodge, 1991). Boxer, Tisak & Goldstein (2004) found similar distinctions between motivations related to prosocial behavior. Proactive prosocial behavior, which is behaving prosocially to achieve a goal, was found to be distinct from altruistic and reactive prosocial behavior. Proactive prosocial behavior was found to have a positive correlation with aggression, but the opposite was found for altruistic and reactive prosocial behavior (Boxer et al., 2004). Another study found positive correlations between prosocial behavior and communal goals, and negative correlations between prosocial behavior and both proactive and reactive aggression and withdrawal (Salmivalli, Ojanen, Haanpää & Peets, 2005).

**Family Structure/ Parental Support**

One study found that students who are immature and socially vulnerable, who have naïve or overprotective parents, or whose family relations are impaired have been found to be at greater risk of cyber-bullying victimization (Feinberg & Robey, 2009). Two studies found that students who bully others are significantly more likely to not have their biological father in the home, whereas students who are victims of bullying are more likely to perceive their family as being somewhat enmeshed (Bowers, Smith & Binney, 1992; Berdondini & Smith, 1996). Bullies were also found to perceive at least one of their family members as being marginalized or
distanced from the group and to rate their family’s overall cohesion as lower than victims or non-involved students (Bowers et al., 1992; Berdondini & Smith, 1996). They also found that both bullies and victims perceived themselves as less powerful than the furthest member of their family, whereas non-involved students perceived themselves as more important than the most distant member of their family (Berdondini & Smith, 1996).

One study found parental support to be a protective factor in that students who reported more parental support were significantly less likely to participate in bullying of any kind in any role (Wang et al., 2009). Another study found that whereas all other students showed decreased anxiety and callousness as parental involvement increased, cyber-victim/perpetrators’ anxiety increased and callousness stayed the same as parental involvement increased (Feldman, 2011).

**Number of Friends**

Wang et al. (2009) found no significant relationship between the number of friends and any type of involvement in cyber-bullying while having friends did appear to be a protective factor in traditional bullying since students who reported having more friends were significantly less likely to be physical, verbal or relational bullying victims or victim/perpetrators, but they were more likely to be physical, verbal and relational bullies. Whereas traditional bullying falls into what seems to be a predictable pattern of students who report more friends being more likely to be bullies, and those with fewer friends being more vulnerable as victims; involvement in cyber-bullying had no significant association with number of friends. This may be partly due to the fact that social groups are not as prominent of a protection online. The researchers argue that this indicates a distinct difference in the nature of cyber-bullying from traditional bullying (Wang et al., 2009).
Friendship Quality

Valkenburg and Peter (2011) assert that there are two theories on how online communication impacts friendship quality. The first is the idea that online communication displaces more meaningful face-to-face relationships, while the second is that online communication enhances interaction with existing friends. More support has been found for the latter, but of course the phenomenon of cyber-bullying itself points to the potential negative effects. One study on direct and relational bullying found that for direct bullying, higher quality friendship was associated with lower levels of loneliness, while lower quality friendship was associated with higher levels of loneliness (Woods, Done & Kalsi, 2009). They also found that direct victims reported significantly higher levels of quality friendship than non-victims, while relational victims reported significantly higher levels of loneliness and emotional problems. Higher quality friendship was not found to be a moderator of these problems in relational victims (Woods et al., 2009). Another study found a significant association between cyber-bullying victimization and depression, self-esteem, anxiety, and stress but found that having a higher quality friendship did not moderate these effects in their sample (Aoyama, Saxon & Fearon, 2011).

Antisocial Peer Group Affiliation

One study found that cyber-bullies and cyber-victim/perpetrators reported that their friends engaged in antisocial behavior such as got into trouble at school or lied to their parents more often than cyber-victims or cyber-uninvolved students (Feldman, 2011). They also found that for most students as peer support increased, callousness decreased, but for cyber-victim/perpetrators, as peer support increased callousness did as well. The hypothesized
explanation is that the cyber-bully/victims’ peers may approve of their callous behaviors (Feldman, 2011). Another study found that traditional bullies and victim/perpetrators reported that more of their friends were engaging in fighting, lying to parents, and being disrespectful at school than victims and uninvolved students (Haynie & Osgood, 2005).

**Perception of Peers**

One form perception of peers can take is for an individual to attribute hostility to those around them, which has been termed hostile attribution of intent. A meta-analysis of forty-one studies found strong support of a significant relationship between hostile attribution of intent and aggression (Orobio de Castro, Veerman, Koops, Bosch & Monshouwer, 2002). However, other researchers point out that non-aggressive children who are depressed, anxious or withdrawn have been found to have a tendency to attribute hostile intent to others as well, so hostile attribution of intent may be found to differentiate children with either internalizing or externalizing adjustment problems from more well-adjusted children but may not be able to differentiate children with different types of adjustment problems from each other (Salmivalli et al., 2005).

**Social Goals**

The same researchers propose that examining the interaction effects of self and peer-perceptions, called peer-relational schemas, may be helpful in differentiating internalizing from externalizing adjustment problems; they suggest that social goals may mediate the relationship between their peer-relational schema and behavior (Salmivalli et al., 2005). Another study found an association between aggression and agentic goals such as seeking power, and prosocial behavior and communal goals such as maintaining relationships, while low levels of both types
of goals were associated with withdrawal (Ojanen, Grööroos, & Salmivalli, 2005). In support of this, another study found that cyber-bullies reported that they bullied others because it made them feel funny, popular, and powerful (Mishna, Cook, Gadalla, Daciuk & Solomon, 2010).

Another study found that victims reported they were targets of bullying for various reasons related to break-ups, envy, intolerance or ganging up (Hoff & Mitchell, 2009). These researchers found that 41% of the cyber-bullying incidents reported were related to some form of retaliation over a break-up, which included threatening and/or posting personal information about the former partner, their friends, and/or their new partner. An additional 20% of the reported incidents were related to envy, which included targeting or threatening others, which was also frequently due to their seeing the victim as a threat to their romantic relationship, such as talking to their partner or trying to steal their partner or expressing frustration over some characteristic or status the perpetrator wished for themselves. Another 16% was related to intolerance or prejudice, most frequently public accusations regarding the victim’s sexual orientation and subjecting them to further torment. Other types of prejudice included intolerance for the victim’s disability, religion or gender. Another 14% of the incidents related to a group of peers ganging up on the victim. These students were targeted with slurs regarding their appearance, athletic ability or arbitrary criticisms, which then spread to other students and sometimes increased over time (Hoff & Mitchell, 2009).

These researchers (Hoff & Mitchell, 2009) suggested that many of the incidents categorized as intolerance and ganging up could be considered “out group” abuse from social identity theory (Tajfel & Turner, 1979), the idea that students in one group may feel contempt for or competition with individuals in another group or who are not in a group, and they may consequently be targeted for abuse due to not being in the “in group.” An individual may be
targeted for this “out group” abuse based on his or her friend group or lack of friends, appearance, athletic ability, gender, race, religion, sexual orientation or disability. These researchers report that in their sample, girls were more often victimized related to their appearance and popularity, whereas boys were more often victimized related to their athletic ability or accused of being homosexual (Hoff & Mitchell, 2009).

**Status of the Existing Research on Traditional and Cyber-Bullying**

The literature on bullying in general is relatively robust. Olweus (1996) originally developed the Olweus Bully/Victim Questionnaire (OB/VQ) in 1986, and the commonly used revised version (R-OB/VQ) in 1996. Despite there having been research on traditional bullying for the past several “s, there are some gaps in the literature specifically on cyber-bullying. This may be partly due to the fact that cyber-bullying has only existed in the literature since 2004 (Tokunaga, 2010). Consequently, there is still some debate among researchers about whether or how this new form of bullying is different from traditional bullying (Olweus, 2012). There is disagreement regarding defining and measuring cyber-bullying, such as whether repetition should be considered a necessary criterion as it is in traditional bullying and whether anonymity should be considered as an alternate criterion. Several researchers feel that it is an important departure from the pattern of traditional bullying, and suggest more research is needed to fully assess the scope of its potential impact (Hinduja & Patchin, 2010; Menesini, 2012; Valkenburg & Peter, 2011; Wang et al., 2009).

There are many gaps in the cyber-bullying literature, as the phenomenon in general has only developed in the last decade as technology has become more and more embedded in our day-to-day lives. Beran and Li (2007) suggest that further study is needed using school measures
such as attendance records and grades to understand how cyber-bullying affects students. They also recommend separating out various direct (physical and verbal) and indirect (relational) forms of bullying in comparisons with cyber-bullying (Beran & Li, 2007). There are some gaps in the cyber-bullying literature surrounding the motivation of cyber-bullies and whether it is similar to the motivation of various types of traditional bullies, which can be thought of in terms of their interpersonal goals. Another gap in the cyber-bullying literature is that there have been few studies on suicide. The literature on traditional bullying and suicide indicates a clear relationship between the two, and the few preliminary studies on cyber-bullying and suicide seem to point to a similar relationship (Hinduja & Patchin, 2010).

A meta-analysis of the twenty-five available studies on cyber-bullying victimization (Tokunaga, 2010), concluded that the most pervasive methodological problem with the existing literature is related to the conceptualization of cyber-bullying, including the lack of a widely accepted definition of the phenomenon and consequently variations in operational measures used by researchers. These researchers also note a lack of theory building in the literature, which they feel would be helpful in creating cohesiveness in the field; potentially explaining the phenomenon as well as guiding the modeling of cyber-bullying related variables and research design. The researchers assert that cyber-bullying research is still in its early stages, but it is still possible to test complex relationships such as specific relationships between cyber-bullying and other variables as moderated by third or fourth variables, rather than just conducting simple correlational studies, as has been common in the literature thus far. The researchers also report an over-reliance on self-report and cross-sectional data (Tokunaga, 2010).

In their review of the literature on the effects of adolescent Internet usage, Valkenburg and Peter (2011) suggest that causality was not able to be determined in any of the studies
available at the time, and as a result it cannot be established whether the various psychosocial problems that are correlated with cyber-bullying are somehow causing the students to be bullied or if they are the result of experiencing bullying. They, and others, assert that experimental and longitudinal research is needed to determine the antecedents and consequences of cyber-bullying (Kiriakidis & Kavoura, 2010; Valkenburg & Peter, 2011; Wang et al., 2009). They also suggest that a problem with online surveys is that they are generally self-selected samples, which are not random. The researchers also suggest that different types of Internet use and communication need to be conceptually differentiated and assessed separately. They also assert that more complex research designs and analyses of the data are needed to determine which adolescents are likely to benefit from online communication and which students are likely to be victimized (Valkenburg & Peter, 2011).

Another systematic review of the literature on bullying and suicide (Kim & Leventhal, 2008) also reported that all thirty-seven studies they reviewed had three major problems with their methodology: all the studies were cross-sectional, which means causality cannot be determined; they only used self-report of bullying behaviors or victimization; and most of the studies did not control for likely covariates. In addition to the problem with cross-sectional research discussed above, using only self-report data creates the issue of shared method variance or the possibility that correlations between responses from the same participant could be explained by the fact that the same person answered both questions rather than the effect of whatever variable the researcher is attempting to isolate. Indeed the vast majority of the studies in the literature utilize self-report to determine bullying status as well as most other factors. Several researchers suggest collecting data from multiple sources rather than using all self-report
data to decrease shared method variance (Hawker & Boulton, 2000; Kim & Leventhal, 2008; Wang et al., 2009).

One study was found that addressed all three of these methodological problems. Kim, Leventhal, Koh, Hubbard and Boyce (2006) conducted a prospective cohort study in an attempt to address the question of whether bullying is causing or being caused by the psychosocial problems associated with it. They used a longitudinal design in order to determine causation. They attempted to prevent the problem of shared method variance by using peer nomination to identify bullying status, while using self-report of psychological factors. They also attempted to control for many pertinent covariates.

The researchers determined that social problems were a predictor of bullying in victims, but not when baseline bullying was included as a covariate. Conversely, bullying was found to be a predictor of social problems in bullying victims even when baseline social problems were controlled for (Kim et al., 2006). Baseline psychopathology was not shown to increase the risk of future bullying, while bullying was shown to increase the risk of future pathology. This study remedied the main methodological problems with the literature on bullying that were highlighted by many previous researchers. Due to their meticulous attention to study design, they were able to establish causation where most other researchers were not.

**Contributions of this Study**

This study attempts to contribute to the knowledge base by expanding what is known about the adjustment of traditional and cyber-bullying participants. This study is unique in that it builds on what has been established in the literature on traditional bullying and expands it by examining how these factors are related to cyber-bullying as well. The study will attempt to
demonstrate correlations by using a cross-sectional model, examining bullying status as it relates to various demographic and psychosocial variables within the domains of social support, adjustment with peers and psychosocial adjustment. This study will focus on middle school students since the literature has indicated that bullying is most prevalent in this age group (Williams & Guerra, 2007). This study will use peer-reports in an effort to avoid shared method variance, which has been recommended in the literature (Valkenburg & Peter, 2011).

This study will examine various social support and peer related factors to determine how they are related to participation in different types of bullying. There has been some indication in the literature that social supports such as perceived parental support and number of friends can serve as protective factors in students not being bullied (Wang et al., 2009). Since the literature has indicated a difference in how number of friends impacts bullying participation between traditional forms of bullying and cyber-bullying, this study will also examine other peer related elements such as the participants’ perception of their peers in general, perceptions of their peer group, their own prosocial behaviors, and their social goals.

Research on friendship quality seems to be less conclusive as one study found that higher quality friendship was associated with lower levels of loneliness for victims of certain types of bullying (Woods et al., 2009). While another study found that victims of cyber-bullying’s higher levels of depression, self-esteem, anxiety, and stress were not moderated by having a high quality friendship in their sample (Aoyama et al., 2011). This study points to several negative outcomes that have been associated with bullying such as depression, anxiety, loneliness, low self-esteem, and overall stress. This study will focus mainly on depression because it has been shown to be significantly elevated in both bullies and victims and a meta-analysis of traditional
bullying victimization found that of the potential negative effects included, depression had the strongest association with victimization (Hawker & Boulton, 2000).

In addition to examining student characteristics associated with bullying, protective effects of social supports, and negative psychosocial outcomes; this study will also examine how various social supports and peer related factors may moderate the relationship between involvement in bullying and depression, which is one of the main negative psychological outcomes associated with bullying. One study indicated that as parental involvement increased anxiety and callousness decreased for both bullies and victims (Feldman, 2011). This study will examine whether there is a similar relationship for various parental and peers support related factors and depression.
CHAPTER THREE:

METHODOLOGY

Design and Participants

A cross-sectional design was used in an attempt to correlate peer-reported bullying and victimization with self-report adjustment variables. The data were collected using self- and peer-report survey instruments during January and February of 2014. This study was approved under IRB protocol #14783 (See Appendix C for IRB approval letter and continuing review approval). Participants were sampled from two Hillsborough County Public School District middle schools with a total of approximately 2,000 possible student participants (school board approval # RR-1314-44; see Appendix D for school district approval letter). Meetings were held with each school principal, and the Supervisor of School Psychology prior to approval.

The study sample included 585 sixth, seventh and eighth graders who completed the survey. Criteria for participation included students who were fluent in English and not enrolled in Exceptional Student Education (ESE). The project was explained to eligible students during their social studies classes, and parental consent documents in both English and Spanish were distributed (See Appendix E for informed consent documents). The students who assented to participate and provided signed parental consent were administered paper and pencil, self and peer-report surveys at school, during school hours.

Participants were from predominantly low to middle socioeconomic status families.
Approximately 70% of students in one school and 87% of students in the other school qualify for free or reduced lunch. The 585 student participants included 379 (64.8%) females, 200 (34.2%) males, and 6 (1%) who chose not to report their gender. Student participants reported their ethnicity as 168 (28.7%) White/Caucasian, 164 (28%) Black/African American, 105 (17.9%) Hispanic, 93 (15.9%) Multi-Racial, 14 (2.4%) other, 19 (3.2%) did not know their race/ethnicity, and 22 (3.8%) elected not to report their ethnicity.

Measures

Data were collected via self- and peer-report surveys in order to determine participants’ gender, physical, verbal, relational and cyber-bullying status, and various psychosocial adjustment correlates. Adjustment indices include self-esteem, depression, prosocial behavior perceived parental support, number of friends, perceived friendship quality, antisocial peer group, perception of peers, and social goals.

Data Collection Tools

Data were collected using paper and pencil surveys (See Appendix A). The self-report questionnaire included questions regarding whether the student has ever been the perpetrator or victim of physical, verbal, relational or cyber-bullying. There are questions regarding the student’s gender, self-esteem, depression, prosocial behavior, perceived parental support, number of friends, perceived friendship quality, anti-social peer group, perception of peers, and social goals. Many items involve self-report ratings using a Likert scale. The questionnaire included several different scales with established validity and reliability. The peer-report portion of the survey included questions regarding bullying and victimization involvement (See Appendix B).
Students were asked to nominate students from their class in response to each question from a list of those students whose parents returned signed consent forms.

**Bullying Status**

Respondents were grouped into physical, verbal, and relational bullying categories of bully, victim, victim/perpetrator, and uninvolved using items from the revised Olweus Bully/Victim Questionnaire (OBVQ-R; Solberg & Olweus, 2003). Participants were classified into cyber-bullying categories of cyber-bully, cyber-victim, cyber-victim/perpetrator and cyber-uninvolved based on items taken from the Electronic Bullying Questionnaire, an adaptation of the OBVQ-R (Kowalski & Limber, 2007). Previous studies have reported good reliability and validity for these scales.

**Self-reported physical, verbal and relational bullying and victimization.** Physical, verbal and relational bullying and victimization were measured by six items based on the Revised Olweus Bully/Victim Questionnaire (OBVQ-R; Solberg & Olweus, 2003), which defines bullying as:

When another student or several other students say mean and hurtful things or make fun of him or her or call him or her mean and hurtful names; completely ignore or exclude him or her from their group of friends or leave him or her out of things on purpose; hit, kick, push, shove around, or threaten him or her; tell lies or spread false rumors about him or her or send mean notes and try to make other students dislike him or her; and do other hurtful things. These things may take place frequently, and it is difficult for the student being bullied to defend himself or herself. It is also bullying when a student is teased repeatedly in a mean and hurtful way. But we don’t call it bullying when the
teasing is done in a friendly and playful way. Also, it is not bullying when two students of about the same strength or power argue or fight. (Solberg & Olweus, 2003, p.246)

Survey items assess how often participants have either bullied others or been the victim of the different types of bullying in the past two months. For each item related to the different types of bullying, two parallel questions were used to determine whether the student has either perpetrated or been the victim of that form of bullying. Responses were used as a scale score, and they were also used to categorize participants as bullies, victims, victim/perpetrators or uninvolved. Physical bullying was assessed by two parallel items specifying bullying involving “hitting, kicking, pushing, shoving around or locking indoors.” Verbal bullying was assessed by two parallel items specifying bullying involving “calling mean names, making fun of or teasing in a hurtful way.” Relational bullying was assessed by two parallel items specifying bullying involving “socially excluding others or spreading rumors.” Response options were 1 = “none at all,” 2 = “once or twice,” 3 = “2 or 3 times a month,” 4 = “about once a week” and 5 = “several times a week.”

Based on the recommendations of Solberg and Olweus (2003) this study categorized participants as involved in physical, verbal, and relational bullying based on the cutoff point of “2 or 3 times a month” for both bully and victim items. Participants were first coded as involved or not involved in both bullying and victimization (bully = 3 or greater on bully items, victim = 3 or greater on victim items). They were then categorized into one of four groups. Participants were considered bullies if they were involved in bullying others at least two or three times in the last couple of months but were not bullied themselves during this time more than once or twice (bully = 3 or greater on bullying item, 1 or 2 on victim item). Participants were considered victims if they were involved in being bullied at least two or three times in the last couple of
months but did not report bullying others during this time more than once or twice (victim = 1 or 2 on bullying item, 3 or greater on victim item). Participants were considered victim/perpetrators if they reported that they were involved in both bullying others and being bullied more than once or twice in the last couple of months (victim/perpetrators = 3 or greater on both the bully and victim items). Participants were considered uninvolved if they report no more than one or two bullying-related experiences in the last couple of months (uninvolved = 1 or 2 on both items). Solberg and Olweus (2003) report moderate to high concurrent validity (r = .40 -.60) of the OBVQ-R.

**Self-reported cyber-bullying and victimization.** Cyber-bullying and victimization were measured by two items taken from the Electronic Bullying Questionnaire, an adaptation of the OBVQ-R, which defines cyber-bullying as “bullying through e-mail, instant messaging, in a chat room, on a website or through a text message sent to a cell phone” (Kowalski & Limber, 2007). These two global items were used as scale scores and were also used to categorize participants as cyber-victims, cyber-bullies, cyber-victim/perpetrators or cyber-uninvolved (i.e., “How often have you been bullied electronically in the past couple of months?” “How often have you electronically bullied someone in the past couple of months?”). Response options were 1 = “none at all,” 2 = “once or twice,” 3 = “2 or 3 times a month,” 4 = “about once a week,” and 5 = “several times a week.” There has been some debate in the literature about whether repetition is as necessary for cyber-bullying incidents to be considered bullying as it is for traditional forms of bullying. Though “2 or 3 times a month” is generally considered the cut off point to code a student as involved in traditional bullying (Solberg & Olweus, 2003), some previous studies have recommended considering a single cyber-bullying incident as indicative of true bullying online (Kowalski & Limber, 2007; Raskauskas & Stoltz, 2007).
Thus, this study categorized participants as involved in cyber-bullying based on the cutoff point of “once or twice” for both items. Participants were first coded as involved or not involved in both online bullying and victimization. They were then categorized into one of four groups. Participants were considered cyber-victims if they were involved in being bullied online at least once in the last couple of months, but did not report bullying others during this time (cyber-victim = 1 on bullying item, 2 or greater on victim item). Participants were considered cyber-bullies if they were involved in bullying others online at least once in the last couple of months but were not bullied themselves online during this time (cyber-bully = 2 or greater on bullying item, 1 on victim item). Participants were considered cyber-victim/perpetrators if they reported that they were involved in both bullying others and being bullied online in the last couple of months (cyber-victim/perpetrators = 2 or greater on both the bully and victim items). Participants were considered cyber-uninvolved if they report no bullying-related experiences online in the last couple of months (cyber-uninvolved = 1 on both items).

**Peer-reported bullying status.** Bullying involvement was also evaluated using peer-report nominations. In order to create a standardized scale score for each type of bullying involvement, a z-score was calculated using the number of peer nominations each student received for each type of bullying and the total number of student participants in the class. Participants were also categorized by bullying status, based on the findings of Cornell and Brockenbrough (2004) who conducted a Receiver Operating Characteristic analysis between self, peer and teacher-report of bullying and victimization and found the highest sensitivity and specificity when two or more peer nominations was used as the cutoff for bullying status categorization. Consequently, in the present study, for each type of traditional bullying, physical, verbal and relational, participants were considered a peer-nominated bully if they were
nominated at least twice by their peers as a perpetrator of that type of bullying but were not
nominated twice as a victim of that same type of bullying. Participants were categorized as a
peer-reported victim of each type of bullying if they were nominated as such by at least two
peers but were not nominated by two peers as a perpetrator of that same type of bullying.
Participants were categorized as a peer-reported victim/perpetrator if they were nominated by at
least two peers both as a bully and as a victim in that type of bullying. Participants who were
nominated by one or fewer peers for either perpetrating or being the victim of that type of
bullying were categorized as peer-reported non-involved. In keeping with the lower threshold
used to determine self-reported cyber-involvement, a lower threshold of one peer-nomination
was used to determine cyber-involvement.

Demographic and Adjustment Variables

Gender. Participants’ gender was collected from self-report survey data and measured as
female or male (0 = “female,” 1 = “male”).

Self-esteem. Self-esteem was assessed using the ten-item, Rosenberg Self-Esteem Scale
(RSE; Rosenberg, 1965). Sample items include “On the whole, I’m satisfied with myself.”
Response options were 1 = “strongly disagree,” 3 = “neither,” 5 = “strongly agree.” There were
both positively and negatively worded items. Negatively worded items were reverse scored so
that higher ratings indicate higher self-esteem. The RSE is the most commonly used self-esteem
scale and has received frequent psychometric analysis and empirical validation with studies
reporting alpha reliabilities ranging from .72 to .90 (Robins, Hendin, & Trzesniewski, 2001).

Depression. Depression was assessed using the 20-item, Center for Epidemiological
Studies-Depression Scale for Children (CES-DC; Weissman, Orvaschel, & Padian, 1980). Some
items include “I was bothered by things that don’t usually bother me,” “I felt lonely” and “I had trouble keeping my mind on what I was doing.” Response options were how often participants experienced the above items in the “past week” (1 = “not at all,” 5 = “a lot”). Negatively worded items were reverse scored so that higher scores indicate greater levels of depression. The CES-D has been found to have good internal consistency, content validity and convergent and discriminant validity (Li, Chung, & Ho, 2010).

**Prosocial behavior.** Prosocial behavior was assessed using the four-item prosocial behavior subscale of the Children’s Social Behavior Scale (CSBS; Crick, 1996). Sample items include “I help others,” and “I’m the kind of person who doesn’t hesitate to lend a hand.” Response options were 1 = “strongly disagree,” 3 = “neither,” 5 = “strongly agree,” with higher scores reflecting greater levels of prosocial behavior. A recent study using the teacher form version of the CSBS reported a Chronbach’s alpha of .93 for the four-item prosocial behavior subscale (Wright, Li, & Shi, 2014).

**Parental support.** Self-report survey response was used to assess students’ perception of parent supportiveness as measured by four items from the Parental Bonding Instrument (PBI; Parker, Tupling & Brown, 1979). The parental support related items ask students if they feel their parent or guardian 1) helps them as much as they need, 2) is loving, 3) understands their problems and worries, and 4) makes them feel better when they are upset. Response options were 1 = “never,” 2 = “almost never,” 3 = “sometimes,” 4 = “almost always” and 5 = “always.” The mean of the four items was calculated to determine a parental support score with higher ratings indicating greater perceived parental support. A recent study utilizing the PBI reported a Chronbach’s alpha of .94 for maternal care and .93 for paternal care (Abell, Lyons, & Brewer, 2014).
**Number of friends.** Number of friends was assessed using one item asking how many friends the student has. Response options were 1 = “I have no friends,” 2 = “I have one or two friends,” 3 = “I have a few friends (three or four),” 4 = “I have several friends (five or six)” and 5 = “I have a great many friends (seven or more).”

**Friendship quality.** Friendship quality was assessed using the five-item short version of the Friendship Quality Scale (FQS, short version; Gauze, Bukowski, Aquan-Assee & Sippola, 1996). Sample items include “I feel happy when I am with my friend,” “My friend would help me if I needed it” and “If I have a problem at home or school I can talk to my friend about it.” Response options were 1 = “strongly disagree,” 3 = “neither,” 5 = “strongly agree.” A friendship quality scale score was created by taking the mean of the ratings of all nineteen items with a higher scale score indicating higher quality friendship. A recent study using the short version of the FQS reported a Chronbach’s alpha of .93 and reported high internal consistency (Raboteg-Saric & Sakic, 2014).

**Antisocial peer group affiliation.** Laird, Pettit, Dodge & Bates (1999) adapted five items from Dishion, Patterson, Stoolmiller & Skinner (1991) (i.e., “My friend (a) gets into trouble at school, (b) gets into fights with other kids, (c) uses bad language, (d) lies to his or her parents and teachers, and (e) likes to do things that make me scared or uncomfortable”) to rate friend group antisocial behavior. The items are the same except the phrase “my friend” was replaced with “the members of my group.” Response options were 1 = “never,” 3 = “sometimes,” 5 = “always.” An antisocial peer score was calculated by taking the mean rating of all five items with a higher score indicating a more antisocial peer group. A recent study utilizing these same five items to evaluate antisocial peer group reported a Chronbach’s alpha of .74 (Lansford, Criss, Pettit, Dodge, & Bates, 2003).
**Perception of peers.** Perception of peers was assessed using the 13-item Generalized Perception of Peers Scale (Salmivalli et al., 2005). Sample items include “My age-mates 1) can really be relied on, 2) really care about what happens to me, and 3) are there for me whenever I need help.” Response options were 1 = “strongly disagree,” 3 = “neither,” 5 = “strongly agree.” A perception of peers score was calculated by taking the mean rating of all thirteen items with a higher score indicating a more positive perception of peers. This scale has been validated in adolescents and has been reported to have a Chronbach’s alpha of .89 (Findley-Van Nostrand & Ojanen, 2013; Williams & Guerra, 2007).

**Social goals.** Social goals were assessed using the 32–item Interpersonal Goals Inventory for Children (ICI-C; Ojanen et al., 2005). Sample questions include “Others respect and admire you,” an example of an agentic goal, and “You feel close to others,” an example of a communal goal. Response options were 1 = “strongly disagree,” 3 = “neither,” 5 = “strongly agree.” Scale scores were calculated for agentic and communal vectors following the procedure used by Ojanen et al. (2005). This scale was used in a recent study that found Chronbach’s alphas for the eight subscales ranging from .60 to .75 (Findley-Van Nostrand & Ojanen, 2013).

**Procedure**

In the fall of 2013, a proposal was written and paperwork was submitted to the IRB and the Research Review Board of the Hillsborough County School System. A meeting was held with the Supervisor of School Psychological Services of Hillsborough County Schools in order to discuss the project and coordinate completing the study. The principal investigators then contacted the principals of the two Hillsborough County middle schools who had agreed to participate. A meeting was held with each principal to share the intended survey, informed
consent documents and information sheets, and to coordinate when the surveys were to be administered.

Following approval by the IRB, Hillsborough County School District and school principals, information on the study was shared with students during their social studies classes and informed consent documents were sent home to the parents of all the students in each school. Parents were asked to sign and return the informed consent to their child’s school with their child. The letter explained the project, possible risks to the participants, resources for participants in case there are any ill effects of participation and what is hoped to be gained from the study. The letter also included the contact information of all the researchers on the project in case parents or students had any questions or concerns prior to, during or following the survey administration. Students who returned the signed consent regardless of whether their parent had consented to their participation were provided with crackers and fruit snacks. A few weeks later, those students whose parents had signed consent for them to participate were called to the media center in the school and administered the questionnaire, which took about one class period. Student participants were compensated with two small pieces of candy and a drawstring backpack for completing the student questionnaire.

Each student was provided a sticky note, on which they were to write his or her name and the random number that was printed on the front of his or her survey. These notes were used to create a key to allow the researchers to connect their responses to the peer-report survey data without their identities being disclosed. The surveys were also coded to identify which middle school the participant attends. Self- and peer-report surveys include questions regarding whether the student has ever been the victim or perpetrator of physical, verbal, relational or cyber-bullying. The self-report questionnaire also includes questions related to gender, self-esteem,
depression, prosocial behavior, perceived parental support, number of friends, perceived friendship quality, antisocial peer group, perception of peers, and social goals.

**Statistical Analyses**

**Data Coding**

Once the questionnaires were completed, the data were coded and logged into SPSS. For continuous variables the participant’s response value was entered into the database. Categorical variables were recoded as dichotomous dummy variables so they could be represented as numbers and analyzed in SPSS. For example, gender was recoded as 0 = “female” and 1 = “male.” Peer report of bullying involvement in various roles and types of bullying was entered as 0 = “no involvement reported by peers” and 1 = “one peer reported involvement by this participant,” 2 = “two peers,” etc. Self-report bullying was entered into SPSS as whatever numerical value the respondent reported. However, for each role and type of bullying, dummy variables were created such that 0 = “no involvement” and 1 = “involvement” in order to categorize students based on different types of bullying involvement. As a result 16 self-report dummy variables for bullying involvement were created as well as sixteen for peer-report. These category designations were also compared to see how great the overlap was between self- and peer-report bullying designation.

Descriptive statistics were calculated to clean the data by identifying outliers, errors, and missing data. These issues were addressed by adding the data if it were known or eliminating the cases. Bivariate analyses were also calculated to determine possible covariates. Histograms were created for each variable to determine skewness. Most psychosocial variables, such as self-esteem, prosocial behavior, parental support, number of friends, perception of peers, and
friendship quality, were negatively skewed; that is the majority of participants reported higher levels with fewer reporting lower levels. Depression, antisocial peer group and all self- and peer-reports of bullying and victimization were positively skewed, meaning most participants reported lower levels with fewer reporting higher levels.

Skewness and Kurtosis values were calculated for each variable to determine which variables needed to be transformed to meet the criteria of normality for parametric statistics. Almost all the variables were skewed to some degree, but parametric statistics are considered to be robust enough for results to not be affected by skewness of less than + or − 1. Consequently, all variables with a skewness value greater than + or − 1 were transformed. Parental support and friendship quality were negatively skewed variables that were transformed using a two-step transformation (Templeton, 2011) by calculating fractional rank of the values and then redistributing the ranked values in a normal distribution with the original mean and standard deviation.

All types of self- and peer-reported bullying and victimization scale scores were positively skewed variables that were also transformed using the two-step transformation (Templeton, 2011) described above. Number of friends was the only adjustment variable that neither a base ten logarithm, nor a two-step transformation brought the skew value below the threshold of + or − 1. For this variable, over 72% of participants indicated that they had seven or more friends, so the variable was dichotomized by recoding as 0 = responses of 1, 2, 3, or 4 or all responses of fewer than seven friends and 1 = 5 or “I have a great many friends (seven or more).”

The Bonferroni technique was used to correct for the threat to validity of conducting multiple statistical analyses. Eighteen continuous variables were correlated with point biserial correlations with one categorical variable, gender, and 8 linear regressions were calculated on the
bullying and victimization scale scores. This adds up to 27 statistical tests, which using an overall alpha level of .05 equals a Bonferroni’s adjustment of lowering the alpha level to .00185 (.05/27).

**Bullying Categorization**

For each form of bullying, descriptive statistics were used to determine the prevalence of bullying involvement. Data were analyzed to determine what percentage of the sample self-reported and were peer-nominated as involved in bullying as victims, bullies, victim-perpetrators, and uninvolved for physical, verbal, relational, and cyber-bullying. Then the level of agreement between self- and peer-reports was determined.

**Bivariate Correlations and Descriptive Statistics**

Descriptive statistics were calculated on all study variables. Given that gender is a dichotomous variable, rather than using a Pearson Product-Moment correlation a point biserial correlation was used. A series of Pearson Product-Moment Correlations were examined to evaluate the relationship between all relevant continuous study variables. These continuous variables include self-esteem rating, depression rating, prosocial behavior rating, parental support rating, number of friends, quality of friendship rating, antisocial peer group rating, perception of peers rating, and social goals scale scores.

**Linear Regressions**

For each form of bullying and victimization, physical, verbal, relational, and cyber, stepwise multiple linear regressions were conducted to see which variables were the strongest
predictors. In each linear regression, the continuous independent/predictor variables included gender, self-esteem rating, depression rating, prosocial behavior rating, parental support rating, number of friends, quality of friendships rating, antisocial peer group rating, perception of peers rating, and social goals scale scores. In order to meet the assumptions of the test, we assumed that the predictor variables have fixed rather than random values, that the relationships between the variables are linear and homoscedastic, and that any errors are not correlated with each other.
CHAPTER FOUR:

FINDINGS

Results are reported in three sections: (1) descriptive information about both self- and peer-report of categorical traditional and cyber-bullying participants, (2) correlation matrices examining the relationship between all continuous study variables including bullying and victimization scale scores, and (3) linear regressions proposing models of which combinations of study variables best predict various types of bullying involvement.

Descriptive Statistics of Bullying Involvement

Simple frequencies were conducted to determine the prevalence of physical, verbal, relational and cyber-bullying involvement as perceived by both individual participants and those participants’ peers. There has been considerable comment in the bullying literature questioning many studies use of self-report data only. The concern is that analyses examining relationships between self-reported bullying involvement and other self-reported variables are exaggerated by the shared method variance of all the data originating from the same source. In an attempt to avoid this problem, peer-report nominations of bullying involvement are widely considered to depict a more accurate representation of bullying involvement especially in relation to other self-report variables because utilizing different sources of data decreases shared method variance.

This study collected both self- and peer-reported bullying information in an attempt to
compare self and peer perceptions of bullying involvement. Table 1 illustrates the variation in reported bullying and victimization involvement based on self- and peer-report categorization. Results revealed that over half the participants \((n=585, 320, 57.1\%)\) reported that they were not involved in cyber-bullying at all or had not participated in any type of traditional bullying more than once or twice, i.e. they did not meet the criteria for categorization as either a self-report bully or victim. A similar number \((n=585, 343, 59.2\%)\) were considered by their peers to not meet criteria as a peer-report bully or victim, i.e. they were not nominated by any of their peers as a cyber-bully or victim, nor were they nominated by more than one peer as a traditional bully or victim.

### Table 1. Frequency of Bullying Involvement Based on Both Self- and Peer-Report

<table>
<thead>
<tr>
<th>Bullying Type</th>
<th>Not Involved</th>
<th>Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>491 (84.9%)</td>
<td>483 (83.4%)</td>
</tr>
<tr>
<td>Verbal</td>
<td>390 (67.8%)</td>
<td>444 (76.7%)</td>
</tr>
<tr>
<td>Relational</td>
<td>400 (77.1%)</td>
<td>508 (87.7%)</td>
</tr>
<tr>
<td>Cyber</td>
<td>443 (77.3%)</td>
<td>426 (73.6%)</td>
</tr>
<tr>
<td>Any</td>
<td>320 (57.1%)</td>
<td>343 (59.2%)</td>
</tr>
<tr>
<td>All</td>
<td>26 (4.6%)</td>
<td>25 (4.2%)</td>
</tr>
</tbody>
</table>

However, further analysis reveals that these two groups are not composed of the same individuals, as only 38.3% \((n=585, 213)\) of the total did not meet either criteria, i.e. they did not report themselves as involved in bullying, nor were they nominated by their peers as such. Similarly, self- and peer-reports were in agreement that 21.2% \((n=556, 118)\) of participants met
criteria as participating in bullying of some form in some capacity. So, in 59.5% of participants the individual and their peers are in agreement as to whether they participate in some form of bullying behavior. Of course this means an individual and their peers disagree on whether they are involved in bullying or not 40.5% of the time.

When the same data are broken down by gender a similar trend is observed. Table 2 illustrates the variation in reported bullying involvement based on self- and peer-report categorization by gender. Results indicated that for each gender a trend is seen that is similar to that in the sample as a whole, that there is very little agreement between self and peer as to who is involved in each kind of bullying. It is interesting to note that there is a particularly small percentage of self and peer agreement on which girls are involved in physical (2.7%) and relational bullying (4%) and which boys are involved in cyber-bullying (4.7%).

<table>
<thead>
<tr>
<th>Bullying Type</th>
<th>Boys</th>
<th>Girls</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Self-Rep</td>
<td>Peer-Rep</td>
<td>Self &amp; Peer</td>
<td>Self-Rep</td>
<td>Peer-Rep</td>
</tr>
<tr>
<td>Physical</td>
<td>41 (20.9%)</td>
<td>45 (22.7%)</td>
<td>14 (7.2%)</td>
<td>46 (12.2%)</td>
<td>50 (13.3%)</td>
</tr>
<tr>
<td>Verbal</td>
<td>58 (29.6%)</td>
<td>50 (25.3%)</td>
<td>20 (10.3%)</td>
<td>126 (33.6%)</td>
<td>84 (22.3%)</td>
</tr>
<tr>
<td>Relational</td>
<td>34 (17.5%)</td>
<td>29 (14.6%)</td>
<td>11 (5.7%)</td>
<td>97 (25.9%)</td>
<td>40 (10.6%)</td>
</tr>
<tr>
<td>Cyber</td>
<td>24 (12.3%)</td>
<td>49 (24.7%)</td>
<td>9 (4.7%)</td>
<td>106 (28.3%)</td>
<td>104 (27.6%)</td>
</tr>
<tr>
<td>Any</td>
<td>77 (34.6%)</td>
<td>84 (41.4%)</td>
<td>120 (57%)</td>
<td>184 (47.3%)</td>
<td>153 (40.3%)</td>
</tr>
<tr>
<td>All</td>
<td>11 (5.9%)</td>
<td>13 (6.6%)</td>
<td>1 (.5%)</td>
<td>15 (4.1%)</td>
<td>12 (3.2%)</td>
</tr>
</tbody>
</table>

It is important to note that the sample is weighted heavily toward girls. When analyzed by gender six cases had to be removed as they did not report gender, which left an n of 200 for
boys and an $n$ of 379 for girls. Overall gender differences include the fact that almost twice the percentage of boys report themselves (20.9%) or are reported by their peers (22.7%) to be involved in physical bullying as girls (12.2% self-report, 13.3% peer-report), which is supported by the literature. Also, for relational bullying girls report involvement at a much higher rate (25.9%) than boys (17.5%), while their peers report the opposite (14.6% for boys and only 10.6% for girls). Girls, also self-report involvement in cyber-bullying at over double the rate (28.3%) of boys (12.3%).

Even greater discrepancies were found within the various bullying categorizations as to whether individuals and their peers were in agreement as to the role individuals played in bullying. Table 3 illustrates the variation in students nominated as either bullies or victims of the different forms of bullying based on self- and peer-report categorization. The greatest number of participants reporting themselves as a bully was for cyber-bullying at 40 (6.9%) students, but 70 (12.1%) students were reported as bullies by their peers with self and peer agreement for only 7 (1.2%) students. Of the 5 (.9%) students who saw themselves as perpetrators of all four kinds of bullying, and the 5 (.9%) students who were seen by their peers as perpetrators of all four kinds of bullying, self and peer were not in agreement about any of them.

As is to be expected, individual participants were more likely to report themselves as victims of various types of bullying, while peer-reports were more balanced between those who were nominated as bullies or victims. Similarly, there was greater agreement between self and peer-report for victimization than there was for bullying. The greatest number of participants reporting victimization was for verbal victimization at 171 (29.5%) students, but only 99 (17.1%) students were reported as such by their peers with agreement between self and peer for only 45 (7.8%) students. Out of the 22 (3.9%) students who saw themselves as victims of all four kinds
of bullying, and 14 (2.4%) who were seen as victims of all four kinds of bullying by their peers, only one (.2%) was seen this way by both self and peers.

Table 3. Frequencies of Bullying and Victimization Roles both Self- and Peer-Report

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>28 (4.8%)</td>
<td>42 (7.3%)</td>
<td>8 (1.4%)</td>
<td>74 (12.7%)</td>
<td>67 (11.6%)</td>
<td>17 (2.9%)</td>
</tr>
<tr>
<td>Verbal</td>
<td>32 (5.6%)</td>
<td>53 (9.1%)</td>
<td>5 (.9%)</td>
<td>171 (29.5%)</td>
<td>99 (17.1%)</td>
<td>45 (7.8%)</td>
</tr>
<tr>
<td>Relational</td>
<td>18 (3.1%)</td>
<td>26 (4.4%)</td>
<td>3 (.5%)</td>
<td>125 (21.7%)</td>
<td>53 (9.2%)</td>
<td>23 (4%)</td>
</tr>
<tr>
<td>Cyber</td>
<td>40 (6.9%)</td>
<td>70 (12.1%)</td>
<td>7 (1.2%)</td>
<td>116 (20.2%)</td>
<td>127 (21%)</td>
<td>37 (6.5%)</td>
</tr>
<tr>
<td>All</td>
<td>5 (.9%)</td>
<td>5 (.9%)</td>
<td>0 (0%)</td>
<td>22 (3.9%)</td>
<td>14 (2.4%)</td>
<td>1 (.2%)</td>
</tr>
</tbody>
</table>

Similar trends are observed when the data is analyzed by gender. There is very little agreement as to the role individuals played in bullying. Table 4 illustrates the variation in nominations as either bullies or victims of the different forms of bullying based on self- and peer-report categorization. Peers tended to nominate greater numbers of students as bullies than were reported as such by the individuals themselves, especially boys as physical (10.6%), verbal (12.6%) and cyber-bullies (10.6%), and girls as verbal (7.2%) and cyber-bullies (13%). Again a similar trend is seen in the self-reports as well, but the numbers of students who were nominated in the same role by both themselves and their peers are very small (.5% to 1.6%), so bullying perpetrators do not appear to see themselves as they are seen by their peers.

Overall, both boys and girls were more likely to report themselves as victims of various types of bullying. A greater percentage of boys reported themselves as victims of physical bullying (19.1%), compared to girls (9.5%). A high rate of both boys (26.3%) and girls (31.3%)
report experiencing verbally victimization, and higher percentages of girls report experiencing both relational victimization (24.7%) and cyber-victimization (25.4%). Peer reports reflect similar trends, but unfortunately only a small percentage of self-reported victims are identified as such by their peers (3.1% to 8.5%).

Table 4. Frequencies of Bullying and Victimization Roles both Self- and Peer-Report by Gender

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>Physical</td>
<td>13 (6.6%)</td>
<td>21 (10.6%)</td>
<td>3 (1.5%)</td>
<td>38 (19.1%)</td>
<td>33 (16.7%)</td>
<td>12 (6.1%)</td>
</tr>
<tr>
<td></td>
<td>Verbal</td>
<td>14 (7.1%)</td>
<td>25 (12.6%)</td>
<td>3 (1.5%)</td>
<td>52 (26.3%)</td>
<td>35 (17.7%)</td>
<td>13 (6.6%)</td>
</tr>
<tr>
<td></td>
<td>Relational</td>
<td>6 (3.1%)</td>
<td>11 (5.6%)</td>
<td>1 (0.5%)</td>
<td>32 (16.3%)</td>
<td>21 (10.6%)</td>
<td>9 (4.6%)</td>
</tr>
<tr>
<td></td>
<td>Cyber</td>
<td>20 (5.1%)</td>
<td>21 (10.6%)</td>
<td>1 (0.5%)</td>
<td>21 (10.7%)</td>
<td>40 (20.2%)</td>
<td>6 (3.1%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls</td>
<td>Physical</td>
<td>15 (4%)</td>
<td>21 (5.6%)</td>
<td>5 (1.3%)</td>
<td>36 (9.5%)</td>
<td>33 (8.8%)</td>
<td>5 (1.3%)</td>
</tr>
<tr>
<td></td>
<td>Verbal</td>
<td>17 (4.5%)</td>
<td>27 (7.2%)</td>
<td>2 (0.5%)</td>
<td>118 (31.3%)</td>
<td>64 (17%)</td>
<td>32 (8.5%)</td>
</tr>
<tr>
<td></td>
<td>Relational</td>
<td>12 (3.2%)</td>
<td>14 (3.7%)</td>
<td>2 (0.5%)</td>
<td>93 (24.7%)</td>
<td>31 (31%)</td>
<td>14 (3.7%)</td>
</tr>
<tr>
<td></td>
<td>Cyber</td>
<td>30 (7.9%)</td>
<td>49 (13%)</td>
<td>6 (1.6%)</td>
<td>95 (25.4%)</td>
<td>87 (23.1%)</td>
<td>31 (8.3%)</td>
</tr>
</tbody>
</table>

Interestingly, almost twice as many boys were identified as victims of cyber-bullying by their peers (20.2%) as identified themselves as such (10.7%), a reversal of the dominant trend of greater numbers identifying themselves as victims than were identified as such by their peers. Another reversal of this trend is that more girls were nominated as victims of relational bullying (31%) than reported themselves as such (24.7%), both of which were high numbers of
nominations, but again there was not much overlap, the percent nominated by both was only 3.7%. These findings indicate that for victimization there are a many students who report themselves as victims who are not identified as such by their peers.

There were a small percentage of student participants who were reported to be involved in bullying both as a bully and a victim as seen in Table 5. The greatest number of participants were reported as victim/perpetrators of cyber-bullying at 24 (4.2%) students, and 44 (7.6%) students were reported as such by their peers, but self and peers were not in agreement on any of these 68 (11.8%) students. For other forms of bullying the numbers of students reporting as both bullies and victims were much lower.

### Table 5. Frequencies of Victim/Perpetration both Self- and Peer-Report

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>10 (1.8%)</td>
<td>11 (1.9%)</td>
<td>2 (.3%)</td>
<td>74 (12.7%)</td>
<td>42 (7.3%)</td>
<td>11 (1.9%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verbal</td>
<td>14 (2.4%)</td>
<td>16 (2.7%)</td>
<td>1 (.2%)</td>
<td>171 (29.5%)</td>
<td>53 (9.1%)</td>
<td>22 (3.8%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relational</td>
<td>9 (1.5%)</td>
<td>7 (1.2%)</td>
<td>1 (.2%)</td>
<td>125 (22.1%)</td>
<td>26 (4.4%)</td>
<td>9 (1.6%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyber</td>
<td>24 (4.2%)</td>
<td>44 (7.6%)</td>
<td>0 (0%)</td>
<td>116 (20.1%)</td>
<td>70 (12.1%)</td>
<td>13 (2.3%)</td>
</tr>
</tbody>
</table>

Also, shown in Table 5 the percentage of students who reported themselves as victims of each type of bullying who were reported by their peers as bullies was actually higher than the agreement between those who were seen as bullies by both. Of the students who saw themselves as victims and were seen as bullies by their peers the greatest self and peer agreement was for verbal bullying and victimization at 22 (3.8%) students, which is much higher than the agreement between self and peer for verbal bullying, which was only 1 (.2%) student.
In summation, there were a great many students who reported themselves as victims, who were not recognized as such by their peers. The opposite was true of bullies; the majority of students perceived as bullies by their peers did not report themselves as such. There was actually more agreement between students who reported themselves as victims who were nominated as bullies by their peers than there was agreement between students and their peers both nominating a given student as a bully.

**Bivariate Correlations**

Pearson product moment correlations were calculated between all continuous study variables, and point biserial correlations were calculated between gender and all continuous study variables. Correlation matrices for peer-reported bullying and victimization are shown in Table 6. Continuous variables of self-esteem, prosocial behavior, number of friends, friendship quality and positive perception of peers were frequently positively correlated with each other and had negative associations with depression and antisocial peer group which were in turn positively correlated with each other.

Participants who were peer-nominated as involved in bullying in some way were more likely to be nominated as participating in other forms as well. For each form of bullying, perpetration and victimization were correlated with each other, such as cyber-bullying and cyber-victimization. Also, most forms of bullying were correlated with each other and most forms of victimization were correlated with each other. However, there are also some interesting departures from that pattern, for example, relational bullying and victimization are correlated with physical bullying, whereas cyber-bullying and victimization have no relationship with physical bullying, but are correlated instead with physical victimization. Interestingly, relational
bullying and victimization were not correlated with any of the included adjustment variables at all, which again indicates a very different profile of participants in relational bullying.

Pearson product moment correlations and point biserial correlations were also calculated between gender and all the same continuous study variables utilizing self-report bullying and victimization scale scores. Correlation matrices for self-reported bullying and victimization are shown in Table 7. Self-report bullying and victimization scale scores were not utilized for any other statistical analyses, but correlations were included as additional evidence of the impact different sources of bullying data have on study results. For example, self-report relational bullying and victimization share more similar characteristics to other forms of bullying and victimization than was found by peer-report. Utilizing self-report data, correlations are stronger between all forms of bullying and all forms of victimization. Correlations between less prosocial behavior, more antisocial peer group, worse perception of peers, and increased agentic goals were much stronger for self-reported bullying than for peer-report. Correlations between victimization and low self-esteem, depression, less parental support, fewer friends, antisocial peer group and a worse perception of peers were much stronger for self-reported bullying and victimization than for peer-report.

Correlation matrices comparing self- and peer-reported bullying and victimization are shown in Table 8. In general, correlations were stronger among self-reported forms of bullying and victimization, and among peer-reported forms than between self- and peer-reported forms. All self-reported variables were significantly correlated with each other with particularly strong correlations between physical and verbal bullying, physical and verbal victimization, and verbal and relational victimization. Many peer-reported variables were correlated with each other as well with the strongest correlations for physical and relational bullying, physical and verbal
victimization, physical and cyber-victimization, verbal and cyber victimization, and cyber-bullying and victimization.

Correlations between self- and peer-report variables were much weaker with the strongest correlations between self- and peer-reported verbal victimization, self-reported verbal victimization and peer-reported relational victimization, and self- and peer-reported relational victimization. This reflects the relationship found above that there is more agreement between self- and peer-report regarding victimization than there is regarding bullying behaviors. For cyber-bullying and victimization there is far less agreement between self and peers than for other bullying forms. There was only one weak correlation between self- and peer-report that met the Bonferroni correction criteria for significance, which was between self-reported cyber-victimization and peer-reported relational victimization. Also, in examining the relationship found above between participants who were nominated as bullies by their peers, but who reported themselves as victims, weak but significant relationships were found between self-reported relational victimization and peer-identified physical bullying and relational bullying.
Table 6. Correlations, Means, and Standard Deviations of Peer-Report Study Variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Self-E</td>
<td>.21***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Depres</td>
<td>-.21***</td>
<td>.71***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Prosoc</td>
<td>-.11**</td>
<td>.22***</td>
<td>-.08</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. ParenS</td>
<td>.09*</td>
<td>.40***</td>
<td>-.41***</td>
<td>.16***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. NumF</td>
<td>.08*</td>
<td>.27***</td>
<td>-.30***</td>
<td>.15***</td>
<td>.13***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. FriendQ</td>
<td>-.32***</td>
<td>-.03</td>
<td>.06</td>
<td>.36***</td>
<td>.22***</td>
<td>.14***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Antisoc</td>
<td>.03</td>
<td>-.24***</td>
<td>-.25***</td>
<td>-.24***</td>
<td>-.17***</td>
<td>-.01</td>
<td>-.09*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. PerPeers</td>
<td>-.10*</td>
<td>.34***</td>
<td>-.31***</td>
<td>.31***</td>
<td>.26***</td>
<td>.28***</td>
<td>.39***</td>
<td>-.27***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. AgGoal</td>
<td>-.02</td>
<td>.03</td>
<td>-.01</td>
<td>-.2***</td>
<td>-.07</td>
<td>.06</td>
<td>-.09*</td>
<td>.12**</td>
<td>-.08</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. ComGoal</td>
<td>-.11**</td>
<td>.14***</td>
<td>-.19***</td>
<td>.16***</td>
<td>.05</td>
<td>-.22***</td>
<td>.18***</td>
<td>-.09*</td>
<td>.31***</td>
<td>.13**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. PPhysB</td>
<td>.15***</td>
<td>.00</td>
<td>-.02</td>
<td>.06</td>
<td>.08</td>
<td>.00</td>
<td>.09*</td>
<td>-.01</td>
<td>.04</td>
<td>-.03</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. PPhysV</td>
<td>.11**</td>
<td>-.16**</td>
<td>.17***</td>
<td>-.15***</td>
<td>-.10*</td>
<td>.15***</td>
<td>-.02</td>
<td>.12**</td>
<td>-.13**</td>
<td>.07</td>
<td>-.06</td>
<td>.16***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. PVerbB</td>
<td>.07</td>
<td>.05</td>
<td>-.00</td>
<td>-.20***</td>
<td>-.02</td>
<td>.00</td>
<td>-.10*</td>
<td>.22***</td>
<td>-.06</td>
<td>.17**</td>
<td>.00</td>
<td>.26***</td>
<td>.32***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. PVerbV</td>
<td>-.02</td>
<td>-.20***</td>
<td>.21***</td>
<td>-.06</td>
<td>-.13**</td>
<td>-.17***</td>
<td>.01</td>
<td>.03</td>
<td>-.10*</td>
<td>-.01</td>
<td>-.07</td>
<td>.10*</td>
<td>.63***</td>
<td>.29***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. PReiB</td>
<td>.05</td>
<td>.04</td>
<td>-.00</td>
<td>.02</td>
<td>.07</td>
<td>.09*</td>
<td>.11**</td>
<td>-.03</td>
<td>.10*</td>
<td>-.01</td>
<td>.04</td>
<td>.64***</td>
<td>-.05</td>
<td>.19***</td>
<td>.04</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. PReiV</td>
<td>.00</td>
<td>-.05</td>
<td>.10*</td>
<td>.07</td>
<td>.00</td>
<td>.00</td>
<td>.08</td>
<td>-.06</td>
<td>.00</td>
<td>-.05</td>
<td>.06</td>
<td>.45***</td>
<td>.21***</td>
<td>.07</td>
<td>.33***</td>
<td>.47***</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. PCybB</td>
<td>-.02</td>
<td>-.09*</td>
<td>.08</td>
<td>-.20***</td>
<td>-.06</td>
<td>-.08</td>
<td>-.03</td>
<td>.22***</td>
<td>-.13**</td>
<td>.14**</td>
<td>-.07</td>
<td>-.01</td>
<td>.38***</td>
<td>.48***</td>
<td>.30***</td>
<td>-.07***</td>
<td>-.15***</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>19. PCybV</td>
<td>-.04</td>
<td>-.17***</td>
<td>.17***</td>
<td>-.14***</td>
<td>-.12**</td>
<td>-.11*</td>
<td>.00</td>
<td>.15***</td>
<td>-.13**</td>
<td>.09*</td>
<td>-.09*</td>
<td>.09*</td>
<td>.56***</td>
<td>.39***</td>
<td>.51***</td>
<td>-.04</td>
<td>.16***</td>
<td>.54***</td>
<td>1</td>
</tr>
<tr>
<td>Mean</td>
<td>.35</td>
<td>3.66</td>
<td>2.49</td>
<td>4.14</td>
<td>4.15</td>
<td>4.50</td>
<td>4.38</td>
<td>2.44</td>
<td>3.97</td>
<td>-.40</td>
<td>1.67</td>
<td>.34</td>
<td>.50</td>
<td>.43</td>
<td>.73</td>
<td>.27</td>
<td>.45</td>
<td>.13</td>
<td>.26</td>
</tr>
</tbody>
</table>

**SD** = 48.86, 0.94, 0.79, 0.92, 0.92, 0.72, 0.95, 0.73, 1.92, 1.90, 0.69, 0.94, 0.74, 1.05, 0.57, 0.75, 0.38, 0.53

***p < .001; **p < .01; *p < .05

Note: Correlations presented across conditions. Gender = participant gender; Self-E = self-esteem; Depres = depression; Prosoc = prosocial behavior; ParenS = perceived parental support; NumbF = number of friends; FriendQ = friendship quality; Antisoc = antisocial peer group; PerPeers = perception of peers; AgGoal agentic goals; ComGoal communal goals; PPhysB = peer-reported physical bullying; PPhysV = peer-reported physical victimization; PVerbB = peer-reported verbal bullying; PVerbV = peer-reported verbal victimization; PReiB = peer-reported relational bullying; PReiV = peer-reported relational victimization; PCybB = peer-reported cyber-bullying; PCybV = peer-reported cyber-victimization.
Table 7. Correlations, Means, and Standard Deviations of Self-Report Study Variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Self-E</td>
<td>.21***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Depres</td>
<td>-.21*** -.71***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Prosoc</td>
<td>-.11** -.22*** -.08</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. ParenS</td>
<td>.09* .40*** -.41*** .16***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. NumF</td>
<td>.08 .27*** -.30*** .15*** .13***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. FriendQ</td>
<td>-.32*** -.03 .06 .36*** .22*** .14***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Antisoc</td>
<td>.03 -.24*** .25*** -.24*** -.17*** -.01 -.09*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. PerPeers</td>
<td>-.10* .34*** -.31*** .31*** .26*** .28*** .39*** -.27***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. AgGoal</td>
<td>-.02 .03 -.01 -.2*** -.07 .06 -.09* .12** -.08</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. ComGoal</td>
<td>-.11** .14*** -.19*** .16*** .05 .22*** .18*** -.09* .31*** .13**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. SPhysB</td>
<td>.11** -.03 .05 -.17*** -.10* .01 -.10* .26*** -.14*** .14*** -.05</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. SPhysV</td>
<td>.06 -.24*** .32*** .00 -.10* -.17*** -.02 .13*** -.13** -.01 -.06 .31***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. SVerbB</td>
<td>.06 -.00 .07 -.22*** -.14*** -.06 -.16*** .23*** -.20*** .17*** -.05 .56*** .12**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. SVerbV</td>
<td>-.08* -.39*** -.49*** .01 -.22*** -.23*** .02 .13** -.20*** -.02 -.05 .20*** .57*** .16***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. SRelB</td>
<td>-.05 -.10* -.11** -.13** -.07 -.05 -.05 .23*** -.12* .11** -.04 .43*** .18*** .37*** .19***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. SRelV</td>
<td>-.13** -.39*** -.46*** .01 -.17*** -.28*** .09* .16*** -.16*** -.06 -.04 .17*** .48*** .13*** .65*** .27***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. SCybB</td>
<td>-.05 -.07* .11** -.12*** -.09* .03 .03 .25*** -.02 .18*** .02 .44*** .17*** .37*** .10 .37*** .17***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. SCybV</td>
<td>-.16*** -.28*** -.35*** -.03 -.15*** -.13** .06 .11** -.07* .03 .01 .13** .34*** .12** .38*** .21*** .47*** .28***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Mean**

<p>| | | | | | | | | | | | | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SD</strong></td>
<td>.48</td>
<td>.86</td>
<td>.94</td>
<td>.79</td>
<td>.92</td>
<td>.92</td>
<td>.72</td>
<td>.95</td>
<td>.73</td>
<td>1.92</td>
<td>1.90</td>
<td>.39</td>
<td>.78</td>
<td>.49</td>
<td>1.11</td>
<td>.34</td>
<td>.98</td>
<td>.24</td>
<td>.58</td>
<td></td>
</tr>
</tbody>
</table>

***p < .001; **p < .01; *p < .05

Note: Correlations presented across conditions. Gender = participant gender; Self-E = self-esteem; Depres = depression; Prosoc = prosocial behavior; ParenS = perceived parental support; NumF = number of friends; FriendQ = friendship quality; Antisoc = antisocial peer group; PerPeers = perception of peers; AgGoal agentic goals; ComGoal = communal goals; SPhysB = self-reported physical bullying; SPhysV = self-reported physical victimization; SVerbB = self-reported verbal bullying; SVerbV = self-reported verbal victimization; SRelB = self-reported relational bullying; SRelV = self-reported relational victimization; SCybB = self-reported cyber-bullying; SCybV = self-reported cyber-victimization.
### Table 8. Correlations, Means, and Standard Deviations of Self and Peer-Report Variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SPhysB</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. SPhysV</td>
<td>.31***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. SVerbB</td>
<td>.56***</td>
<td>.12**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. SVerbV</td>
<td>.20***</td>
<td>.57***</td>
<td>.16***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. SRelB</td>
<td>.43***</td>
<td>.18***</td>
<td>.37***</td>
<td>.19***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. SRelV</td>
<td>.17***</td>
<td>.48***</td>
<td>.13***</td>
<td>.65***</td>
<td>.27***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. SCybB</td>
<td>.44***</td>
<td>.17***</td>
<td>.37***</td>
<td>.10*</td>
<td>.37***</td>
<td>.17***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. SCybV</td>
<td>-13***</td>
<td>.34***</td>
<td>.12***</td>
<td>.38***</td>
<td>.21***</td>
<td>.47***</td>
<td>.28***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. PPhysB</td>
<td>.11**</td>
<td>.08</td>
<td>.07</td>
<td>-.06</td>
<td>.07</td>
<td>.17***</td>
<td>.09*</td>
<td>.07</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. PPhysV</td>
<td>.08*</td>
<td>.14***</td>
<td>.01</td>
<td>.14***</td>
<td>.07</td>
<td>.12**</td>
<td>-.06</td>
<td>.01</td>
<td>.16***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. PVerbB</td>
<td>.20***</td>
<td>.03</td>
<td>.20***</td>
<td>.05</td>
<td>.10*</td>
<td>.04</td>
<td>.10*</td>
<td>.01</td>
<td>.26***</td>
<td>.32***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. PVerbV</td>
<td>.04</td>
<td>.13***</td>
<td>.00</td>
<td>.23***</td>
<td>.01</td>
<td>.17***</td>
<td>-.05</td>
<td>.10*</td>
<td>.10*</td>
<td>.63***</td>
<td>.29***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. PRelB</td>
<td>.04</td>
<td>.07</td>
<td>.04</td>
<td>.11*</td>
<td>.04</td>
<td>.17***</td>
<td>.03</td>
<td>.11*</td>
<td>.64***</td>
<td>-.05</td>
<td>.19***</td>
<td>.04</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. PRelV</td>
<td>.02</td>
<td>.19***</td>
<td>.02</td>
<td>.27***</td>
<td>.06</td>
<td>.27***</td>
<td>.07</td>
<td>.16***</td>
<td>.45***</td>
<td>.21***</td>
<td>.07</td>
<td>.33***</td>
<td>.47***</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. PCybB</td>
<td>.10*</td>
<td>-.01</td>
<td>.11*</td>
<td>-.03</td>
<td>.02</td>
<td>-.04</td>
<td>.04</td>
<td>-.12**</td>
<td>-.01</td>
<td>.38***</td>
<td>.48***</td>
<td>.30***</td>
<td>-.07</td>
<td>-.15***</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>16. PCybV</td>
<td>.06</td>
<td>.07</td>
<td>.01</td>
<td>.07</td>
<td>.05</td>
<td>.11**</td>
<td>.02</td>
<td>.06</td>
<td>.09</td>
<td>.56***</td>
<td>.39***</td>
<td>.51***</td>
<td>-.04</td>
<td>.16***</td>
<td>.54***</td>
<td>1</td>
</tr>
<tr>
<td>Mean</td>
<td>1.24</td>
<td>1.65</td>
<td>1.35</td>
<td>2.24</td>
<td>1.21</td>
<td>1.92</td>
<td>1.13</td>
<td>1.42</td>
<td>.34</td>
<td>.50</td>
<td>.43</td>
<td>.73</td>
<td>.27</td>
<td>.45</td>
<td>.13</td>
<td>.26</td>
</tr>
<tr>
<td>SD</td>
<td>.39</td>
<td>.78</td>
<td>.49</td>
<td>1.11</td>
<td>.34</td>
<td>.98</td>
<td>.24</td>
<td>.58</td>
<td>.69</td>
<td>.94</td>
<td>.74</td>
<td>1.05</td>
<td>.57</td>
<td>.75</td>
<td>.38</td>
<td>.53</td>
</tr>
</tbody>
</table>

Note: Correlations presented across conditions. SPhysB = self-reported physical bullying; SPhysV = self-reported physical victimization; SVerbB = self-reported verbal bullying; SVerbV = self-reported verbal victimization; SRelB = self-reported relational bullying; SRelV = self-reported relational victimization; SCybB = self-reported cyber-bullying; SCybV = self-reported cyber-victimization; PPhysB = peer-reported physical bullying; PPhysV = peer-reported physical victimization; PVerbB = peer-reported verbal bullying; PVerbV = peer-reported verbal victimization; PRelB = peer-reported relational bullying; PRelV = peer-reported relational victimization; PCybB = peer-reported cyber-bullying; PCybV = peer-reported cyber-victimization.
**Linear Regressions**

Stepwise multiple linear regressions were calculated to predict continuous variables of peer-reported physical, verbal, relational and cyber-bullying and victimization scale scores based on the self-reported variables of gender, self-esteem, depression, prosocial behavior, parental support, number of friends, friendship quality, antisocial peer group, perception of peers, and social goals.

**Comparing Regressions**

Both physical bullying and victimization had male gender and increased depression as predictors in the models. Increased depression was also a predictor in the models for verbal and relational victimization. Reporting fewer friends was included in the models for physical, verbal and cyber victimization, while reporting more friends was included in the model for physical bullying. For verbal and cyber-bullying having a more antisocial peer group and less prosocial behavior were both predictors of perpetration in each model. Surprisingly, the only predictor included in the model for peer-selected relational bullying is increased self-reported friendship quality.

**Peer-report physical bullying.** A stepwise multiple linear regression was calculated to predict peer-reported physical bullying based on self-reported variables. A significant regression equation was found (F(4,453) = 5.588, *p* < .0009), with an adjusted R² of .039 (Table 9). Being male, reporting more parental support, reporting increased levels of depression and reporting greater numbers of friends were significant predictors of identification as a physical bully by peers in the model.
Table 9. Stepwise Linear Model of Predictors of Peer-Identified Physical Bullying

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>beta</th>
<th>t</th>
<th>Bivariate R</th>
</tr>
</thead>
<tbody>
<tr>
<td>(constant)</td>
<td>-1.133</td>
<td>-</td>
<td>-3.709</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.267</td>
<td>.151</td>
<td>3.214</td>
<td>.140</td>
</tr>
<tr>
<td>Parental Support</td>
<td>.145</td>
<td>.142</td>
<td>2.828</td>
<td>.109</td>
</tr>
<tr>
<td>Depression</td>
<td>.124</td>
<td>.138</td>
<td>2.573</td>
<td>.016</td>
</tr>
<tr>
<td>Number of Friends</td>
<td>.193</td>
<td>.100</td>
<td>2.084</td>
<td>.081</td>
</tr>
</tbody>
</table>

**Peer-report physical victimization.** A stepwise multiple linear regression was calculated to predict peer-reported physical victimization based on the self-reported variables listed above. A significant regression equation was found \( F(4,454) = 8.786, p < .0009 \), with an adjusted \( R^2 \) of .064 (Table 10). Higher depression scores, being male, reporting fewer friends and lower levels of prosocial behavior were significant predictors of peer-identification as a victim of physical bullying in this model.

Table 10. Stepwise Linear Model of Predictors of Peer-Identified Physical Victimization

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>beta</th>
<th>t</th>
<th>Bivariate R</th>
</tr>
</thead>
<tbody>
<tr>
<td>(constant)</td>
<td>.155</td>
<td>.547</td>
<td>.</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>.156</td>
<td>.164</td>
<td>3.360</td>
<td>.173</td>
</tr>
<tr>
<td>Gender</td>
<td>.257</td>
<td>.137</td>
<td>2.931</td>
<td>.110</td>
</tr>
<tr>
<td>Number of Friends</td>
<td>-.199</td>
<td>-.098</td>
<td>-2.039</td>
<td>-.154</td>
</tr>
<tr>
<td>Prosocial Behavior</td>
<td>-.109</td>
<td>-.093</td>
<td>-2.013</td>
<td>-.142</td>
</tr>
</tbody>
</table>

**Peer-report verbal bullying.** A stepwise multiple linear regression was calculated to predict peer-reported verbal bullying based on self-reported variables. A significant regression equation was found \( F(4,454) = 12.364, p < .0009 \), with an adjusted \( R^2 \) of .090 (Table 11). Reporting a more antisocial peer group, increased agentic goals, less prosocial behavior and higher self-esteem were found to be significant predictors of peer-identification as a verbal bully in this model.
**Table 11.** Stepwise Linear Model of Predictors of Peer-Identified Verbal Bullying

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>beta</th>
<th>t</th>
<th>Bivariate R</th>
</tr>
</thead>
<tbody>
<tr>
<td>(constant)</td>
<td>-.206</td>
<td>-.681</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antisocial Peers</td>
<td>.173</td>
<td>.188</td>
<td>3.978</td>
<td>.198</td>
</tr>
<tr>
<td>Agentic Goals</td>
<td>.058</td>
<td>.130</td>
<td>2.844</td>
<td>.184</td>
</tr>
<tr>
<td>Prosocial Behavior</td>
<td>-.170</td>
<td>-.151</td>
<td>-3.214</td>
<td>-.180</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>.144</td>
<td>.148</td>
<td>3.125</td>
<td>.068</td>
</tr>
</tbody>
</table>

**Peer-report verbal victimization.** A stepwise multiple linear regression was calculated to predict peer-reported verbal victimization based on self-reported variables. A significant regression equation was found ($F(2,456) = 16.596, p < .0009$), with an adjusted $R^2$ of 0.064 (Table 12). Higher depression scores and reporting fewer friends were significant predictors of peer-identification as a victim of verbal bullying in this model.

**Table 12.** Stepwise Linear Model of Predictors of Peer-Identified Verbal Victimization

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>beta</th>
<th>t</th>
<th>Bivariate R</th>
</tr>
</thead>
<tbody>
<tr>
<td>(constant)</td>
<td>-.188</td>
<td>-1.167</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>.182</td>
<td>.185</td>
<td>3.883</td>
<td>.226</td>
</tr>
<tr>
<td>Number of Friends</td>
<td>-.286</td>
<td>-.136</td>
<td>-2.853</td>
<td>-.192</td>
</tr>
</tbody>
</table>

**Peer-report relational bullying.** A stepwise multiple linear regression was calculated to predict peer-reported relational bullying based on self-reported variables. A significant regression equation was found ($F(1,457) = 10.156, p < .009$; does not meet the criteria of the adjusted Bonferroni $p$-value of .00185), with an adjusted $R^2$ of .020 (Table 13). Reporting higher levels of friendship quality was found to be a significant predictor of peer-identification as a relational bully in this model.

**Table 13.** Stepwise Linear Model of Predictors of Peer-Identified Relational Bullying
Peer-report relational victimization. A stepwise multiple linear regression was calculated to predict peer-reported relational victimization based on self-reported variables. A significant regression equation was found ($F(2,455) = 8.075, p < .0009$), with an adjusted $R^2$ of .030 (Table 14). Reporting higher levels of prosocial behavior and increased depression scores were significant predictors of peer-identification as a victim of relational bullying in this model.

Table 14. Stepwise Linear Model of Predictors of Peer-Identified Relational Victimization

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>beta</th>
<th>t</th>
<th>Bivariate R</th>
</tr>
</thead>
<tbody>
<tr>
<td>(constant)</td>
<td>-.957</td>
<td></td>
<td>-3.686</td>
<td></td>
</tr>
<tr>
<td>Prosocial Behavior</td>
<td>.181</td>
<td>.157</td>
<td>3.394</td>
<td>.146</td>
</tr>
<tr>
<td>Depression</td>
<td>.170</td>
<td>.114</td>
<td>2.466</td>
<td>.099</td>
</tr>
</tbody>
</table>

Peer-report cyber-bullying. A stepwise multiple linear regression was calculated to predict peer-reported cyber-bullying based on self-reported variables. A significant regression equation was found ($F(2,455) = 20.859, p < .001$), with an adjusted $R^2$ of .080 (Table 15). Reporting a more antisocial peer group and less prosocial behavior were found to be significant predictors of peer-identification as a cyber-bully in this model.

Table 15. Stepwise Linear Model of Predictors of Peer-Identified Cyber Bullying

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>beta</th>
<th>t</th>
<th>Bivariate R</th>
</tr>
</thead>
<tbody>
<tr>
<td>(constant)</td>
<td>.416</td>
<td></td>
<td>1.678</td>
<td></td>
</tr>
<tr>
<td>Antisocial Peers</td>
<td>.166</td>
<td>.191</td>
<td>4.150</td>
<td>.230</td>
</tr>
<tr>
<td>Prosocial Behavior</td>
<td>-.192</td>
<td>-.180</td>
<td>-3.921</td>
<td>-.222</td>
</tr>
</tbody>
</table>

Peer-report cyber victimization. A stepwise multiple linear regression was calculated to predict peer-reported cyber victimization based on self-reported variables. A significant
regression equation was found \( F(3,454) = 9.230, p < .0009 \), with an adjusted \( R^2 \) of .051 (Table 16). Reporting lower levels of self-esteem, a more antisocial peer group and fewer friends were found to be significant predictors of peer-identification as a victim of cyber-bullying in this model.

**Table 16.** Stepwise Linear Model of Predictors of Peer-Identified Cyber Victimization

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>beta</th>
<th>t</th>
<th>Bivariate R</th>
</tr>
</thead>
<tbody>
<tr>
<td>(constant)</td>
<td>.353</td>
<td></td>
<td>1.558</td>
<td></td>
</tr>
<tr>
<td>Self-esteem</td>
<td>-.120</td>
<td>-.123</td>
<td>-2.505</td>
<td>-.183</td>
</tr>
<tr>
<td>Antisocial Peers</td>
<td>.115</td>
<td>.125</td>
<td>2.637</td>
<td>.156</td>
</tr>
<tr>
<td>Number of Friends</td>
<td>-.217</td>
<td>-2.334</td>
<td>-2.334</td>
<td>-.140</td>
</tr>
</tbody>
</table>

**Conclusions**

This study’s findings at least partially support most of the initial hypotheses that attempt to relate students’ physical, verbal, relational and cyber-bullying and victimization to various demographic and psychosocial variables within the domains of psychosocial adjustment, social support, and adjustment with peers. Investigated variables included gender, self-esteem, depression, prosocial behavior, perceived parental support, number of friends, perceived friendship quality, antisocial peer group, perception of peers, and social goals.

Hypothesis 1: The degree of involvement in physical, verbal, relational and cyber-bullying and victimization behaviors will be differentially related to gender. Most elements of the Hypothesis 1 were supported by the study findings. Physical, verbal, relational and cyber-bullying and victimization were generally found by point biserial correlation to be differentially related to gender.

a. Boys will be more likely to participate in physical, verbal, relational and cyber-bullying than girls. The findings partially support this hypothesis. Boys were found to be more
likely to participate in physical bullying than girls $r(574) = .151, p < .0009$; however, they were not found to be statistically more likely to participate in verbal, $r(574) = .067, p < .108$, relational, $r(574) = .045, p < .286$ or cyber-bullying behaviors, $r(574) = -.019, p < .657$.

b. Boys will be more likely to be involved in physical bullying and victimization than girls. The findings partially support this hypothesis. Boys were found to be significantly more likely to be involved in physical bullying and victimization than girls, physical bullying, $r(574) = .151, p < .0009$, physical victimization, $r(575) = .113, p < .007$ (does not meet the criteria of the adjusted Bonferroni $p$-value of .00185).

Hypothesis 2: The degree of involvement in physical, verbal, relational and cyber-bullying and victimization behaviors will be differentially related to specific dependent variables related to emotional and behavioral adjustment (e.g., self-esteem, depression, prosocial behavior). Hypothesis 2 was partially supported by the data. Traditional and cyber-bullying involvement was differentially related to specific dependent variables related to emotional and behavioral adjustment (e.g., self-esteem, depression, prosocial behavior).

a. Higher levels of physical, verbal, relational and cyber-bullying victimization will be related to lower self-esteem. The findings partially support this hypothesis. Students who were nominated as experiencing physical, verbal and cyber-victimization were found by correlations to report lower self-esteem than their peers, weak negative relationships were found between self-esteem and physical victimization, $r(550) = -.161, p < .0009$, verbal victimization, $r(549) = -.204, p < .0009$, and cyber victimization, $r(549) = -.168, p < .0009$, but not relational victimization, $r(549) = -.054, p < .204$.

b. Higher levels of physical, verbal, relational and cyber-victimization will be related to higher levels of depression. The findings partially support this hypothesis. The
different types of victimization were found by correlation to relate to higher depression scale scores, weak relationships were found between depression and physical victimization, \( r(541) = .170, p < .0009 \), verbal victimization, \( r(541) = .212, p < .0009 \), relational victimization, \( r(540) = .099, p < .022 \) (does not meet the criteria of the adjusted Bonferroni \( p \)-value of .00185), and cyber victimization, \( r(540) = .168, p < .0009 \).

c. Higher levels of physical, verbal, relational and cyber-bullying behaviors will be related to lower levels of prosocial behavior. The findings partially support this hypothesis. Verbal and cyber-bullying behaviors were found by correlation to relate to lower prosocial behavior, weak negative relationships were found between prosocial behavior and verbal bullying, \( r(571) = -.202, p < .0009 \), and cyber bullying, \( r(570) = -.143, p < .001 \), but not physical bullying, \( r(570) = -.015, p < .726 \), and relational bullying, \( r(571) = .071, p < .088 \).

Hypothesis 3: The degree of involvement in physical, verbal, relational and cyber-bullying and victimization behaviors will be differentially related to perception of parental support. Hypothesis 3 was partially supported by the data. Traditional and cyber-bullying classification was differentially related to perception of parental support.

a. Higher levels of involvement in victimization of any kind will be related to lower levels of parental support. The findings partially support this hypothesis, but not at the level of adhering to the Bonferroni adjusted \( p \)-value of .00185. Physical, verbal and cyber-victimization were found to have weak negative correlations with parental support, physical victimization: \( r(574) = -.101, p < .015 \), verbal victimization: \( r(573) = -.129, p < .002 \), and cyber victimization: \( r(573) = -.117, p < .005 \), while no such correlations were found between parental support and relational victimization: \( r(573) = .003, p < .973 \).

Hypothesis 4: The degree of involvement in physical, verbal, relational and cyber-
bullying and victimization behaviors will be differentially related to specific dependent variables within the domain of friendship adjustment (e.g., reported number of friends, perceived friendship quality, antisocial peer group, perception of peers, social goals). Most of the elements of Hypothesis 4 were supported by the findings. Traditional and cyber-bullying classification was found be differentially related to most of the specific dependent variables within the domain of friendship adjustment (e.g., reported number of friends, perceived friendship quality, antisocial peer group, perception of peers, social goals).

a. Higher levels of physical, verbal, relational, and cyber-victimization will be related to having fewer friends. The findings partially support this hypothesis. Reported physical and verbal victimization were found to have weak negative correlations with number of friends, physical victimization, $r(559) = -.153$, $p < .0009$, verbal victimization, $r(558) = -.174$, $p < .0009$, and cyber victimization, $r(558) = -.109$, $p < .010$ (does not meet the adjusted Bonferroni $p$-value of .00185), but not relational victimization, $r(558) = .002$, $p < .971$. This indicates that students who are peer-reported as victims of physical, verbal and cyber-bullying report having increasingly fewer friends as their peers report increased victimization.

b. Higher levels of physical or verbal victimization will be related to greater perceived friendship quality. The findings did not support this hypothesis. Physical victimization, $r(566) = -.023$, $p < .587$, and verbal victimization, $r(565) = .007$, $p < .867$, did not relate to greater perceived friendship quality. Conversely, however, verbal bullying behaviors, $r(566) = -.095$, $p < .024$ (does not meet the adjusted Bonferroni $p$-value of .00185), did have a very weak relationship with lower perceived friendship quality.

c. Higher levels of physical, verbal, relational or cyber-bullying will be related to a higher reported level of deviant peer group affiliation. The findings partially support this
hypothesis. Physical, verbal, and cyber-bullying behaviors were found to be related to deviant peer group affiliation. A weak positive relationship was found for these types of bullying perpetration, physical bullying: \( r(568) = .086, p < .041 \) (does not meet the adjusted Bonferroni \( p \)-value of \( .00185 \)), verbal bullying: \( r(569) = .220, p < .0009 \), and cyber bullying: \( r(569) = .215, p < .0009 \), but not for relational bullying: \( r(570) = -.028, p < .509 \), indicating that as the severity of bullying behavior as reported by peers increases so does reported affiliation with a deviant peer group. Incidentally, this was also found to be true of physical victimization, \( r(570) = .123, p < .003 \) (does not meet the adjusted Bonferroni \( p \)-value of \( .00185 \)), and cyber-victimization: \( r(569) = .146, p < .0009 \).

d. Increased physical, verbal, relational or cyber-victimization will be related to a less positive perceptions of peers. The findings partially support this hypothesis, but not at a level that adheres to the Bonferroni adjusted \( p \)-value of \( .00185 \). Weak negative correlations were found for physical victimization, \( r(547) = -.131, p < .002 \), verbal victimization, \( r(546) = -.101, p < .018 \), and cyber-victimization, \( r(546) = -.126, p < .003 \), but not relational victimization, \( r(546) = .001, p < .976 \), a weak negative relationship was also found for cyber-bullying behaviors, \( r(546) = -.126, p < .003 \).

e. Higher levels of physical, verbal, relational and cyber-bullying will be found to be related to higher levels of agentic goals. The findings partially support this hypothesis. Weak positive correlations were found for verbal bullying, \( r(574) = .174, p < .0009 \), and cyber-bullying, \( r(574) = .135, p < .001 \), but not physical bullying, \( r(574) = .038, p < .367 \), or relational bullying, \( r(575) = -.013, p < .751 \), a very weak positive relationship was also found for cyber-victimization, \( r(574) = .093, p < .027 \).

Hypothesis 5: Certain variables will be found to be strong predictors of victimization
while others will be found to be strong predictors of bullying. Hypothesis 5 was supported by the data. Certain variables were found to be strong predictors of victimization while others were found to be strong predictors of bullying.

a. Depression will be a strong predictor of victimization. The findings partially support the hypothesis that depression will be a strong predictor of victimization. In linear regressions on the different types of victimization, reporting increased depression was included in the model as the first or second best predictor of physical, verbal and relational victimization, but it was not included in the predictor model for cyber-victimization, it was essentially replaced by low self-esteem as the first predictor, which has a strong negative correlation with depression.

b. Number of friends will be a strong predictor of physical, verbal and relational victimization, but not cyber victimization. The findings partially support this hypothesis. Number of friends was a predictor in the models of peer-nomination as a victim of physical, verbal and cyber-victimization, but not for relational victimization. So, reporting having fewer friends predicts most types of victimization, but the hypothesis was wrong about the type of victimization it does not predict. Number of friends was also included in the model for physical bullying perpetration, having more friends was found to predict physical bullying.

c. Antisocial peer group will be a strong predictor of bullying. The findings partially support the hypothesis that antisocial peer group will be a strong predictor of bullying. Reporting an antisocial peer group was included as the first predictor in the models on both verbal and cyber-bullying behaviors, but it was not included in the models on physical and relational bullying behaviors. Interestingly, reporting a more antisocial peer group was included in the model predicting cyber-victimization as well.
CHAPTER FIVE:
DISCUSSION AND RECOMMENDATIONS

Discussion

The present project examined psychosocial and emotional adjustment correlates of peer-reported physical, verbal, relational and cyber-bullying and victimization in middle school. Gender was included in analyses as meaningful demographic information. Adjustment indices included emotional/behavioral (e.g., self-esteem, depression, prosocial behavior among peers at school), perceived parental support, and variables measuring friendship adjustment (e.g., number of friends, perceived friendship quality, antisocial peer group, perception of peers, social goals). To date, very little research has utilized peer-report data to examine these types of associations while separating out various forms of bullying and including cyber-bullying. Two recent meta-analyses found few to no studies that utilized peer-report data to examine these types of relationships between adjustment variables and cyber-bullying and victimization (Guo, 2016; Kowalski et al, 2014). Based on the present data, the self-report predictors do have meaningful associations with various forms of peer-reported bullying and victimization.

Demographic and Adjustment Variables

Gender. This study’s findings indicated that boys were significantly more likely than girls to be involved in physical bullying behaviors, but not verbal, relational or cyber-bullying
behaviors. It was approaching significance for boys to be more likely to be involved in physical victimization, but it did not meet the Bonferroni correction level of significance. Being of male gender was also included as a significant predictor in the models for both physical bullying and victimization. The literature on bullying and gender supports these findings that boys are more likely to be involved in physical bullying than girls (Wang et al., 2009). There is some variation in the literature on other forms of bullying, including cyber-bullying. Most studies have either found no significant difference in cyber-bullying behaviors based on gender (Katzer et al., 2009; Slonje & Smith, 2008; Williams & Guerra, 2007) or they have found boys to be more involved in cyber-bullying behaviors and girls to be more involved as cyber-victims (Dehue et al., 2008; Wang et al., 2009).

**Self-esteem.** The present study found that physical, verbal and cyber-victimization had weak negative relationships with self-esteem, but relational victimization did not, indicating a difference between relational victimization and other types of victimization. Interestingly, lower self-esteem was included as the most significant predictor in the model of cyber-victimization only. The literature supports these findings in that victimization tends to be associated with lower self-esteem (Hawker & Boulton, 2000; Katzer et al., 2009).

**Depression.** This study found that increased depression had weak positive relationships with physical, verbal and cyber-victimization, and the relationship was approaching significance for relational victimization, but it did not reach the level of the Bonferroni correction. Increased depression was found to be a predictor of physical bullying, and physical, verbal and relational victimization, but not cyber-victimization, which was apparently better explained by decreased self-esteem. The literature indicates that depression is associated with both bullying and victimization (Graham & Juvonen, 1998; Hawker & Boulton, 2000; Joiner & Rudd, 1996), and
in support of this study’s findings, it was found in a meta-analysis to be the strongest predictor of victimization across studies (Hawker & Boulton, 2000).

**Prosocial behavior.** The findings of this study indicate that there are weak negative associations between prosocial behavior and physical victimization, verbal victimization, and cyber-bullying and victimization. Decreased prosocial behavior was also included as a significant predictor in linear regressions of physical victimization and verbal and cyber-bullying. Surprisingly, increased prosocial behavior was included in the model as a predictor of relational victimization. This again points to very different characteristics that are associated with peer-nomination as a relational victim. The literature indicates that increased prosocial behavior is associated with decreased proactive and reactive aggression (Salmivalli et al., 2005).

**Parental support.** Weak negative correlations between parental support and physical, verbal and cyber-victimization were approaching significance, but did not reach the level of the Bonferroni correction. Unexpectedly, increased parental support was included in the linear regression model as a significant predictor of physical bullying. This is one area where the findings of this study departed significantly from the literature. Although the bullying literature indicates that increased parental support is associated with less bullying involvement overall (Wang et al., 2009), this study found that it was approaching significance for victims of several types of bullying to feel less supported by their parents, but more surprisingly that reporting increased parental support was a predictor of physical bullying.

**Number of friends.** Reporting fewer friends was found to have weak negative associations with peer-identification as a physical or verbal victim, for cyber-victimization it was approaching significance, but did not meet the level of the Bonferroni correction, but there was no relationship for relational victimization. Similarly, having fewer friends was a significant
predictor included in the linear regression models for physical, verbal, and cyber-victimization, but not relational victimization. Having more friends was found to be a predictor of physical bullying, but not of any other form of bullying. The literature on bullying supports this study’s findings in that reporting more friends can be a protective factor for not being bullied, but can be a risk factor for bullying others. Also, having fewer friends tends to be correlated with victimization (Wang et al., 2009). One study found that while this was the case for physical, verbal and relational bullying, there was no relationship between number of friends and cyber-bullying and victimization (Wang et al., 2009). This is an area where this study’s findings deviated from the literature.

Friendship quality. For friendship quality the only association that was approaching significance, but did not meet the level of the Bonferroni correction, was verbal bullying, which had a weak positive relationship with friendship quality. Similarly, the only linear regression with friendship quality as a predictor was relational bullying, and it was the only significant predictor in the model indicating that increased friendship quality alone was a better predictor of relational bullying than any other factor included in this study. The literature did not support this study’s findings in this area as it indicates that physical and verbal victimization are associated with increased friendship quality (Wang et al., 2009). This is another example of relational bullying having been associated with different participant characteristics from other forms of bullying in this sample, and it is also another example of bullies potentially being empowered by support from others. Contrary to the hopes of this researcher, social support in this study appears to be more potent as an endorsement of bullying behaviors than it is a support to victims or a means of reducing the ill effects of bullying on victims.

Antisocial peer group. The findings of this study indicate that weak positive
relationships were found between reporting an antisocial peer group and verbal bullying and cyber-bullying and victimization. Weak positive associations were also found between antisocial peer group affiliation and physical bullying and victimization that were approaching significance, but did not meet the Bonferroni criteria. This relationship was not found for relational bullying, indicating, another difference in relational bullying participants compared to other forms. Similarly, antisocial peer group affiliation was a significant predictor in the models for both verbal and cyber-bullying and was also included in the model predicting cyber-victimization. The literature indicates that all forms of bullying tend to be associated with reporting an antisocial peer group. Studies have found that both bullies and victim/perpetrators are more likely to report an antisocial peer group (Feldman, 2011; Haynie & Osgood, 2005). This could be a partial explanation for this study’s findings regarding victims, since the present study did not analyze the data on victim/perpetration as it related to antisocial peer group.

**Perception of peers.** The findings of this study indicate that several relationships were approaching significance, but none of them met the Bonferroni criteria. Those approaching significance were physical, verbal and cyber-victimization, and physical bullying. This indicates that most types of victims have a negative perception of peers, which depending on causation could indicate that students who are victimized develop a negative view of their peers as a result of being victimized, but another possible explanation is that students with a negative perception of their peers may pre-emptively act negatively toward their peers causing them to become a target of bullying. Perception of peers was not included as a predictor in any linear regression models. There has not been a lot of research into the relationship between perception of peers and bullying. The literature on aggression indicates that there is a strong relationship between hostile attribution of intent and aggression (Orobio de Castro et al., 2002), making it likely that
there would be a significant relationship between negative perception of peers and bullying behaviors, but this was not found in the present study.

**Social goals.** The present study found weak positive correlations between increased agentic goals and verbal and cyber-bullying, but there was no relationship for physical or relational bullying. A very weak positive relationship was also found for cyber-victimization. Agentic goals were also a significant predictor in the linear regression model for verbal bullying. No significant relationships were found for communal goals and any forms of bullying or victimization. There has not been a lot of research on the relationship between social goals and bullying, but the literature on aggression indicates that agentic goals are associated with increased levels of aggression (Ojanen et al., 2005), which lends support to this study’s findings.

**Cyber-Bullying Prevalence and Methodological Issues**

The findings of the present study indicate that for cyber-bullying both self- and peer-reports nominated about 20% of the sample as victims, but they were in agreement about only 6.5% of the total sample. Participants self-nominated as cyber-bullies at a much lower rate of around 7%, but were nominated by peers at a rate of about 12% with agreement between self and peer about only 1.2% of the total sample. The findings of this study were most similar to the higher estimates of cyber-victimization found by some school-based samples (Kowalski & Limber, 2007; Smith et al., 2008; Wang et al., 2009; Ybarra & Mitchell, 2007), indicating that cyber-bullying is relatively prevalent, and since it ostensibly did not exist prior to the advent of the Internet, it has increased considerably over the past twenty-five years or so.

The present study’s findings also indicate a discrepancy in bullying data based on whether it is collected by participants’ reporting their own experiences with bullying or whether
participants are asked to nominate their peers to determine bullying involvement. Participants tended to self-nominate as victims at a higher rate than they were nominated as such by their peers, but the opposite was true of bullying behaviors where more participants were peer-nominated than self-reported as such. This indicates that findings related to bullying prevalence, as well as associations between variables, may be greatly influenced by the methods used to identify bullying participants. Due to similar findings of significant differences between self- and peer-report bullying status in the literature, it has been recommended that multiple informants on bullying participation be utilized to more accurately represent bullying involvement (Baly, Cornell, & Lovegrove, 2014; Cornell & Brockenbrough, 2004).

**Major Contributions of the Study**

This study contributes to the literature in several ways. Firstly, this study contributes to the knowledge base by expanding what is known about the adjustment of physical, verbal, relational and cyber-bullying participants. This is lacking in the literature because most bullying research was developed prior to the advent of cyber-bullying, and more recent research that does include cyber-bullying often does not differentiate the various forms of bullying.

Another contribution of the study is that it continues to provide evidence that cyber-bullying is a distinct form of bullying in need of further investigation to determine associated factors and characteristics. This study provides data on the relationship between cyber-bullying and gender, depression, self-esteem, number of friends, friendship quality, and antisocial peer group, which are all areas that have been addressed in the bullying literature but are still in need of further investigation as they relate to cyber-bullying. Additionally, this study included prosocial behavior, perception of peers and social goals, all of which have been investigated
more frequently in relation to peer aggression but have generally not been investigated in the bullying literature or in relation to cyber-bullying in particular.

Another contribution of this study is that it utilizes peer-report bullying data along with self-report psychosocial adjustment data to address one of the main methodological issues identified in the bullying literature and avoid shared-method variance. This addressed one of the main cited recommendations in the bullying literature that more studies utilizing peer-report data were needed, as too many bullying studies rely on self-report data only.

This study also contributes to the literature on methodology in that it utilized peer-report bullying data for most analyses, but also collected and analyzed self-report bullying data to examine whether self- and peer-reports of bullying involvement are identifying a similar group of students. This study determined that they are frequently not the same students, pointing to the need for methods to be developed to attempt to include both self- and peer-identified participants, while also avoiding shared method variance.

Another contribution of this study is that linear regressions were calculated on each form of bullying in an attempt to identify specific characteristics and the interactions between characteristics that best predict each form. The results indicate that each of the various types of bullying perpetration and victimization are predicted by a different combination of characteristics. This provides more information to better understand how to identify students who are at risk of the various forms of bullying involvement.

A unique finding of this study is that although bullying perpetration was generally found to be correlated with less prosocial behavior and a more antisocial peer group, and victimization was generally found to be correlated with lower self-esteem, increased depression and fewer friends; the students who were nominated as participating in relational bullying and victimization
did not seem to follow this pattern. In fact, no significant correlations were found between relational bullying or victimization and any included adjustment variables.

The only significant predictor in the model of relational perpetration in the linear regression model was increased friendship quality. This evidence that relational bullies see their friends as supportive, could be an indication that social supports can reinforce aggressive behaviors. Similarly, relational victimization was predicted by having increased prosocial behavior and depression. Depression is a common predictor of bullying victimization, but exhibiting prosocial behavior was an even stronger predictor, which again is a very different characteristic from common predictors of victimization and seems to be a more normative attribute. The students selected as participating in relational bullying and victimization seemed to fit a different, essentially a more normative, profile.

Another unique finding was that increased parental support was a significant predictor that was included in the model in the linear regression on physical bullying indicating that in addition to relational bullies feeling supported by their friends, physical bullies feel that their parents are supportive. These findings suggest that supports from both friends and parents may contribute to empowering bullies.

In summation, some elements of the study design and methodology that could contribute to knowledge building in the field are the following: including physical, verbal, relational and cyber-bullying in the analyses; providing evidence that cyber-bullying is a unique form of bullying; investigating the relationship between cyber-bullying and several variables such as prosocial behavior, perception of peers and social goals, which are not commonly found in the literature; utilizing peer-report bullying data with self-report variables to avoid shared method bias; comparing self- and peer-report bullying information to determine that different
participants are nominated by each; and utilizing linear regressions to identify the psychosocial characteristics that best predict the various forms of bullying and victimization. Some of the notable findings that do not seem to be prevalent in the literature include finding a significantly different profile for relational bullying and victimization, increased friendship quality predicting relational bullying, and increased parental support predicting physical bullying.

Limitations

Limitations of this study include the grade level and the area of the sample, which are limited to those sixth, seventh and eighth grade students in the selected participating middle schools whose parents signed consent documents and who were themselves willing to participate in the school-based surveys. These findings cannot necessarily be generalized to students in other cities, schools or even grades. Another limitation is that although there is a relatively large sample, it is only approximately 30% of the total population of the two middle schools surveyed, so it may not be a representative sample. Also, almost twice as many girls participated in the survey as boys, which is also not representative of the total population.

An additional limitation, which is common in the bullying literature, is that since the study is cross-sectional in nature, the findings are correlational in nature. The study is not able to assert the causation of any associations found between bullying and any other variable. Another limitation is that although self- and peer-report data were used to avoid shared method variance, that means that self-report bullying data was not able to be used, when the literature indicates that bullying participants identified by both self- and peer-report are at risk of negative outcomes associated with bullying (Baly et al., 2014; Cornell & Brockenbrough, 2004).
**Recommendations**

**Practice**

The results of this study do indicate that cyber-bullying is just as potent as other forms of bullying. Depression is a common and serious mental health concern among adolescents. This study, as well as the bullying literature in general, indicates that as bullying and victimization increase, the symptoms of depression also increase. Schools, parents and clinicians need to utilize this information to get help for students at risk of both bullying and depression.

Additionally, schools need to recognize that cyber-bullying is just as dangerous to students’ safety as any other form of bullying. Educational policy has recently been adapting to include online bullying and harassment as real threats to student safety, even when it takes place outside of school hours and grounds. Schools are required by federal law to address bullying and harassment, even if it happens online, when it impacts the school climate. Similar risks are found for cyber-bullying participants as have been found for traditional bullying participants; consequently, schools and parents need to intervene to prevent bullying and protect victims.

The characteristics, and interactions between characteristics, identified by linear regressions, that have been found to be associated with different forms of bullying and victimization could be utilized to create profiles of students who may become involved in each bullying type. This information could inform policy and schools in developing the most effective interventions, tailored to identify and intervene with students who are at greater risk of each of physical, verbal, relational and cyber-bullying and victimization. Different types of students may be more likely to participate in each different type of bullying and victimization, which could be useful to schools and districts in designing bullying policy and educational materials. Providing educational materials to teachers, students and families about bullying...
behaviors and what types of students might be at risk of the various forms can help identify at risk students and combat and prevent bullying in schools and online.

Based on this study’s findings, and the literature on bullying in general, interventions could be targeted with boys to directly address physical bullying behaviors and physical victimization. Additionally, linear regressions indicated that being male, having more friends, experiencing increased depression and reporting increased parental support predicted physical bullying behaviors. This indicates another area for intervention that does not seem to be indicated by the literature, namely intervening with the parents of students at risk of bullying others to educate them on how their influence and approval may impact their child’s behavior.

This information could be utilized to identify students who are at risk of physically bullying others and to develop interventions to meet their specific needs. Possible interventions include: educate the student on physical bullying and attempt to assist them in developing empathy for those who are victimized; discuss the bystander role and how having many friends can reinforce harmful behaviors; encourage the parent to have the student evaluated for depression; provide information to the parent regarding how their child may view their support as an endorsement of physical bullying behavior; educate the student and parent on the negative outcomes that are associated with physical bullying behaviors and the positive outcomes that are associated with prosocial behavior, so they may decide to endorse more prosocial behavior.

This study found few associations between peer-nominated relational bullying and the included adjustment variables. The strongest predictor of relational bullying was friendship quality, and the strongest predictor of relational victimization was prosocial behavior. This seems to indicate that relational bullying participants may be more average adolescents and possibly may be viewed as more normative by their peers. This is also another indication that
social supports may empower bullies, indicating that interventions to promote prosocial behavior may be useful with peers at school. Consequently, it could be beneficial to have a discussion with students about the different types of bullying and victimization helping them to identify relational bullying behaviors as damaging.

This again points to the opportunity for interventions to target students to educate and encourage them to not endorse bullying behaviors by their peers and friends and to provide support to victims both in person and online. This study’s findings support interventions aimed at improving peer-level interactions as a potentially effective means of preventing bullying. The most widely researched and recommended bullying prevention interventions aim to cultivate a more positive and supportive environment overall as a means of reducing bullying behaviors (Olweus, 2006). This seems to indicate that interventions designed to increase prosocial behavior could be utilized by schools to reduce bullying behaviors. It also indicates a need for cultivating a more prosocial environment online. Additionally, information could be provided to the parents of students who are at risk of being bullied to remind parents of online risks and that their child may need their support if they are ever victimized.

**Research**

As indicated in the literature, more longitudinal studies are needed to gather information on how bullying behaviors impact participants over time and to determine causation. For each associated variable included in this study it is unclear whether, for example, bullying and victimization are causing depression or if depressed students are more likely to be involved in bullying and victimization. One of the few longitudinal studies on bullying demonstrated that victimization predicted future pathology even when controlling for baseline pathology (Kim et
al., 2006), but more studies are needed to build more support for causation.

Another recommendation for research is that this study found that bullying perpetrators tended to report increased parental support, increased numbers of friends, increased friendship quality and increased self-esteem, more research is needed to examine interactions between social supports and self-esteem as they relate to aggression. This study’s finding that physical bullying was predicted by being male, having more friends, increased depression and increased parental support indicates that it may be fruitful to explore the interaction between these predictor variables. Additional areas requiring further study include the relationships between bullying and victimization and perception of peers, prosocial behavior and social goals. These variables have been studied more widely in relation to aggression, and more research is needed to determine whether similar associations are found in relation to bullying and victimization.

Another recommendation for future research is continued analysis and assessment of how to best utilize both self- and peer-reports of bullying involvement with other self- and peer-report variables. The findings of this study indicate that individuals tend to view themselves differently from how they are viewed by their peers, which could be another area for future research. It would also be beneficial to include other sources of data such as teachers and/or parents in the data collection. Multi-informant data collection is recommended in the literature (Baly et al., 2014; Cornell & Brockenbrough, 2004), and utilizing additional data sources would help to more accurately determine bullying status and could also aid in avoiding shared method variance.

It seems that the most comprehensive way of assessing true bullying involvement would be to collect data from multiple sources and then create a composite variable by either taking the mean of self- and peer- (teacher, parent, etc.) report variables or including the individual participant’s estimation of their own involvement as equal to another peer nomination before
dividing by the total class participants. Either of these techniques would create a broader, more representative estimation of true bullying and victimization involvement by creating a consensus between self and peer. However, utilizing these techniques would make it difficult to avoid shared method variance when analyzing the data in relation to any other variables supplied by either self or peer-report. Yet it could be used without shared method variance concerns in analyses utilizing data from other sources, such as school-based data like attendance, grades, suspensions, behavior referrals, homelessness, and free and reduced lunch status or medical information like doctor or hospital visits.

Another option would be to utilize peer-report data for bullying perpetration, since bullies are not as likely to view and report themselves as such, and self-report data for victimization, since peers may not be aware of all victimization others experience. This would create different challenges to avoiding shared method variance, but it could be possible to analyze peer-report bullying with self-report variables and self-report victimization with peer-report variables. The findings of this study indicate that utilizing self- or peer-reports alone to identify bullying and victimization involvement does not include many more participants who may be involved in these behaviors. This study also demonstrates that the methods utilized to identify bullying and victimization behaviors have a huge impact on the findings of the data analysis. It is important to develop methods to utilize multiple reporters to accurately identify bullying and victimization participants and also avoid shared method variance in the data analysis.

Despite limitations, this study expands the knowledge base on associations and predictors of physical, verbal, relational and cyber-bullying and victimization. These findings contribute to the literature on the relatively new field of cyber-bullying, and how it and other bullying forms relate to psychosocial, emotional and behavioral adjustment factors.
REFERENCES


APPENDIX A:
SELF-REPORT MEASURES

Revised Olweus Bully/Victim Questionnaire (OBVQ-R; Solberg & Olweus, 2003), 6 items

The Electronic Bullying Questionnaire (Kowalski & Limber, 2007), 2 items

Self-esteem (RSE; Rosenberg, 1965), 10 items

Depression- Center for Epidemiological Studies-Depression Scale for Children (CES-DC; Weissman, Orvaschel, & Padian, 1980), 20 items

Prosocial Behavior (subscale of CSBS; Crick, 1996), 4 items

A Parental Bonding Instrument (PBI; Parker, Tupling & Brown, 1979), 4 items

Number of Friendships, 1 item

Friendship Quality Scale (FQS; Gauze, Bukowski, Aquan-Assee & Sippola, 1996), 19 items

Friendship/Peer Group Antisocial Behavior (Laird, Pettit, Dodge & Bates, 1999), 5 items

Generalized Perception of Peers Scale (GPPS; Salmivalli, Ojanen, Haanpaa & Peets, 2005), 13 items

The Interpersonal Goals Inventory for Children (ICI-C; Ojanen, Gronroos, and Salmivalli, 2005), 32 items
APPENDIX B:

PEER-REPORT MEASURES

Revised Olweus Bully/Victim Questionnaire (OBVQ-R; Solberg & Olweus, 2003), 6 items

The Electronic Bullying Questionnaire (Kowalski & Limber, 2007), 2 items
APPENDIX C:

USF IRB APPROVAL LETTERS: INITIAL AND CONTINUING REVIEW

December 16, 2013

Tiina Ojanen,
Ph.D. Psychology
4202 E. Fowler Avenue
PCD4118G
Tampa, FL
33620

RE: Expedited Approval for Initial Review
IRB#: Pro00014783
Title: Bullying and the Sense of Self: Advancing Understanding of Social Adjustment in Middle School

Study Approval Period: 12/16/2013 to 12/16/2014

Dear Dr. Ojanen:

On 12/16/2013, the Institutional Review Board (IRB) reviewed and APPROVED the above application and all documents outlined below.

Approved Item(s):
Protocol

Document(s):
IRB STUDY PROTOCOL_12-2.docx

Study involves children and falls under 45 CFR 46.404: Research not involving more than minimal risk.

Research activities cannot begin until the school district letter of approval and any other letters required by the school district (e.g. local school principal) are submitted and approved by the IRB thru the eIRB Amendment process.

Consent/Assent
Document(s)*: Parental
Consent-Spanish.pdf Parental
*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab. Please note, these consent/assent document(s) are only valid during the approval period indicated at the top of the form(s).

It was the determination of the IRB that your study qualified for expedited review which includes activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review research through the expedited review procedure authorized by 45CFR46.110 and 21 CFR 56.110. The research proposed in this study is categorized under the following expedited review category:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB for review and approval by an amendment.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

Kristen Salomon, Ph.D., Vice Chairperson
USF Institutional Review Board
11/23/2015

Tiina Ojanen, Ph.D.
Psychology
4202 E. Fowler Avenue
Tampa, FL 33620

RE: Expedited Approval for Continuing Review
IRB#: CR2_Pro00014783
Title: Bullying and the Sense of Self: Advancing Understanding of Social Adjustment in Middle School

Study Approval Period: 12/16/2015 to 12/16/2016

Dear Dr. Ojanen:

On 11/22/2015, the Institutional Review Board (IRB) reviewed and APPROVED the above application and all documents contained within including those outlined below.

Approved Item(s):
Protocol Document(s):
IRB STUDY PROTOCOL_12-2.docx

The IRB determined that your study qualified for expedited review based on federal expedited category number(s):

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Per CFR 45 Part 46, Subpart D, this research involving children was approved under the minimal risk category 45 CFR 46.404: Research not involving greater than minimal risk.

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with USF HRPP policies and procedures and as approved by the USF IRB. Any changes to the approved research must be submitted to the IRB for review and approval by an amendment. Additionally, all unanticipated problems must be reported to the USF IRB within
five (5) calendar days.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

[Signature]

John Schinka, Ph.D., Chairperson
USF Institutional Review Board
APPENDIX D:

SCHOOL DISTRICT APPROVAL

December 18, 2013

Ms. Melanie McVean
Mrs. Danielle Findley
Dr. Tiina Ojanen
University of South Florida
4202 East Fowler Avenue, PCD 4118G Tampa, FL 33620

Dear Ms. McVean, Mrs. Findley, and Dr. Ojanen:

The Hillsborough County Public School District has agreed to participate in your research proposal, Bullying and Sense of Self: Social Adjustment in Middle School. A copy of this letter MUST be presented to all participants at [Blank] School and [Blank] School to assure them your research has been approved by the district. Your approval number is RR1314-44. You must refer to this number in all correspondence. Approval is given for your research under the following conditions:

1) Participation by [Blank] School and [Blank] School is to be on a voluntary basis. That is, participation is NOT MANDATORY and you must advise ALL PARTICIPANTS that they are not obligated to participate in your study.

2) If the principal agrees the school will participate, it is up to you to find out what rules the school has for allowing people on campus and you must abide by the school's check-in policy. You will NOT BE ALLOWED on any school campus without first following the school's rules for entering campus grounds.

3) You must request approval from this department before other schools are added to your sample.

4) Parent permission must be obtained for all students involved in your research. You must indicate in your letter to the parent all the types of data you will be collecting (i.e., race, gender, FCAT scores, etc.). You must have this consent before you begin your research of data.

5) Confidentiality must be assured for all. That is, ALL DATA MUST BE AGGREGATED SUCH THAT THE PARTICIPANTS CANNOT BE IDENTIFIED. Participants include the district, principals, administrators, teachers, support personnel, students and parents.

6) Student data MUST be DESTROYED when the project has been completed unless the parents have been notified that the data has to be kept longer.

7) Research approval does not constitute the use of the district's equipment, software, email, or
district mail service. In addition, requests that result in extra work by the district such as data analysis, programming or assisting with electronic surveys, may have a cost borne by the researchers.

8) This approval WILL EXPIRE ON 2/14/2014. You will have to contact us at that time if you feel your research approval should be extended.

9) A copy of your research findings must be sent to us for our files and must be submitted to this department BEFORE ANY DATA IS PUBLISHED IN ANY FORM.

SERVE VOLUNTEER FORMS/FINGERPRINTING:

Your proposal indicates that you will come into contact with students but your contact will be supervised. Because of the Jessica Lunsford Act and Privacy Acts, you must complete the enclosed SERVE VOLUNTEER FORM and present it AND this letter to the principal.

Good luck with your endeavor. If you have any questions, please advise.

Sincerely,

Theodore Dwyer, Manager of Evaluation Assessment and Accountability

TD/mt

cc: Principal, School Principal, School Director, Tampa Bay Educational Partnership
APPENDIX E:
INFORMED CONSENT DOCUMENTS
Study ID: CR1_Pro00014783 Date Approved: 12/20/2014 Expiration Date: 12/16/2015

Bullying and the Sense of Self: Advancing Understanding of Social Adjustment in Middle School

Parental Permission to Participate in Research

IRB Study # Pro14783

Dear GUARDIAN,

In collaboration with [redacted] Schools and with the District’s approval, The Social Development Research Laboratory at the University of South Florida is conducting research on adolescent social behavior and adjustment in middle school students. With the support of your Principal (district approval #RR1314-44), we are asking your permission for your child to participate. Participating students will fill out a paper survey at school during school hours. The Co-PIs, a research assistant, and teachers will supervise this period during a social studies class as a part of a usual school day. This does not interfere with testing, or other important academic activities. In the survey, the students will be asked to report demographic information (gender and ethnicity) and to evaluate their social behaviors (friendliness and bullying), perceptions of themselves and their life in general, and peer interactions. Also as a part of this survey, your student will evaluate the behaviors of other participating students whose names will be included on the survey (in order to most accurately understand behaviors). Answers are strictly confidential. Your child is not being evaluated or identified individually in any way. The answers of individual students will never be disclosed to anyone at the school, or elsewhere. This project is part of a larger research project on adolescent behaviors and well-being at school. We hope you chose to allow your child to participate and sincerely appreciate your support!

What to expect

During early February, you will complete a survey together with other participating students in one of your social studies classes as agreed by the schools. The survey includes multiple choice questions and a section in which they will check which behaviors might describe other participating students takes about 30 min to complete. Students who do not wish to participate or do not have parental permission will be working on school tasks, such as homework, during this period. If your child wishes to participate but is absent at this time, we will try to make arrangements to facilitate his/her participation at another time. Please note that:

- All collected information is confidential: the data will be shared or published only in terms of mean level information in a sample of hundreds of participants.
- Participants can be identified only by the researchers (the data file will have no names, only numbers), for statistical reasons only (e.g., even if a student is rated as someone who bullies, identifying information of the student will never be disclosed).
- Participation is voluntary and you/your child can withdraw from the study at any time – not participating will not be harmful in any way and if participation is withdrawn at a later date, the student will be excluded from the study and their data deleted.
- Data will be stored in password protected computers and these forms in locked cabinets for five years before deleting.

Timelines and Benefits

To participate, your child should return this consent to his/her homeroom teacher by 1/24/14. Your child will also be given a second form indicating their decision to participate. Students will only participate if both parental consent and student assent is obtained. All students who return the consent on time will receive a piece of candy, regardless of decision to participate. Additionally, all participating students will 1) be entered into a raffle with multiple gift cards (to movies) and 2) receive a small gift after completing the survey (including USF-themed study supplies). Participation will provide an opportunity to contribute to important research on adolescent social behavior, adjustment and well-being at school. There will be no punishment for not participating. Participation is possible only if permission is received from both the Guardian and the Student. If you have any questions, please feel free to contact us at any time. You may also contact the USF Institutional Review Board at 813-974-5638.

Your support is valuable to us and much appreciated.

Melanie McVean, M.S.W., Co-PI
Doctoral Graduate Student
Email: melanie.mcvan@sdhc.k12.fl.us
Phone: 813-744-8400, ext. 232

Danielle Findley, M.A., Co-PI
Doctoral Graduate Student
Email: dfindley@mail.usf.edu
Phone: 813-728-4122

Tina Ojianen, Ph.D., Co-PI
Assistant Professor
Email: tojianen@usf.edu
Phone: 813-974-8346
**Guardian/Participant Consent: Please return one copy to the school and keep the other for yourself.**

<table>
<thead>
<tr>
<th>Please print the <strong>FULL NAME OF STUDENT</strong></th>
<th>Printed Name of Parent/Guardian</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have read and understand the above description, and I hereby... (check one box)</td>
<td></td>
</tr>
<tr>
<td>☐ grant permission for my child to participate.</td>
<td>☐ do not grant permission for my child to participate.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>X_</th>
<th>Parent/ Legal Guardian Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Researchers only: Name of Person Obtaining Informed Consent</td>
<td>Date</td>
<td></td>
</tr>
</tbody>
</table>

12/19/13 Version 2
Querido Guardián,

En colaboración con [nombre de escuela] Schools y con la aprobación del distrito, el Laboratorio de Investigación del Desarrollo Social de la Universidad del Sur de la Florida estará conduciendo un estudio en el comportamiento social y ajuste de estudiantes en la secundaria. Con el apoyo de la Directora, Barbara Fillhart (distrito aprobación #RR1314-44), pedimos su permiso para la participación de su hijo/hija.

Los estudiantes participando en el estudio llenaran una encuesta, en copia empresa, durante horarios escolares con otros compañeros de la clase. Los investigadores principales, asistentes, y maestros supervisarían los estudiantes durante su clase de educación física. El estudio no interferirá con exámenes u otras actividades académicas. En la encuesta, se les pedirá a los estudiantes que informen sobre información demográfica (genero, origen étnico, edad) y evalúen sus comportamientos sociales (amigabilidad, aislamiento social e intimidación), auto percepción, sus vidas en general, intereses académicos e interacciones con compañeros. Como parte de la encuesta su estudiante contestará preguntas sobre sus opiniones de compañeros de escuela marcando en la encuesta los comportamientos que describen algunos individuos. Las respuestas son estrictamente confidenciales. Su hijo/hija no será evaluado(a) o identificado(a) en ninguna forma. Las respuestas de cada estudiante nunca serán reveladas con ninguno de la escuela o en otro lugar. Este proyecto es parte de un estudio más amplio sobre la conducta y el bienestar de adolescentes en la escuela. Esperamos que decide permitir a su hijo/hija en tomar parte de este estudio. Sinceramente apreciamos su apoyo!

Lo Que Puede Esperar

Durante el final de Enero, estudiantes completaran la encuesta durante sus clases de educación física o estudios sociales con la asistencia y supervisión de nuestro equipo de investigadores y maestros. La encuesta incluye preguntas de múltiples respuestas que llevará aproximadamente 30 minutos para completar. Estudiantes que no deseen participar o no obtuvieron permiso de sus padres para participar trabajaran en tareas durante este tiempo. Si su hijo/hija desea participar pero esta ausente durante este tiempo trateamos de hacer preparativos para facilitar su participación en otro tiempo. Por favor tenga en cuenta:

- Toda información coleccionada son confidenciales, los datos serán compartidos o publicados solamente en términos de un promedio de información de una muestra de cientos de participantes.

- Los participantes solo pueden ser identificados por los investigadores (el archivo de datos no incluirá nombres, solo números) por razones estadísticas solamente.

- Participación en el estudio es voluntario y usted, su hijo/hija podrán retirarse del estudio en cualquier momento.

- Los datos se almacenarán en computadoras protegidas por contraseña y las encuestas estarán protegidas en gabinetes de archivos cerrados con llave por 5 años antes de ser destruidos.

Duración y Beneficios

Para participar, su hijo/hija debe de entregar esta forma a su maestro o maestro antes del 24 de Enero del 2014. También le daremos una forma de consentimiento a su hijo/hija indicando su decisión para participar en el estudio. Solamente estudiantes que entregan ambas formas de consentimiento de los padres y del estudiante podrán participar. Cada estudiante entregando el consentimiento a tiempo recibirá dulces, independientemente de su decisión de ser participar. Adicionalmente, cada estudiante participando será incluido 1) en una rifa de múl tiples tarjetas de regalo (para peli culas y tiendas) y 2) recibirá un pequeño regalo descuento de completar la encuesta (incluyendo suministros de estudio de USF). Participación proveerá la oportunidad de contribuir a importantes investigaciones sobre el comportamiento social y ajuste y el bienestar de adolescentes en la escuela. Para ser elegible para premios, este formulario tiene que ser firmado por un padre/guardián legal y ser entregado a la escuela a tiempo. Si tiene alguna pregunta, por favor síntase libre de contactarnos en cualquier momento. También puede contactar a la Junta de Revisión Institucional (IRB) de la universidad al numero siguiente 813-974-5638.

Su apoyo es invaluable y muy apreciado.

Melanie McVean, M.S.W., Co-PI
Estudiante de Postgrado de Doctorado
melanie.mcvean@sdhc.k12.fl.us
Teléfono: 813-744-8400, ext. 232

Danielle Findley, M.A., Co-PI
Estudiante de Postgrado de Doctorado
dfindley@mail.usf.edu
Teléfono: 813-728-4122

Tiina Ojanen, Ph.D., Co-PI
Profesor Asistente
tojanen@usf.edu
Teléfono: 813-974-8346

Consentimiento del Guardián: Por favor devuélva una copia a la escuela y guarde el otro para usted.

Por favor escriba el NOMBRE COMPLETO DEL ESTUDIANTE:
Escriba el nombre del Guardián

☐ Yo doy permiso para que mi estudiante participe
☐ Yo no doy permiso para que mi estudiante participe

Firma del Guardián: Fecha
Nombre de la persona que obtenga el consentimiento: Fecha
Dear STUDENT,

You are being asked to take part in a research study about the social behaviors and adjustment of adolescents in middle school. We are from the University of South Florida Social Development Laboratory. This study is in collaboration you’re your Principal, and is approved by the Hillsborough County School District (#RR1314-44). You are being asked to take part in this research study because you are a student at either School. If you take part in this study, you will be one of hundreds at these sites. If you decide to participate, you will fill out a paper survey at school during school hours, along with your classmates. This will take place during your social studies class as a part of a usual school day, and will be supervised by our researchers and your teacher. You will not miss any testing, or other important academic activities. In the survey, you will be asked to report demographic information (gender and ethnicity), information about your social behaviors (friendliness and bullying), perceptions of yourself and your life in general, and peer interactions. In addition to this self-report survey, this survey will also ask you to evaluate the behaviors of your participating peers at school (you will check which behaviors describe certain peers whose names will be listed). Your answers are strictly confidential. This means that we will never tell anyone, including your parents and people at the school, about your responses. You are not being evaluated in any way. Below, you will read about what you get for participating. Your parent will sign a separate form, and you cannot participate without their permission. However, even if your parents say you can, you don’t have to do the survey. You will not be punished in any way for not participating. We hope you decide to participate!

What to expect

During early February, you will complete a survey together with other participating students in one of your social studies classes. The survey includes multiple choice questions and a section where you will check items that describe the behaviors of others participating in your class, and takes about 30 min to complete. If you do not wish to participate or do not have parental permission, you will be working on school tasks, such as homework, during this period. If you wish to participate but are absent during the survey, we will try to make arrangements for you to fill it out at another time. Please note that:

- All collected information is confidential: your information will be added to the information from other people taking part in the study so no one will know who you are. Even if you report bullying or someone says you bully others, this information will never be disclosed to anyone.
- You can be identified only by the researchers (the data file will have no names, only numbers)
- If you decide to take part in the study you still have the right to change your mind later. No one will think badly of you if you decide to stop participating. If you do, you will simply be excluded from the study and your data will be deleted.

Timelines and Benefits

To participate, you should return this consent to your homeroom teacher by 1/24/14. If you return the consent on time, you will receive a piece of candy, whether you agree to participate or not. Additionally, if you decide to participate, you will 1) be entered into a raffle with multiple gift cards (to movies) and 2) receive a small gift after completing the survey (including study supplies). By participating, you will contribute to important research on adolescent social behavior and adjustment and well-being at school. You can only participate and get prizes if you sign this form, and your parent has to signs their form, and both forms have to be returned to the school on time. If you have any questions, please feel free to contact us at any time. You may also contact the USF Institutional Review Board at 813-974-5638.

Your support is much appreciated!
Melanie McVey, M.S.W., Co-PI
Doctoral Graduate Student
Email: melanie.mcveyun@sdhc.k12.fl.us
Phone: 813-744-8400, ext. 232

Danielle Findley, M.A., Co-PI
Doctoral Graduate Student
Email: dfindley@mail.usf.edu
Phone: 813-725-4122

Tina Ojanen, Ph.D., Co-PI
Assistant Professor
Email: tojanen@usf.edu
Phone: 813-974-8346

Participant Assent

Please print your FULL NAME.

I understand what the person conducting this study is asking me to do. I have thought about whether I want to take part in this study. (check one box)
☐ I want to participate. ☐ I do not want to participate.

X __________________________ Date __________________________

Signature

For Researchers only: Name of person providing information (assent) to subject Date 12/19/13