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Youth Bullying: From Traditional Bullying Perpetration to Cyberbullying Perpetration and the
Role of Gender

A thesis

presented to

the faculty of the Department of Criminal Justice

East Tennessee State University

In partial fulfillment of

the requirements for the degree

Master of Arts in Criminal Justice and Criminology

by

Erica Denise Sizemore

August 2015

Dr. Nicole Prior, Chair

Dr. Jennifer Pealer

Dr. Gregory Rocheleau

Keywords: bullying, cyberbullying, gender differences, schools

ABSTRACT

Youth Bullying: From Traditional Bullying Perpetration to Cyberbullying Perpetration and the Role of Gender

by

Erica Denise Sizemore

Youth bullying is a common form of youth violence; and recently, this behavior has diverged into two forms: traditional bullying and cyberbullying. Bullying has typically occurred within the context of school; however, with the aid of electronic devices and the Internet, youth are now able to bully beyond the schoolyard. Cyberbullying is a transmutation of traditional bullying earmarked by anonymity, a lack of guardianship, and physical distance. Using data from the Health Behaviors of School-aged Children 2009-2010 survey, this study examined the relationship between traditional bullying perpetration and cyberbullying perpetration. Logistic regression analyses suggest a relationship exist between the two forms of bullying and the link appears to be verbal and relational aggression. Additionally, gender has been shown to play a role in bullying perpetration with males engaging in both types of bullying behavior at a higher frequency than females.

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CHAPTER 1

INTRODUCTION

The United States is plagued with a violent crime rate that is higher than any other industrialized nation (FBI, 2011). This reality is not a surprise considering how well violence is embedded in America's history and its social contexts. Depictions of violence can be found in American literature, art, movies, music, media broadcasts, schools, sports, video games, and so on. American society seems to have a proclivity for violence and, at times, enjoys violence like car crashes during high-speed NASCAR races or the raised hand of a bloodied victor following a professional boxing match. But violence is a tangible danger not to be flirted with. Violence is a non-discriminating force and the effects of its presence in any society can be potentially damaging, particularly to its youngest members.

Violence among youth is a disturbing matter and the potential consequences can be difficult for youth to overcome. Youth bullying is the most prevalent form of youth violence (Smokowski & Kopasz, 2005), and approximately one third of youth have experienced traditional bullying either as a perpetrator or a victim (Beaty & Alexeyev, 2008; Esbensen & Carson, 2009; Kowalski, Morgan, & Limber, 2012; MacKay, 2012; Nansel, Overpeck, Pilla, Ruan, Simmons-Morton, & Scheidt, 2001; Patchin & Hinduja, 2011; Schneider, O'Donnell, Stueve, & Coulter, 2012; Williams & Guerra, 2007). Bullying typically happens through interaction and communication such as speech or body language which occurs between youth. Traditional bullying is associated with school and can be expressed in the form of physical aggression, verbal aggression, and relational aggression (Beaty & Alexeyev, 2008; Nansel et al., 2001; Raskauskas & Stoltz, 2007; Smokowski & Kopasz, 2005). To complicate matters, recent advances in technology now allow youth to interact and communicate electronically.

Advances in technology, like electronic communication devices and the Internet, have created a second reality in which youth can socialize without the prying eyes of their parents and authority figures. A wide variety of devices are available to youth to allow them to communicate and interact electronically. Computers, tablets, gaming consoles, and mobile phones are just some of the devices available to youth (Patchin & Hinduja, 2011). Youth are able to use Internet mediums such as instant messaging, email, social networking sites such as Facebook, personal websites, and chat rooms to communicate with family and friends (Lenhart, Purcell, & Zickuhr, 2010). Additionally, American youth appear to be heavily involved in electronic communication with a vast number of youth having access to at least one electronic device (Lenhart et al., 2010). Among youth ages 12-17 years, 75% reported owning a mobile phone, 69% stated they had a personal computer, and 93% indicated they accessed the Internet regularly (Lenhart et al., 2010). All of these modern advances have come to affect the way bullying occurs. Youth bullying has traditionally occurred in school hallways, bathrooms, and buses where adult supervision is minimal (Beaty & Alexeyev, 2008; Kowalski et al., 2012); unfortunately, these fun modern tools have facilitated the movement of bullying into the realm of cyberspace. Cyberbullying, a term first coined by the founder of Bullying.org, is bullying behavior which occurs via electronic communication and interaction (MacKay, 2012).

Cyberbullying is a negative side effect of living in a modern society that has only recently been encountered. Scientific research on cyberbullying behavior is in its infancy; however, the available literature tends to suggest cyberbullying is most likely an extension of traditional bullying (Connell, Negro, Pearce, & Schell-Busey, 2014; Kowalski et al., 2012; MacKay, 2012; Patchin & Hinduja, 2011; Williams & Guerra, 2007). A well-established census on the number of youth that experience cyberbullying and cybervictimization is not readily

available. Nevertheless, an un-exhaustive list of research studies on cyberbullying suggests that somewhere between 10% and 50% of youth have experienced cyberbullying, cybervictimization, or both (Connell et al., 2014; Kowalski et al., 2012; Mesch, 2009; Patchin & Hinduja, 2006; Patchin & Hinduja, 2011; Raskauskas & Stoltz, 2007; Schneider et al., 2012; Williams & Guerra, 2007; Ybarra, Diener-West, & Leaf, 2007). This broad range is likely due to variations in sample size, sample demographics, sampling methods, and the variables chosen to measure cyberbullying experiences as either a perpetrator or victim among the reviewed studies.

Comparing traditional bullying to cyberbullying has revealed that traditional bullying affects more youth than cyberbullying. Specifically, a 2012 study of high school students found that 25.9% had experienced traditional bullying either as a perpetrator or a victim, whereas only 15.8% had experienced some type of cyberbullying (Schneider et al., 2012). In a study involving students in grades six through twelve, the results revealed that 51.8% of the participants had been involved in traditional bullying perpetration and victimization combined, while 21.8% had been involved in either cyberbullying or cybervictimization (Kowalski et al., 2012). Among other research studies that examined traditional and cyberbullying concurrently, traditional bullying was consistently found to be more prevalent than cyberbullying (Connell et al., 2014; Patchin & Hinduja, 2006; Patchin & Hinduja, 2011; Raskauskas & Stoltz, 2007; Williams & Guerra, 2007; Ybarra et al., 2007). Regardless of which type of bullying is most prevalent, youth that experience bullying, whether as a bully or a victim, may suffer from one or more of the negative consequences associated with the behavior.

Both traditional and cyberbullying are plagued with negative consequences and associated with particular behaviors and attitudes which can be experienced by perpetrators and victims. Engaging in bullying or being victimized can affect a student's ability to create an

attachment to school or lead them to perceive the school's climate as negative (Connell et al., 2014; Nansel et al., 2001; Schneider et al., 2012; Smokowski & Kopasz, 2005; Williams & Guerra, 2007). Unhealthy peer relations and an inability to make friends can also occur among youth that experience bullying or victimization (Connell et al., 2014; Nansel et al., 2001; Schneider et al., 2012; Smokowski & Kopasz, 2005; Williams & Guerra, 2007). Involvement in bullying has been shown to disrupt a student's ability to perform well academically (Connell et al., 2014; Nansel et al., 2001; Schneider et al., 2012; Smokowski & Kopasz, 2005), and this can possibly affect a youth's future employment opportunities in a negative manner (Beaty & Alexeyev, 2008). Bullies and victims may also encounter social adjustment problems, such as the inability to handle peer conflict or to handle a romantic relationship, and these issues could persist into adulthood (Beaty & Alexeyev, 2008; Hinduja & Patchin, 2010; Nansel et al., 2001; Sourander et al., 2007; Ttofi, Farrington, Lösel, & Loeber, 2011). In addition to the negative consequences perpetrators and victims may experience; studies have also found negative behaviors and attitudes associated with traditional and cyberbullying behavior.

Involvement in traditional bullying and cyberbullying has been associated with negative behaviors such as alcohol consumption, tobacco use, illicit drug use, school behavior problems, youth delinquency, and adult criminal offending (Nansel et al., 2001; O'Keeffe & Clarke-Pearson, 2011; Schneider et al., 2012; Ttofi et al., 2011; Ybarra et al., 2007). Both types of bullying have also been associated with mental health issues such as depression, anxiety, substance abuse, suicide ideations, and other psychiatric disorders (Hinduja & Patchin, 2010; Nansel et al., 2001; Patchin & Hinduja, 2006; Schneider et al., 2012; Smokowski & Kopasz, 2005; Sourander et al., 2007; Ybarra et al., 2007). Perpetrators and victims may suffer psychologically as a result of the bullying; furthermore, these effects appear to be the most

prevalent, the most dangerous, and the most enduring effects experienced by those involved (Hinduja & Patchin, 2010; Nansel et al., 2001; Patchin & Hinduja, 2006; Raskauskas & Stoltz, 2007; Schneider et al., 2012; Sourander et al., 2007). In the extreme, peer bullying has been suspected in the suicides of several adolescents and multiple school shootings (Hinduja & Patchin, 2010). When combined, all of the negativity related to bullying further highlights the importance of learning more about this deviant form of youth behavior.

The current research study is important and necessary because thousands of school-aged youth are affected every year by bullying behavior (Kowalski et al., 2012), whether its traditional bullying, cyberbullying, or both. The negative consequences and associations of bullying are real and may last into adulthood (Smokowski & Kopasz, 2005). The insight and knowledge gained from this study can aid in designing effective anti-bullying programs, counseling services specifically for youth involved in bullying, and policies on bullying among other things. Additionally, this study is intended to provide new insight into the relationship between the two forms of youth bullying, traditional bullying and cyberbullying. Violence is commonly found in American news broadcasts, music, and movies; and unfortunately some children have been exposed to violence in their own homes. Bullying has been a longstanding form of youth violence and the consequences can be devastating to the boys and girls that experience it.

This Master's thesis is comprised of five chapters. Chapter one provided background knowledge on the issues being addressed and stated the purpose of the current study. Chapter two provides a review of the available literature on youth bullying and highlights the importance of this research project. More specifically, chapter two examines previous research and provides a comprehensive overlook of the findings concentrating on traditional bullying, cyberbullying; the role gender plays in bullying, and the relationship between the two types of bullying. Chapter

three provides information regarding the methods used in this research study including the hypotheses, information related to the secondary data set that was used to test the hypotheses, the measures used, and the analytical strategy used in this study. Chapter four describes the results of the bivariate correlation tests, the crosstabulation analyses, and the logistic regression analyses. Chapter five is a discussion of the statistical tests that were performed, what the results really mean, and how the findings relate to the three hypotheses presented. Chapter five also discusses potential policy implications for school boards, educators, and many others that are involved with youth as well as the limitations of the study.

CHAPTER 2

LITERATURE REVIEW

Chapter two contains four sections including Traditional Bullying, Cyberbullying, the Role of Gender in Traditional Bullying and Cyberbullying, and the Relationship between Traditional Bullying and Cyberbullying. The Traditional Bullying section contains six subsections: Working Definition, Prevalence of Traditional Bullying, Modes of Aggression, and Prevalence of the Modes of Aggression, Influential Factors of Involvement in Traditional Bullying, and Negative Consequences and Associations of Traditional Bullying. The Cyberbullying section also includes six subsections: Working Definition, Prevalence of Cyberbullying, Modes of Aggression, Electronic Devices, and Mediums, Prevalence of Cyberbullying Methods, Influential Factors of Involvement in Cyberbullying, and the Negative Consequences and Associations of Cyberbullying. The third section is the Role of Gender in Traditional Bullying and Cyberbullying and there are five subsections: Boys and Girls, Prevalence of Traditional Bullying by Gender, Modes of Aggression Used by Gender, Prevalence of Cyberbullying by Gender, and Cyberbullying Methods Used by Gender. The fourth and final section of the literature review, the Relationship between Traditional Bullying and Cyberbullying, includes the subsections Does Traditional Bullying Lead to Cyberbullying, Dual Bullying Perpetration, Dual Bullying Victimization, and the Bully-Victim Dyad.

This chapter provides a comprehensive review of the available literature pertaining to traditional bullying, cyberbullying, the gender differences in bullying behavior, and the relationship between the two types of bullying. In addition, the factors that influence involvement, the negative consequences, and negative attributes associated with bullying will be examined. The goal of this literature review is to provide a comprehensive overview of youth

bullying behavior. This endeavor will be best accomplished by reviewing research studies that have considered the perspective of the perpetrators and the victims both. However, the present research study is centered on bullying perpetration and not victimization. The literature review will begin with a look at what is currently known about traditional bullying starting with a working definition.

Traditional Bullying

Working Definition

Traditional bullying is an aggressive, sometimes violent, form of harassment that usually occurs at school (Nansel et al., 2001). Bullying typically occurs among youth that know each other and possess knowledge of the weak points to attack (Beaty & Alexeyev, 2008; Kowalski et al., 2012). More often than not, bullies and their victims are classmates, peers, close friends, or even family (Beaty & Alexeyev, 2008; Kowalski & Limber, 2007; Nansel et al., 2001; Ybarra et al., 2007). Even for students that are well-acquainted, the bullying is normally unprovoked and often targeted at those perceived as weak or different from the group (MacKay, 2012). Several definitions of bullying abound, but a commonly cited definition comes from Nansel et al. (2001) and it states that bullying occurs when a) there is an intention to cause harm, b) the aggressive behavior is repeated over time, and c) a power imbalance exists between the bully and the victim. Traditional bullying has been examined since the 1970s, and its prevalence has been well-established over the years.

Prevalence of Traditional Bullying

Youth bullying is not a new phenomenon; despite this, media coverage of school shootings where a shooter felt bullied or incidents of teen suicides purportedly caused by bullying can lead some to believe that it is new and occurs often. However, a large number of

studies find approximately one third of students are involved in bullying. For example, in a study of middle school students 31.8% indicated they were involved in bullying perpetration, while 37.8% of the students reported victimization (Kowalski et al., 2012). In a study involving the same age group, researchers found a similar portion of youth, 34.1%, had bullied someone else (Patchin & Hinduja, 2011). The prevalence of bullying among older youth appears to be similar to that found for younger youth. At length, a recent study found that 25.9% of the high school students surveyed had engaged in bullying perpetration in the previous year, and 16.5% had been victimized by a bully (Schneider et al., 2012). A study of youth ages thirteen to eighteen revealed that 64.3% of the participants had bullied someone in the previous month, and 71.4% reported bullying victimization (Raskauskas & Stoltz, 2007). Still yet, other research studies have found as much as 70.7% of youth may be involved in traditional bullying perpetration (Williams & Guerra, 2007). Given these results, it seems reasonable to conclude that somewhere between 25% and 75% of youth have experienced bullying, either as a perpetrator or a victim. Bullying behavior is generally expressed using one or more modes of aggression: verbal, relational, and physical.

Modes of Aggression

Traditional bullying behavior is expressed with a mode of aggression. Within the literature on youth bullying, three modes of aggression are commonly discussed and includes verbal aggression, relational (indirect verbal) aggression, and physical aggression. Verbal aggression entails name-calling, derogatory remarks, taunting, and teasing (Beaty & Alexeyev, 2008; Raskauskas & Stoltz, 2007; Smokowski & Kopasz, 2005). Relational aggression, also referred to as indirect verbal aggression, involves actions like spreading rumors, exclusion, manipulation, and intentional humiliation (Beaty & Alexeyev, 2008; Raskauskas & Stoltz, 2007;

Smokowski & Kopasz, 2005). Physical aggression occurs when one or more youth physically attack another youth with actions such as hitting, kicking, pushing, or throwing things (Beaty & Alexeyev, 2008; Nansel et al., 2001; Raskauskas & Stoltz, 2007; Smokowski & Kopasz, 2005). The modes of aggression are not utilized equally by perpetrators; more specifically, research has typically found that verbal aggression was used most frequently in incidents of bullying, followed by relational aggression, then physical aggression.

Prevalence of the Modes of Aggression

Verbal aggression is the most reported mode of aggression used by perpetrators and victims involved in traditional bullying. In a study of students in grades sixth through tenth, findings showed that approximately 62% of the participants indicated using verbal aggression to bully others (Nansel et al., 2001). More recently, an examination of bullying behavior among fifth, eighth, and eleventh grade students found that 70.7% of the self-identified bullies used verbal aggression (Williams & Guerra, 2007). In a study involving high school-aged youth, 45.2% of the sample reported employing verbal aggression to bully others (Raskauskas & Stoltz, 2007). The extent to which traditional bullies employ verbal aggression can also be assessed by considering the portion of bullying victims that reported verbal bullying.

In a study of bullying among middle school students, the portion of bullying victims that experienced verbal aggression was 61.6% using an average of the three-waves (Esbensen & Carson, 2009). This finding is in line with a well-cited study by Nansel et al. (2001) that 61.6% of bullying victims reported being bullied with verbal aggression. Verbal aggression may be the most popular mode because it allows the bully to inflict harm without placing their hands on the victim, therefore leading them to mistakenly believe no real harm occurred to the victim. An

indirect type of verbal aggression is relational aggression, and it has been used as a measure of bullying in multiple studies.

Relational aggression is the second most common mode of aggression reported by traditional perpetrators and victims. Some studies defined relational aggression as indirect verbal aggression; as such, the measures for relational aggression are often embedded in measures for verbal aggression (Esbensen & Carson, 2009; Nansel et al., 2001; Patchin & Hinduja, 2011; Raskauskas & Stoltz, 2007). A study of youth bullying was conducted by Raskauskas and Stoltz (2007) and the results of their study revealed that 41.7% of the self-identified bullies had employed relational aggression to inflict harm on others. An older study by Nansel and colleagues (2001) included a measure for relational aggression and discovered 60.2% of the self-identified perpetrators responded they had used relational aggression. These findings suggest that, on average, one half of bullies employ relational aggression. Additionally, the use of relational aggression has also been reported by victims of bullying.

In studying victims of traditional bullying, relational aggression has been used as a measure of their bullying experiences. In a 2009 study, researchers found an average of 43.6% of bullying victims had reported experiences with relational aggression (Esbensen & Carson, 2009). In a study by Nansel et al. (2001), findings suggested that 59.9% of the bullying victims had experienced at least one instance of relational aggression in the previous 12 months and 17% experienced it on a weekly basis. Based on just these few studies, relational aggression appears to be used less often than verbal aggression but not by much. Just looking at the Nansel et al. (2001) study, verbal aggression was reported by 62% of perpetrators and 61.6% of victims; while relational aggression was reported by 60.2% of bullies and 59.9% of victims. The difference

between the prevalence of verbal and relational aggression is close, but physical aggression is being reported considerably less than either of them.

Physical aggression is often what people imagine when they hear about incidents of bullying. Curiously though, it is reported less often than the other two types of aggression. Williams and Guerra (2007) studied fifth, eighth, and eleventh grade students and 40.3% of the participants reported using physical aggression to bully others. Similarly, Raskauskas and Stoltz (2007) reported that 34.5% of participants in their study indicated they used physical aggression to bully peers. The proportion of youth employing physical aggression is less than those employing either verbal or relational aggression to victimize others. Looking at perpetration only, one study found that 45.2% of the bullies used verbal aggression, 41.7% used relational aggression, and 34.5% had used physical aggression (Raskauskas & Stoltz, 2007). Physical aggression has also been reported by victims of traditional bullying.

In studies of youth bullying, victims have often reported experiences with physical aggression. For example, Nansel and colleagues (2001) found that 55.6% of the self-identified bullying victims had experienced physical aggression at least once in the previous 12 months and 20.1% reported experiencing it weekly. On the other hand, Esbensen and Carson (2009) found the prevalence of physical aggression was considerably less with only 17.3% of victims reporting physical aggression bullying. Still looking at the study by Esbensen and Carson (2009), it seems that bullying victims experience physical aggression, 17.3%, considerably less than relational aggression, 43.6%, or verbal aggression, 61.6%. It is important to know how often traditional bullying occurs, but it is just as important to understand the factors that may influence a youth's involvement in bullying.

Influential Factors of Involvement in Traditional Bullying

In a discussion of human behavior, it is important to mention that a multitude of factors may influence involvement in bullying including but not limited to age, gender, race, and family affluence. In the case of traditional bullying, age and gender are the most prominent individual characteristics that influence involvement in bullying and type of aggression used (Beaty & Alexeyev, 2008; Connell et al., 2014; Hinduja & Patchin, 2013; Kowalski et al., 2012; Nansel et al., 2001; Patchin & Hinduja, 2011; Schneider et al., 2012; Williams & Guerra, 2007). Gender is one of the independent variables for this study; therefore, it will be examined separately in the section titled the Role of Gender. Other youth characteristics like race and family affluence have also been explored in previous studies, but support for these characteristics as influencing factors is presently lacking (Esbensen & Carson, 2009; Hinduja & Patchin, 2013; Nansel et al., 2001; Schneider et al., 2012; Ybarra et al., 2007).

Age is widely used as a control variable in research studies of youth bullying. Age has been shown to significantly influence a youth's involvement in bullying as a perpetrator and as a victim (Beaty & Alexeyev, 2008; Nansel et al., 2001; Patchin & Hinduja, 2011; Schneider et al., 2012; Smokowski & Kopasz, 2005; Ttofi et al., 2011; Williams & Guerra, 2007). Studies that examine traditional bullying behavior will use participants as young as ten years old, or students in the fifth grade, to youth eighteen years old, or students in the twelfth grade. The rate of bullying in the fifth grade is relatively low, but begins increasing until it reaches a peak in the eighth or ninth grade, at which point, it starts decreasing and continues this way throughout high school (Nansel et al., 2001; Patchin & Hinduja, 2011; Schneider et al., 2012; Williams & Guerra, 2007). All of these studies included measures for the three modes of aggression, and the pattern seems to hold for all three modes with an exception for verbal aggression in a study by Williams

and Guerra (2007). Their study showed verbal aggression peaking in the eighth grade, and then remained constant throughout high school (Williams & Guerra, 2007). In addition to involvement in bullying, youth sometimes experiment with substance use and research has found age can influence the type of substance they will be drawn to.

Substance use has been associated with bullying behavior in several research studies (Beaty & Alexeyev, 2008; Nansel et al., 2001; Sourander et al., 2007; Ybarra et al., 2007). This contention may not be all that surprising, but one study has suggested age may play a role in which recreational substance a bully will use. Nansel et al. (2001) posit that middle school bullies are most likely to choose tobacco, while high school bullies are most likely to choose alcohol. Other studies have not offered up any link between bullying perpetration, substance use, and age. Aside from age, race and family affluence have also used as control variables in studying traditional bullying.

Race and family affluence are also commonly used as control variables in traditional bullying research. Interestingly, research has found that neither race (Esbensen & Carson, 2009; Nansel et al., 2001; Patchin & Hinduja, 2006; Schneider et al., 2012), nor familial income (Ybarra et al., 2007) appear to affect a youth's involvement in traditional bullying, whether as a perpetrator or a victim. In the discussion of their findings, Nansel et al. (2001) mentioned that bullying seemed to be more of an intraracial behavior than an interracial behavior. Each race included in their analysis, White, Black, and Hispanic, seemed to experience bullying perpetration and victimization at relatively equal rates (Nansel et al., 2001). Besides the study completed by Ybarra et al. (2007), family affluence has not been considered in any of the other studies reviewed. Now, the focus turns from the influential factors of traditional bullying to the negative consequences possible when involved in bullying.

Negative Consequences and Associations of Traditional Bullying

Bullying is a deviant form of behavior that involves one or more youth causing harm to another youth (Williams & Guerra, 2007). The harm can be in the form of physical harm, psychological harm, or even social status harm. Unfortunately, there are no winners in the game of bullying, only losers. Both bullies and their victims can potentially suffer negative consequences as a result of their experiences with bullying, such as problems with school and mental health issues (Connell et al., 2014; Hinduja & Patchin, 2010; Hinduja & Patchin, 2013; Nansel et al., 2001; Schneider et al., 2012; Smokowski & Kopasz, 2005; Sourander et al., 2007; Ybarra et al., 2007). Additionally, delinquent behaviors such as the use of substances illegal to juveniles and criminal offending have also been associated with involvement in bullying for victims and bullies alike (Connell et al., 2014; Nansel et al., 2001; Schneider et al., 2012; Smokowski & Kopasz, 2005; Ttofi et al., 2011; Williams & Guerra, 2007; Ybarra et al., 2007).

The consequences most often discovered in studies of bullying behavior pertain to mental health and school. For a juvenile, school is a prominent social institution. As such, it seems logical that some of the negative consequences resulting from bullying experiences would relate back to school. Research findings point to the negative effect bullying has on a student's perception of the school climate, their attachment to school, their relationship with peers, and their academic performance (Beaty & Alexeyev, 2008; Connell et al., 2014; Esbensen & Carson, 2009; Hinduja & Patchin, 2013; Nansel et al., 2001; Patchin & Hinduja, 2011; Schneider et al., 2012; Smokowski & Kopasz, 2005; Williams & Guerra, 2007).

School climate plays a role in traditional bullying. It can serve as barrier to bullying behavior or act as an enabler. More specifically, studies have found that when a school's climate is perceived as trusting, fair, and pleasant, students feel a connection to their school and report

lower rates of involvement in bullying behavior (Esbensen & Carson, 2009; Nansel et al., 2001; Patchin & Hinduja, 2011; Williams & Guerra, 2007). On the other hand, bullying is most likely to occur in a school climate where teachers, administrators, and students have an uncaring attitude towards educational achievement in addition to students feeling there is no repercussion for bullying behavior (Hinduja & Patchin, 2013; Nansel et al., 2001; Schneider et al., 2012; Williams & Guerra, 2007). A school with uncaring staff and uncaring students could easily create a negative school climate.

A negative school climate has the potential to affect a student's ability to securely attach with school. This is significant because a lack of attachment to school may lead to the student feeling lonely and uninterested in their school work (Esbensen & Carson, 2009; Nansel et al., 2001). Several studies found that bullying perpetrators and victims had a lower attachment to school when compared to students that reported no experience with bullying (Connell et al., 2014; Esbensen & Carson, 2009; Nansel et al., 2001; Schneider et al., 2012; Williams & Guerra, 2007). In addition to school attachment, bullying experiences can also interfere with a student's ability to establish healthy peer relationships.

Healthy peer relations are a vital part of youth social development. Students are less likely to report participation in bullying perpetration when they believe their peers are caring and trustworthy (Nansel et al., 2001; Williams & Guerra, 2007). However, developing healthy relationships with peers can be a challenge for students that engage in bullying perpetration and for those that are victims of bullying. Victims of bullying have been found to have difficulty making friends; poorer relationships with peers, and experience greater loneliness (Esbensen & Carson, 2009; Nansel et al., 2001; Smokowski & Kopasz, 2005; Williams & Guerra, 2007). One explanation for this poor social adjustment may be the result of the victim's relationship to the

bully. Perpetrators of bullying are generally disliked by their classmates and tend to have poor relationships with them (Beaty & Alexeyev, 2008; Nansel et al., 2001; Williams & Guerra, 2007). In spite of this, bullies seem to be able to make friends with relative ease (Nansel et al., 2001) and most likely these friends are also involved in bullying perpetration (Hinduja & Patchin, 2013). When a negative school climate exists in tandem with poor peer relationships, it may go without saying that the student's academic performance will inevitably be affected.

Academic performance, particularly in high school, can have an impact on a youth's future educational and employment opportunities (Beaty & Alexeyev, 2008). Schneider et al. (2012) examined traditional bullying and discovered that students receiving mostly D's and F's were twice as likely to report being a victim than students receiving mostly A's, 11.3% and 5.2% respectively (Schneider et al., 2012). Other studies have also posited that bullying victims tend to perform poorly in school, particularly in middle school (Nansel et al., 2001; Smokowski & Kopasz, 2005). Victims are not the only ones that suffer academically as a result of bullying, so do the bullies. Poor academic attainment has been reported by students that engage in bullying perpetration as well (Connell et al., 2014; Nansel et al., 2001). Findings from a 2014 study suggested that although bullies in general tend to have poor academic performance, male bullies are more likely to suffer academically than female bullies (Connell et al., 2014). Either way, it appears that both bullies and victims can have a negative experience with school. The consequences of bullying do not end with a bad academic career, bullies and victims may suffer from mental health issues as well.

Mental health issues can afflict bullies and victims alike. Several research studies have promulgated youth that engage in bullying perpetration and those who are victimized are more likely to report mental health issues such as depression, anxiety, suicide ideation, and possess

personality disorders than youth with no experiences with bullying (Hinduja & Patchin, 2010; Hinduja & Patchin, 2013; Nansel et al., 2001; Schneider et al., 2012; Smokowski & Kopasz, 2005; Sourander et al., 2007). Interestingly, a bully is two times more likely to suffer from mental health issues than a victim (Sourander et al., 2007). This does not minimize the repercussions for the victims, however. Schneider et al. (2012) report that 26.6% of the students in their sample with bullying victimization experiences had admitted to feeling depressed after the bullying incident. Perpetrators, specifically, have been found to suffer from additional psychological disorders.

Approximately one eighth of bullies have been found to have oppositional-conduct disorder and one third must deal with attention deficit disorder (Smokowski & Kopasz, 2005). In a Finnish longitudinal study by Sourander et al. (2007), the relationship between being a childhood bully and psychiatric disorders in adulthood was examined. The researchers collected data on a cohort of eight-year males which included self-report surveys, administrative surveys, and parental surveys; several years later, contact was again with this same group of males who were then between age eighteen and twenty-one (Sourander et al., 2007). Youth that were bullies at eight-years old were times more likely to have a diagnosis of a psychiatric disorder at twenty-one than youth with no involvement in bullying at all, 17.6% and 8.8% respectively (Sourander et al., 2007). Many mental health issues can lead to suicide ideation.

Suicide ideation and suicidal attempts significantly relate to bullying. Youth that experience bullying, both perpetrators and victims, have more suicidal thoughts and are more likely to attempt suicide than those with no experiences with bullying (Hinduja & Patchin, 2010). A recent study found that slightly more than four percent of students involved in traditional bullying, as a perpetrator or victim, had attempted suicide, while only two percent of those with

no involvement had attempted suicide (Schneider et al., 2012). Another study that examined the relationship between bullying and suicide discovered the suicide attempt rates were higher among the bullies than the victims. When compared to youth that were neither bullies nor victims, bullies were over two times more likely to attempt suicide while bullying victims were over one and a half times more likely to attempt suicide (Hinduja & Patchin, 2010). The results from this study also found that 20% of the participants reported suicide ideation and 19% reported they attempted suicide (Hinduja & Patchin, 2010). Teen suicide is the worst possible ending for a youth experiencing bullying and it highlights the extreme importance of having proper services and staff in schools for youth to turn to for help. In addition to the consequences, there are behaviors and attitudes that have been associated with bullying behavior.

Engaging in bullying perpetration has been associated with other deviant behaviors and attitudes. Commonly, perpetration is associated with drinking alcohol, using tobacco, and using drugs (Beaty & Alexeyev, 2008; Nansel et al., 2001; Sourander et al., 2007). Bullying perpetration during childhood is a strong and specific risk factor for adult criminal offending (Ttofi et al., 2011), while chronic adult offending has been linked to an early on-set of aggressive behavior (Smokowski & Kopasz, 2005). One study found that the anti-social behavior of bullies can follow them into adulthood and interfere with their ability to build meaningful relationships, particularly with the opposite sex (Smokowski & Kopasz, 2005). Other behavior problems concern things that happen in the context of school. School behavior problems such as detention, suspension, and truancy have been associated with both bullying perpetration and victimization (Ybarra et al., 2007). In one study, one fourth of the self-identified bullying victims admitted to carrying a weapon to school in the previous thirty days (Ybarra et al., 2007). In addition to the behaviors, bullies have been found to share some common attitudes about their behavior.

Through research, bullying perpetration has been associated with particular attitudes. Traditional bullies are likely to possess a positive attitude towards aggression, possess low empathy for victims, and possess a low self-esteem (Beaty & Alexeyev, 2008). It has also been posited that bullies tend to have difficulty processing social information and often misconstrue the behavior of others as aggressive or antagonistic when it is not (Beaty & Alexeyev, 2008). Moreover, bullying perpetration has been found to be positively related to an attitude that morally approves of bullying behavior (Connell et al., 2014; Nansel et al., 2001; Williams & Guerra, 2007). The culmination of all this negativity can weigh heavily on a youth affected by bullying, and it is likely other negative effects exist but have not been discovered. Bullying victimization is no longer confined to schools or school buses. A portal has been created with the invention of things like the Internet and electronic devices, and now a new and potentially more dangerous type of youth bullying has been born: cyberbullying.

Cyberbullying

Working Definition

Cyberbullying takes place through communication and interaction which occurs via electronic devices. However, what constituted an act of cyberbullying varied by study and a commonly accepted definition does not currently exist. This research study is utilizing the definition put forth by Hinduja and Patchin (2010), which defines cyberbullying as the “willful and repeated harm inflicted through the use of computers, cell phones, and other electronic devices.” Similar to traditional bullying, a power imbalance must exist between the bully and the victim, and in cyberbullying this imbalance is created and maintained through anonymity (Hinduja & Patchin, 2010; Patchin & Hinduja, 2006). This definition of cyberbullying also contains other components found in the definition for traditional bullying. For example, the

bullying behavior must be intended to cause harm and it must be repeated. The latter part has been viewed as controversial in the literature as some researchers have argued that the harmful behavior need not be repeated in order to be considered an incident of cyberbullying (Kowalski & Limber, 2007; Raskauskas & Stoltz, 2007; Ybarra et al., 2007). The rationale for the absence of repetition is that if something is posted online, such as a picture or a video, it has the potential of being viewed by thousands of people over and over again (Kowalski & Limber, 2007; Raskauskas & Stoltz, 2007; Ybarra et al., 2007). In this instance, the prerequisite of repetition has been met due to the humiliation occurring each time someone views the picture or video. Cyberbullying holds a high potential for harm to victims due to the unique nature of cyberspace. Luckily, this new type of bullying is reported less often by students.

Prevalence of Cyberbullying

The majority of research studies have found that cyberbullying is reported at a much lower frequency than traditional bullying; still yet, this type of bullying affects a large number of youth. A recent study involving high school students found that 15.8% had engaged in cyberbullying perpetration while 6.4% reported cybervictimization (Schneider et al., 2012). Among students in grades sixth through twelfth, Kowalski et al. (2012) found that 10.9% reported being a cyberbully and 17.3% reported being a cybervictim. In a study involving middle school students, the portion of youth involved in cyberbullying perpetration was 11% and the number of youth reporting cybervictimization was 18% (Kowalski & Limber, 2007). Another study involving middle school youth found a smaller portion of youth involved in cyberbullying, 4.9%, but the researchers pointed out they only included those youth which had bullied at least three times in the previous thirty days (Hinduja & Patchin, 2013). Nonetheless, other studies examining cyberbullying behavior have found as much as 21% of students engage in

cyberbullying peers (Patchin & Hinduja, 2011; Raskauskas & Stoltz, 2007) and as much as 48% of students are cybervictims (Mesch, 2009; Raskauskas & Stoltz, 2007). Curiously, studies of cyberbullying have found that the number of victims is typically two to three times greater than the perpetrators. It could be speculated that a single cyberbully victimizes multiple targets at once via cyberspace, thus creating a disproportionate number of victims to perpetrators. The extent to which youth engage in cyberbullying is important to understand; additionally, it is also important to know which mediums and devices youth use most often in cyberbullying behavior.

Modes of Aggression, Electronic Devices, and Mediums

Cyberbullying can be accomplished through two types of aggression: verbal and relational. Either one of these modes of aggression can be easily adapted for use in cyberbullying perpetration; whereas, physical aggression cannot due to the physical separation between bully and victim. That being said, a stated or implied threat to cause physical harm can occur in cyberspace, but these actions do not meet the definition of physical aggression (Beatty & Alexeyev, 2008; Nansel et al., 2001; Raskauskas & Stoltz, 2007; Smokowski & Kopasz, 2005). Cyberbullies have indicated they use verbal aggression more frequently, 92%, than relational aggression, 74.8%, to victimize peers (Hinduja & Patchin, 2013). In addition, cybervictims have also reported experiencing verbal aggression at a higher frequency, 46%, than relational aggression, 13.5% (Ybarra et al., 2007). Cyberbullies use verbal aggression more often than relational, which parallels findings for traditional bullying perpetration. Now, a look at how cyberbullies access cyberspace.

Any electronic device that can connect to the Internet can be used to engage in cyberbullying or to become a cybervictim. Desktops, laptops, tablets, gaming consoles, portable gaming devices, and smartphones are the most common devices U.S. teens use to access the

Internet (Hinduja & Patchin, 2013; Kowalski & Limber, 2007; Lenhart et al., 2010; Patchin & Hinduja, 2006; Raskauskas & Stoltz, 2007). More specifically, youth most often access the Internet through personal computers, 93%, smartphones, 27%, game consoles, 24%, and portable gaming devices, 19% (Lenhart et al., 2010). Mobile phones can be used to engage in cyberbullying if the phone has text or picture messaging capabilities or it can connect to the Internet. Importantly, the frequency at which adolescents use mobile phones and access the Internet is positively related to cybervictimization (Mesch, 2009).

Given that an Internet connection is required to engage in cyberbullying, the extent to which youth have access to these services must also be considered. Since 1989, when the Internet was created the number of individuals with the ability to purchase computers, and mobile phones, and have access to the Internet has grown. In a recent Pew Study (Lenhart et al., 2010), 69% of youth reported owning a personal computer, 75% reported owning a mobile phone, and 93% reported they went online regularly. Of particular importance to this study is the finding that 63% of teens go online at least once per day and 36% report going online multiple times per day (Lenhart et al., 2010). With such a large number of youth having access to electronic devices and the Internet, it is understandable how traditional bullying could carry over from school grounds to cyberspace. The Internet can be used to communicate electronically with other people, and several instruments are available for that very purpose.

Electronic communication via the Internet can occur through mediums such as instant messaging, email, chat rooms, blogs, personal websites, and social networking sites among others. Given that 85% of youth ages ten to seventeen communicate online in one way or another (Pieters & Krupin, 2010), it is important to consider what mediums are used, how, and the extent to which they use the Internet to communicate and interact with peers. Computers are used most

often by youth to access the Internet, and social networking sites, such as Facebook, Twitter, Instagram, and Snapchat, are the most popular mediums used by teens with 73% reporting participation in at least one (Lenhart et al., 2010). In addition, a large number of teens communicate through email, 71% (Pieters & Krupin, 2010), text messaging, 66%, and instant messaging, 58% (Lenhart et al., 2010). However, only small portions of youth have reported participation in chat rooms, 16% (Pieters & Krupin, 2010). The ways in which youth engage in cyberbullying is just a part of the picture, however. It is important to understand the extent to which cyberbullying occurs.

Prevalence of Cyberbullying Methods

An effective anti-bullying initiative would consider how and to what extent juveniles are bullying others in cyberspace. The Internet is the most common way in which youth engage in cyberbullying. There are several Internet mediums through which harm can be inflicted, and the lure of anonymity offered by cyberspace is likely to make the Internet attractive to potential perpetrators. Hinduja and Patchin (2013) studied cyberbullying behavior and found 91% of the self-identified cyberbullies used the Internet to victimize others. In addition, a study by Raskauskas and Stoltz (2007) also found a large portion of the perpetrators, 61.1%, had used the Internet to engage in cyberbullying. Lastly, a 2006 study examining cyberbullying found that 10.7% of the participants had used the Internet to inflict harm and 29.4% had been victimized via the Internet (Patchin & Hinduja, 2006). Cyberbullying via the Internet can occur through intermediaries such as email, chat rooms, and social networking sites to name a few.

Common ways that youth communicate and interact while on the Internet includes chat rooms, instant messages, email, and social networking sites. Social networking sites are accessed by youth more frequently than any other Internet instruments (Lenhart et al., 2010). Social

networking sites are a common tool used by youth to be expressive and to connect with family and friends. At first glance these sites appear to be a great venue in which adolescents can be expressive, but having a profile on a social networking site can leave a teen vulnerable to victimization. More specifically, one study found that 15.9% of cyber perpetrators and 15.5% of cyber victims have experienced bullying through a social networking site (Kowalski & Limber, 2007). Patchin and Hinduja (2006) found that 9.8% of the self-identified perpetrators and 9.7% of self-identified victims had bullying experiences via social networking sites. Although there is a low incident rate of cyberbullying on social networking sites, it should be mentioned that approximately 73% of youth own at least one profile on such a site (Lenhart et al., 2010). This translates to a large number of juveniles being at-risk for cyber victimization, including many juveniles technically too young to own a social networking profile.

A further examination of the Pew Study results reveal that 55% of youth ages twelve to thirteen-years, and 82% of youth ages fourteen to seventeen-years have social networking profiles (Lenhart et al., 2010). This is despite the fact that youth under the age of thirteen are legally prohibited from having an account on social media sites. Obviously, some youth simply lie about their age in order to create an account (O’Keeffe & Clarke-Pearson, 2011). The concern here is that having an active profile has been linked to higher rates of cyber victimization (Mesch, 2009; Sengupta & Chaudhuri, 2011). Sengupta and Chaudhuri (2011) specifically looked at the relationship between having a profile on a social networking site and rates of cyber victimization and a strong correlation was found. Specifically, teens with a profile on a social networking site were 90% more likely to be a cyber victim than teens without a profile (Sengupta & Chaudhuri, 2011). After social networking sites, email is the next medium used most often by youth to communicate with each other (Lenhart et al., 2010).

Emailing has become a popular and common way for people to electronically communicate and one survey found that 71% of youth ages twelve to seventeen participate in emailing (Lenhart et al., 2010). In spite of this, only a small portion of youth report using email to bully others. Specifically, a study by Kowalski and Limber (2007) found that among students that admitted to cyberbullying others, 19.9% stated they used email to victimize someone while 24.2% of the self-identified cybervictims reported they had been bullied by email. Another study found that 17.7% of cyberbullies used email to inflict harm and 43.4% of cybervictims were victimized through email (Patchin & Hinduja, 2006). It appears that slightly more than one fifth of cyberbullies use email to harass other people. Text and multimedia messages sent through a mobile phone can be a medium for bullying behavior; in addition, this type of medium has been reported at a higher frequency than email.

Youth can cyberbully peers by using their mobile phones by sending hurtful text and multimedia messages. In a study by Raskauskas and Stoltz (2007), 100% of the self-identified perpetrators in the survey sample reported they used text messaging to cyberbully someone. In another study, text messaging was employed by 67% of the self-identified cyberbullies (Hinduja & Patchin, 2013). A much lower number, 17.6%, of the participants that admitted to being a cyberbully reported using mobile phone messages to engage in cyber perpetration in a study by Kowalski and Limber (2007). Additionally, a study by Patchin and Hinduja (2006) found that bullying via text messaging was the least employed method they measured with only 7.3% of the cyberbullies employing this medium. When 75% of youth state they own a mobile phone and 66% of them use the phone to message others (Lenhart et al., 2010), the potential to become a perpetrator or a victim is there. Thus, anti-bullying initiatives need to address this method of

bullying. Similar to mobile phone messaging, youth have also used instant messaging through computers to cyberbully others.

Instant messaging offers real-time transmission of conversations through the Internet. Instant messaging is like a text message that can be sent through a mobile phone. Youth enjoy socially interacting with each other and instant messaging allows them to carry on conversations as if no physical barriers were between them. It is no surprise, then, that more than half of youth, 58%, between 12 and 17-years old use instant messaging to communicate (Lenhart et al., 2010). It is important to understand the extent to which instant messaging is used to cyberbully others since a significant number of youth use instant messaging. Kowalski and Limber (2007) found that 55.5% of the cyberperpetrators in their sample reported using instant messaging to bully peers; furthermore, 66.6% of cybervictims reported they were bullied through instant messaging. Patchin and Hinduja (2006) found similar results in their study, where 48.8% of the cyberbullies and 46% of the cybervictims reported instant messaging as the medium used. In connecting the dots, it appears that over one-half of cyberbullies have used instant messaging to inflict harm and over one-half of youth have reported communicating via instant messaging (Lenhart et al., 2010). This may be cause for alarm, but more importantly it may be a motivator for parents, and school officials to take steps to reduce incidents of bullying. Chat rooms are not as popular with youth as instant messaging; however, a good portion of teens still communicate through chat rooms.

Approximately 16% of youth report actively participating in chat rooms (Pieters & Krupin, 2010). Regrettably, chat rooms have been used by youth to act out their bully behavior. As support, Kowalski and Limber (2007) found that 23.2% of cyber perpetrators inflict harm through a chat room and 24.7% of cybervictims report being bullied in a chat room. Other studies suggest a larger percentage of youth may be involved in bullying via chat rooms, such as

the study by Patchin and Hinduja (2006) which found that 70.7% of cyber perpetrators and 74.3% of cybervictims had experienced bullying in a chat room. An interesting point here is the study by Patchin and Hinduja (2006) contained a disproportionate number of female participants, 325 females and 55 males, and some research has shown that females are more likely to use a chat room than males (Mesch, 2009; Pieters & Krupin, 2010; Sengupta & Chaudhuri, 2011). So, the results of the Patchin and Hinduja (2006) study may provide support to the contention that females are more likely to be involved in cyberbullying than males. Although chat rooms are not heavily used by youth for social interaction, it is important to mention that frequent chat room participation has been linked to a higher risk of cybervictimization (Mesch, 2009). This increased risk may be the result of some youth unwittingly talking to strangers in a chat room. Other characteristics can influence a youth's involvement in cyberbullying.

Influential Factors of Involvement in Cyberbullying

Youth involvement in cyberbullying can be influenced by a number of factors. Which factors prove to be influential to a youth's involvement in cyberbullying will depend on the individual child; however, research studies have typically looked at factors such as age, gender, race and family affluence as potential predictors. Age and gender are often found to be the most influential factors for engaging in cyberbullying behavior (Connell et al., 2014; Hinduja & Patchin, 2013; Kowalski & Limber, 2007; Kowalski et al., 2012; Mesch, 2009; Patchin & Hinduja, 2006; Patchin & Hinduja, 2011; Schneider et al., 2012; Williams & Guerra, 2007; Ybarra et al., 2007), and a few studies have found family affluence is also a possible factor (Mesch, 2009; Ybarra et al., 2007). Gender is an independent variable for this research study and will be explored at-length in the section following this one. To date, none of the research literature on cyberbullying has found race to moderate a student's involvement in the behavior,

whether as a perpetrator or a victim (Hinduja & Patchin, 2013; Schneider et al., 2012; Ybarra et al., 2007).

Cyberbullying and traditional bullying are essentially the same type of behavior just played out in different settings; as such, it is understandable that age would influence involvement in cyberbullying in much the same way it does in traditional bullying. Most studies find that cyberbullying behavior begins in the fourth or fifth grade, peaks around the eighth or ninth grade, then declines through high school (Connell et al., 2014; Hinduja & Patchin, 2013; Kowalski & Limber, 2007; Kowalski et al., 2012; Schneider et al., 2012; Williams & Guerra, 2007; Ybarra et al., 2007). This would suggest that cyberbullying is most prevalent among middle school students. Interestingly, Schneider and colleagues (2012) found the rate of traditional bullying dropped by almost one-half between the ninth grade, 32.5%, and the twelfth grade, 17.8%; however, the rate of decline for cyberbullying from ninth grade, 17.2%, to twelfth grade, 13.4%, was less significant. A possible explanation for the difference could be the anonymity of cyberspace; after all, who wants to be known as a bully? Other studies have found that high school students are the ones most likely to engage in cyberbullying.

Research findings suggest that cyberbullying is most prevalent among high school students and not middle school students (Hinduja & Patchin, 2013; Mesch, 2009; Raskauskas & Stoltz, 2007). Hinduja and Patchin (2013) and Raskauskas and Stoltz (2007) found that cyber-perpetrators are most likely to be older youth, specifically 16 to 17-years old. And in a study by Mesch (2009), the victims of cyberbullying were also found to be older youth, somewhere in the 14 to 17-year old range. It seems reasonable that older teens would engage in cyberbullying more often due to the potential of possessing advanced technological skills and increased access to

electronic devices. The type of intermediary tool available to a cyberbully can be influenced by their age.

The type of medium a bully chooses to use to inflict harm can be influenced by age, and it does so in two important ways. First, younger youth ages ten to thirteen are not legally old enough to create a profile or online account. In order to overcome this obstacle, many kids simply lie about their age in order to create a profile (O’Keeffe & Clarke-Pearson, 2011). Second, younger youth are not typically seen as mature enough for their parents to give them access to electronic devices or the Internet. This notion is supported by a Pew Study in which the percentage of youth owning a mobile phone increased for each year the youth aged. The Pew Study found that 58% of 12-year olds, 79% of 15-year olds, and 83% of 17-year olds owned a mobile phone (Lenhart et al., 2010). A similar pattern is seen in the ownership of personal computers. Among youth ages 12 to 13-year olds, 60% reported they owned a personal computer whereas computer ownership was reported by 73% of the 14 to 17-year olds (Lenhart et al., 2010). In addition to age, some research has found that a juvenile’s family income level may play a role in their involvement in cyberbullying.

The role family affluence plays in cybervictimization has been considered in research studies by Mesch (2009) and Ybarra et al. (2007). Mesch (2009) did not find a difference in family income level between cybervictims and non-cybervictims, but did find the parents of cybervictims had a higher level of education than the parents of non-cybervictims. Also of interest here is the finding by Ybarra and colleagues (2007). The researchers found that youth from low-income, < \$35,000, and middle-income families, \$35,001-99,999, had experienced cybervictimization at a rate proportionate to their prevalence in the school population; meanwhile, there was a disproportionate number of youth from high-income families,

\$100,000+, which had reported cybervictimization experiences. A wide range of factors can influence involvement in cyberbullying; but ere regardless of what causes a youth to engage in bullying, the negative consequences that result can be suffered by victims and perpetrators.

Negative Consequences and Associations of Cyberbullying

Most of what is known about the consequences of cyberbullying behavior pertains to cybervictims. Currently, significant research on the negative consequences of engaging in cyberbullying perpetration is lacking. However, it is being pointed out that several negative consequences found for cybervictimization are similar to those consequences found for both traditional bullying perpetration and traditional victimization. As such, it is plausible that cyber-perpetrators suffer negative consequences that parallel those suffered by cybervictims. The consequences found for cybervictimization include many issues related to school and mental health (Connell et al., 2014; Patchin & Hinduja, 2006; Schneider et al., 2012; Williams & Guerra, 2007; Ybarra et al., 2007). Move over, cyberbullying has been associated with specific attitudes, troubling milieu, and an unconventional bully-victim relationship (Connell et al., 2014; Hinduja & Patchin, 2013; Kowalski & Limber, 2007; Kowalski et al., 2012; Patchin & Hinduja, 2006; Raskauskas & Stoltz, 2007; Schneider et al., 2012; Williams & Guerra, 2007; Ybarra et al., 2007).

Being that school is one of the primary institutions in the life of most juveniles, it is not all that surprising that some victims of cyberbullying experience difficulties related to school. Available research has posited being victimized via cyberspace can affect the ability of a student to form an attachment to school and may negatively affect the school climate (Connell et al., 2014; Patchin & Hinduja, 2006; Raskauskas & Stoltz, 2007; Schneider et al., 2012; Smokowski & Kopasz, 2005; Williams & Guerra, 2007; Ybarra et al., 2007). The low school attachment felt

by some cybervictims may be the result of depressive feelings (Schneider et al., 2012). Specifically, one study found that 31.9% of the self-identified cybervictims reported that the cyberbullying experience negatively affected them while at school and 20.4% reported they felt negatively affected while with their friends (Patchin & Hinduja, 2006). Furthermore, this absence of a bond with school can have a negative effect on a student's academic performance as evidenced in the low grade averages found among some cybervictims (Connell et al., 2014; Schneider et al., 2012; Ybarra et al., 2007). In particular, a study by Ybarra and colleagues (2007) found that 21.6% of the cybervictims had a grade average of C+ or lower; whereas, only 8.7% of non-cybervictims had a similar grade average. A youth that has not bonded well to the school environment or has not done well academically may also have a negative perspective of school all together.

Victims of cyberbullying sometimes report having a negative perception of school and 44.7% admit they ditched school at least once in the previous year (Ybarra et al., 2007). For the cybervictims that continue to attend school, some struggle to behave appropriately and end up in trouble with school staff. Ybarra and colleagues (2007) found 50.8% of the self-identified cybervictims had spent time in detention or had been suspended from school. Although the precise reasons are unknown, research has found that some victims will carry a weapon onto school grounds (Smokowski & Kopasz, 2005; Ybarra et al., 2007). Their actions may be in response to negative experiences associated with school, fear of a physical attack from a bully, or to exact some type of retaliation. It has been discovered, after the fact, that some perpetrators of school shootings had previously been victimized by a bully. Since 1990, 75% of school shootings have been linked to the harassment or bullying of the shooter(s) (NoBullying.org, 2014). School shootings are always tragic, and they serve as a reminder of the importance of

discouraging bullying behavior in schools by staff and students. Additionally, cybervictims may experience consequences beyond those related to school such as mental health issues.

Mental health issues sometimes afflict victims of cyberbullying. Research on the effects of cyberbullying on the victims find that many report having psychological distress and depressive symptoms as a result of the bullying incident (Raskauskas & Stoltz, 2007; Schneider et al., 2012; Ybarra et al., 2007). One study in particular found that cybervictims had reported feeling frustrated, 42.5%, angry, 39.8%, and sad, 27.4% (Patchin & Hinduja, 2006). However, there were other cybervictims, 22.1%, in that study that reported not being bothered by the bullying incident at all (Patchin & Hinduja, 2006). A small portion of cybervictims have experienced suicide ideation or actually attempted to commit suicide (Schneider et al., 2012), whereas others simply feel apprehensive and fear for their safety (Smokowski & Kopasz, 2005). One study found that the suicide attempt rate for cybervictims was more than two times that of traditional bullying victims and over four times higher than students that had not experienced bullying (Schneider et al., 2012). The negative consequences experienced by youth affected by cyberbullying can be difficult to overcome, but curbing cyberbullying can also be difficult to overcome due to the attitudes held by the perpetrators.

Youth that engage in cyberperpetration sometimes possess an attitude that morally approves of bullying behavior; furthermore, they tend to have a general acceptance of aggressive behavior (Connell et al., 2014; Hinduja & Patchin, 2013; Williams & Guerra, 2007). This pro-bullying attitude and aggressive behavior can become reinforced through social interaction with other youth that possess a pro-aggressive attitude (Hinduja & Patchin, 2013). As such, bullies tend to befriend other bullies with whom they share commonalities (Hinduja & Patchin, 2013), and in the course of social interaction they may encourage each other to engage in aggressive

behavior (Connell et al., 2014; Williams & Guerra, 2007). For instance, Hinduja and Patchin (2013) found that 62% of the students that reported having friends that engaged in cyberbullying also indicated they had cyberbullied others; while only 4% of the cyberbullies reported having friends that had not cyberbullied someone. Research has also found that cyberperpetrators tend to bully in ways other than electronically (Connell et al., 2014), which supports the contention that a link exists between being a traditional bully and being a cyberbully. There are two contextual characteristics associated with cyberbullying, anonymity and physical distance, which sets this form of youth bullying apart from traditional bullying and making it potentially more destructive.

Anonymity is a stark and potentially dangerous characteristic of cyberbullying perpetration, and it may be the only real difference between cyber-perpetration and traditional perpetration. The anonymity of cyberspace has been found to increase the likelihood a youth will be involved in cyberbullying behavior (Patchin & Hinduja, 2006; Ybarra et al., 2007). In the cyber world, a person can be anyone they want to be and the Internet can typically be accessed from virtually anywhere. Bullies may choose to use cyberspace as a way to inflict harm because it allows them to act uninhibited and without repercussion (Patchin & Hinduja, 2006). People may say things online that they would never say in a face-to-face conversation particularly overly harsh or degrading comment (O’Keeffe & Clarke-Pearson, 2011). Furthermore, the victim may not know who the perpetrator is because of the anonymity of cyberspace. As much as one half of cybervictims report not knowing the identity of their online tormentor (Kowalski & Limber, 2007; Raskauskas & Stoltz, 2007; Ybarra et al., 2007). Fear can be heightened by the unknown and lead cybervictims to feel high levels of psychological distress (Schneider et al., 2012). In addition to the anonymity, cyberbullying also has the unique contextual characteristic of physical distance between the bully and the victim.

The physical distance that exists between the bully and victim is another characteristic that sets cyberbullying apart from traditional bullying. In cyberspace, bully and victim are most often physically separated by space; whereas in school, bully and victim may share a physical space during the entire school day. In a traditional bullying setting, school staff or administrators are potentially nearby, but cyberbullying can occur from virtually anywhere and adult supervision is not always available. The physical distance offered by cyberspace can increase the likelihood a youth will engage in cyberbullying perpetration (Patchin & Hinduja, 2006), and the perceived lack of authority or guardianship can lead youth to believe that they cannot or will not be held responsible for their online behavior. This distorted perception allows cyberbullying behavior to flourish and given that teens are online more often and for longer periods than many adults (Lenhart et al., 2010) the potential for victimization is high. There are no student resource officers or school staff roaming the Internet highways to ensure safety. Without supervision and guidance, youth may feel free from the normal social constraints that keep their behaviors in check. The anonymity and physical distance that exists in cyberspace allows youth to bully one another and thus creates a bidirectional relationship between bully and victim.

Cyberspace is rather unique in that it allows youth to bully others and be bullied at the same time; as a result, it creates a relationship between bully and victim that potentially flows in two directions. However, Kowalski and colleagues (2012) found evidence the cyberbully-cybervictim relationship most likely flows in one direction, from perpetration to victimization. No matter which direction this relationship flows, several studies have found that cybervictims often engage in cyberbully (Connell et al., 2014; Kowalski & Limber, 2007; Kowalski et al., 2012). Specifically, Connell et al. (2014) found that the likelihood of one reporting cyberbullying behavior increased fourfold if one also reported being a cybervictim. The bully-victim group in a

study by Kowalski and Limber (2007) accounted for 6.8% of the sample; furthermore, females were almost three times more likely to be a bully-victim than the males, 9.5% and 4% respectively. The cyberbully-cybervictim group was larger than the cyberbully-only group, 4.1%, yet smaller than the cybervictim-only group, 11.1% (Kowalski & Limber, 2007). This suggests that a subset of participants belonged to both the victim-only and bully-only groups. In a study by Ybarra and colleagues (2007), the results showed that 45.2% of the youth reporting infrequent cybervictimization and 69% of those reporting frequent cybervictimization had also reported they had participated in cyber-perpetration. The anonymity and physical distance that exists in cyberspace potentially explains the existence of the bully-victim dyad commonly found in studies of cyberbullying behavior; moreover, these same characteristics may also explain why this type of bullying is potentially more dangerous than traditional bullying.

Many have promulgated cyberperpetration is a more dangerous form of youth bullying than traditional bullying, and this is likely due to the anonymity and physical distance that characterizes cyberspace (MacKay, 2012; Patchin & Hinduja, 2011; Raskauskas & Stoltz, 2007; Schneider et al., 2012). In cyberspace, a bully can hide behind a computer screen miles away from their victim while rattling off hurtful comments or posting humiliating pictures. It is not a secret that females often display catty and subtle aggressive behavior (Underwood & Rosen, 2004), but does this mean females are more likely to engage in verbal bullying than males or that the unique attributes of cyberspace will encourage them to bully someone online? In order to answer these questions, the role gender plays in traditional and cyberbullying will be examined.

The Role of Gender in Traditional Bullying and Cyberbullying

Boys and Girls

The two genders are different in many key respects. Boys and girls have visible physical differences and not so obvious biological differences; however, there are also differences in the way boys and girls think and behave. American culture is such that a child's biological sex often plays a prominent role in the way the child is raised (Kimmel, 2013). For example, girls may be dressed in pink with pretty bows and flowers, while males may be decked out in blue with animal print and sports themes. These types of behaviors place an emphasis on gender differences and attempt to define what gender means. Eventually, a division can be created between males and females when they reach adulthood. It is not being argued whether or not a parent should attempt to define their child's gender, but rather that these types of behavior often do end up defining gender for the child. This point is relative to the topic of youth bullying because gender often influences a youth's behavior, both delinquent and non-delinquent (Kimmel, 2013).. The types of delinquent behavior a youth will likely become involved in are influenced by their gender (Nansel et al., 2001; Ttofi et al., 2011). Having said that, gender differences in youth bullying behavior will be examined based on the premise that boys and girls have naturally occurring differences and thus their involvement in bullying perpetration should reflect these differences. To begin, a review of the literature on gender difference found in traditional bullying.

Prevalence of Traditional Bullying Among Boys and Girls

Traditional bullying is perpetrated by both males and females (Nansel et al., 2001). The vast majority of research studies find that boys engage in traditional bullying perpetration more often than females (Beaty & Alexeyev, 2008; Connell et al., 2014; Kowalski et al., 2012; Nansel

et al., 2001; Schneider et al., 2012; Smokowski & Kopasz, 2005; Williams & Guerra, 2007). Specifically, in a study of middle school students, 45.3% of the boys and 44.7% of the girls reported bullying others (Connell et al., 2014). Additionally, a study of older youth found that 26.6% of boys and 25.1% of girls had been involved in bullying perpetration (Schneider et al., 2012).

Although males are more likely to engage in bullying as a perpetrator, the gap between males and females is very narrow. Females have not always engaged in traditional bullying at a rate that rivals their male counterparts. In their study of youth bullying, Nansel et al. (2001) found that males, 52.9%, were much more likely to engage in bullying perpetration than females, 36.9%. Conversely, findings from another study suggest that females are more likely to engage in traditional bully behavior (Patchin & Hinduja, 2011). Their study examined the effects of anger and frustration on traditional bullying involvement, and found that these emotions were positively correlated with traditional bullying perpetration (Patchin & Hinduja, 2011). When coupled with the finding that female participants indicated feeling significantly more anger and frustration than the male participants, the researchers concluded that females were more likely to engage in traditional bully perpetration than males (Patchin & Hinduja, 2011). The feelings of anger and frustration reported by the females in this study could have been a result of victimization and not their involvement in bullying perpetration. Females may not be the typical bully, but several studies have found they are most often the victims of bullying.

Bullying research has typically found that females are more likely to be victimized by a bully than males (Beaty & Alexeyev, 2008; Connell et al., 2014; Esbensen & Carson, 2009; Kowalski et al., 2012; Schneider et al., 2012). In a survey of high school students, 67.3% of the females responded they had been victimized by traditional bullying, whereas 64.9% of the males

had reported victimization (Connell et al., 2014). Other studies have also found that females were more likely to be victimized by traditional bullying behavior, and that females, 54%, were more likely to be subjected to repeat attacks than males, 42% (Esbensen & Carson, 2009). Some studies, however, have found males are more likely to suffer traditional bullying victimization (Beaty & Alexeyev, 2008; Nansel et al., 2001). For instance, Nansel et al. (2001) found that 46.8% of males had been victims of traditional bullying as compared to only 36.2% of females. Beaty and Alexeyev (2008) report that approximately 11% of males are victimized by traditional bullies, whereas 10.5% of females are victimized. In spite of these conflicting findings, both girls and boys are affected by traditional bullying. The prevalence of traditional bullying perpetration and victimization among boys and girls provides a partial picture of this issue. Taking a look at the modes of aggression, research has found a few differences in the way males and females engage in bullying perpetration.

Modes of Aggression Used by Boys and Girls

Gender potentially influences more than a youth's level of involvement in traditional bullying behavior; it may also influence the type of aggression used to bully others. A vast amount of research on traditional bullying supports the contention that males are more likely to use physical aggression than females (Barlett & Coyne, 2014; Beaty & Alexeyev, 2008; Connell et al., 2014; Esbensen & Carson, 2009; Kowalski et al., 2012; Nansel et al., 2001; Patchin & Hinduja, 2006; Patchin & Hinduja, 2011; Schneider et al., 2012; Smokowski & Kopasz, 2005; Williams & Guerra, 2007). This higher level of involvement in physically aggressive behavior by males may stem from both biological and cultural characteristics unique to them (Kimmel, 2013). A recent study found that 30.3% of males involved in traditional bullying perpetration used physical aggression to bully others; whereas only 22.4% of the females had engaged in

physical aggression towards peers (Connell et al., 2014). Additionally, Nansel and colleagues (2001) found 66.1% of the boys and 43.9% of the girls surveyed had used physical aggression in their bullying behavior. A few studies have also found that males are more likely to be victims of physical aggression.

Not only are males more likely to use physical aggression, but some studies have found they are also more likely to be victims of physical aggression (Connell et al., 2014; Esbensen & Carson, 2009; Nansel et al., 2001). Research by Connell et al. (2014) found that among the traditional bullying victims, boys reported experiencing physical aggression more often than the girls did, 40.6% and 27.9% respectively. And Esbensen and Carson (2009) also found that physical aggression was reported at a higher rate by male victims than female victims. In addition to physical aggression, victims of traditional bullying can also be victimized with verbal or relational aggression.

Gender differences in the use of verbal and relational aggression are less defined than those seen in the use of physical aggression. Some research studies have included verbal and relational aggression as measures, and the results are mixed as to which gender uses these two types of aggression most often. Most of these studies have found no gender differences in the use of verbal or relational aggression by the bullies (Connell et al., 2014; Nansel et al., 2001; Patchin & Hinduja, 2006; Williams & Guerra, 2007). However, differences have been found where victimization is concerned. Particularly, studies have found that girls are significantly more likely to be victimized with verbal and relational aggression than boys (Connell et al., 2014; Esbensen & Carson, 2009; Nansel et al., 2001). Nansel and colleagues (2001) reported that 65.3% of the females and 58.4% of the males in their study had experienced verbal bullying. In addition to verbal aggression, relational aggression was also experienced by more females,

66.3%, than males, 55% (Nansel et al., 2001). Similar figures were found by Connell et al. (2014), with 61.6% of the females and 57.8% of the males reporting they had experienced relational bullying. Other studies of youth bullying have relied on qualitative data to get a deeper understanding of the gender differences for this type of behavior.

Relying on qualitative data, one study found that boys defined bullying in terms of actions that were physically aggressive such as hitting, pinching, and pushing, whereas girls described it in terms of socially aggressive behaviors like name-calling, exclusion, spreading rumors, and teasing (Underwood & Rosen, 2004). Additional studies that used qualitative data found that girls tend to be more subtle, covert, and manipulative in their bullying than males (Beaty & Alexeyev, 2008), and a greater use of exclusion, gossiping, and rumor spreading has also been found among girls that engage in bullying perpetration (Esbensen & Carson, 2009). Despite this, research has failed to find any significant gender differences in the use of verbal or relational aggression in a traditional bullying setting. If females are truly subtle and covert in their bullying behavior, these characteristics may actually be more suitable for engaging cyberbullying perpetration than traditional perpetration.

Prevalence of Cyberbullying Among Boys and Girls

Research has found differences in the way males and females are involved in traditional bullying behavior, but do these same differences exist in cyberbullying behavior? Boys are often the perpetrators in traditional bully behavior (Beaty & Alexeyev, 2008; Connell et al., 2014; Kowalski et al., 2012; Nansel et al., 2001; Schneider et al., 2012; Smokowski & Kopasz, 2005; Williams & Guerra, 2007), and they tend use physical aggression (Barlett & Coyne, 2014; Beaty & Alexeyev, 2008; Connell et al., 2014; Esbensen & Carson, 2009; Kowalski et al., 2012; Nansel et al., 2001; Patchin & Hinduja, 2006; Schneider et al., 2012; Smokowski & Kopasz,

2005; Williams & Guerra, 2007). Physical aggression cannot be accomplished via cyberspace, but verbal and relational aggression can be used in cyberspace. Traditionally bullying research finds that males and females engage in verbal and relational bullying at fairly equal rates (Connell et al., 2014; Nansel et al., 2001; Patchin & Hinduja, 2006; Williams & Guerra, 2007), and the findings from research on cyberbullying appear to be divided. Some studies suggest that males are most likely to be a cyberbully (Barlett & Coyne, 2014; Hinduja & Patchin, 2013; Kowalski & Limber, 2007), while others posit cyberbullies tend to be female (Connell et al., 2014; Schneider et al., 2012), and still yet other studies find that males and females engage in cyberbullying perpetration equally (Patchin & Hinduja, 2006; Williams & Guerra, 2007). Curiously, one research study found that the gender most likely to engage in cyberbullying behavior depended on the age of the bully (Barlett & Coyne, 2014).

Barlett and Coyne (2014) found that age moderates male and female participation in cyberbullying behavior. A meta-analysis of 122 international cyberbullying studies revealed that younger females engaged in cyberbullying perpetration at a higher rate than the males in their age group; and among older youth, the males were most likely to engage in cyber-perpetration (Barlett & Coyne, 2014). The exact age that males begin to surpass females in cyberbullying behavior is unknown; still yet, Barlett and Coyne (2014) surmised the critical point was somewhere around eighth or ninth grade. Other cyberbullying studies have also found that cyberbullies tend to be older youth and male. In particular, the results from a study by Hinduja and Patchin (2013) found males and older youth were more likely to engage in cyberbullying perpetration than females and younger youth. One important difference between these two studies is the way *older youth* was defined. Hinduja and Patchin (2013) defined older youth as college-aged, while Barlett and Coyne (2014) described older youth as high school-aged.

Nonetheless, the findings from these two studies point to the possibility that males, not females, are most likely to engage in cyberbullying perpetration.

A slightly older study by Kowalski and Limber (2007) provides additional support to the notion that males are more likely to engage in cyber-perpetration. In studying middle school students, Kowalski and Limber (2007) found over four percent of the boys and over three percent of the girls had indicated they were involved in cyberbullying behavior. The difference between the genders was statistically significant; however, the relationship was weak suggesting that any difference that existed was only slight (Kowalski & Limber, 2007). In this same study, there were more females, 9.5%, than males, 4%, that reported a bully-victim status (Kowalski & Limber, 2007). Relative to males, Connell and colleagues (2014) found that low grades and a negative school culture increased the likelihood they would engage in cyberbullying, but this relationship did not exist for the females in this study. Other studies have found evidence that females, not males, are more likely to engage in cyberbullying perpetration. Most recently, a study found that middle school girls, 16%, were more likely to bully peers online than the middle school boys, 10.5% (Connell et al., 2014). A study involving high school students found that the girls were 72.1% more likely to engage in cyberbullying perpetration than the boys (Schneider et al., 2012). Despite the mixed results concerning cyber perpetration, research findings are much clearer in regards to which gender is most likely to be a cybervictim.

The majority of studies examining cybervictimization have found females reporting a significantly higher rate of victimization than males (Connell et al., 2014; Kowalski & Limber, 2007; Kowalski et al., 2012; Mesch, 2009; Schneider et al., 2012; Sengupta & Chaudhuri, 2011; Ybarra et al., 2007). More specifically, the findings suggest girls are typically victimized two times the rate that boys are victimized (Connell et al., 2014; Kowalski & Limber, 2007; Sengupta

& Chaudhuri, 2011). To start, a random survey of middle school students revealed that 30.1% of the girls and 17.9% of the boys had been victimized while online (Connell et al., 2014). Another study involving middle school youth found that 15.1% of the females and 7% of the males indicated they were cybervictims (Kowalski & Limber, 2007). Connell and colleagues (2014) found a larger portion of students had experienced cybervictimization than Kowalski and Limber (2007), and yet the two studies exhibit the same ratio of female to male cybervictims.

Cybervictimization among high school students followed a trend similar that found in middle schools. Among high school students, females, 7.2%, were more likely to report being a cybervictim than males, 5.6%, (Schneider et al., 2012). Additionally, a telephone survey of high school-aged youth found that females were two times more likely to be a cybervictim than males (Sengupta & Chaudhuri, 2011). For males and females alike, cyberbullying occurs with the use of Internet mediums, such as social networking sites and email, and mobile phones. Some of the research on cyberbullying has looked at possible differences in the Internet instruments used by male bullies and female bullies.

Cyberbullying Methods Used by Boys and Girls

Cyberbullying can occur through a variety of Internet mediums and different electronic devices. The most common electronic devices are personal computers and mobile phones (Hinduja & Patchin, 2013), and the most common Internet intermediaries are instant messaging, social networking sites, chat rooms, email, personal websites, and messaging via a mobile phone (Kowalski & Limber, 2007). Kowalski and Limber (2007) extensively examined the available Internet mediums and mobile messaging used by middle school students to engage in cyberbullying perpetration. Instant messaging was the most common Internet instrument used by males, 51%, and females, 58.4%, to bully peers (Kowalski & Limber, 2007). A chat room was

the second most common Internet medium used to bully someone online by both males, 27.6%, and females, 20.5% (Kowalski & Limber, 2007). Social networking sites, 22.5%, and email, 21.2%, were the third and fourth most common Internet instruments used by boys to bully others, while the third and fourth most common for girls included email, 19.1%, and text messaging, 16.7% (Kowalski & Limber, 2007). Based on these findings, it appears that both genders are using the same Internet mediums to engage in cyberbullying. Additionally, boys and girls share similarities in the way they experience cybervictimization.

Both boys and girls can become cybervictims (Hinduja & Patchin, 2013), and they seem to be victimized with similar Internet mediums. Instant messaging was the most reported method of cybervictimization for boys, 58%, and girls, 70.3% in a study by Kowalski and Limber (2007). Chat rooms, 28.4%, personal websites, 19.8%, and email, 19.4%, were the next three most common ways boys had been victimized by a cyberbully; whereas the second, third, and fourth most common for girls were email, 26.2%, personal websites, 24.9%, and chat rooms, 23.2% (Kowalski & Limber, 2007). Although both males and females can be victimized in cyberspace, research findings suggest females are victimized more often and that a correlation exists between female cybervictimization and specific Internet instruments.

Sengupta and Chaudhuri (2011) examined the relationship between cybervictimization and social networking site profiles. The researchers posit the risk of cybervictimization can increase as much as 88% for girls that maintain a profile on a social networking site, such as MySpace or Facebook. The rate of cybervictimization among females was also correlated to another Internet intermediary in a study by Dr. David Mesch (2009). In particular, Mesch (2009) found a correlation between females that actively participated in chat rooms and a heightened risk of cybervictimization. Moreover, the females in this study sample reported a higher rate of

cybervictimization than males, 61% and 39% respectively (Mesch, 2009). In general, the studies reviewed revealed similarities in how males and females engage in cyber-perpetration and the ways they are victimized by cyberbullies. Next, a review of available literature concerning the relationship between traditional bullying and cyberbullying is examined.

The Relationship Between Traditional Bullying and Cyberbullying

Does Traditional Bullying Lead to Cyberbullying?

Traditional bullying and cyberbullying share a relationship that can flow in multiple directions. Studies have found that traditional bullies can also be cyberbullies (Connell et al., 2014; Kowalski et al., 2012; Raskauskas & Stoltz, 2007; Williams & Guerra, 2007) and vice versa. Other studies find that traditional bullying victims can also be cybervictims (Kowalski et al., 2012; Raskauskas & Stoltz, 2007; Schneider et al., 2012; Ybarra et al., 2007) and vice versa. Relationships have also been found where a bully becomes a victim and a victim becomes a bully (Connell et al., 2014; Kowalski & Limber, 2007; Kowalski et al., 2012; Nansel et al., 2001; Raskauskas & Stoltz, 2007; Ybarra et al., 2007). This bully-victim dyad has been found in both forms of bullying; however, it is more common in cyberbullying (Connell et al., 2014; Kowalski & Limber, 2007; Kowalski et al., 2012; Raskauskas & Stoltz, 2007; Ybarra et al., 2007). Additionally, the consequences found for youth involved are similar between the two types of bullying behavior. One other similarity is the use of verbal and relational aggression to inflict harm.

Verbal and relational aggression, which are commonly used in traditional bullying, are both easily adapted for use in cyberspace. These types of bullying aggression seem well-suited to cyberspace due to the existence of anonymity and the perceived lack of guardianship, which can relax inhibitions and normal social constraints (Connell et al., 2014; Kowalski & Limber, 2007;

O’Keeffe & Clarke-Pearson, 2011; Patchin & Hinduja, 2006; Raskauskas & Stoltz, 2007; Ybarra et al., 2007). There are research studies that have found a correlation between engaging in cyberbullying and engaging in traditional bullying with the use of verbal and relational aggression (Connell et al., 2014; Raskauskas & Stoltz, 2007; Williams & Guerra, 2007) and that a common causal pathway is shared between the type forms of bullying (Williams & Guerra, 2007). More specifically, researchers found that engaging in relational bullying at school increased the chance of being a cyberbully (Connell et al., 2014), and that traditional bullies that employ relational aggression can become victims of relational aggression at school and online (Raskauskas & Stoltz, 2007). Modes of aggression are not the only characteristics that link traditional bullying with cyberbullying. The two forms of bullying also share some common consequences for those involved.

Involvement in either type of bullying behavior, for either perpetrator or victim, can potentially result in some of the same negative consequences. The potential for low academic performance, poor peer relations, and an absence of school attachment exists for traditional bullies, traditional victims, cyberbullies, and cybervictims (Connell et al., 2014; MacKay, 2012; Nansel et al., 2001; Patchin & Hinduja, 2006; Patchin & Hinduja, 2010; Raskauskas & Stoltz, 2007; Schneider et al., 2012; Smokowski & Kopasz, 2005; Williams & Guerra, 2007). Additionally, research has found that mental health issues, suicide ideation, and incidents of suicide attempts are much more prevalent among youth involved in any type of bullying than those with no involvement in bullying at all (Hinduja & Patchin, 2010; Hinduja & Patchin, 2013; Nansel et al., 2001; Patchin & Hinduja, 2006; Raskauskas & Stoltz, 2007; Schneider et al., 2012; Sourander et al., 2007; Ybarra et al., 2007). In addition to the shared negative consequences,

there are some common attitudes and behaviors between youth that engage in traditional bullying and those that engage in cyberbullying.

Youth that engage in bullying, whether it is traditional or cyber, may share common attitudes and behaviors. Through research, both school behavior problems and possessing a pro-aggressive attitude have been found among youth that engage in traditional and cyberbullying behavior (Beaty & Alexeyev, 2008; Connell et al., 2014; Hinduja & Patchin, 2013; Nansel et al., 2001; Schneider et al., 2012; Sourander et al., 2007; Williams & Guerra, 2007; Ybarra et al., 2007). Involvement in juvenile delinquency and adult criminal offending has also been associated with youth that have engaged in either form of bullying (Nansel et al., 2001; Patchin & Hinduja, 2006; Smokowski & Kopasz, 2005; Ttofi et al., 2011). Another commonality between the two types of bullying is that involvement in the behavior is significantly influenced by age and gender (Barlett & Coyne, 2014; Connell et al., 2014; Hinduja & Patchin, 2013; Kowalski & Limber, 2007; Kowalski et al., 2012; Mesch, 2009; Nansel et al., 2001; Raskauskas & Stoltz, 2007; Schneider et al., 2012; Sengupta & Chaudhuri, 2011; Underwood & Rosen, 2004; Williams & Guerra, 2007; Ybarra et al., 2007). An exploration of the available literature reveals several common characteristics between traditional and cyberbullying. One of these characteristics is the prevalence of dual perpetration.

Dual Bullying Perpetration

Dual bullying perpetration occurs when a person engages in both traditional bullying and cyberbullying as a perpetrator. One of the hypotheses being tested in this study is dual bullying perpetration. It is being proposed that traditional bullies will use electronic communication to continue inflicting harm on peers beyond school grounds; therefore, cyberbullying would be an extension of traditional bullying. If this were true, youth that self-identify as traditional bullies

will also report they engage in cyberbullying; while, those youth that self-identify as cyberbullies will report they engage in traditional bullying. It is not necessary, however, for all traditional bullies to engage in cyberbullying or for all cyberbullies to engage in traditional bullying for a relationship between the two types of bullying to exist. Dual bullying perpetration has been examined in several research studies, and their findings suggest that approximately five percent of youth engage in dual bullying behavior (Kowalski et al., 2012; Williams & Guerra, 2007).

In a study of fifth, eighth, and eleventh grade students, a small portion of youth were found to be dual perpetrators (Williams & Guerra, 2007). Students were asked about their involvement in physical bullying, verbal bullying, or Internet bullying. Without specifying a type of bullying, students were asked, “Have you ever engaged in one type, two types, or all three types of bullying or none?” Almost seven percent of the participants indicated they had engaged in all three types of bullying, therefore self-identifying as both a traditional bully and a cyberbully; furthermore, close to one third of the participants reported involvement in two types of bullying (William & Guerra, 2007). Subsequently, some of the students reporting involvement in two types of bullying may have only engaged in traditional bullying behavior, specifically verbal and physical, and had no involvement in cyberbullying. Despite this, it can be said with a reasonable amount of confidence that the portion of youth in this sample engaging in dual bullying perpetration falls somewhere between 6.6% and 30.7% (Williams & Guerra, 2007). In another study exploring dual perpetration, Kowalski and her colleagues (2012) examined bullying behavior among students in grades six through twelve. It was found that 19.8% of the self-identified traditional bullies had also engaged in cyberbullying perpetration (Kowalski et al., 2012). These research findings point to the possibility that as much as one third of traditional

bullies use cyberspace to continue bullying peers. In examining dual bullying perpetration, researchers sometimes find that relational aggression acts as a link.

The use of relational aggression in bullying behavior has been related to dual bullying perpetration. Most recently, results from one study found that traditional bullies that employ relational aggression are more likely to simultaneously engage in cyberbullying perpetration (Connell et al., 2014). It was also found that females using relational aggression to bully others at school were almost seven times more likely to report involvement in cyberbullying than females using verbal or physical aggression to bully peers (Connell et al., 2014). Additionally, researchers found males that engaged in relational bullying at school were four times more likely to report they were also involved in cyberbullying than males using verbal or physical aggression to bully others (Connell et al., 2014). Multiple studies have suggested traditional bullies can become involved in cyberbullying, but research findings also revealed that cyberbullies are involved in traditional bullying as perpetrators.

When switching the direction of this dual relationship, research found a large portion of cyberbullies had also indicated participation in traditional bullying perpetration. In particular, a study by Raskauskas and Stoltz (2007) found that 94% of the youth that reported involvement in cyberbullying perpetration had reported they were also involved in traditional bullying. Given these results, Raskauskas and Stoltz (2007) made the observation that cyberbullies appeared to be a subset of traditional bullies. Similarly, Kowalski et al. (2012) found that 60.6% of the self-identified cyberbullies had also engaged in traditional bullying perpetration. In this study, the cyberbullies were three times more likely to report engagement in the opposite type of bullying perpetration than the traditional bullies; thus suggesting that cyberbullies are most likely traditional bullies that simply continue their harassment through electronic communication. The

findings from these studies seem to suggest that cyberbullying perpetration is an extension of traditional bullying. Any youth involved in bullying can become a dual perpetrator; however, dual victimization is more common.

Dual Bullying Victimization

Dual victimization occurs at twice the rate of dual perpetration (Kowalski et al., 2012). Dual bullying victimization occurs when a person is victimized through traditional and cyberbullying behavior. On average, research studies have found that approximately 10% of youth have experienced dual bullying victimization (Kowalski et al., 2012; Schneider et al., 2012; Raskauskas & Stoltz, 2007; Ybarra et al., 2007). In one study, 9.4% of youth reported they had been victims of both traditional and cyberbullying (Schneider et al., 2012), while another study found 10.8% had experienced dual victimization (Kowalski et al., 2012). A third research study found 11.6% of the youth surveyed responded that they had been victimized by both types of bullying (Ybarra et al., 2007). Although most studies posit that around 10% of youth have experienced dual victimization, some studies have found four times that amount.

Approximately 40% of youth reported dual victimization in a study by Raskauskas and Stoltz (2007). This number seems rather high when compared to other similar studies. However, Schneider et al. (2012) found that females were more likely to report dual victimization than males (11.1% versus 7.6%). If this holds true, the high percentage of dual victims found in the study by Raskauskas and Stoltz (2007) may be the result of a disproportionate number of females in the sample. In auspiciously, Raskauskas and Stoltz (2007) did not provide the gender ratio for their study, therefore leaving open the possibility that gender unduly influenced the research findings. Moving on, research examining dual victimization has looked at the relationship from

two perspectives; traditional bullying victims that experienced cybervictimization and cybervictims that experienced traditional bullying victimization.

Traditional bullying victims sometimes become victims of cyberbullying. Research on this relationship is currently limited and their findings are varied. Case in point, Raskauskas and Stoltz (2007) found that 58% of the traditional bullying victims had also been victimized in cyberspace. In addition, a study by Schneider et al. (2012) found slightly more than one third of the traditional bullying victims had experienced cybervictimization, while a third study found one quarter of traditional victims had reported the same (Kowalski et al., 2012). The portion of traditional bullying victims that also experience cybervictimization has ranged from 25% to 50%; interestingly, the number of cybervictims reporting traditional bullying victimization is higher.

An alarming number of cybervictims report being victims of traditional bullying as well. While exploring bullying behavior among older youth, Schneider et al. (2012) found that 59.7% of the self-identified cybervictims reported they had also been victimized by school bullies. A similar figure was found among middle school students. Sixty-two percent of the cybervictims in a study by Kowalski et al. (2012) indicated they had experienced traditional bullying victimization. Encompassing both high school and middle school students, 36% of the self-identified cybervictims in one study responded they were victimized at school (Ybarra et al., 2007). A significantly higher number of cybervictims, 85%, reported being bullied at school simultaneously in a study by Raskauskas and Stoltz (2007). It is being pointed out that the higher number in the study by Raskauskas and Stoltz (2007) may be influenced by a disproportionate gender ratio among respondents. Two possible predictors of dual victimization have been found in the studies reviewed.

One possible predictor for dual victimization concerns the frequency of the cyberbullying behavior. Ybarra et al. (2007) posited the higher the frequency of cyberbullying victimization, the more likely the youth is also a victim of traditional bullying. To put it another way, if a youth is cyberbullied a lot, then it is highly possible that youth is also experiencing traditional bullying. The other potential predictor relates to the use of relational aggression. Some research findings have suggested youth that are bullied at school with relational aggression are more likely to also be victimized online than youth bullied with either physical or verbal aggression (Raskauskas & Stoltz, 2007; Ybarra et al., 2007). Regardless of which direction the dual victimization flows, either traditional victim to cybervictim or cybervictim to traditional victim, the consequences related to traditional and cyberbullying behavior is increased for dual victims (Schneider et al., 2012; Ybarra et al., 2007).

Related research studies suggest the negative effects of bullying are amplified in instances of dual victimization. Almost one half of dual victims report a high level of psychological distress and increased suicide ideation when compared to youth experiencing either a single type of bullying or no bullying (Hinduja & Patchin, 2010; Schneider et al., 2012; Ybarra et al., 2007). Specifically, dual victims are four times more likely to have mental health issues than youth that have not experienced any type of bullying victimization, 47% and 13.6% respectively (Schneider et al., 2012). Additionally, Schneider et al. (2012) reported 26.6% of the traditional victims and 33.9% of the cybervictims had indicated they felt distressed by the bullying. The psychological distress is evidenced by the high rate of suicide attempts among dual victims, with slightly more than 15% of dual bullying victims having responded they had attempted suicide (Schneider et al., 2012). As a comparison, the suicide attempt rate for victims of cyberbullying was 9.4%, for traditional bullying victims it was slightly more than four

percent, and for youth with no bullying victimization the suicide attempt rate was only two percent (Schneider et al., 2012). Aside from mental health issues, school variables such as low academic performance, low school attachment, and poor peer relationships were also much stronger for dual victims when compared to youth experiencing only one type of bullying victimization (Schneider et al., 2012; Ybarra et al., 2007). Taken together, these research findings point to the likelihood that traditional bullying and cyberbullying are linked in some way. It has been shown that youth involved in bullying can become dual perpetrators and dual victims, but youth can also go from being a bully to being a victim.

The Bully-Victim Dyad

Adolescent behavior, particularly during puberty, is complex and at times contradictory in nature. The line between being a bully and being a victim can become blurred and some youth involved in bullying behavior continuously move between the two roles. The movement between the role of bully and the role of victim could be result of peer influence or retaliation from a past victim. For example, traditional bullies may become a cybervictim or a cyberbully may become a traditional victim. Whichever way, the line between bully and victim is not always clearly drawn.

In a 2007 study, researchers uncovered a relationship between being a traditional bully and a cybervictim not anticipated. The results from this study suggest that some cybervictims are involved in traditional bullying perpetration (Raskauskas & Stoltz, 2007). Subsequently, these cybervictims employed relational aggression in their traditional bullying behavior (Raskauskas & Stoltz, 2007). This is interesting because other studies have pointed out that relational aggression plays a role in linking traditional bullying and cyberbullying together (Connell et al., 2014; Raskauskas & Stoltz, 2007; Williams & Guerra, 2007). A similar relationship was also found by

Kowalski and her colleagues (2012) in their study of bullying among middle school students. These researchers found that 41.1% of self-identified cybervictims had indicated involvement in traditional bullying perpetration (Kowalski et al., 2012). This is a seemingly large number of cybervictims engaging in traditional bullying behavior, particularly when it is considered that only 17% of traditional bullies report they have experienced cybervictimization (Kowalski et al., 2012). None of the researchers speculated on why cybervictims would engage in traditional bullying or which role came first. In addition to cybervictims playing the role of traditional bully, sometimes traditional victims become cyberbullies.

The bully-victim relationship can sometimes flow from traditional bullying victim to cyberbully. One study found a convergence between youth that reported traditional bullying victimization and youth that reported being a cyberbully. Kowalski et al. (2012) found that slightly more than eight percent of the traditional bullying victims had engaged in cyberbullying perpetration. Most research studies have failed to find any connection between being a traditional bullying victim and being a cyberbully. Connell et al. (2014) studied the relationship between traditional and cyberbullying behavior and found that being a traditional bullying victim, no matter the mode of aggression used, did not predict cyberbully perpetration. Raskauskas and Stoltz (2007) also failed to find a connection between being a victim of traditional bullying and being a cyberbully. These findings are unexpected considering that cyberbullying would allow a victim of traditional bullying to seek revenge on their tormentor in an anonymous environment. These different relationships, bully/bully, victim/victim, and bully/victim provide evidence of a relationship between the two types of bullying behavior. Cyberbullying perpetration is most likely an extension of traditional bullying perpetration and relational aggression appears to be the link between the two.

Conclusion

Research studies examining youth bullying began in the 1970s with Dr. Dan Olweus; however, since that time a new and potentially more dangerous form of bullying has emerged. Cyberbullying is the result of traditional bullying moving beyond the school yard with the aid of technology, such as personal computers and the Internet. Traditional bullying affects approximately one third of youth (Kowalski et al., 2012; Patchin & Hinduja, 2011; Schneider et al., 2012), while cyberbullying affects a smaller portion, about 10% (Kowalski & Limber, 2007; Kowalski et al., 2012; Schneider et al., 2012). The emergence of a second type of bullying has led to some youth engaging in dual perpetration (Connell et al., 2014; Kowalski et al., 2012; Raskauskas & Stoltz, 2007; Williams & Guerra, 2007), some becoming dual victims (Kowalski et al., 2012; Raskauskas & Stoltz, 2007; Schneider et al., 2012; Ybarra et al., 2007), and others are involved as a bully-victim (Connell et al., 2014; Kowalski & Limber, 2007; Kowalski et al., 2012; Nansel et al., 2001; Raskauskas & Stoltz, 2007; Ybarra et al., 2007). These two types of bullying share a common link.

Traditional bullying and cyberbullying appear to be connected via relational aggression. Connell et al. (2014) have posited traditional bullies employing relational aggression are significantly more likely to also be engaged in cyberbullying; likewise, Raskauskas and Stoltz (2007) and Ybarra et al. (2007) found that traditional victims of relational aggression had reported cybervictimization at a higher rate than traditional victims of physical or verbal aggression. The current research study is important because a better understanding of the relationship between traditional bullying perpetration and cyberbullying perpetration can improve how anti-bullying programs are designed and implemented. An effective bullying prevention and intervention program will lead to fewer youth being affected by this deviant

behavior and all the negative things that result from involvement. Another aspect of bullying being explored in this study is the role gender plays in bullying perpetration.

A significant amount of research has found gender and age tend to influence a youth's involvement in traditional bullying (Beaty & Alexeyev, 2008; Connell et al., 2014; Hinduja & Patchin, 2013; Kowalski et al., 2012; Nansel et al., 2001; Patchin & Hinduja, 2011; Schneider et al., 2012; Williams & Guerra, 2007) and in cyberbullying (Connell et al., 2014; Hinduja & Patchin, 2013; Kowalski & Limber, 2007; Kowalski et al., 2012; Mesch, 2009; Patchin & Hinduja, 2011; Raskauskas & Stoltz, 2007; Schneider et al., 2012; Williams & Guerra, 2007; Ybarra et al., 2007). Thus, it is important to understand the role gender plays in bullying perpetration because if a difference does exist, bullying prevention initiatives can be made more effective by addressing those differences specifically. For traditional bullying, boys are most often the perpetrator (Beaty & Alexeyev, 2008; Connell et al., 2014; Kowalski et al., 2012; Nansel et al., 2001; Schneider et al., 2012; Smokowski & Kopasz, 2005; Williams & Guerra, 2007) and girls are most often the victim (Beaty & Alexeyev, 2008; Connell et al., 2014; Esbensen & Carson, 2009; Kowalski et al., 2012; Schneider et al., 2012). The gender most likely to be a cyberbully is unclear. A few studies have suggested males engage in cyberperpetration more (Barlett & Coyne, 2014; Hinduja & Patchin, 2013; Kowalski & Limber, 2007), others have posited it is females that cyberbully most (Connell et al., 2014; Schneider et al., 2012), and still yet other studies found zero gender differences in cyber-perpetration (Patchin & Hinduja, 2006; Williams & Guerra, 2007). However, the gender that dominates the cybervictimization category is relatively clear.

The vast majority of studies have found that females are victimized more often in cyberspace than males (Connell et al., 2014; Kowalski & Limber, 2007; Mesch, 2009; Schneider

et al., 2012; Sengupta & Chaudhuri, 2011; Ybarra et al., 2007). Not one research study reviewed found that males experienced cybervictimization more frequently than females. Cyberbullying can be accomplished through a variety of mediums, and there appears to be little or no difference in the instruments used by male bullies and female bullies (Kowalski & Limber, 2007). Both genders reported instant messaging as the number one way in which they perpetrated cyberbullying, and a chat room was the second most common way (Kowalski & Limber, 2007). Additionally, this research is motivated by the negative effects bullying has on those involved as either a perpetrator or a victim.

It seems obvious that the reason for creating anti-bullying programs is to prevent bullying among youth. But why would anyone want to prevent bullying? Simple, bullying has negative consequences for the victims and the bullies involved and these consequences can persist into adulthood (MacKay, 2012; Nansel et al., 2001; Sourander et al., 2007; Ttofi et al., 2011; Williams & Guerra, 2007). Specifically, a student's attachment to school, peer relationships, and academic performance are negatively affected by traditional bullying (Connell et al., 2014; Nansel et al., 2001; Schneider et al., 2012; Smokowski & Kopasz, 2005; Williams & Guerra, 2007) and cyberbullying behavior (Connell et al., 2014; Patchin & Hinduja, 2006; Schneider et al., 2012; Williams & Guerra, 2007; Ybarra et al., 2007). Many of the perpetrators and victims suffer from mental health issues and suicide ideations as a result of their involvement in traditional bullying (Hinduja & Patchin, 2010; Nansel et al., 2001; Schneider et al., 2012; Smokowski & Kopasz, 2005; Sourander et al., 2007), or cyberbullying (Patchin & Hinduja, 2006; Raskauskas & Stoltz, 2007; Schneider et al., 2012; Ybarra et al., 2007). Engaging in bullying perpetration has been associated with drinking alcohol, smoking tobacco, and using illicit drugs (Beatty & Alexeyev, 2008; Nansel et al., 2001; Sourander et al., 2007; Ybarra et al.,

2007); as well as having an attitude that approves of aggressive behavior (Connell et al., 2014; Hinduja & Patchin, 2013; Nansel et al., 2001; Williams & Guerra, 2007). The most potentially devastating consequence of engaging in bullying perpetration is the increased chance of progressing to criminal offending as an adult (Ttofi et al., 2011). This research study has been enhanced by knowledge gained from a review of the available literature on youth bullying. Moving forward, the specifics of the current study are discussed.

CHAPTER 3

METHODS

Chapter three consists of four sections, Current Study, Data, Measures, and Analytical Strategy. The Current Study section discusses the purpose of this research study and the hypotheses that will be tested. The Data section contains information regarding the participants, sampling procedures, response rate, and sample demographics. The Measures section describes the independent variables, the dependent variable, and the control variables that were used to test the three hypotheses. The Analytical Strategy section outlines the statistical software used to analyze the data and the statistical tests chosen to test the relationship between the variables. This research study has the potential to provide insight into the relationship between the two types of bullying perpetration and the following section explains further.

Current Study

The purpose of this research study is to add to the ever-growing body of knowledge concerning youth bullying behavior, and to gain a deeper understanding of the relationship between traditional bullying perpetration and cyberbullying perpetration. Additionally, this study is designed to provide greater insight into the role of gender in youth bullying perpetration. Any knowledge gained as a result of this project could be used to improve the design and implementation method of anti-bullying programs in schools and other youth-related programs.

This research study tested three hypotheses to find out if engaging in traditional bullying would predict involvement in cyberbullying, to determine if the mode of aggression used by a traditional bully would predict their involvement in cyberbullying as a perpetrator, and lastly to see if gender would predict involvement in cyberbullying as a perpetrator. This research study utilized a secondary dataset, the HBSC 2009-2010 survey, to test the hypotheses. Data from the

Health Behaviors of School-aged Children (HBSC) 2009-2010 survey included two parts, the student survey and the school administrator survey. Only the data from the student survey portion was used in this study. This dataset was accessed freely at the website for the Inter-University Consortium for Political and Social Research (ICPSR). First, a more in-depth look at the three hypotheses.

Hypotheses

The first hypothesis was developed with the premise that youth who engage in traditional bullying perpetration would be more likely to also engage in cyberbullying perpetration than youth who do not engage in traditional bullying perpetration whatsoever. If correct, cyberbullying perpetration could then be described as an extension of traditional bullying perpetration.

H₁: Youth that engage in traditional bullying perpetration are more likely to engage in cyberbullying perpetration than youth that do not engage in traditional bullying perpetration.

The second hypothesis is based on the contention that verbal and relational aggression can be adapted rather easily to cyberbullying; whereas, physical aggression cannot be. Thus, it is postulated that traditional bullies that employ either verbal aggression or relational aggression to inflict harm on others are more likely to engage in cyberbullying perpetration than traditional bullies using physical aggression to inflict harm.

H₂: Traditional bullies that employ verbal and/or relational aggression are more likely to engage in cyberbullying perpetration than traditional bullies that employ physical aggression.

The third hypothesis is based on a view that females tend to be more covert, subtle, and manipulative in their bullying behavior than males (Beaty & Alexeyev, 2008; Underwood & Rosen, 2004). Additionally, research has found that females often make greater use of behaviors such as gossiping, spreading rumors, and exclusion which are considered types of relational aggression (Esbensen & Carson, 2009). Combining the known behavior tendencies of females with the ease of using verbal and relational aggression in cyberspace, it seems highly possible that females would engage in cyberbullying perpetration at a higher frequency than males.

H₃: Females are better suited to use verbal and/or relational aggression than males; therefore, females are more likely to engage in cyberbullying perpetration than males.

Data

Participants

Data was collected as part of the international Health Behaviors of School-aged Children (HBSC) 2009-2010 research project aiming to gain new insight into the health behaviors, lifestyles, and their context among adolescents in the participating developed nations. Only data collected from the surveys administered in the U.S. are being used for this study. The data was collected using two surveys, a grade-based survey and an age-based survey, administered in the same time frame. The data from the age-based surveys has been embedded in the grade-based survey data. The HBSC 2009-2010 survey was administered to students in grades five through ten that were enrolled in a public, Catholic, or other private school. No home-schooled children were included in the sample. The United States had 314 schools participate in the 2009-2010 HBSC cycle and this resulted in a total of 12,642 student-completed surveys. The HBSC project

collected detailed data on a variety of student information including self-reported bullying perpetration behaviors at school and via cyberspace, and general demographics.

Sampling Procedures

A national representative sample of U.S. students in grades five through ten was achieved by drawing from public, Catholic, and other private school students in grades five, six, seven, eight, nine, and ten in the fifty states and the District of Columbia. The HBSC 2009-2010 research project used a cluster sampling design with three stages: districts, schools, and classes. To begin, a list of public, Catholic, and other private schools was obtained from Quality Education Data, Inc. (QED). The first stage of sampling involved public schools only and consisted of creating Primary Sampling Units (PSU's) within each Census Division. Each PSU had a minimum of ten public schools, but school districts with extremely heavy enrollment were considered separate PSU's. A total of 1,302 PSU's were created and a sample of 94 was selected for participation in the study. Catholic and other private schools were then assigned to the 1,302 PSU's and the assignment was based on the school's location. All Catholic and private schools were eligible for inclusion into the sample of the 94 sampled PSU's and the probability of selection was the same as for the public schools in the first stage of sampling.

The second stage of sampling consisted of selecting schools from among the 94 PSU's. A total of 475 schools were selected for participation from among the 94 PSU's, inauspiciously 161 schools chose not to participate. A total of 314 schools, public and private, participated in the HBSC 2009-2010 study. The third and final stage of sampling consisted of selecting classes. Each school had been designated to sample students from a specific grade and the sampling classes were selected based on this designation. For instance, in a school in which sixth grade students were to be sampled, a sixth grade class was selected at random and all the students in

that class were included in the sample. Most of the schools had two classes selected for participation, but the number of classes selected could range from one to four.

The majority of the surveys, approximately 83%, were completed between October and December 2009, and the remaining surveys were completed between January and May 2010. Approximately one third of the surveys were completed in a paper format and two thirds of the surveys were completed in a web format. The survey took about 45 minutes to complete and was administered by a school representative (teacher, guidance counselor, nurse, etc.) in a classroom setting to participating students. There were three different versions of the HBSC 2009-2010 survey administered to students. One version was administered to fifth and sixth grade students, 29.8%, a second version was given to seventh, eighth, and ninth grade students, 55.2%, and a third version containing the complete set of questions asked was given to tenth grade students, 15%. The version administered to seventh, eighth, and ninth graders and the one given to tenth graders included questions pertaining to parental relationship/involvement, family mealtime habits, and the first time alcohol/tobacco/marijuana was used. The tenth grade version contained additional questions related to the use of prescription drugs, narcotics, and weapons carried on school campus.

Response Rate

The response rate for this survey was relatively high. The original sample frame consisted of 475 schools that had been deemed eligible for participation. Of the 475, 161 schools did not participate thus leaving 314 schools to participate in the survey. Among the 314 schools, 14,627 students were eligible to participate in the survey. Approximately two percent of the students refused to give consent, and another 675 students were absent on the day the survey was to be administered. Subsequently, 301 of the absent students completed the survey within a couple of

days. The final sample yielded 12,642 cases and a response rate of slightly more than 90% of the students who originally consented to participation.

Sample Demographics

The target population for this study included all youth enrolled in grades five through ten in either a public or private school. The demographics of the participants closely mirrored the target population. An examination of the sample population's demographics revealed a slightly higher number of males than females had completed a survey, 6,502 and 6,136 respectively. The age distribution for this sample population resembles an hour glass. A small portion of participants are found in the age groups of 10 years or younger and 16 years or older, while the majority of the participants are found in the age range of 12 to 14 years old. In regards to race and ethnicity, White students, 46.7%, accounted for the majority of the participant population, followed by Hispanics at 18.9%, then African Americans at 17.1%. The races of the remaining participants, totaling 12.9% of the sample population, are combined into a category labeled "Other," while almost five percent of the participants did not volunteer their race or ethnicity. A portion of the demographic information collected in the HBSC 2009-2010 survey was used to create one independent variable, Gender, and three control variables, Age, Race, and Ethnicity, for this study.

Measures

Independent Variables

The independent variables for this research study were Traditional Bullying Perpetration, Verbal Aggression, Relational Aggression, Physical Aggression, and Gender. Traditional Bullying Perpetration behavior was measured in the HBSC 2009-2010 survey using seven questions, and six were behavior-specific. The HBSC survey established a time frame by asking

students about their involvement in traditional bullying perpetration during the couple of months prior to the date the survey was administered. The type of behaviors that could and could not be considered an act of bullying was established prior to each question in the section pertaining to bullying behavior. Each bullying-related question had five response choices and participants could only choose one.

The five response choices given were 1) “I haven’t bullied another student at school...” and it was coded with a one, 2) “it has only happened once or twice” and it was coded with a two, 3) “two or three times a month” and it was coded with a three, 4) “about once a week” and it was coded with a four, and 5) “several times a week” and it was coded with a five. To simplify data analyses, the variables measuring bullying behavior were recoded into new variables with a dichotomous response choice. The response choice originally coded with a one was recoded to zero to indicate the absence of that particular bullying behavior. The response choices originally coded with a two, three, four, and five were recoded to one to indicate the presence of that particular bullying behavior.

Traditional Bullying Perpetration was measured by asking students if they had taken part in bullying another student(s) at school. The response choices were “no”, coded with a zero, and “yes”, coded with a one. Verbal Aggression was measured using three behavior-specific questions. Students were asked if they had 1) bullied another student(s) with mean names or comments about his or her race or color, 2) bullied another student(s) with mean names or comments about his or her religion, and 3) made sexual jokes, comments, or gestures to another student(s). The response choices were “no”, coded with a zero, and “yes”, coded with a one.

Relational Aggression was measured with two behavior-specific questions. Students were asked if they had 1) kept another student(s) out of things on purpose, excluded him or her

from their group of friends or completely ignored him or her, and 2) spread false rumors about another student(s) and tried to make others dislike him or her. The response choices included “no”, coded with a zero, and “yes”, coded with a one. Physical Aggression was measured by asking students if they had hit, kicked, pushed, shoved around, or locked another student(s) indoors while at school. The response choices were “no”, coded with a zero, and “yes”, coded with a one. And lastly, Gender was measured by asking students to indicate whether they were female, coded zero, or male, coded one.

Table 1
Independent Variables

<u>Independent Variable</u>	<u>Measure</u>
Traditional Bullying Perpetration	Have you taken part in bullying another student(s) at school in the past couple of months? (No = 0, Yes = 1)
Physical Aggression	I hit, kicked, pushed, shoved around, or locked another student(s) indoors. (No = 0, Yes = 1)
Verbal Aggression	I bullied another student(s) with mean names or comments about his or her race. (No = 0, Yes = 1)
	I bullied another student(s) with mean names or comments about his or her religion. (No = 0, Yes = 1)
	I made sexual jokes, comments, or gestures to another student(s). (No = 0, Yes = 1)
Relational Aggression	I kept another student(s) out of things on purpose, excluded him or her from my group or friends or completely ignored him or her. (No = 0, Yes = 1)
	I spread false rumors about another student(s) and tried to make others dislike him or her. (No = 0, Yes = 1)
Gender	Are you a boy or a girl? (Female = 0, Male = 1)

Dependent Variable

The dependent variable for this research study was Cyberbullying Perpetration. This behavior was measured in the HBSC 2009-2010 survey using four questions. The HBSC survey established a time frame by asking students about their involvement in cyberbullying perpetration in the couple of months prior to the administration of the survey. The type of behaviors that could and could not be considered an act of bullying was established prior to each question in the section pertaining to cyberbullying behavior. Each cyberbullying-related question had five response choices available and participants could only choose one. The five response choices available included: 1) "I haven't bullied another student at school..." and it was coded with a one, 2) "it has only happened once or twice" and it was coded with a two, 3) "two or three times a month" and it was coded with a three, 4) "about once a week" and it was coded with a four, and 5) "several times a week" and it was coded with a five. The response choice originally coded with a one was recoded to zero to indicate the absence of cyberbullying perpetration. The response choices originally coded with a two, three, four, and five were recoded to one to indicate the presence of cyberbullying perpetration.

Cyberbullying Perpetration was measured with four behavior-specific questions. Students were asked if they had 1) bullied another student(s) using a computer, e-mail messages or pictures while at school, 2) bullied another student(s) using a cell phone while at school, 3) bullied another student(s) using a computer, e-mail messages or pictures away from school, and 4) bullied another student(s) using a cell phone away from school. To simplify data analyses, a single dependent variable was created by combining the four measures of Cyberbullying Perpetration into a scale variable. The scale variable was then recoded into another new variable

with a dichotomous response set. The response choices were “no”, coded with a zero, and “yes”, coded with a one.

Table 2
Dependent Variable

<u>Dependent Variable</u>	<u>Measure</u>
Cyberbullying Perpetration	I bullied another student(s) using a cell phone, computer, e-mail messages or pictures either at school or outside of school. (No = 0, Yes = 1)

Control Variables

The control variables used were Age, Gender, Race, and Ethnicity. Age was calculated by researchers and eight categories were created: age 10 or younger, 11, 12, 13, 14, 15, 16, and age 17 or older. The variable Age was recoded with ages 10 or younger, 11, 12, and 13 coded zero, and ages 14, 15, 16, and 17 or older coded one. Gender was measured by asking students to indicate whether they were male, coded with a one, or female, coded with a zero. Race was measured by asking students whether or not they considered their race to be White. A “yes” response was coded with a one and a “no” response was coded with a zero. Ethnicity was measured by asking students whether or not they considered themselves Hispanic or Latino. A “yes” response was coded with a one and a “no” response was coded with a zero.

Table 3
Control Variables

<u>Control Variable</u>	<u>Measure</u>
Age	How old are you? (ages 10 or younger, 11, 12, and 13 = 0, ages 14, 15, 16, and 17 or older = 1)
Gender	Are you a boy or a girl? (Female = 0, Male = 1)
Race	Do you consider your race to be White? (No = 0, Yes = 1)
Ethnicity	Do you consider yourself to be Hispanic or Latino? (No = 0, Yes = 1)

Analytical Strategy

Data from the Health Behaviors of School-aged Children 2009-2010 survey was used to test three hypotheses. More specifically, the data was examined using bivariate correlation, crosstabulation using Chi-square, and logistic regression statistical tests with IBM S.P.S.S. v.22. The bivariate correlation analyses were completed first to evaluate the relationships between multiple sets of variables. The next set of tests involved frequency crosstabulations using Chi-square to determine the strength of the relationship and to examine the extent of overlap between the multiple types of bullying. The variables were tested in pairs for the frequency crosstabulation analyses with each independent variable, seven in total, being paired with the single dependent variable.

Logistic regression analysis was used to test the hypotheses presented earlier: (1) that traditional bullies will engage in cyberbullying at a higher frequency than non-bullies, (2) that traditional bullies using verbal and/or relational aggression will engage in cyberbullying at a higher frequency than bullies using physical aggression, and (3) that females will engage in cyberbullying at a higher frequency than males. In the first model, traditional bully status was used to predict cyberbully status. A second logistic regression analysis used the verbal aggression variables specific to race, religion, and sexual nature and physical aggression to determine if verbal aggression was a better predictor of cyberbully status than physical aggression. A third logistic regression analysis used the two relational aggression variables and physical aggression to see if relational aggression would predict cyberbully status better than physical aggression. The previous three logistic models were controlled for age, gender, race, and ethnicity. For the last model, gender was used to predict cyberbully status while controlling for age, race, and ethnicity. Next, a look at the results of these statistical tests.

CHAPTER 4

RESULTS

Overlap Between Traditional Bullying and Cyberbullying

Using a bivariate correlation test, it was found that a correlation existed between traditional bullying perpetration and cyberbullying perpetration. To further explore this relationship, a crosstabulation analysis using Chi-square tests was performed. Looking at Table 4, the results of the analysis revealed an overlap in the two types of bullying with 5.8% of the respondents having reported dual bullying perpetration ($p < .01$). Looking at this relationship from another angle, we find that 71% of self-identified cyberbullies also reported being involved in traditional bullying; whereas only 21% of the self-identified traditional bullies had reported involvement in cyberbullying behavior. Now, a look at the results of the logistic regression.

Table 4
*Overlap Between Traditional
Bullying and Cyberbullying*

	<u>No Traditional Bullying</u>	<u>Traditional Bullying*</u>	<u>Total</u>
<u>No Cyberbullying</u>	7,945 76.2%	2,484 23.8%	10,429 100.0%
<u>Cyberbullying*</u>	267 29.0%	654 71.0%	921 100.0%
<u>Total</u>	8,212 72.4%	3,138 27.6%	11,350 100.0%

*Note, * $p < .001$*

After analyzing the logistic regression model using traditional bullying perpetration to predict cyberbullying perpetration (See Table 5), it was found that youth that engaged in traditional bullying were almost eight times more likely to engage in cyberbullying than those that did not engage in traditional bullying ($p < .01$). Additionally, the control variables Race and Ethnicity were found to be significant ($p < .01$); however, the variables Age and Gender were

not. Together, these findings suggest that a relationship exists between being a traditional bully and cyberbully. Now to the results of the analyses involving the modes of aggression which are discussed in the following section.

Table 5
*Regression Coefficients Predicting
 Cyberbullying with Traditional Bullying*

<u>Factor</u>	<u>Beta</u>	<u>Significance Level</u>
Traditional Bullying Perpetration	2.059	.000
Gender (Male = 1)	.116	.121
Age (14 - 17+ years = 1)	.145	.051
Race (White = 1)	-.353	.000
Ethnicity (Hispanic/Latino = 1)	.281	.001
Constant	-3.447	
-2 Log Likelihood	5220.448	
Nagelkerke R ²	.174	

Modes of Aggression and Cyberbullying

A bivariate correlation analysis was performed to examine the relationship between the modes of aggression and cyberbullying. Verbal aggression targeting religion had the strongest correlation to cyberbullying perpetration, followed by relational aggression involving lies, gossip, and rumors, and the third strongest relative was verbal aggression targeting race. The next step involved crosstabulation analyses using Chi-square tests which also found that youth involved in verbal aggression due to religious affiliation had engaged in cyberbullying at high rate ($p < .01$), as seen in Table 6. Furthermore, verbal aggression based on race was the next strongest relative, followed by relational aggression using lies, gossip, and rumors ($p < .01$). An important finding was that all three forms of verbal aggression were more strongly correlated to cyberbullying perpetration than physical aggression. In addition, relational aggression using lies, gossip, and rumors also had a higher correlation to cyberbullying perpetration than physical

aggression; however, relational aggression using exclusion had the weakest relationship of all six measures of bullying behavior. We now turn to the logistic regression models.

Table 6
Relationships Between Modes of Aggression and Cyberbullying

<u>Modes of Aggression</u>	<u>Total "Yes" Responses</u>	<u>Percentage Involved in Cyberbullying</u>
Verbal Aggression- Race*	892	58.5%
Verbal Aggression- Religion*	717	72.1%
Verbal Aggression- Sexual Nature*	1,145	50.8%
Relational Aggression- Exclusion*	1,916	34%
Relational Aggression- Lies*	1,095	54.2%
Physical Aggression*	1,352	42.5%

*Note, *p < .01*

Two logistic regression models were run to examine the predictability of the modes of aggression for involvement in cyberbullying perpetration. The first model, Table 7 seen below, used the independent variables Verbal Aggression- Race, Verbal Aggression- Religion, Verbal Aggression- Sexual Nature, and Physical Aggression along with the control variables Age, Gender, Race, and Ethnicity. All three forms of verbal aggression and physical aggression were found to be predictors of cyberbullying status ($p < .01$). Verbal aggression based on religion was the best predictor in this model. Traditional bullies that used verbal aggression targeting religion were almost ten times more likely to engage in cyberbullying. The next best predictor was verbal aggression of a sexual nature with youth engaged in this type of bullying six times more likely to have a cyberbully status than non-bullies. Physical aggression was the third best predictor with those youth almost four times more likely to engage in cyberbullying, followed by verbal aggression targeting race which increased the likelihood of cyberbully status by three folds. Only the control variable Gender was found to be significant in this model ($p < .01$). An analysis was also performed using relational and physical aggression to predict cyberbully status.

Table 7
*Regression Coefficients Predicting
 Cyberbullying with Verbal Aggression*

<u>Factor</u>	<u>Beta</u>	<u>Significance Level</u>
Verbal Aggression- Race	1.088	.000
Verbal Aggression- Religion	2.288	.000
Verbal Aggression- Sexual Content	1.792	.000
Physical Aggression	1.331	.000
Gender (Male = 1)	-.624	.000
Age (14 - 17+ years = 1)	.131	.186
Race (White = 1)	.120	.271
Ethnicity (Hispanic/Latino = 1)	.172	.141
Constant	-3.693	
-2 Log Likelihood	3329.748	
Nagelkerke R ²	.516	

A second logistic regression model, Table 8 seen below, used the independent variables Relational Aggression- Exclusion, Relational Aggression- Lies, and Physical Aggression as well as the control variables Age, Gender, Race, and Ethnicity. Both forms of relational aggression and physical aggression were predictors of cyberbullying status ($p < .01$). For this model, relational aggression using lies, gossip, and rumors was the strongest predictor. Bullies that used relational aggression in the form of lies were over nine times more likely to engage in cyberbullying perpetration than bullies that did not use this particular type of aggression. Physical aggression was the next best predictor of cyberbullying perpetration in this model with this type of aggression increasing the likelihood of involvement by five folds. As seen in other analyses, relational aggression in the form of exclusion was not a strong predictor. Nevertheless, bullies that used this mode of aggression were almost four times more likely to engage in cyberbullying perpetration. The control variables Age and Ethnicity were found to be significant

($p < .01$) in this model. The results from the tests that considered the role of gender are discussed next.

Table 8
*Regression Coefficients Predicting
 Cyberbullying with Relational Aggression*

<u>Factor</u>	<u>Beta</u>	<u>Significance Level</u>
Relational- Exclusion	1.375	.000
Relational- Lies	2.272	.000
Physical Aggression	1.684	.000
Gender (Male = 1)	-.130	.167
Age (14 - 17+ years = 1)	.319	.001
Race (White = 1)	-.005	.963
Ethnicity (Hispanic/Latino = 1)	.265	.015
Constant	-4.129	
-2 Log Likelihood	3573.894	
Nagelkerke R ²	.479	

Gender Differences in Bullying Perpetration

The exploration of the role gender in bullying perpetration began with bivariate correlation analyses. The first analysis looked at the relationship between gender and traditional bullying, and a second bivariate correlation examined gender and cyberbullying. Both analyses found a correlation ($p < .01$); however, the correlation between traditional bullying and gender was stronger. Several crosstabulation analyses using Chi-square were performed to further explore the relationship between gender and the multiple types of bullying behavior. The results of the frequency crosstabulations, which can be found in Table 9, revealed that males engaged in bullying perpetration at a higher rate than females for every type of bullying perpetration that was measured in this study. Interestingly enough, the gender gap between traditional bullying perpetration and cyberbullying perpetration was consistent.

Table 9

*Gender Differences in
Bullying Perpetration*

<u>Bullying Behavior</u>	<u>Total "Yes" Responses</u>	<u>Boys</u>	<u>Girls</u>
Cyberbullying Perpetration*	933	56.2%	43.8%
Computer, Email*	663	62.5%	37.5%
Cell Phone*	684	59.2%	40.8%
Traditional Bullying Perpetration*	3,335	56.7%	43.3%
Verbal Aggression- Race*	892	69.3%	30.7%
Verbal Aggression- Religion*	717	68.8%	31.2%
Verbal Aggression- Sexual Nature*	1,145	62.7%	37.3%
Relational Aggression- Exclusion	1,916	50.3%	49.7%
Relational Aggression- Lies*	1,095	56.9%	43.1%
Physical Aggression*	1,352	62.4%	37.6%

*Note, *p < .01*

A logistic regression model was run using Gender to predict cyberbullying while controlling for Age, Race, and Ethnicity, see Table 10 below. The results of the logistic regression suggested that race would predict cyberbully status ($p < .01$) with slightly more reliability than gender ($p < .01$) or ethnicity ($p < .01$); while age ($p < .01$) was the weakest predictor of cyberbullying perpetration in this model. Based on this model, it appears that a when a student had engaged in cyberbullying perpetration they were more likely to be a non-White, Hispanic male and between the ages of 14 and 17 years old.

Table 10

*Regression Coefficients Predicting
Cyberbullying with Gender*

<u>Factor</u>	<u>Beta</u>	<u>Significance Level</u>
Gender (Male = 1)	.254	.000
Age (14 - 17+ years = 1)	.195	.006
Race (White = 1)	-.359	.000
Ethnicity (Hispanic/Latino = 1)	.238	.004
Constant	-2.547	
-2 Log Likelihood	6061.972	
Nagelkerke R ²	.015	

CHAPTER 5

DISCUSSION

Examination of Findings

In this research study, the relationship between traditional bullying perpetration and cyberbullying perpetration as well as the role of gender in bullying perpetration was explored using the student survey dataset from the Health Behaviors of School-aged Children 2009-2010 cycle. Based on previous research studies, approximately one-third of youth have engaged in traditional bullying perpetration (Kowalski et al., 2012; Patchin & Hinduja, 2011; Schneider et al., 2012), and approximately 10% have engaged in cyberbullying perpetration (Hinduja & Patchin, 2013; Kowalski et al., 2012; Kowalski & Limber, 2007; Schneider et al., 2012). This research study found similar figures with 27.6% of students reporting traditional bullying perpetration and 8.2% reporting cyberbullying perpetration. An overlap in the two types of bullying behavior was also noted.

Research studies have found that traditional bullies sometimes engage in cyberbullying and that cyberbullies sometimes engage in traditional bullying. Interestingly, most research has found that a significantly higher number of cyberbullies are engaging in traditional bullying than there are traditional bullies engaging in cyberbullying (Kowalski et al., 2012; Raskauskas & Stoltz, 2007). This study hypothesized that traditional bullies would engage in cyberbullying at a higher frequency than non-bullies. After completing the statistical analyses, it was found that youth involved in cyberbullying perpetration were almost three times more likely to also be involved in traditional bullying, whereas only about one in five traditional bullies simultaneously engaged in cyberbullying. The findings from this study suggest that approximately six percent of the respondents were dual bullying perpetrators, which is in line with other recent research

studies (Kowalski et al., 2012; Raskauskas & Stoltz, 2007; Williams & Guerra, 2007). The modes of aggression and how they might relate to cyberbullying perpetration were examined in this study.

Research studies have typically found verbal aggression to be the most common method of bullying (Nansel et al., 2001; Raskauskas & Stoltz, 2007; Williams & Guerra, 2007), followed by relational aggression (Nansel et al., 2001; Raskauskas & Stoltz, 2007), and lastly, physical aggression (Nansel et al., 2001; Raskauskas & Stoltz, 2007; Williams & Guerra, 2007). The current study looked at three types of verbal aggression, two types of relational aggression, and physical aggression in its analyses. Relational aggression using exclusion was the most prevalent with 16.5% of respondents reporting they had used it to bully other students. Physical aggression, 11.7%, was the second most reported mode of aggression, and verbal aggression using sexual content, 9.9%, was the third. Modes of aggression have been found to relate to cyberbullying perpetration in previous studies (Connell et al., 2014; Raskauskas & Stoltz, 2007; Williams & Guerra, 2007), and findings from this study suggest that verbal aggression and relational aggression may be a link to cyberbullying behavior.

Connell et al. (2014) found that when a traditional bully employed verbal or relational aggression, the likelihood of them also engaging in cyberbullying increased dramatically. In another study, researchers found when a bully employed verbal aggression they were involved in cyberperpetration at a disproportionate rate and suggested that verbal aggression may be a pathway to cyberbullying (Williams & Guerra, 2007). This study hypothesized those traditional bullies employing verbal and/or relational aggression would engage in cyberbullying at a higher frequency than bullies using physical aggression. Based on findings from this study, bullies employing verbal or relational aggression were involved in cyberbullying perpetration at a higher

rate than bullies using physical aggression. Most notably, traditional bullies using verbal aggression based on religion and verbal aggression based on race were engaged in cyberbullying perpetration at the highest rates (72.1% and 58.5% respectively). On the other hand, traditional bullies using physical aggression, 42.5%, were involved in cyberbullying perpetration at one of the lowest rates. The different ways boys and girls engaged in bullying perpetration was also a point of interest for this research project. Statistical tests were performed to explore the role of gender in bullying perpetration.

Females have been found to engage in verbal and relational aggression at higher rates than males (Beaty & Alexeyev, 2008; Esbensen & Carson, 2009; Kowalski & Limber, 2007; Nansel et al., 2001; Smokowski & Kopasz, 2005); whereas males are typically found to engage in physical aggression at higher rates than females (Beaty & Alexeyev, 2008; Connell et al., 2014; Esbensen & Carson, 2009; Nansel et al., 2001; Schneider et al., 2012; Smokowski & Kopasz, 2005; Williams & Guerra, 2007). It was hypothesized that because females seemed better suited to verbal aggression and relational aggression they would engage in these types of bullying more so than males. In addition, verbal aggression and relational aggression have been found to relate to cyberbullying perpetration, so it was hypothesized that females would engage in cyberbullying at a higher frequency than males. The results of statistical analysis revealed that males engaged in verbal aggression and relational aggression at a higher frequency than females; furthermore, males were also found to engage in cyberbullying perpetration at a higher frequency than females. For this study, boys engaged in all six measures of bullying perpetration at a higher rate than girls. So, what does this mean for policymakers, educators, and parents? The findings from this study in tandem with other research findings can be the basis for a comprehensive and effective anti-bullying initiative for schools and youth-related programs.

Policy Implications

Efforts to curb youth bullying can be enhanced by exploring the findings from research studies. An effective and comprehensive anti-bullying program should address all aspects of bullying including perpetration, victimization, negative associations like truancy, delinquency, or possessing an anti-social personality, and the negative consequences such as poor academic achievement, substance use, or mental health issues. Traditional bullying and cyberbullying occurs among youth, and whether or not the two forms of bullying are related is of little consequence. Both forms of bullying should be addressed in any bullying prevention program. Furthermore, several studies, including the current study, have found that verbal bullies and relational bullies are involved in cyberbullying at a high rate; however, these types of bullying are not always easy to identify. As such, it is important that youth develop a tolerance of cultures different from their own culture and that they learn to speak respectfully to one another. Also, special attention should be given to boys when addressing bullying behavior in schools and youth-related programs due to their higher rate of involvement in such behaviors.

Limitations

Although the dataset examined was a large random sample, there are limitations to the study. First, the data was collected using self-report surveys and this leaves open the possibility of deception on the part of the participants. Second, current findings cannot conclusively establish that traditional bullying leads to cyberbullying, only that a relationship appears to exist between the two forms of bullying which seems to flow from traditional bullying to cyberbullying. Future studies may want to use more diverse measures of bullying behavior in order to obtain a clearer picture of how traditional bullying and cyberbullying relate as well as the way in which gender influences involvement in bullying perpetration.

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