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Sibling Victimization Predicted By Parent And Sibling Related Factors And Resilience As A Moderator Of Predicted School Engagement

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SIBLING VICTIMIZATION PREDICTED BY PARENT AND SIBLING RELATED FACTORS AND RESILIENCE AS A MODERATOR OF PREDICTED SCHOOL ENGAGEMENT

by

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DISSERTATION

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DEDICATION

This work is dedicated to my wife, Stephanie, and children, Rafi and Micah. Stephanie's
unwavering support, confidence, patience, and love have given me strength when the task
seemed insurmountable. In life, time is one of the most precious commodities and the sacrifices,
measured in time, made by these three individuals to support my success cannot be repaid.
I love you all!
Rafi, Micah – the paper is done. ☺

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CHAPTER 1 INTRODUCTION

The impact of aggressive and victimizing behaviors in early childhood and throughout adolescence can alter an individual's developmental trajectory potentially resulting in various forms of psychopathology and other adjustment issues. In a report published in 2013 by the National Center for Educational Statistics (Robers, Kemp, Rathbun, & Morgan, 2014), survey results showed that students within the 12 – 18 year old age group were victims of almost 1.4 million nonfatal crimes at school. The majority of respondents experienced theft and violent crime at school compared to outside of school and a higher percentage of males within grades 9 – 12 were threatened or injured with a weapon.

The CDC's fact sheet, Understanding School Violence (2015), provides a more detailed inventory of reported nonfatal crimes at school from a nationally representative population of students within grades 9 through 12. Limiting the reporting period to the previous 12 months, 8.1% of respondents reported being in a physical fight at school. Avoiding going to school due to fear of violence at school or on their way to school may be a coping strategy some students use when faced with violent behavior. Simply avoiding school within the last 12 months was affirmed by 7.1 percent of respondents. Additionally, 5.2 percent reported carrying a weapon to school within the last 12 months and 6.9 percent reported being threatened with a weapon. The CDC fact sheet, however, did not include a reason to carry the weapon or suspected reason for being threatened.

In light of recent media attention, studies focused on aggressive and bullying behaviors have been brought to the forefront within the educational and psychological communities. Despite the attention, bullying continues to be a problem for schools and families. 19.6 percent of student respondents in the Understanding School Violence Survey (CDC, 2015) reported

being bullied. Additionally, 14.8% reported the bullying to occur electronically. The difference in reported frequency between physical fights and bullying behaviors may be the result of student perspective of behaviors, however when considering the definitions of aggressive and victimizing behaviors, bullying should be included. Based on the amount of time spent at school and the prevalence of aggressive behavior at school, it is important to understand the results of these behaviors in order to help prevent maladjusted developmental trajectories.

As focus in research turns to prevention strategies and teaching socioemotional skills, "resilience" is a concept that has gained more focus within the research base. Aside from increased frequency in research publications, articles discussing SEL are also being spread through mainstream media outlets. In an article found in the mainstream news media like The Wall Street Journal, the power of a few SEL lessons and the impact on the positive business environment was reviewed (Landro, 2016). Noting the power of resilience training within the business environment, similar approaches may be used within schools in order to facilitate prevention and coping with aggressive and victimizing behaviors. Resilience training within schools can be found to produce reductions in suicidal ideation, reduce symptoms of PTSD, anxiety, depression, and improve feelings of community and cohesiveness within a school (Baum et al., 2013; Climie & Deen, 2014; Hirschtritt, Ordonez, Rico, & LeWinn, 2015; Olowokere & Okanlawon, 2014). Other researchers have also found that students who possessed more characteristics of resilience were less susceptible to the adverse impacts of bullying (Lenzi et al., 2015; Sapouna & Wolke, 2013). Defining an abstract term such as resilience can be challenging though. The American Psychological Association's (Comas-Diaz et al., 2011) definition includes "the ability to persist and adapt, positively despite some traumatic aversive experience" (What Is Resilience? section). Characteristics of resilience include coping strategies,

self-efficacy, self-esteem, self-construal, perceived stress, and the friendship network (Chesmore, Winston III, & Brady, 2015; Graber, Turner, & Madill, 2016) as well as self-awareness, persistence, school support, family coherence, peer support, emotional regulation, empathy, gratitude, zest, and optimism (Lenzi et al., 2015).

Impact of Perpetrating and Victimizing Behaviors in Youth

Psychological adjustment in adulthood can be influenced by aggressive and victimization behaviors in childhood and adolescence. Young adults who were perpetrators or victims may struggle with behavior problems (Wolke & Samara, 2004), levels of stress, emotional distress, and relationship development (Logan - Greene, Nurius, Hooven, & Thompson, 2013) later in life. In their study of long-term impacts of history of violence, Green et al., 2013, followed at-risk adolescents into early adulthood in order to compare outcomes in early adulthood with history of perpetration and victimization. By grouping the individuals by history (victimization, perpetration, and victimization and perpetration) they learned that individuals with a history of victimization reported higher levels of stress, emotional distress, victimization, and reduced family support into early adulthood compared to the no history group. Perpetrators reported the highest levels of arrests and risk taking behaviors. These individuals also reported low levels of protective factors and high levels of risk factors including education and employment. Emotionally, perpetrators struggled most with anger. Those that were both victims and perpetrators experienced the highest levels of stress, emotional distress, and substance abuse problems. As adults, these individuals also reported the highest levels of violence exposure. In general these individuals experienced considerable problems with coping and both internalizing and externalizing behaviors. The authors also noted concern for these individuals as parents who may increase their familial distress as a result of their history. Those individuals who

experienced victimization and were also classified as perpetrators appeared to demonstrate the largest adverse impacts into adulthood. Unfortunately, victimization in childhood and adolescence has been identified as a risk factor for adjustment issues later in life.

In addition to long-range impacts, adolescents are also subject to short-term effects resulting from persistent victimization. One of the most harmful and extreme results of continued victimization may be completion of suicide. Reviewing meta-analysis conducted by van Geel, Vedder, and Tanilon in 2014, Gianluca and Espelage (2014) found that peer victimization was related to suicidal ideation and attempts. When comparing cyberbullying with traditional forms of bullying, the results appeared to show a stronger relationship between cyberbullying and suicidal ideation among adolescents however this was only among three out of 34 studies. Risk factors identified included low social competence, lack of friends, and low peer support. However, protective factors were identified as resilience, parent and school support, and parent-child relationships. Resilience was a reflection of the internal interpretation of victimization. Parental warmth, supervision, support, and involvement were protective factors considered when characterizing parent-child relationships. Without prevention, adolescent targets of bullying may be at higher risk for more extreme outcomes.

Aside from peer relationships, parenting practices appear to be factors in the developmental course of aggressive behaviors. Likewise, parenting practices and relationships also appear to be protective factors from long-term impacts of victimization. Additional protective factors such as resilience can also protect an individual from predicted outcomes of bullying perpetration and victimization.

Theoretical Orientation

Social learning theory suggests that cognition influences behavior and development based on our social experiences (Bandura, 1977). Albert Bandura developed Social Learning Theory and suggested that individuals use models, verbal discussions, and discipline to interpret and integrate information to be learned (Grusec, 1992). Individuals formulate their interpretation and perspective of themselves and the environment as well as the interaction of all three in terms of outcome expectancies, perception of self-efficacy, and evaluation of self-reactions. Learning occurs through observing models in order to determine the appropriate responses to a situation and then guide their behavior (Grusec, 1992). Self-regulation and self-efficacy also play important roles in the theory. Self-regulation was learned by observing how adults respond to a stimulus, teaching children to decide whether to feel guilty or happy about a situation (Grusec, 1992). The power of the model is influential in this process along with the value of the activity, and the determination of external or internal regulation (Grusec, 1992). The perception of how easy the behavior change occurs is related to the individual's self-efficacy (Grusec, 1992). Finally, reciprocal determinism is the last component of social learning theory. Reciprocal determinism combines the bidirectional relationship including the interaction and influence between behavior, cognition, and the environment (Grusec, 1992). Cognitive and behavioral characteristics are impacted by the expectation, behavior, and perception of the behavior. Parents and siblings model early relationship interactions for individuals to learn to engage their peers and environments. As such, bullying may be a learned at home by observation and interaction with parents and siblings.

In 1978, taken from a paper presented in Germany, Albert Bandura wrote about the development of aggression within the context of social learning. Bandura (1978) defined aggression as "behavior that results in personal injury and physical destruction" (p. 12).

However, the identification of a behavior as aggressive then depends on the perception of the actions from the perspective of an individual or group. For example, Bandura proposed the situation of a group of protestors where the establishment may view the group as aggressive but the demonstrators do not. Building on the understanding and components of perception, Bandura integrates aggression into social learning theory as a learned behavior. Bandura wrote that aggression does not arrive out of frustration. Within social learning theory, aggression is the response produced by arousal that came from an aversive stimulus. The frustration and aggressive response can be a learned response (Bandura, 1978).

Bandura (1978) identified three main sources of learned aggressive styles: behavior modeled and reinforced by parents, the local environment within which people live, and the media. As we know, learning can take place by direct experience and observation. Observation allows quicker acquisition thus allowing quicker integration into our repertoire of behaviors. Children can then build on their observations and apply the lessons to new situations. Conceptually, this learning process may be applied to bullying as a learned behavior that is observed and/or experienced at home. Theoretical orientation of much of the bullying research is rooted in social learning.

Parents can model aggressive behavior while families reinforce the outcomes, which may give some insight into the tendency for aggressive parents to have aggressive children (Bandura, 1978). Familial interactions may also provide training grounds for aggressive behavior (Patterson, Dishion, & Bank, 1984). Patterson and colleagues (1984) proposed a model showing the influence of inconsistent discipline combined with the interactions amongst siblings on behavior and was then generalized to interactions with teachers and peers at school. Their model showed that the coercive interactions between mother and siblings created the foundation for

aggressor and victim roles. Learned problem solving skills may also contribute to aggressive behavior. As recently as 2016, Yaros, Lochman, and Wells showed that parental aggression was a predictor of childhood aggression and the child's hostile attribution such that the hostile attributions in middle school predicted teacher rated child aggression. Aggressive behavior, social interactions, and problem solving are skills learned from models, interactions, and practiced at home such that if a child is exposed to maladjusted behavior they are likely to learn and have a tendency replicate these behaviors and roles later in life and in other settings.

Behaviors are maintained by the associated reinforcement such that aggressive behavior can be practiced at home and reinforced at home and then generalized to other situations such as aggression and bullying between siblings translating to aggressive behavior at school and other social situations. Integrating social learning theory with siblings as teachers, recent research has shown siblings to be efficient and effective teachers. Whiteman, Bernard, and McHale (2010) found that social learning amongst siblings was related to the positivity or negativity within the sibling relationship. Relationships that were positive contained more social learning (Whiteman et al., 2010). For example, Whiteman and colleagues (2010) identified positivity as giving advice, providing a model, and telling them how to behave. However, the authors do not appear to identify positive or negative attributes of the advice, modeling, or suggestions for behavior only identifying that sibling learning occurs in a positive relationship. It is possible that the siblings may have a positive relationship but engage in negative activities. Howe, Recchia, Della Porta, and Funamota (2012) investigated sibling teaching strategies including social cognitive aspects. They found that success on a specific task appeared to depend on the teacher's understanding of the learner's lack of knowledge. They also found that older teachers used a combination of teaching strategies like encouragement, giving instructions, demonstrations, and

pointing. These examples support the idea that siblings can be teachers and certain characteristics of the sibling relationship may strengthen the teaching power.

Considering the family unit as a learning and practice arena for relationship development and behavior modeling, researching the contributing factors to peer bullying may be better understood by examining contributing factors from the home environment. Learned behaviors through social and cognitive learning become important to understand within the social framework of bullying. Parents, families, and environments that create a value system that places high value on aggressive behavior may teach children that these behaviors are an acceptable means to goal achievement thereby reinforcing bullying behavior among children and/or siblings. Studies that have researched bullying at home have determined the frequency of sibling bullying to be much higher than the frequency at school; in some cases the frequency is approximately 50% or more compared to approximately 20% reported at school (Wolke and Skew, 2012; Wolke, Tippett, & Dantchev, 2015). While the higher rate of occurrence at home suggests that bullying is learned at home, the difference also suggests some other factor may change the manifestation outside of the home.

The principles of learning, both social and cognitive, suggest that bullying may be learned at home through modeling and influence by parents and siblings (Wolke et al., 2015). While bullying has been extensively researched, understanding the contributing factors from parenting and sibling relationships continues to develop. For example, in a survey of sibling bullying research conducted in 2015, Wolke and colleagues only identified 19 studies within the previous 25 years that had specifically focused on sibling bullying. The number of studies appears surprisingly low because it appears that other studies have looked, broadly, at sibling aggression instead of specifically bullying (Tippett and Wolke, 2015; Wolke et al, 2015). Even

though previous research has included both parental and sibling focused factors, this study will examine a unique combination in conjunction with unique variables. For example, parental acceptance of aggression may be suggestive of a behavior learned at home. Additionally, including resilience and school engagement will further the understanding of modifiers and effects of behavior.

Terminology

Aggression	Behavior that can take many forms such as direct or indirect and reactive or proactive. Camodeca and Goosens (2005) classified aggression as either reactive or proactive where reactive aggression referred to a defensive response to trouble including anger and proactive aggression as goal directed, deliberate, and the individual may experience pleasure as a result. Crick et al. (1999) defined relational aggression as any behavior that harms individuals through relationships like exclusionary behaviors. Within the research literature, physical aggression, also known as direct aggression, can include both physical and verbal acts.
Bullying	Bullying has been defined as aggressive behavior comprised of three basic components: power imbalance, repetitive, and occurring over time (Olweus & Limber, 2010).
Bully	A bully is considered the perpetrator of acts of bullying (Olweus & Limber, 2010).
Victim	A victim is considered the receiver or target of the bully (Olweus & Limber, 2010).

Parenting Style	Parenting styles have traditionally been divided into categories: authoritative, authoritarian, and permissive (Baumrind, 1966). The Alabama Parenting Questionnaire (Frick, Christian, & Wooton, 1999) characterizes parenting style on scales of involvement, positive parenting, poor monitoring/supervision, inconsistent discipline, and corporal punishment. For the purpose of this paper, Frick's categories will be used.
Sibling Warmth	A characteristic of the sibling relationship. Bowes, Maughan, Caspi, Moffitt, and Arseneault (2010) characterized sibling warmth by asking mothers to respond to questions on a three point scale if twins loved each other and did nice things for each other. Buist, Dekovic, and Prinzie (2013) generally identified sibling warmth as the positive characteristics of a sibling relationship.

Problem and Aim of Study

Bullying in schools is currently a polarizing issue frequently discussed through various media sources including social media and general news outlets. An Internet search for information regarding the topics of aggressive behavior and bullying among adolescents yields thousands of results. Similarly, searching psychological and educational research databases such as psycINFO also returns thousands of articles. The results of the research base can be interpreted to provide insight into typical responses exhibited by students to aggressive behavior and victimizing situations. When examining the research to determine risk factors that may contribute to one being victimized or becoming a bully, the parent and sibling relationships may be significantly influential yet understudied. Children learn important lessons about relating to other children from their parent and sibling relationships. Children learn to navigate social

situations by using their parents and siblings as models to develop working concepts for social exchanges. The purpose of the study will be to determine influential factors within parent and sibling relationships that may present as risk or protective factors in the likelihood of bully participation at school. Information learned from survey responses and answering the research questions will also provide appropriate points of intervention in order to address the bullying behavior and victimization of youth. Answering the research questions will further support the development of parent educational materials with respect to prosocial and beneficial parenting practices.

Research Questions

Research questions to be addressed are as follows:

1. Does a relationship exist between sibling bullying and bullying involvement at school?

2. Are sibling related factors and parenting related factors predictive of sibling victimization?

3. Is school engagement predicted by victimization at home or bullying activity (bully or victim) at school? Is the relationship moderated by an individual's level of resilience?

CHAPTER 2 LITERATURE REVIEW

This chapter will provide a review of literature relevant to the construct of bullying. The chapter will start by defining the bullying construct, as it is relevant to peers and siblings. Theoretical underpinnings of peer and sibling bullying will then be reviewed followed by a review of risk and protective factors with respect to bullying and victimization.

Bullying Defined

Within the research base, the differentiation between bullying behavior and general aggressive behavior has been debated (Vaillancourt et al., 2008). However, for the purposes of this paper bullying behavior will be isolated, defined, and conceptualized as a specific concept. As late as 2010, the definition has remained consistent with the original conceptualization of bullying being behavior that is harmful and aggressive while possessing the following three traits: a power imbalance between individuals or groups, the behavior and incidents occur over some period of time, and finally the behaviors are repetitive (Olweus, 2010). The definition outlined by Olweus has also been applied more specifically to sibling bullying without changing the criteria (Wolke et al., 2015). Additionally, conceptualized as a socially driven phenomenon, the members of the social network each have roles within the bullying relationship. The bully will be the perpetrator of the aggressive acts while the victim will be the target. The roles of observers or peers then fall on a spectrum of involvement from followers to defenders. Behaviors of these individuals range from feeling positive toward the bully and taking an active role in the bullying (followers) to defenders who dislike the bully and try to help the victim (Olweus, 2010).

As defined above, bullying can take place in many locations. Bullying can occur at home, school, and through electronic media and social networks. While the US media appears to sensationalize cyberbullying, findings from research suggest that the impact of cyberbullying

may not be as profound as direct bullying and also should be considered a subcategory of general bullying (Olweus, 2010). The influence of bullying at home between siblings, however, appears to be related to bullying behavior outside of the home (Wolke et al., 2015).

Theoretical Framework

Social Learning Theory. Several theories exist upon which bullying research can be based. Social learning theory and ecological systems frameworks provide sound foundations for conceptualizing the perpetration of bullying behaviors. Albert Bandura (Bandura, 1978; Grusec, 1992) characterized social learning theory as the influence of cognition on behavior and the development of cognitive models of behavior based on social experiences. Bandura (1978) believed that individuals use models, verbal discussions, and discipline as social experiences to learn and integrate new information in terms of response-outcome expectancies, self-efficacy, and self-reactions. Through observational learning individuals learn expected responses based on specific stimuli and those expectations then guide their behavior. Subcategories of social learning theory, self-regulation and self-efficacy are considered learned behaviors and part of social learning theory as well. Children learn how to feel or respond to a behavior or situation based on adults' responses. The influence of the model will vary based on the power of the model, the value of the behavior, and whether the behavior is internally or externally regulated. Learning through self-efficacy occurs through an individual's perception of their own effectiveness. Additionally, expectations, behaviors, and perceptions direct behavior and have an impact on cognitive characteristics, which is defined as reciprocal determinism. Exposure to bullying behaviors at home may begin in early childhood and influence of these experiences and learning may contribute to bullying behavior amongst peers at school.

Bioecological Theory. Further learning and development can be related through Bronfenbrenner's bioecological model (Bronfenbrenner, 1999; Bronfenbrenner & Morris, 2006). Bronnfenbrenner identified two overarching statements to define the model: (1) Development occurs through reciprocal interaction between the individual and the persons, objects, and symbols immediately surrounding them which take place regularly and over an extended period of time and (2) the form, power, and content of these processes vary with the individual. Bronfennbrenner proved this through Drillien's data from 1969 showing that mother-child interaction was a joint interaction of both birthweight and ses. Commonly recognized components from Bronfenbrenner's framework include a series of structures from the individual's perspective. These include the microsystem which is considered the face-to-face setting, the mesosystem or the link between multiple microsystems, the exosystem which is the link between two or more settings of which one does not include the individual, the macrosystem which is a pattern of the micro, meso, and exo systems as they relate to culture and/or religion, and finally the chronosystem which encompasses the changes related to time. Further integrating Bronnfenbrenner's theory and learning, it can be hypothesized that interactions that occur at an early age within the family unit (parent-child or between siblings) may be used as the basis for later relationships which may manifest in bullying behavior amongst peers.

When reviewing the status of bullying research in 2003, Espelage and Swearer affirmed the need to consider bullying from the social-ecological viewpoint. In developing direction for research and intervention, Espelage and Swearer specifically site the need to understand the interaction between inter and intra-individual characteristics involved. The characteristics are influenced by a variety of ecological contexts including peers, family, schools, and community. Individual characteristics include age, race/ethnicity, anger, empathy, depression, anxiety, beliefs

about bullying, and social skills. Family characteristics found through literature review include parental supervision, family violence, harsh discipline, parenting style, and family environment as well. Espelage and Swearer go on to conclude that *"families that engage and permit bullying behavior at home while placing value on aggressive behavior as a means to achieving some goal are likely to produce children who are likely to replicate these behaviors outside the family system."* (Espelage & Swearer, 2003, p.377)

Individual Characteristics

Bullying research has identified many factors contributing to the likelihood of perpetrating bullying acts or becoming a victim of bullying behaviors. As previously mentioned factors include age, ethnicity, gender, family relationships, and other environmental influences.

Age. Bullying and victimizing behaviors appear to peak in early adolescence and then drop as children age (Cleverley, Szatmari, Vaillancourt, Boyle, & Lipman, 2012.; Finkelhor, Ormrod, & Turner, 2009; Tanrikulu & Campbell, 2015; Wolke & Skew, 2013). Longitudinal studies as well as those collecting data from several age groups support this observation. Finkelhor and colleagues (2009) specifically examined victimization experiences of children but across a broad age range, from two to 17 years old. They found that assaults increased, for boys, from ages six to nine but without a continuous increase in bullying. Rather, they found that physical bullying peaked within the six to nine age group but then declined. However, emotional bullying continued to increase through the 10 to 13 year old age group. A decline was then found in the oldest group, the 14 to 17 year old age group. Modeling trajectories of physical and indirect bullying of adolescents age ten to 19, Cleverley et al. (2012) found a decline in physical aggression as well as a decline in indirect aggression. Tanrikulu and Campbell (2015) found similar results when studying peer and sibling bullying from grade five through twelve. The data

revealed higher rates of occurrence with the younger group, grade five through seven, compared to the older group, grades 8 through twelve.

Despite the apparent trend of reduction in bullying as development progresses through adolescence, other researchers have not found similar results. In 2000, Espelage, Bosworth, and Simon did not find a significant relationship between bullying behaviors and grade. However, in 2003, Espelage and Swearer discussed a possible theory to support data that indicates age as an important factor. Dominance theory suggests that children experience the strongest need to establish dominance or social order within their peer group in the period of early adolescence, which may contribute to reductions in bullying as children progress through adolescence.

Gender. Gender has also been extensively investigated as a characteristic of bullies and victims. As one may expect, bullies are most often male and less prosocial (Baldry & Farrington, 2000). Duncan (1999) also found that boys we more likely to acknowledge that they bully and were also more likely to engage in all forms of bullying. Generally, boys engage in higher amounts of direct bullying (Espelage et al, 2000; Tippett & Wolke, 2015; Wolke & Skew, 2011) while girls engage in higher levels of indirect bullying behaviors (Baldry, 2003). However, in Baldry's 2003 study boys were found to be more likely to spread rumors but reported lower levels of indirect victimization compared to girls. Although both male and female students appear to participate differently in bullying, they may both recognize the harm or lack thereof in bullying. Waasdorp and Bradshaw (2009) found no difference in the perceived harmfulness of bullying between male and female students.

At home, bullying perpetration and victimization trends are similar to those at school. Male siblings were more likely to be involved in bullying (Duncan, 1999; Tippett & Wolke, 2015; Wolke & Skew, 2011). However a discrepancy does appear to exist as more recent studies

have identified male siblings as both more aggressive (Tippett & Wolke, 2015) and were more likely to be bullies and/or bully-victims (Wolke & Skew, 2011) while Duncan (1999) found that males were more often victims but did not identify differences in perpetration between male and female siblings. Generally, younger siblings of older brothers are at higher risk for victimization.

Familial Characteristics

Parents. Parental influences can be instrumental in the development of aggressive behaviors. Spieker et al. (2011) studied the development of relational aggression by measuring relational aggression, physical aggression, various demographics, maternal depression, maternal sensitivity, maternal harsh control, mother-child conflict, center based care, and adolescent adjustment through a longitudinal study. Regarding parenting, mother-child conflict predicted levels of relational aggression in third grade boys and girls. Specifically, maternal harsh control significantly predicted relational aggression for girls.

Parents can also be influential in the variation amongst male and female perpetrators and victims of bullying. Finnegan, Hodges, and Perry (1998) found that mothers' overprotectiveness of sons predicted victimization while victimization amongst girls was associated with a perception of their mother as hostile and rejecting which may impair their social skills development and need for closeness. Aggressive behavior can be influenced by patriarchal psychological control, as well, and low quality relationships with mothers in males (Murray, Dwyer, Rubin, Knighton-Wisor, & Booth-LaForce, 2014).

Parenting Style. Within the structure of the family, relationships with parents and siblings as well as the interaction amongst all family members can be risk factors for later bullying and victimization behaviors. Murray et al. (2014) found that the quality of the parent-child relationship moderated the relationship between psychological control and aggression

suggesting that the strength of the relationship between psychological control and aggression can be reduced or increased with quality of parent-child relationship. Parental monitoring has been identified, as well, as a predictor variable. Ardelt & Day (2002) found an inverse relationship between deviant behavior and supervision. Victimized students' homes were characterized as having few rules and being critical of each other. Lack of supervision also characterized homes of parents of bullies (Holt, Kantor, & Finkelhor, 2009). Skinner and Kowalski (2013) found that 55% of victims and over 40% of perpetrators indicated that their parents were present when bullying had occurred. Conversely, bullying research within schools suggests that bullying occurs when adults are not around (Craig & Pepler, 1997). Research conducted using the home as the setting appears to suggest that bullying occurs regardless of parents' presence or absence.

Discipline as well as coping strategies imparted by parents are also influential. Harsh discipline techniques were associated with increased likelihood to bully however students that spent time with adults who modeled alternative nonviolent methods to deal with conflict were less likely to bully (Espelage et al., 2000). The difference between coping strategies used may also be influential in response style. Waasdorp and Bradshaw (2009) found that while children scored high in ruminative/avoidant coping strategies, parents underestimated the coping strategy the children were using; suggesting that while parents may say one thing, children might do another.

Parental Attitudes. From a social learning perspective it may be important to understand the child's perception of their parents attitudes regarding aggressive and bullying behaviors. Based on social learning theory, if the parents use bullying behaviors to achieve some goal the child may have learned these same behaviors from their mother or father and then use the behaviors to achieve their own goals. Interviewing parents and children seen in emergency

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rooms for injuries related to aggressive behavior, Solomon, Bradshaw, Wright, and Cheng (2008) learned about the difference between adolescent perspective and parent opinion regarding the use of aggression. The authors found that 78% of youth interviewed thought that their family would want them to hit back when struck first by another student. However, only 47% of parents agreed with the same statement. When asked for their own opinion, 72% of youth thought it was "OK" to hit back when first struck by another student. In this study, children may be misinterpreting parents' feelings regarding aggression. Despite the discordance in interview responses, Solomon and colleagues (2008) found a significant and positive correlation between adolescents' and parents' attitudes about fighting. A similar relationship was found between youth attitudes about fighting and various behavioral problems in multiple settings. The strength of the parents' attitude regarding fighting also was found to be related to youth behavioral problems, school suspensions, and youth-reported fighting (Solomon et al., 2008).

Looking at bullying in elementary school, Holt et al. (2009) examined parent perspectives on bullying among fifth graders. More than one third of parents thought that the school should deal with bullying without the parents involvement compared to nine percent who thought parents and children should work out the conflict. Again, 37% of parents thought kids should fight back while 30% said they should stay out of the bully's way. In total, 88% of the parents surveyed thought that kids should stand up for themselves and the parents that took action did so in different ways including talking, punishing, or talking to the school. It would appear that parents teach their children to stand up for themselves but children may interpret the method of intervention differently than what parents are conveying suggesting that parents may be modeling other behaviors that influence a child's understanding of a socially appropriate response to an aggressive attack or bully.

Parenting style as well as the relationship fostered with their children can also be a factor in bullying behaviors. Research has demonstrated that parenting style can be a significant factor in bullying behaviors (Baldry & Farrington, 2000; Chan, 2010; Meland, Rydning, Lobben, Breidablik, & Ekeland, 2010). Analyzing personal characteristics and parenting styles of bullies, Baldry and Farrington (2000) surveyed middle school students and their parents to determine these qualities. The authors found that bullies had high authoritarian parents who were also punitive and lacked support. Disagreements with parents also appeared to be an additional factor. When compared to delinquent middle school students, authoritarian parenting and disagreement with parents were characteristics only present in the bully group. Authoritarian parenting appeared to be related to children's aggressive behavior and can be mediated by negative coping strategies (Chan, 2010).

A difference may also exist between how parents treat older and younger siblings. Brody (2004) found that children were treated differently based on their parents' emotional state. The success of the older child, thus, influenced the mother's self-esteem, which then predicted the use of positive parenting. Differential treatment resulting in poor behavior is only associated, though, with negative parenting. Unfair treatment may result in low self-worth and high levels of behavior problems (Kowal, Kramer, Krull, & Crick, 2002).

Conversely, research also suggests that parenting practices can be protective factors. Espelage and colleagues (2000) found that the best predictor for the absence of bullying was positive adult role model. Parents who are supportive and children who came from families with positive relationships were associated with feelings of competence compared to deviant attitudes (Ardelt & Day, 2002). Parents who use more positive parenting styles appeared to have children with reduced dominances goals and increased goals to affiliate (McDonald, Baden, & Lochman,

2013). Positive and supportive parenting appears to foster characteristics in children that are not associated with bullying behavior.

The various factors identified within the parent-child relationship can be risk or protective factors for later adjustment. Parenting style, involvement, coercive relationships, as well as the presence of positive role models appear to be influential in adjustment and behavior at school and home. A child's perception of the acceptability of their behavior may provide indication of learned behavior at home.

Sibling Characteristics

Drawing on social learning theory and developmental ecological models of learning, the sibling relationship may be considered the earliest model for later social interaction with peers (Bandura, 1978). Reviewing the contribution of siblings on child development, Brody (2004) noted that through middle childhood, older siblings become better teachers because they have learned to simplify tasks for their younger siblings. In addition to age, gender may contribute to siblings as teachers. For example, in a teaching task Howe and colleagues (2012) found that same gender siblings used more encouragement and instruction. They found that older sisters used more encouragement with younger sisters while older brothers used more instructions (Howe et al., 2012). Evidence among sibling research suggests that a relationship does exist between sibling and peer bullying (Menesini, Camodeca, & Nocentini, 2010; Wolke & Skew, 2013). In general Wolke and Skew's 2013 review of several studies identified general characteristics of the relationship that boys more often bully younger siblings, younger siblings of older brothers are at higher risk of victimization, and low empathy increased the likelihood of bullying.

Bullying. Bullying amongst siblings is characterized by the same general definition of bullying. However, bullying may occur more frequently amongst siblings due to the proximity of siblings, the amount of time spent together, and the forced nature of their relationship (Wolke et al., 2015). Bullying prevalence rates among siblings have been found to be higher than that experienced at school. For example, Tanrikulu and Campbell (2015) found sibling bullying higher than peer (31.6% vs. 9.8%). In a 1999 study, Duncan found that 42% of the respondents had bullied their siblings while 60% of peer bully/victims had been bullied by their brother or sister and 77% of peer bully/victims reported bullying their siblings. Comparatively, Skinner and Kowalski (2013) found that 78% of respondents reported being bullied by a sibling and 85% considered themselves perpetrators. Wolke and Skew (2013) found similar results compared to prevalence rates in schools but not as high as Skinner and Kowalski. More than 50% of all siblings were involved in bullying in some role (Wolke and Skew, 2013). However, the most common role was that of a bully and victim (33%). Adding to these rates, Skinner and Kowalski (2013) found that 58% of those surveyed thought bullying was acceptable and 85% thought it was expected. Given that rates of bullying appear higher amongst siblings than peers suggests further examination into the sibling relationship may be helpful in reducing the occurrence of victimization at home and school.

Sibling Relationships. Characteristics of the sibling relationship can also be examined to understand specific influences on behavioral outcomes. Dominance and conflict as well as number of siblings, sibling spacing, and perception of parenting all can be influential. In order to understand victimization within sibling relationships Faith, Elledge, Newgent, and Cavell (2015) studied conflict and dominance among siblings. They found that parents may be less concerned about the dominant child as they were actually involved in less conflict and the dominant child

viewed themselves as less victimized. Further, increases in dominance predicted victimization through child rated conflict. Additionally, a decrease in dominance and level of conflict predicted self rated peer victimization. The authors hypothesized that children with high frequency of conflict at home may be able to withhold their reaction to peers' aggressive behavior thus withholding the reinforcing component of bullying. Balanced sibling relationships predicted less victimization, however a disparity in dominance was a positive predictor of victimization. This imbalance within the sibling relationship may be influential in the imbalance component of the peer bullying relationship.

Sibling Gender. Consistent results from research literature find that male, older brothers are most likely to bully younger siblings (Menesini et al., 2010; Wolke & Skew, 2013). Additionally, boys who bully siblings were higher in moral disengagement than girls who bullied their siblings (Tanrikulu & Campbell, 2015). Tanrikulu and Campbell (2015) also found that it was more likely for girls to be in a perpetrator role only at home than for males. Differences may also exist in the type of aggressive or bullying behavior between genders. Males were more likely to report direct aggression (Duncan, 1999; Ostrov, Crick, & Stauffacher, 2006) while older sisters were more likely to be relationally aggressive to their younger siblings (Ostrov et al., 2006). In either case, the observed behavior of the older sibling successfully predicted the behavior of the younger sibling (Ostrov et al., 2006).

Number of Siblings. The number of siblings may also be an influential factor in the development of later aggressive behaviors. Finding sufficient research that specifically addressed questions about the number of siblings in relation to aggressive behavior was limited. The theoretical premise of sibsize is based on a resource dilution model where more children in a family will reduce the amount of resources (time, money, effort) a parent may have for each

child (Marjoribanks, 1989). Dating back to 1981, Kidwell completed a study of looking at such a principle. Findings suggested that a family size increased, reasonableness and supportiveness decreased, and perceived punitiveness increased as noted by the children. Later, Marjoribanks (1989) examined sibling dilution theory as well. Perceived support, specifically from the father, was very important with respect to sibsize. Marjoribanks' (1989) regression data supported the idea that parents devote more resources to the first and last-born children. More recent research, previously reviewed, highlighted the relationship of parental support and positive parenting on aggressive and/or prosocial behavior. However resource dilution, or sibsize, did not appear to be considered in the research.

Birth Spacing. Birth spacing and number of siblings also appear to be related to family and individual health (Crowne, Gonsalves, Burrell, McFarlance, and Duggan, 2011; Kidwell, 1981; Yucel, 2014). Kidwell (1981) found that a large number of siblings increased the perception of parental punitiveness and decreases reasonableness and supportiveness. However, Yucel (2014) found that the number of siblings required for some adverse emotional effects was at or above four siblings suggesting that many siblings must be present in the family for adverse impacts to be manifested. As described by the resource dilution model, parenting may be impacted by the amount of space between siblings. Neglectful parenting was significantly more frequent among women with a rapid repeat birth compared to those without (Crowne et al., 2011). Kidwell (1981) found that as the average spacing of the siblings increased, the perceived parental punitive decreased and reasonableness and supportiveness increased. Males reported more positive parent-child relationships when the spacing was very small (< 12 months) or very large (> 4 years). When reviewing the data the sex of the siblings was not significant. Individually, close birth spacing may be related to behavioral problems (Crowne et al., 2011) and

lower cognitive functioning (Crowne et al., 2011; Hayes, Luchok, Martin, McKeown, & Evans, 2006).

In 2002 Steelman, Powell, Werum, and Carter provided an updated review of sibling size and age of sibship. The resource dilution model previously mentioned appeared to continue to describe the relationship. Their review concluded that close spacing may have advantages such as low cost of toys or clothes but also adversely influence labor participation from mom and dad. However, Tucker and Kazura (2013) found that parents with children that were closer in age were more likely to sanction physical aggression through nonintervention. The lack of intervention was also related to sibling warmth and high levels of conflict and rivalry (Tucker & Kazura, 2013).

Sibling Warmth. Sibling warmth is a common relationship characteristic that has been frequently studied in the literature. Buist and colleagues (2013) reviewed 34 studies in order to understand the impact of sibling relationship quality on internalizing disorders in children and adolescents. Although a small effect size was found, more sibling warmth did appear to be related to less internalizing and externalizing disorders. Buist et al. (2013) concluded that sibling warmth in conjunction with less conflict and less differential treatment yielded less internalizing and externalizing problems. Other researchers (Bowes et al., 2010; Menesini et al., 2010) have found similar results with respect to sibling relationships. Sibling warmth promoted positive emotional adjustment in early adolescence (Bowes et al., 2010), however, conflict and low empathy were related to high levels of victimization (Menesini et al., 2010).

Parenting style, parent-child relationships, and the type of environment fostered at home may also be influential upon the sibling and peer relationships. Factors like harsh parenting and parental warmth may create negative or positive interactions at home (Bowes et al., 2010).

Parent-child relationships are bi-directional such that the child's temperament may influence the interaction with the parent while the parent's emotional state may also influence the child. Brody (1998) reviewed research on characteristics of children and families that influence sibling relationships. Within that research Brody found that temperament, marital health, and parental depression as well as parenting style all influence the parent-child relationship. Siblings whose parents used positive parenting practices were found to maintain more positive and prosocial sibling interactions. Additionally, attentive, responsive, and nurturing characteristics were found to reduce the obviousness of differential parenting suggesting that despite differential parenting, the child's perception of their parents was not influenced by a sibling-parent relationship.

Home Environment

Violence in the home has been found to influence the likelihood of peer bullying and victimization (Baldry, 2003; Holt et al., 2009). Exposure to domestic violence increased the likelihood of victimization (Baldry, 2003; Holt et al., 2009). Baldry found that bullies were 1.8 times more likely to be exposed to domestic violence. The impact was higher for girls as they were found to be 3.5 times more likely to be exposed to domestic violence. Controlling for age, gender, and parental harming of the child, Baldry (2003) found the exposure to parental violence significantly predicted bullying and victimization.

Resilience is a common characteristic used when discussing emotional and behavioral outcomes of adverse home life and/or poor peer relationships. Various family factors and individual characteristics have been found to contribute to an adolescent's resilience (Bowes et. al, 2010; Sapouna & Wolke, 2013). Similar to the sibling relationship, maternal warmth as well as sibling warmth in conjunction with a positive home atmosphere promote resilience after victimization (Bowes et. al., 2010). Bowes and colleagues' (2010) data showed that lacking these

characteristics were risk factors for behavioral and emotional adjustment after victimization. In the case of post victimization resilience, Bowes and colleagues (2010) found that sibling warmth was a stronger contributor to resilience than maternal warmth. Data from Sapouna and Wolke's 2013 study showed that the lack of sibling victimization was a protective factor. Other factors identified by Sapouna and Wolke (2013) included high self esteem, reduced social alienation, and low levels of conflict with parents.

Victimization and bullying behaviors at home have been found to impact behavior and well being at school. Those children who were victimized at home have a significantly higher risk, as high as 3.6 times, for behavioral problems as well as being more likely to be involved in bullying at school (Wolke & Samara, 2004). On measures of emotional well being, adolescents who were bullied at home we more likely to be unhappy as well as being at higher risk for behavioral problems (Wolke & Skew, 2013). Despite the behavioral outcomes, sibling bullying appears to be related to the sibling relationship while peer bullying may be related to specific personality differences (Ostrov et al., 2006; Menesini et al., 2010). Specifically, Wolke and Skew (2013) found sibling relationships with high levels of conflict negatively impact peer relationship and behavior.

Resilience

Within the context of bullying relationships, some individuals react differently than others. In 2015, Lenzi et al. studied the characteristics of resilience and found that when students possessed more characteristics, there was a lower likelihood of victimization as well as fear of victimization. However, earlier than Lenzi and colleagues, in 2013 Sapouna and Wolke surveyed students regarding the relationship between resilience and bullying. They found that students experienced different emotional reactions to bullying. Students that experienced low levels of

depression that were still bullied tended to be males and had high levels of self-esteem, felt less socially alienated, had low levels of conflict with their parents, and were not victimized by their siblings. Lower levels of delinquency despite being bullied, however, identified female students. Female students also had high levels of self-esteem, low level of conflict with parents, were not victimized by siblings, yet had less close friends. Common characteristics of students that may experience victimization but demonstrate higher resilience were self-esteem, low levels of conflict with parents, and previous sibling victimization. The significance of conflict with parents and sibling victimization suggested that relationships at home are important indicators of adaptive reactions to stressful situations.

Children with more characteristics associated with resiliency may also behave better and possess higher adaptive skills within the school setting. Lower misbehavior and increased reading success were both associated with higher perceived support from their caregiver and more behavioral coping skills (Chesmore et al., 2016). Chesmore et al. (2016) found that a stronger association existed with academic outcomes for boys than for girls suggesting that resources to promote resilience may be more important for boys than girls. In general, more support in addition to low levels of conflict were associated with improved teacher reports of academic outcomes as well as behavior.

Classroom based SEL has been a proven technique to improve resilience and reduce associated emotional and behavioral difficulties. Targeting fourth to sixth grade students in post-war Acre, Baum and colleagues (2013) found significant reductions in symptoms associated with PTSD and anxiety. Through a quasi-experimental, randomized, wait list design the authors used the Building Resilience Intervention to teach the teachers how to incorporate the concepts into their classrooms. Through 12 hours of training, the teacher lessons focused on self-awareness

and regulation, support for feelings, coping, and significance, meaning, and hope. Despite the formal training, there were no structured lessons for the teachers to use in their classrooms. Instead implementation decisions were left to the individual teachers. This suggests that simply incorporating the concepts into daily interactions may facilitate growth in resilience. In a similar approach, Olowokere and Okanlawon (2014) found significant reductions in depression and significant improvement in self-esteem, resilience, and social connections by providing instruction on how to identify and provide psychosocial support to at-risk students to school nurses who then provided instruction to teachers. The Spark for Learning program (Climie & Deen, 2014) is another example of a school-based program to improve resilience. The Spark program though is based on exercise and movement where the students work to achieve movement-based goals. Through the program a sense of community is built on collaboration instead of competition. The program's aim is to foster resilience through social relationships, positive attitudes and emotions, as well as feelings of competence.

School based SEL programs that foster resilience appear to impact students' behavior and academic standing. A meta-analysis conducted by Durlak, Weissberg, Dymnicki, Taylor, and Schellinger in 2011 reviewed 213 studies including over 230,000 students ranging in age from five to 18. The majority of the programs (53%) were delivered by teachers and 26% were considered multicomponent. The students demonstrated higher SEL skills including attitudes and positive behaviors with fewer conduct problems and lower levels of emotional distress. Significant improvement was found as well with regard to academic performance. The results appeared to be last as well, as the results remained significant at the follow-up point. Implementation by the classroom teacher was found to be significant in all outcome categories,

which were SEL skills, attitudes, positive social behavior, conduct problems, emotional distress,

and academic performance.

CHAPTER 3 METHODS

Restatement of the Problem

Bullying behavior within schools has been widely research over the past several decades. The outcomes for individuals involved as targets or perpetrators are well known and include depression, anxiety, school refusal, difficulty with social relations, and in some cases suicide. Conceptualized as a social phenomenon, preventative programs have been developed that foster anti-bullying attitudes through education and development of peer relationships but are targeted at school aged children. From a social learning/social cognitive perspective, it is possible that bullying behaviors are learned and reinforced at home. Using a non-experimental, correlational design, the current study examined parental and sibling factors as predictors of bullying and victimization behavior. In addition the study examined the ability to predict school engagement from bullying activity and the moderating effect of resilience on the relationship.

Participants

Based on previous research and understanding of bullying, middle school students were identified as an ideal population to survey. A middle school in a metropolitan area gave permission to participate in the study. The middle school services sixth through eighth grade students. At the time of data collection, the total enrollment reported from the school office was 461; sixth grade = 149, seventh grade = 144, eighth grade = 168. In total, there were 401 responses to the survey after the data collection period, representing 87% of the entire school population. In order to meet the requirements of the IRB, the survey was created such that a student could skip any question they did not wish to answer. Imputations for missing data were not utilized based on the resulting sample size with respect to the size needed to complete the analysis. Therefore, upon reviewing the data for 100% completion the final sample was 216

middle school students: 102 Male (47.2%) and 114 Female (52.8%); and 6th grade (n = 77, 35.6%), 7th grade (n = 66, 30.6%), and 8th grade (n = 73, 33.8%). Respondent age ranged from 10 years old to 15 years old with the majority being 11 to 13 years old; 11 years (n = 63, 29.6%), 12 years (n = 62, 28.7%), and 13 years (n = 81, 37.5%). The majority of participants identified themselves as either Caucasian (n = 93, 43.1%) or African American (n = 80, 37.0%). The remainder of the participants identified themselves as American Indian/Alaskan Native (n = 2, 0.9%), Asian (n = 3, 1.4%), Native Hawaiian/Pacific Islander (n = 1, .5%), or Other (n = 37, 17.1%). Due to the small sample sizes, the American Indian/Alaskan Native, Asian, Native Hawaiian/Pacific Islander, and Other ethnic groups were regrouped into a single category (Other, n = 43, 19.9%). Demographic information was also collected with respect to a reference sibling with whom the participants were instructed to think of while completing the questionnaire. Within the participant group, 100% reported having a sibling(s). Males (n = 123, 56.9%) made up a larger portion of siblings than female (n = 93, 43.1%). Participants referenced older siblings (n = 118, 54.6%) more frequently than younger (n = 87, 40.3%) siblings. Demographic information is presented in Table 1.

Table 1
Demographics of Participants (n = 216)

Demographic	Frequency	Percentage
Age		
10	2	.9
11	64	29.6
12	62	28.7
13	81	37.5
14	6	2.8
15	1	.5
Grade		
6	77	35.6
7	66	30.6
8	73	33.8

Gender

	Female	114	52.8
	Male	102	47.2

Table 1 cont.

	Demographic	Frequency	Percentage
Ethnicity			
	Caucasian	93	43.1
	Black or African American	80	37.0
	Other	43	19.9
Free or Reduced Price Lunch			
	No	102	47.2
	Yes	114	52.8
Siblings			
	No	0	0
	Yes	216	100
Gender of Reference Sibling			
	Male	123	56.9
	Female	93	43.1
Birth Order			
	Older Than Respondent	118	54.6
	Younger Than Respondent	87	40.3
	Same Age as Respondent	11	5.1

Procedures

Prior to data collection, approval was gained from IRB at Wayne State University as well as from the superintendent and principal of the middle school. A copy of the IRB approval is in Appendix A, and a letter of support from the school principal is in Appendix B. A study information sheet was distributed to the families and/or guardians of students at the middle school (Appendix C). The information sheet provided information regarding the study including the topic of bullying and factors related to bullying like sibling relationships, parenting style, school engagement, and resilience. Additionally, the information sheet included the principal

investigator's contact information including email and phone number in case a parent/guardian wanted to learn more about the proposed study. All parents, guardians, and participants were made aware of the voluntary nature of their participation and that they could withdraw from participation at any time. The information sheet was sent home via first class mail and included an optional "Decline to Participate" form to be returned to the principal investigator. Prior to data collection, 11 students had been withdrawn by their parents' return of the "Decline to Participate" form or direct notification to the principal investigator.

The surveys were administered to participants during their Social Studies classes. Each grade was surveyed on a single day that the investigator and the school principal agreed upon. The principal investigator presented the study to the middle school staff in order to gain buy-in. Instructions (Appendix D) were provided to the students, which included the purpose of the study, what is to be learned from their participation, as well as the voluntary nature of their participation and expected time to complete the survey. Immediately prior to survey administration, child and adolescent assent forms (Appendix E) were distributed and read to the students. These reviewed the study, the process, and its voluntary nature. At that point the students chose to participate or not. Completion of the survey provided indication of their assent. If they elected not to participate, the survey terminated. In total, nine students chose not to participate in the study, checking "no" on the assent screen of the questionnaire.

The researcher was present during administration and was available to answer questions. Additional support staff (counselors, social workers, and psychologists) were made available to speak with students in case students requested counseling as a result of the topics of the study. Students not participating in the study were allowed to read silently or complete any independently identified, unfinished work.

The survey was administered using the Qualtrics survey tool. Copies of the measures used in the survey can be found in Appendix F. The Internet based survey tool allowed easy completion of the survey as well as compilation of the data into a format (*.csv) suitable for import into SPSS. Qualitrics is a highly customizable electronic survey software. Definitions, survey items, and response options can be populated and include automatic page/skip logic allowing the survey to skip questions or pages depending on the respondents' entries. An anonymous link was posted on the school's website in the student's only section allowing easy access to participating students. The students were provided with a code on a notecard in order to access the survey. The card was collected upon completion. Only information acquired through the survey was available. In order to facilitate the protection of private information, information that might make identification easy, such as name or student ID, was not requested. Additionally, the use of the Qualtrics survey administration tool allowed the PI to refrain from collecting IP addresses further supporting the anonymous nature of the survey.

Measures

The following instruments were used in the current study: demographics, Bully/Victimization (Tippet & Wolke, 2015; Wolke & Samara, 2004; Wolke & Skew, 2011), sibling warmth (Furman & Burhmester, 1985), Parenting Style (Frick, 1991), Belief About Aggression (Orpinas, Murray, & Kelder, 1999), resilience (Ungar & Liebenberg, 2011), and school engagement (Fredricks, Blumenfeld, Friedel, & Paris, 2005). The principle investigator obtained permission to use all of these measures.

Demographic Survey

A short demographic survey was created in order to characterize the sample population and provide information relevant to the predictive analyses. Information requested included age,

grade, gender, ethnicity, free or reduced price lunch, and number of siblings within the home and gender of those siblings. The age and gender of a target sibling to be referenced when responding to sibling based questions was also recorded. Self report style of survey was utilized for this information.

Bully/Victimization

Students were asked to respond to a short questionnaire that examines bullying and victimization behaviors amongst siblings and peers (Tippet & Wolke, 2015; Wolke & Samara, 2004; Wolke & Skew, 2011). The questionnaire was created in alignment with a commonly accepted definition of bullying created by Olweus (1993). The survey asks about perpetration and victimizing experiences at home such as being hit/kicked, having your things taken, being called names, and being made fun of (Tippet & Wolke, 2015; Wolke & Samara, 2004; Wolke & Skew, 2011). The survey has been used with respect to sibling and peer interactions (Tippet & Wolke, 2015; Wolke & Samara, 2004; Wolke & Skew, 2011).

Sibling Bullying and Victimization Students were asked to identify the frequency with which their brother or sister "does any of the following at home." Behaviors include: "hit, kick, or push you," "take your belongings," "call you nasty names," and "make fun of you." Students were also asked to identify their sibling by age and gender. Students were instructed to think of their closest sibling if they have more than one sibling (Menesini et al., 2010). Students were asked to respond based on the frequency of occurrence of each of the identified behaviors. Response categories are: never, not much (1-3 times in the past 6 months), quite a lot (more than 4 times in the past 6 months), and a lot (a few times per week). Using the same behaviors and frequencies, students were then be asked to identify the frequency with which they "do any of the following to your brothers or sisters at home."

Peer Bullying and Victimization   Peer bullying was identified in a similar fashion to sibling bullying. Wolke and Skew (2011) had students respond to two questions: "How often do you get physically bullied at school, for example getting pushed around, hit or threatened or having belongings stolen?" and "How often do you get bullied in other ways at school such as getting called names, getting left out of games, or having nasty stories spread about you on purpose?" Questions were rephrased, similar to the sibling questions, in order to ascertain the individual's perpetration behaviors. Similar to sibling questions, response frequencies will be never, not much, quite a lot, and a lot.

Scoring. Frequency responses (never, not much, quite a lot, a lot) were scored from 0 to 3 for both sibling and peer questions. Frequency scores for each question were then summed yielding a total score indicating the severity of victimization or perpetration.

Reliability/Validity. Tippet and Wolke (2015) reported Cronbach alpha of .81 for both sibling victimization and perpetration among youths between the ages of 10 and 15 who reported having siblings. Sapouna and Wolke (2013) reported .72 for sibling victimization. Cronbach alpha in the current sample was .83 for the *Victim at Home* scale and .78 for the *Bully At Home* scale. Wolke and Skew's (2011) survey used to inquire about bullying at school was modeled after questions used by Espelage, Bosworth, and Simon (2000). Espelage and colleagues asked participants to endorse how many times they had engaged in specific bullying behaviors within the past 30 days. Cronbach alpha for this question was .83 (Espelage et al., 2000). The following year, 2001, Espelage and Holt found Cronbach alpha to be .87 with a moderate correlation (.67) with the Youth Self-Report Aggression Scale. Using the same survey as Wolke and Skew (2011), Tippet and Wolke (2015) did not publish Cronbach alpha values for the school bullying

portion of their research. In the current study, Cronbach alpha sure was .79 for the *Victim at School* measure and .47 for the *Bully At School* measure.

Sibling Warmth

Sibling warmth was assessed using a single factor of the Sibling Relationship Questionnaire (SRQ) created by Furman and Burhmester (1985). The survey has been widely used throughout sibling research to study such topics as adolescent disclosure amongst siblings and peers (Martinez & Howe, 2013). The survey consists of 48 items yielding several factors. In the current study, the 15-item sibling warmth scale was used. Sibling warmth/closeness is characterized by prosocial behavior (e.g. cooperation, doing nice things for each), affection (e.g. how much do you care, love each other), companionship (e.g. how much do you go places and do things together), similarity (e.g. how much do you like the same things), intimacy (e.g. how much do you and this sibling tell each other), admiration of sibling (e.g. how much do you admire and respect this sibling), admiration by sibling (e.g. how much does this sibling admire and respect you) (Furman & Burhmester, 1985). Students were instructed to think about their brother or sister when answering the questions regarding sibling warmth and sibling bullying. If they have more than one sibling, they were to think about the one closest in age (Menesini et al., 2010). Students were asked to provide the gender and age of the sibling.

Scoring. Item responses are based on a scale from one to five ("hardly at all" to "extremely much"). The scale score was calculated by averaging the item responses. Furman and Buhrmester (1985) suggest that missing data be identified as a lack of response to at least two items on a scale. Higher sibling warmth/closeness average scores suggest higher levels of warmth/closeness within the relationship.

Reliability/Validity. Through the development of the SRQ and other research studies that have used the SRQ, volumes of data exist demonstrating the validity and reliability of the measure (Furman & Buhrmester, 1985; Buhrmester & Furman, 1990; Derkman, Scholte, Van der Veld, & Engels, 2010; Martinez & Howe, 2013). Measures of internal consistency via Cronbach alpha have been consistently report well above .6 (Buhrmester & Furman, 1990; Derkman et al., 2010; Martinez & Howe, 2013). Specifically, Buhrmester and Furman (1990) found Cronbach alpha values of .71, .79, .77, and .81 across third, sixth, ninth, and twelfth grade students. Studying the psychometric properties of the shortened SRQ, Derkman et al. (2010) found internal consistency for warmth/closeness to be .94. Similarly Martinez and Howe (2013) found internal consistency of the warmth/closeness factor to be .93. Internal consistency of the sibling warmth factor within the present study was .93. Evidence of validity can be found in Derkman et al. (2010). Significant correlations between warmth/closeness and internalizing behavior ($r = -.16$, $p < .05$), externalizing behavior ($r = -.23$, $p < .05$), and relationship with parents ($r = .38$, $p < .05$) were reported which supported their expectations of the existence of a relationship between sibling warmth/closeness and internalizing and externalizing behaviors as well as parental relationships.

Parenting Style

Parenting styles hypothesized to be influential in this study were measured with the adolescent self-report version of the Alabama Parenting Questionnaire (APQ) (Frick, 1991). The original measure reported parenting style as five different factors: parental involvement, positive parenting, poor monitoring, inconsistent discipline, and corporal punishment. The survey consists of 42 items targeting friendly conversations with parents, following through with punishments, rewards for good behavior, telling parents their whereabouts, fun interactions and

activities with parent. The survey has typically been used to study parenting characteristics with respect to behavior of children (Barry et al., 2008; Hinshaw et al., 2000).

Scoring. Respondents recorded their level of agreement with statements via a five point Likert style scale (1 = never to 5 = always). Total scores were obtained by summing the responses.

Reliability/Validity. Included with documentation about the scale, the original author noted reliability across scales of .68 (Frick, 1991), which later individual studies have repeated. However, when looking at the reliability of individual factors, there is evidence that the corporal punishment factor may not be as reliable as other factors as evidenced by poor repeatability (Frick et al.,1999; Shelton et al., 1996) potentially attributable to the low number of questions. Supporting a four-factor structure, Zlomke and colleagues (2015) studied the APQ as a global scale for adolescent reporting using confirmatory factor analysis. Their analysis yielded a four-factor structure that depended on reference to mother or father. With respect to mothers, positive parenting and involvement appeared to combine for one factor while inconsistent discipline and corporal punishment appeared to combine for fathers. With respect to the current study, corporal punishment will not be a factor included in the analysis and therefore those survey items will not be included. The remainder of the scales have shown good repeatability with adolescent and middle childhood populations (Frick et al., 1999). For example, Frick et al. (1999) site reliability results depending on age of respondent and parent that range from .72 to .90 for parental involvement, .76 to .85 for positive parenting, .43 to .72 for poor monitoring (the increase was found after eliminating one question), and .53 and .61 for inconsistent discipline. Excluding corporal punishment, Shelton et al. (1996) found internal consistency to range from .53 to .83. Scale Cronbach alpha from the present study were .90 for involvement, .85 for positive

parenting, .79 for poor monitoring, and .53 for inconsistent discipline which are all consistent with prior research. Parent and adolescent reports of parenting style using the APQ have shown strong associations with conduct problems (Frick et al., 1999). Additionally, when using the APQ to evaluate parenting practices as treatment for classroom behavior problems, Hinshaw et al. (1999) showed that survey responses helped facilitate behavioral change as treatment.

Beliefs About Aggression (Family Acceptance)

A short measure created by Orpinas in 1993 was selected in order to understand the students' belief about parental acceptance of aggressive behavior. The scale was created by Orpinas when studying the effectiveness of a violence reduction program specifically investigating the influence of leaders on the students participating in the intervention. Intended for use with students in grades six through eight, the short survey measures youth perception of adult feelings about the use of aggression (Orpinas, 1993). The scale was then further developed for use on the Students for Peace Project (Orpinas, Maurry, & Kelder, 1999). Current directions ask students "Does your parent tell you these things about fighting?" Statements are then provided and students mark yes or no to each item. The 10 item measure can be divided into two scales (non-aggressive solutions and aggressive solutions) or used in total (Orpinas, 2009). Example statements include "If someone hits you, hit them back," "If someone calls you names, hit them," and "If someone asks you to fight, you should try to talk your way out of a fight."

Scoring. Students responded to statements in a yes or no fashion. Items that support aggressive solutions were scored no = 1 and yes = 0. Non-aggressive items were scored were scored as no = 0 and yes = 1. Higher scores indicated more parental support for non-aggressive solutions.

Reliability/Validity. Orpinas (1993) and Compendium (Hamburger et al., 2011) reported internal consistency of .76 in a sample (*n* = 235) of 11, 12, and 13-year-old students. Orpinas and colleagues (1999) found Cronbach alpha of .81 in a sample (*n* = 8,865) of 6th, 7th, and 8th grade students from a large, urban school district in Texas. Orpinas and colleagues (1999) also found a strong correlation (Pearson's r = .50, p < .001) between students' aggression scores and perceived parental support for fighting. Additionally, mean scores for perception of fighting were higher among students who were involved in aggressive behavior (fighting, injured in a fight, carrying weapons) at school compared to individuals who were not involved. Cronbach alpha found from the data collected within the present study was .77.

Resilience

The Child and Youth Resilience Measure-28 (Ungar & Liebenberg, 2011) was originally created to be used with children, adolescents, and young adults aged nine to 23. The survey measures the resources that the child or adolescent has to support resilience. Confirmatory Factor Analysis has identified three specific subscales. The first subscale identified was an individual subscale reflecting personal skills, peer support, and social skills and is made up of 11 items. Items include "I cooperate with people around me," "I try to finish what I start," "I feel supported by my friends," and "I know how to behave in social situations." The second subscale targets physical and psychological caregiving. This subscale is comprised of seven items including "My parent(s)/caregiver(s) watch me closely," "If I am hungry, there is enough to eat," and "My parent(s)/caregiver(s) know a lot about me." The final subscale reflects contextual items that create a sense of belonging for youth. Items are related to spirituality (3 items), culture (5 items), and education (2 items). Samples items include "Spiritual beliefs are a source of strength for me," "Getting an education is important to me," and "I have people to look up to."

Scoring. The survey is comprised of 28 statements that students responded to relative to a five-point scale (1 = Not at all to 5 = A lot). The individual responses were scored and then summed to create the factors. The survey was created such that a total score can be created and used or individual factors may be utilized. Additionally, a mean score can be calculated and used for later analysis. Included with the survey information from the author was the specific SPSS code required for survey post processing. For the purposes of this study, the total score was used to provide an indication of resilience. The resilience score was used as the moderation term in the moderation analysis to determine if the relationship between bullying involvement and school engagement can be moderated by one's resilience.

Reliability/Validity. Studying at-risk youth in New Zealand, Sanders, Munford, Thimasarn-Anwar, Liebenberg, and Ungar (2015) used the CYRM-28 as their measure of resilience where 55% of the sample was under the age of 15. They reported alpha coefficients of .79, .81, and .74 for individual, relational, and contextual factors, respectively, of resilience. An early validation analysis by Liebenberg, Ungar, and Van de Vijver (2012) supported the structure and reliability of the instrument. Although seven factors with eigenvalues above one emerged initially, the authors noted two break points on the scree plot providing supporting evidence to keep the three-factor structure, which was also consistent with resilience theory. Cronbach alpha for their research at two time points ranged from .65 to .91. For the current study, Cronbach alpha was determined to be .92 for the total scale.

School Engagement

School Engagement Measure (Fredericks, Blumenfeld, Friedel, & Paris, 2005) is a self-report survey used to measure behavioral, emotional, and cognitive engagement at school. The survey is made up of 19 items; five behavioral questions, six emotional questions, and eight

cognitive questions. Behavioral engagement reflects the students' participation in academic, social, and extracurricular activities (Fredericks et al., 2005). Sample items include "I pay attention in class," "I complete my work on time," and "I follow the rules at school." Emotional engagement reflects the student's positive and negative reactions to school and includes reactions to teachers, peers, and academics (Fredericks et al., 2005). Sample items from the six item scale are "I like being at school," "My classroom is a fun place to be," and "I am interested in the work at school." Personal investment in education and the effort and care put into academics reflects the cognitive subscale of the survey (Fredericks et al., 2005). Sample items from the eight items include "I check my schoolwork for mistakes," "I study at home when I don't have a test," "I read extra books to learn more about things we do in school," and "I talk with people outside of school about what I am learning in class."

Scoring. Similar to other measures in the present study, students responded to survey items on a five-point scale (1 = never to 5 = all of the time). Scores were calculated by averaging student responses to the items. Negatively worded items were reverse scored.

Reliability/Validity. Previous research reported internal consistency as ranging between .72 - .77 for behavioral engagement, .83 - .86 for emotional engagement, and between .55 and .82 for cognitive engagement (Fredricks et al., 2011). For the present study, Cronbach alpha for the three factors was determined to be .62 for behavioral engagement, .91 for emotional engagement, and .87 for cognitive engagement. Cronbach alpha for the complete School Engagement Scale was .91. The three-factor structure was identified and confirmed through exploratory factor analysis (Fredricks et al., 2005). Fredricks and colleagues (2005) found that all items loaded onto the theorized factor structure and the factors aligned with hypothesized scales. The authors also found significant correlations that were also directionally expected.

Perceived teacher support (r = .35 to .49), perceived peer support (r = .23 to .41), work orientation (r = .37 to .42), and task challenge (r = .30 to .41) were all significantly related to behavioral, emotional, and cognitive engagement.

Data Analysis

Data was downloaded from Qualtrics in a suitable format (*.csv) for review and was imported into SPSS version 24. A review for missing data was conducted and descriptive statistics of the overall sample were generated and are reported in Table 1.

<u>Preliminary Analysis.</u> Frequency analysis was conducted to document the demographics of the sample using gender, age, grade, ethnicity, number of siblings, age of siblings, and gender of siblings as variables. A 2 x 3 x 3 MANOVA was conducted to determine if the level of victimization and bullying at school vary by grade, gender, and ethnicity. A second, separate 2 x 3 x 3 MANOVA was used to determine if the level of victimization and bullying at home vary by grade, gender, and ethnicity.

<u>Primary Analysis.</u> Data analysis took place following the order of research questions utilizing the statistics as found in Table 2 on the following page. Pearson product moment correlational analysis was utilized to understand strength and directional relationships while hierarchical regression analysis was used in question two and three. Independent variables were selected for regression analysis based on relationships identified in previous research. The comparative strength of these variables was difficult to identify as variations and uses of those constructs (ex. positive parenting vs. lack of conflict) are not consistent within the research base. Therefore, parenting variables were entered into the regression analysis in step 1 (block 1) and sibling variables were entered in step 2 (block2). Moderation analysis was carried out using linear regression analysis. Bullying behavior at home and school were used as predictor variables

of school engagement, and resilience was used as the moderator. Within the analysis bullying

behavior at home and school were entered separately in step 1 of the analysis followed by the

addition of the moderation term (ex. behaviorathome * resilience) in step 2.

Table 2

Research Questions, Hypotheses, and Statistical Procedures

Research Question 1: Does a relationship exist between sibling victimization and bullying involvement at school?

Research Question 1 Hypotheses	Variables	Statistical Analysis
$H_{1,1}$: Individuals that report sibling victimization at home will report victimization at school. $H_{1,2}$: Individuals that report sibling victimization at home will report being a bully at school. $H_{1,3}$: Individuals that report bullying a sibling at home will report being a bully at school. $H_{1,4}$: Individuals that report bullying a sibling at home will report being victim at school.	• Bully at home • Victim at home • Victim at school • Bully at school	Pearson product moment correlation table will be created to understand the strength and direction of the relationship between variables.

Research Question 2: Are sibling related factors and parenting related factors predictive of sibling victimization?

Research Question 2 Hypotheses	Variables	Statistical Analysis
$H_{2,1}$: Parenting related factors will predict sibling victimization.	<u>Dependent Variable</u> • Sibling Victimization <u>Independent Variables</u> • Parental Involvement • Positive Parenting • Poor Monitoring • Inconsistent Discipline • Perceived Parental Acceptance of Aggression	Hierarchical regression analysis will be used for both hypotheses. Parenting factors will be entered into the model in Step 1 followed by sibling variables in Step 2.
$H_{2,2}$: Sibling related factors will add to the prediction of sibling victimization.	<u>Dependent Variable</u> • Sibling Victimization <u>Independent Variables</u> • Sibling Warmth • Number of Siblings • Age of target sibling	

Research Question 3: Is school engagement predicted by victimization at home or bullying activity (bully or victim) at school? Is the relationship moderated by an individual's level of resilience?

Research Question 3 Hypotheses	Variables	Statistical Analyses
$H_{3,1}$: Bullying involvement (both victimization and perpetration at home and school) will predict school engagement.	Dependent Variable • School Engagement Independent Variables • Bully at Home • Victim at Home • Bully at School • Victim at School • Resilience	Regression analysis will be conducted.
$H_{3,2}$: The relations between bullying involvement (Bullying and victimization at school and home) will be moderated by resilience.		Moderation analysis will be conducted using linear regression analysis to determine the effect of resilience on the predictability of school engagement by bullying involvement.

CHAPTER 4 RESULTS

The purpose of the study was to expand upon present knowledge of predictors of sibling victimization and the moderating effect of resilience on the relationship between bullying behavior and school engagement. After initial review of the data set and removing cases for excessive missing responses, the final sample size for analysis consisted of 216 participants. A criterion alpha level of .05 was used to determine significance in all statistical analyses. Table 3 contains descriptive statistics for all study variables.

Table 3
Descriptive Statistics for Study Variables

| | Mean | SD | Actual Range | | Possible Range | |
			Minimum	Maximum	Maximum	Minimum
BullyAtHome	2.85	3.07	.00	12.00	.00	12.00
VictimAtHome	4.08	3.74	.00	12.00	.00	12.00
BullyAtSchool	.29	.66	.00	3.00	.00	6.00
VictimAtSchool	1.19	1.64	.00	6.00	.00	6.00
Involvement	62.03	15.19	20.00	95.00	19.00	95.00
PositiveParenting	22.37	5.59	6.00	30.00	6.00	30.00
PoorMonitoring	20.02	7.07	10.00	46.00	10.00	50.00
InconsistentDiscipline	14.13	4.10	6.00	27.00	6.00	30.00
BAG	7.71	2.16	.00	10.00	.00	10.00
SibWarmth	3.34	.83	1.00	5.00	1.00	5.00
NoSiH	1.72	1.21	.00	7.00		
AgeDiff	3.93	3.07	.00	16.00		
Resilience	111.18	18.06	45.00	140.00	28.00	140.00
TotSE	3.22	.74	1.47	4.89	1.00	5.00

Note. N = 216
Involvement = Parental Involvement PoorMonitoring = Poor Parental Monitoring
InconsistentDiscipline = Inconsistent Parental Discipline; BAG = Beliefs About Parental Acceptance of Aggression; SibWarmth = Sibling Warmth; NoSiH = Number of Siblings Identified as living at home with the respondent; AgeDiff = Absolute Age Difference between respondent and next closest reported sibling; TotSE = Total School Engagement

Preliminary Analysis:

A series of MANOVA analyses were run, initially, to understand gender, grade, and ethnicity differences in bullying behavior at home and at school. The analysis was used to determine if group differences exist in bullying behavior (perpetration or victimization) within a specific setting (home and school). Statistically significant group differences identified would need to be controlled for during applicable analyses.

MANOVA 1. A 2 X 3 X 3 MANOVA was run with gender (male or female), grade (sixth, seventh, and eighth), and ethnicity (Caucasian, African American, or Other) as independent variables and *Bully At Home* and *Victim At Home* as dependent variables. Significant main effects were not found for grade (Wilks' λ = .99, F (4/394) = .62, p = .65, partial eta squared = .01), gender (Wilks' λ = 1.00, F (2/197) = .50, p = .61, partial eta squared = .01), or ethnicity (Wilks' λ = .97, F (4/394) = 1.44, p = .22, partial eta squared = .01).

MANOVA 2. A second 2 X 3 X 3 MANOVA was run with gender (male or female), grade (sixth, seventh, or eighth), and ethnicity (Caucasian, African American, or Other) as independent variables and *Bully At School* and *Victim At School* as dependent variables. Group differences were identified in grade, gender, and ethnicity. A significant main effect was found for grade, Wilks' λ = .92, F (4/394) = 4.20, p < .01, partial eta squared = .04. A significant main effect was found for gender, Wilks' λ = .96, F (2/197) = 4.69, p < .05, partial eta squared = .05. A significant main effect was also found for ethnicity, Wilks' λ = .95, F (4/394) = 2.81, p < .05, partial eta squared = .03. However, the analysis failed Levene's Test of Equality of Variances for the *Bully At School* variable, F (17/198) = 6.75, p < .001 suggesting unequal variances between the *Bully At School* groups. Given the significance of the overall tests and the necessity to examine the between subjects effects, analyses were re-run in order to utilize Tamhane's test for

unequal variances. Reviewing the results, significant between-subjects effects were identified for grade, gender, and ethnicity. Significant univariate main effects for grade were obtained for *Bully At School*, F (2/213) = 3.00, p < .05, partial eta squared = .03. Despite the univariate significance, none of the pairwise comparisons were statistically significant. Significant univariate main effects for gender were obtained for Bully At School, F (1/214) = 7.21, p < .01, partial eta squared = .03. At school, male students reported higher bullying behavior (m = .41) compared to female (m = .18) students. Despite the obtained significant multivariate main effect for ethnicity, a significant univariate effect was not found. In order to control for variability, grade, gender and ethnicity were entered into regression models using the *Bully At School* and *Victim At School* variables, initially.

A correlation analysis indicated weak but significant relationships between bullying behavior and many of the study variables. Several stronger relationships were identified between involvement (parental) and positive parenting (r = .67, p < .01), involvement (parental) and sibling warmth (r = .47, p < .01), involvement (parental) and resilience (r = .65, p < .01), involvement (parental) and total school engagement (r = .51, p < .01), positive parenting and resilience (r = .60, p < .01), and resilience and total school engagement (r = .63, p < .01). The complete correlation matrix can be found in Table 4.

Table 4

Correlations Among Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. BullyAtHome	--												
2. VictimAtHome	.71**	--											
3. BullyAtSchool	.18***	.16*	--										
4. VictimAtSchool	.28**	.28**	.18***	--									
5. Involvement	-.14*	-.20**	-.17*	-.29**	--								
6. PositiveParenting	-.17*	-.27**	-.16*	-.20**	.67**	--							
7. Monitoring	.29**	.28**	.13	.20**	-.26**	-.27**	--						
8. InconsistentDiscipline	.23**	.23**	.20**	.08	.21**	.16*	-.43**	--					
9. BAG	-.23**	-.12	-.26**	-.07	-.11	-.10	.44**	-.36**	--				
10. NoSiH	.18**	.20**	-.03	-.04	-.01	-.03	.01	.04	.05	--			
11. SibWarmth	-.14*	-.30**	-.11	-.14*	.47**	.43**	-.18**	.03	.14*	.10	--		
12. AgeDiff	-.21**	-.21**	.04	-.01	-.12	-.02	-.02	.07	-.01	-.29**	-.06	--	
13. Resilience	-.15*	-.23**	-.13	-.25**	.65**	.60**	-.36**	-.18**	.33**	.06	.47**	-.11	--
14. TotSe	-.26**	-.26**	-.15*	-.21**	.51**	.44**	-.42**	-.39**	.36**	.06	.28**	-.14*	.63**

*p < .05, ** p < .01

Note. Involvement = Parental Involvement Poor Monitoring = Poor Parental Monitoring Inconsistent Discipline = Inconsistent Parental Discipline; BAG = Beliefs About Parental Acceptance of Aggression; SibWarmth = Sibling Warmth; NoSiH = Number of Siblings Identified as living at home with the respondent; AgeDiff = Absolute Age Difference between respondent and next closest reported sibling; TotSE = Total School Engagement

Research Question 1: Does a relationship exist between sibling victimization and bullying involvement at school?

To answer this question a Pearson Correlation coefficient was computed between the variables *Bully At Home*, *Victim At Home*, *Bully At School*, and *Victim At School*. *Bully At Home* was significantly correlated with *Victim At Home* (r = .71, p < .01), *Bully At School* (r = .18, p < .01), and *Victim At School* (r = .28, p < .01). Additional computed correlation coefficients between *Victim At Home* and *Bully At School* (r = .16, p < .01) and *Victim At School* (r = .28, p < .01) were also significantly correlated. Finally, *Bully At School* was also significantly correlated with *Victim At School* (r = .18, p < .01). In each case, a significant and positive correlation was found substantiating the relationship between at home behavior and at school behavior.

Research Question 2: Are sibling related factors and parenting related factors predictive of sibling victimization?

To answer this question, a hierarchical regression analysis was run with parenting factors in step 1 and adding sibling factors in step 2. At both steps in the model, statistical significance was found. Considering parenting factors, alone, a significant regression equation was found $(F(5, 210) = 6.87, p < .001)$, with an R^2 of .14. Several factors were identified as significant predictors within the regression equation. A negative relationship was identified between Positive Parenting $(\beta = -.21, p < .05)$ and sibling victimization indicating that individuals with higher levels of positive parenting were less likely to report being victimized by a sibling. Secondly, a positive relationship was found between Poor Monitoring $(\beta = .17, p < .05)$ and sibling victimization suggesting that those individuals who reported higher levels of poor monitoring were also likely to report higher levels of sibling victimization. Finally, Inconsistent Discipline $(\beta = .16, p < .05)$ also significantly contributed to the explained variance in sibling

victimization. The positive relationship between inconsistent discipline and sibling victimization suggests that individuals reporting more inconsistent discipline were more likely to report being victimized by a sibling.

Adding sibling factors into the regression analysis with previous parenting factors, a significant regression equation was also found ($F(8,207) = 9.21$, $p < .001$) with an R^2 of .26 and ΔR^2 of .12. Again, several factors were identified as statistically significant predictors within the equation. A positive relationship was identified between Inconsistent Discipline ($\beta = .20$, $p < .01$) and sibling victimization indicating that those reporting higher levels of Inconsistent Discipline were more likely to report higher levels of sibling victimization. Number of Siblings in the Home ($\beta = .16$, $p < .05$) was also identified as a statistically significant predictor with a positive relationship to sibling victimization indicating that individuals with higher number siblings in the home were likely to experience higher sibling victimization. A negative relationship was identified between Age Difference between siblings ($\beta = -.19$, $p < .01$) and sibling victimization suggesting that individuals with smaller age difference between siblings were likely to report more sibling victimization. Finally, Sibling Warmth ($\beta = -.27$, $p < .001$) was also identified as a significant predictor of sibling victimization with a negative relationship. The negative relationship between sibling warmth and sibling victimization suggests that individuals who reported low sibling warmth were more likely to report higher levels of sibling victimization. Parenting variables alone accounted for approximately 14% of the variance in sibling victimization while the addition of sibling factors increased the explained variance to 26%. Table 5 contains these results.

Table 5

Hierarchical Regression Analysis – Predictors of Sibling Victimization

Model	B	SE B	β	t	p
1 (Constant)	3.00	2.08		1.48	.15
Involvement	-.00	.02	-.01	-.15	.88
PositiveParenting	-.14	.06	-.21	-2.43	.02
PoorMonitoring	.09	.04	.17	2.23	.03
InconsistentDiscipline	.14	.07	.16	2.14	.03
BAG	.07	.13	.04	.61	.55
F	6.87				.00
R^2	.14				
2 (Constant)	5.01	2.03		2.47	.02
Involvement	.01	.02	.03	.37	.71
PositiveParenting	-.09	.06	-.13	-1.57	.12
PoorMonitoring	.07	.04	.14	1.90	.06
InconsistentDiscipline	.18	.06	.20	2.89	.00
BAG	.09	.12	.05	.73	.47
NumberOfSiblingsInHome	.48	.20	.16	2.47	.01
AgeDiff	-.24	.08	-.19	-3.05	.00
SibWarmth	-1.22	.32	-.27	-3.88	.00
ΔF	11.40				.00
ΔR^2	.12				
F	9.21				.00
R^2	.26				

As a follow up analysis, the hierarchical regression analysis was run again limiting the participants with an age difference between siblings to four years. Previous research has suggested that sibling age differences beyond four years are not significant risk factors in the sibling relationship. Similar to the previous model, both steps of the regression analysis were significant. Considering parenting factors, alone, a statistically significant regression equation was found to predict victimization at home ($F(5,133) = 7.41$, $p < .001$) with an R^2 of .22. Positive parenting ($\beta = -.32$, $p < .01$) was identified as a significant predictor with a negative relationship to sibling victimization suggesting that individuals with higher positive parenting were less likely

to report sibling victimization. Poor monitoring (β = .25, p < .01) was also identified as a significant predictor of sibling victimization. The positive direction of this relationship indicates that individuals with higher levels of poor monitoring were more likely to report sibling victimization.

Adding sibling factors to the regression analysis with parenting factors, another statistically significant regression equation was found to predict sibling victimization at home (F(8,130) = 6.42, p < .001) with an R^2 of .28 representing a ΔR^2 of .07. Again Positive parenting (β = -.30, p < .01) was identified as a significant predictor with a negative relationship to sibling victimization continuing the idea that individuals with higher positive parenting were less likely to report sibling victimization. Poor Monitoring (β = .22, p < .05) was also identified as a significant predictor with a positive relationship indicating that individuals reporting high levels of poor monitoring were likely to report a high level of sibling victimization. Additionally, Inconsistent Discipline (β = .19, p < .05) was identified as a significant predictor with a positive relationship indicating that individuals reporting higher levels of inconsistency of discipline practices of their parents were likely to report a high level of sibling victimization. Number of siblings in the home (β = .16, p < .05) was also identified as a significant predictor with a positive relationship to sibling victimization indicating that individuals reporting more siblings within the home were likely to report higher sibling victimization. Finally, sibling warmth (β = -.26, p < .01) was also identified as a significant predictor of victimization at home with a negative relationship indicating that individuals who reported more warmth were likely to report less sibling victimization. Limiting the age difference to four years resulted in parenting variables alone accounting for approximately 22% of the variance in sibling victimization while

the addition of sibling factors increased the explained variance to 28%. Table 6 contains these results.

Table 6
Hierarchical Regression Analysis – Predictors of Sibling Victimization with Limited Age Difference to 4 years

	Model	B	Std. Error	β	t	p
1	Constant	3.38	2.40		1.41	.16
	Involvement	-.02	.03	-.08	-.75	.45
	PositiveParenting	-.23	.07	-.32	-3.04	.00
	PoorMonitoring	.13	.05	.25	2.68	.00
	InconsistentDiscipline	.15	.09	.16	1.72	.09
	BAG	.02	.15	.01	.12	.91
	F	7.41				.00
	R^2	.22				
2	(Constant)	4.34	2.51		1.72	.09
	Involvement	.05	.03	.19	1.71	.09
	PositiveParenting	-.21	.07	-.30	-2.93	.00
	PoorMonitoring	.12	.05	.22	2.47	.02
	InconsistentDiscipline	.18	.09	.19	2.10	.04
	BAG	.04	.15	.02	.27	.79
	NumberOfSiblingsInHome	.47	.23	.16	2.08	.04
	AgeDiff4	-.15	.25	-.05	-.62	.54
	SibWarmth	-1.16	.39	-.26	-2.96	.00
	ΔF	3.95				.00
	$ΔR^2$	.07				
	F	6.42				.00
	R^2	.28				

Research Question 3: Is school engagement predicted by victimization at home or bullying activity (bully or victim) at school? Is the relationship moderated by an individual's level of resilience?

To answer this question, multiple linear regression analysis was completed using *Behavior at Home* and *Behavior at School* as predictor variables, Resilience as the moderator, and Total School Engagement as the outcome variable. Despite the difference in constructs

between bullying and victimization, the purpose of the question was to determine the ability to predict school engagement by behaviors at home and school. Therefore, bullying and victimization scores at home were summed to create an *at home* variable while bullying and victimization scores at school were summed to create an *at school* variable. To test for moderation, interaction terms were created with the product of (1) behavior at home and resilience and (2) behavior at school and resilience. Referencing the preliminary analysis noting the variability of grade, gender, and ethnicity in the at home group, grade, gender, and ethnicity were entered into the analysis to understand their relationship with Total School Engagement.

Results of the regression analysis at step one produced a non statistically significant regression equation ($F(3,212) = .1.83$, $p = .14$) suggesting a non significant relationship between grade (sixth, seventh, or eighth) and total school engagement, gender (male or female) and total school engagement, and a non significant relationship between ethnic groups (Caucasian, African American, or Other) and total school engagement. At step two a statistically significant equation was found to predict school engagement ($F(5,210) = 2.93$), $p < .001$) with an R^2 of .12. Grade ($\beta = -.14$, $p < .03$) was identified as a significant, negative predictor of school engagement. Behavior at Home ($\beta = -.22$, $p < .001$) was identified as a significant, negative predictor of school engagement. Behavior at School ($\beta = -.17$, $p < .05$) was also identified as a significant, negative predictor of school engagement. At step three resilience and the moderation terms were added to the analysis. A statistically significant regression equation was found at step three to predict school engagement ($F(8,207) = 19.55$, $p < .001$) with and R^2 of .43 representing a $\Delta R^2 = .31$. At step three, a single, significant factor was identified as a predictor of school engagement: resilience ($\beta = .68$, $p < .001$). However, the moderation terms were not significant suggesting that resilience did not moderate the relationship between behavior at home or school

and school engagement. The model explained approximately 43% of the variance. Table 7
contains these results.

Table 7
Hierarchical Regression Analysis – Moderating Effect of Resilience on Bullying to Predict
School Engagement

Model		B	Std. Error	β	t	p
1	(Constant)	3.55	.15		23.77	.00
	Grade	-.12	.06	-.13	-1.89	.06
	Gender	-.09	.10	-.06	-.86	.39
	Ethnicity	-.02	.03	-.06	-.91	.36
	F	1.83				.14
	R^2	.03				
2	(Constant)	3.81	.15		25.04	.00
	Grade	-.13	.06	-.14	-2.15	.03
	Gender	-.03	.10	-.02	-.32	.75
	Ethnicity	-.02	.03	-.06	-.85	.40
	BehaviorAtHome	-.03	.01	-.22	-3.20	.00
	BehaviorAtSchool	-.07	.03	-.17	-2.42	.02
	ΔF	11.83				.00
	ΔR^2	.10				
	F	5.94				.00
	R^2	.12				
3	(Constant)	.44	.44		.99	.32
	Grade	-.07	.05	-.07	-1.36	.18
	Gender	-.01	.08	.00	-.07	.94
	Ethnicity	-.02	.02	-.06	-1.06	.29
	BehaviorAtSchool	.10	.13	.26	.78	.44
	BehaviorAtHome	.02	.04	.20	.57	.57
	Resilience	.03	.00	.68	7.85	.00
	BehaviorAtSchool*Resilience	.00	.00	-.29	-.89	.37
	BehaviorAtHome*Resilience	.00	.00	-.33	-.98	.33
	ΔF	37.13				.00
	ΔR^2	.31				
	F	19.55				.00
	R^2	.43				

CHAPTER 5 DISCUSSION

The study of bullying behavior among children and adolescents is important because of identified links between experiences of bullying at younger ages and the relationship to later life outcomes such as emotional distress, relationship issues, arrests, and other risk taking behaviors (Green et al., 2013, Wolke & Samara, 2004). Despite the volume of research supporting various interventions and educational materials, children continue to perpetrate and experience bullying amongst their peers. Social cognitive learning and bioecological models present the framework of bullying that has been widely accepted amongst researchers. Despite these common perspectives and volumes of research, research on the sibling relationships and their link to bullying appeared to be less prevalent in the current literature. The purpose of the present research was to examine the existence of a relationship between bullying behavior at home and school, understand parenting and sibling level factors that may predict victimization between siblings, and determine the moderating ability of resilience within the relationship between bullying and engagement at school.

Relationship Between Bullying and Victimization at Home and School

A foundational element of the present research was that bullying behavior may be learned at home which aligns with social cognitive learning and bioecological models of bullying. Thus, the initial analysis that took place within the present research was to determine the presence of a relationship between bullying behavior at home and bullying behavior at school as perpetration (bullying) or victimization. From the analysis, positive correlations ranging from .71 to .16 were found between reports of bullying and victimization at home and school suggesting a higher presence of one behavior related to higher presence of another. The correlation between being a *Bully At School* and *Victim At Home* was .16, thus approximately 3% of the variance in *Bully At*

School could be explained by *Victim At Home*. Despite several weak relationships, a single, larger correlation was found between *Bully At Home* and *Victim At Home* (r = .71, r^2 = .50). The significant correlations support the hypothesis that a relationship does exist and the behavior may be generalized from the home to school setting or vice versa. Generally, results from the research suggest that a relationship is present between at home bullying or victimization and at school bullying or victimization but are also related to other variables outside of those directly considered in the correlation.

Despite the low value of the correlation coefficients, directionally present research findings are consistent with previous research. For example, Menesini and colleagues (2010) found positive, yet stronger, correlations between Sibling Bullying, Sibling Victimization, School Bullying, and School Victimization. Menesini and colleagues' (2010) sample size was approximately equivalent in size (n = 195) with a similar reported age range: 10 - 12 years old compared to 11 to 13. However, they limited their analysis to those individuals with sibling spacing less than four years. The present research included this restriction but limited it to the predictive analyses.

More recently, Sapouna and Wolke (2013) published correlational results of low sibling victimization and bullying victimization at school with similar strength as the present study but different direction. Due to Sapouna and Wolke's (2013) survey and naming convention, the relationship appears different; a negative relationship was identified between low sibling victimization and bullying victimization at school. However, consistency does exist within the relationships between their (Sapouna & Wolke, 2013) study and the present study: more victimization at school was related to more victimization at home. Differences between the present study and theirs can be found in participants as their sample was larger by a factor of

63

approximately 15 and Sapouna and Wolke's (2013) study was a longitudinal study so a single cohort was assessed. Despite the noted differences, the consistency of the correlational relationship may give confidence in the ability to generalize to the larger population.

Predicting Sibling Victimization

In the current study it was expected that parenting factors would predict sibling victimization and sibling factors would then add to the prediction. Parenting factors included in the study were parental involvement, positive parenting, poor monitoring, inconsistent discipline, and perceived parental acceptance of aggression. Sibling factors included in the study were sibling warmth, number of siblings reported within the home, and age difference between identified sibling and the participant. The results of the regression analysis showed that parenting factors were able to predict sibling victimization ($R^2 = .14$). Specific predicting factors were positive parenting ($\beta = -.21$), poor monitoring ($\beta = .17$), and inconsistent discipline ($\beta = .16$). Including sibling factors in the analysis also added to the prediction as well ($R^2 = .26$, $\Delta R^2 = .12$). The combination of parenting and sibling factors identified a single, significant parent factor (inconsistent discipline, $\beta = .20$) and sibling factors of sibling warmth ($\beta = -.27$), age difference between siblings ($\beta = -.19$), and the number of siblings reported within the home ($\beta = .16$), which explained 26% of the variance within sibling victimization.

Prior research has identified positive aspects of positive parenting to nurture child characteristics not related to bullying. Children with positive and supportive parents have been found to hold feelings of competence compared to maladaptive attitudes (Ardelt & Day, 2002). Parents who use more positive parenting styles (McDonald et al., 2013) have been found to raise children who demonstrate more adaptive behaviors. Present research found a negative, predictive relationship between positive parenting and sibling victimization suggesting individuals whose

reports of parenting did not favor a positive parenting style also reported higher levels of sibling victimization.

Previous, school based research has found that bullying frequently occurs when adults are not around (Craig & Pepler, 1997). This observation appears to translate to the home setting as well. Skinner and Kowalski (2013) found that about half of perpetrators and 40% of victims noted the presence of an adult during the bullying. Holt and colleagues (2009) found that parent participants in their research recognized the short-comings in monitoring their children. Participants that reported lack of supervision were consistent with participant that also reported having children that bullied others (Holt et. al., 2009). The present research found a positive, predictive relationship between poor monitoring and sibling victimization suggesting that siblings who are not monitored well report higher levels of victimization which builds on Ardelt and Day's (2002) finding that adult supervision was related to adolescent deviant behavior.

Discipline practices have also been identified as important parenting practices in previous research. Espelage and colleagues (2000) found that the practice of physical discipline by a parent was predictive of higher levels of bullying behavior. The discipline practice was characterized as sometimes or more frequently in response to breaking a rule at home. Ardelt and Day (2002) found that discipline consistency related negatively to adolescent deviant behavior. The present research finding that sibling victimization can be predicted by inconsistent discipline practices adds to the research base by using information learned from previous research and applying it to sibling victimization.

Sibling factors of sibling warmth ($\beta = -.27$), age difference ($\beta = -.19$), and the number of siblings within the home ($\beta = .16$) added to the prediction of sibling victimization ($R^2 = .26$, $\Delta R^2 = .12$). Bowes and colleagues (2010) found that sibling warmth could serve as a protective factor

beyond the effect of maternal warmth demonstrating the need to include the sibling relationship in bullying research. The participants in the present study reported an average of 1.72 siblings living in their homes with an average age difference of 3.93 years. Of those, approximately 55% of the participants were younger siblings and being the younger sibling may be indicative of the presence of a power imbalance between siblings. Negative relationships between sibling warmth, age difference and sibling victimization suggest that a sibling relationship with more warmth was more likely to include less victimization and larger age difference was more likely to include sibling relationships with less victimization. Buist and colleagues (2013) found that more sibling warmth was related to less internalizing and externalizing behaviors while also noting that conflicts between siblings closer in age were strongly associated with internalizing problems. Additionally, number of siblings in the home was positively related to sibling victimization, therefore, adding to the research base as research appeared limited that specifically examined the number of siblings and sibling victimization. However, previous research does support the idea that more siblings are related to emotional distress (Kidwell, 1981; Marjorbanks, 1989; Yucel, 2014). The relationship between siblings, including the balance between conflict and warmth and spacing appears an important predictor of victimization between siblings.

Prior research (Crowne et al., 2011; Menesini et al., 2010; Yucel, 2014) has suggested limiting the age difference to a four-year age gap between siblings because of different relationship dynamics that may occur beyond the four-year spacing. As such, limiting the age difference of siblings to four years was also included in the predictive analysis. Using the same parenting and sibling factors, regression equations were again statistically significant with the combination of parenting and sibling factors explaining approximately 28% of the variance of sibling victimization, which was approximately equivalent to the explained variance obtained

when not limiting age difference. Among the predictors positive parenting ($\beta = -.30$), poor monitoring ($\beta = .22$), inconsistent discipline ($\beta = .19$), number of siblings within the home ($\beta = .16$), and sibling warmth ($\beta = -.26$) emerged as significant predictors of sibling victimization. A noted difference when limiting age was the relative importance of each factor within the prediction: positive parenting, sibling warmth, poor monitoring, inconsistent discipline, and finally number of siblings. This finding appears consistent with the resource dilution model (Marjoribanks, 1989), suggesting that more siblings with a small spacing may compromise parenting practices, which may result in higher conflict among siblings. Supporting this finding is research identifying neglectful parenting among mothers who have rapid repeat births (Crowne et. al., 2011) and parents of siblings close in age that may sanction physical aggression through nonintervention which was related to sibling warmth and high levels of conflict (Tucker & Kazura, 2013).

Included as a factor to grow the research knowledgebase on sibling victimization and potential learning of behavior, beliefs about parental acceptance of aggression was included in the prediction of sibling victimization. However, the results did not find parental acceptance of aggression as a significant predictor. Although prior research demonstrated a positive correlation between parent and adolescent beliefs about fighting (Solomon et al., 2008), this belief did not appear to translate to the prediction of sibling victimization. This finding suggests that children may not be explicitly told to be aggressive but learn aggression through other forms of learning such as observational learning.

Bullying and School Engagement

Based on recent survey data of children in schools, bullying continues to be reported at a rate of approximately 20% (CDC, 2015) despite the plethora of research on bullying and

interventions based on the findings of research. In addition, studies focusing on sibling bullying have found rates of involvement ranging from 50 – 80% of siblings reporting bullying involvement (Wolke & Skew, 2012; Wolke et al., 2015). At school, a negative association between engagement and bullying has been identified (Buhs, Ladd, & Herald-Brown, 2010; Li, Lynch, Kalvin, Liu, Lerner, 2011) suggesting that more bullying is related to lower engagement. Results from the present study suggest that school engagement may be predicted (R^2 = .12) by involvement in bullying behavior at home (β = -.22) and school (β = -.17). While cause may not be determined from the study data, the ability to predict school engagement from bullying behavior at home and school may be useful to educators, parents, and clinicians working with children. The presence of a negative relationship was identified between bullying involvement at home and school engagement suggesting that those individuals with higher involvement, as a perpetrator or victim, at home were less likely to be engaged at school. Likewise, a negative relationship was identified between bullying involvement at school and school engagement suggesting that those individuals, too, may be less engaged at school when involvement with bullying is high. Low school engagement may help with identification of kids who are struggling and may suffer from the adverse consequences of bullying including behavior problems (Wolke & Samara, 2004), levels of stress, emotional distress (Logan-Greene et al., 2013), and suicidal ideation (Gianluca & Espelage, 2014).

Moderating Effect of Resilience

Finally, the current study attempted to understand the moderating effect of resilience on the relationship between bullying behavior at home and/or school and school engagement. Previous research has found that resilience may serve as a protective factor for kids who experience bullying (Gianluca & Espelage, 2014; Lenzi et al., 2015; Sapouna & Wolke, 2013).

Prior research has also identified resilience as a product of several familial factors including sibling warmth and a positive home environment (Bowes et al., 2010). Resilience did not appear as a significant moderator of the relationship between school engagement and bullying behavior. However, resilience did arise as a significant predictor (β = .68) of school engagement (R^2 = .43). Although, resilience was not identified to moderate the relationship between school engagement and bullying involvement at home or school, the finding does highlight and support the movement towards building resilience skills amongst children in order to improve or maintain school engagement.

Limitations, Future Research, and Applications of Results

Inherent in any research are limitations that need to be considered when reviewing the data. Not unlike any other research projects, the current study has several limitations to be considered. The study was limited to a single, charter school with limited ethnic diversity. Although reported participation in reduced price lunch was split and typically deemed representative of economic status, the charter school represented a small sample within a much larger population. Generalization to other ethnicities, economic status, and areas of the country may be limited by factors specific to the area and sample that participated in the study. Additionally, the frequency of bullying/victimization occurrences were not included in the analysis and the low rates of occurrence inherent in bullying data may have influenced the statistical analysis.

The study was also limited to a single perspective, that of the participant. A self-report style survey utilized in the present research may be subject to caution due to the respondents' developmental stage, which includes age appropriate concerns in responding such as honesty, consistency, and attention in reporting. While information gleaned from the study provides an

important view of parent and sibling relationships from the participant's perspective, understanding the difference in perceived behavior by having the ability to compare parent-child and sibling-sibling perspectives may be beneficial to include to further the understanding of the interaction between family members.

Including the perspectives of parents and siblings overlaps with another limitation, consider including family systems theory into the theoretical discussion of bullying. The present study examined several characteristics of a family system, however, only through a single perspective. As such, future research may include structured and unstructured observations of family combinations (parent-child, sibling-sibling) executing specific play-based or project based tasks.

Finally, the differentiation between sibling rivalry and bullying may also be considered a limit of the study and a direction for future research. Sibling rivalry can be defined as competition between siblings for some gain, love, or recognition from one or both parents (Leung & Robson, 1991). The University of Michigan, CS Mott Children's Hospital (2018) provides a similar definition but uses jealousy, competition, and fighting between siblings and includes self-identification as part of the explanation for the rivalry. Excluded from the definition appears to be frequency and specific types of behaviors as outlined and included in bullying research. Future research studying the difference between sibling rivalry and sibling bullying may include the frequency and severity components as well as the experience of the individuals to establish a comparison between rivalry and bullying.

Despite the limitations, knowledge gained from the study may be applicable in multiple settings. The most general application of the results would be to use the information to inform intervention targeting the identified predictors as well as building resilience. The information

may be used to add and supplement educational materials for parents as well as educators. Supervision and consistency may be direct points of intervention for parents hoping to change the behavior of their children. Informing parents and educators about relationships between behavior at home and school and predictors of victimization may change a parenting practice and/or change a teacher response to behavioral situations that may arise in the school setting. Finally, considering sibling behavior may change the treatment approach from individual to familial for an adolescent who is struggling. While age difference and the quantity of siblings present may be out of the adolescent's control, developing a warm relationship with their sibling may be something that can be fostered as part of treatment.

APPENDIX A

**WAYNE STATE
UNIVERSITY**

IRB Administration Office
87 East Canfield, Second Floor
Detroit, Michigan 48201
Phone: (313) 577-1628
FAX: (313) 993-7122
http://irb.wayne.edu

NOTICE OF EXPEDITED APPROVAL

To: Seth Roseman
College of Education

From: Dr. Deborah Ellis or designee _D Ellis/cm_
Chairperson, Behavioral Institutional Review Board (B3)

Date: August 01, 2017

RE: IRB #:   053017B3E

Protocol Title: Bullying Behavior and Associated School Engagement

Funding Source:

Protocol #:   1705000570

Expiration Date: July 31, 2020

Risk Level / Category: 45 CFR 46.404 - Research not involving greater than minimal risk

The above-referenced protocol and items listed below (if applicable) were **APPROVED** following *Expedited Review* Category (#7)* by the Chairperson/designee *for* the Wayne State University Institutional Review Board (B3) for the period of 08/01/2017 through 07/31/2020. This approval does not replace any departmental or other approvals that may be required.

- Revised Protocol Summary Form (received in the IRB office 07/25/2017)
- Revised Dissertation Proposal dated 5/9/2017 (received in the IRB office 07/25/2017)
- Medical records are not being accessed therefore HIPAA does not apply
- A waiver of consent has been granted according to 45CFR 46 116(d). This waiver satisfies: 1) risk is no more than minimal, 2) the waiver does not adversely affect the rights and welfare of research participants, 3) the research could not be practicably carried out without the waiver, and 4) providing participants additional pertinent information after participation is not appropriate.
- Administrative Script
- Parental Supplement Information Letter with "Decline to Participate" Option (revision dated 7/21/2017)
- Adolescent Assent Form - Ages 13-17 (revision dated 7/21/2017)
- Child Assent Script - Ages 7-12 (revision dated 7/21/2017)
- Data Collection Tool: (I) Dissertation Survey (dated 7/8/2017)

° Federal regulations require that all research be reviewed at least annually. You *may* receive a *"Continuation Renewal Reminder"* approximately two months prior to the expiration date; however, it is the Principal Investigator's responsibility to obtain review and continued approval **before** the expiration date. Data collected during a period of lapsed approval is unapproved research and can never be reported or published as research data.

° All changes or amendments to the above-referenced protocol require review and approval by the IRB **BEFORE** implementation.

° Adverse Reactions/Unexpected Events (AR/UE) must be submitted on the appropriate form within the timeframe specified in the IRB Administration Office Policy (http://www.irb.wayne.edu//policies-human-research.php).

NOTE:

1. Upon notification of an impending regulatory site visit, hold notification, and/or external audit the IRB Administration Office must be contacted immediately.
2. Forms should be downloaded from the IRB website at **each** use.

*Based on the Expedited Review List, revised November 1998

APPENDIX B
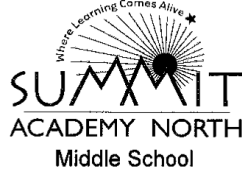
SU/\/\IT
ACADEMY NORTH
Middle School
18601 Middlebelt, Romulus, MI 48174
734-955-1712 Phone 734-955-1729 Fax

March 27, 2017

Seth Roseman
Doctoral Candidate, Wayne State University
4563 Valleyview Drive
West Bloomfield, MI 48323

Dear Seth Roseman,

Please use this letter as confirmation of our participation in your study. This confirms that I have agreed to allow you to collect data from students at Summit Academy North Middle School regarding factors related to bullying.

I understand that participating students will complete a survey questionnaire that will ask students about bullying at home and school, parenting practices, sibling relationships, school engagement, and resilience. I understand that the survey is projected to require approximately 30 minutes of class time. I also understand that students and families will have the opportunity to decline or opt out of participation at any time.

Alicia Jenkins
Alicia Jenkins
Principal
Summit Academy North Middle School

APPENDIX C

Bullying Behavior and Associated School Engagement

Parent Supplemental Information Letter with "Decline to Participate" Option
Title of Study: *Bullying Behavior and Associated School Engagement*
Research's Name – *Seth Roseman, MA*

Purpose
You are being asked to allow your child to be in a research study at their school that is being conducted by Seth Roseman from the College of Education from Wayne State University to learn about and identify specific parental and sibling predictors that protect students from or place them at risk for bullying involvement. Your child has been selected because he or she attends Summit Academy North Middle School and is in grades 6, 7, or 8. The estimated number of participants in this study is 400.

Study Procedures
If you decide to allow your child to take part in the study, your child will be asked to complete a survey questionnaire regarding bullying at home and school, parenting style and practices, sibling relationships (if any), school engagement, and resilience.
- Students will be completing the survey in their Social Studies classes and the expected time of completion is approximately 35 minutes.
- The students will have the option to withdraw from participation at any time.
- If parents wish to review the survey materials, they may do so by contacting the principal investigator, Seth Roseman.

Benefits
There may be no direct benefits for your child; however, information from this study may benefit other people now or in the future.

Risks
Your child could be upset or tired while answering questionnaires. Your child may skip any items he or she does not wish to answer.

Costs
There are no costs to you or your child to participate in this study.

Compensation
For taking part in this research study, your child will receive a "jeans day" pass from the participating school which will allow them to dress in jeans for a single school day.

Confidentiality
All information collected about your child during the course of this study will be kept without any identifiers. Therefore, the data are completely anonymous and there is no way to trace a survey or response back to a specific student.

Voluntary Participation /Withdrawal:
Your child's participation in this study is voluntary. He/she may withdraw at any time. You are free to withdraw your child at any time. Your decision about enrolling your child in the study will not change any present or future relationships with Wayne State University or its affiliates, your child's school, your child's teacher, your child's grades or other services you or your child are entitled to receive.

APPENDIX C

Bullying Behavior and Associated School Engagement

Questions

If you have any questions about this study now or in the future, you may contact Seth Roseman at the following phone number (248) 767-4545. If you have questions or concerns about your rights as a research participant, the Chair of the Institutional Review Board can be contacted at (313) 577-1628. If you are unable to contact the research staff, or if you want to talk to someone other than the research staff, you may also call the Wayne State Research Subject Advocate at (313) 577-1628 to discuss problems, obtain information, or offer input. You may email me at seth.roseman@wayne.edu if you would like to request copies of the instruments.

Participation

If you do not contact the principal investigator (PI) or return the attached form within a 2-week period, to state that you do not give permission for your child to be in the study, your child will be enrolled into the study. You may contact the PI via:
Email: seth.roseman@wayne.edu
Phone: (248) 767 – 4545
Address: 18601 Middlebelt Road, Romulus, MI

APPENDIX C

Bullying Behavior and Associated School Engagement

If you do not wish to have your child participate in the study, you may also fill out the form below and return it to Summit Academy North Middle School, located at 18601 Middlebelt Road, Romulus, MI.

I do not allow my child _____to participate in this research study.
    Name

_____
Printed Name of Parent

_____   _____
Signature of Parent   Date

APPENDIX D

Administration Script

Good morning/afternoon class,

My name is Seth Roseman and I am doctoral student at Wayne State University.

Today you will have the opportunity to participate in a research study about how different factors such as your relationship with your parents, brothers, and sisters, involvement at school, and your ability to adjust to challenging situations are related to bullying and victimization. If you choose to participate, you will fill out some questions on the computer, which should only take about 35 minutes. This will be the only time you will be asked to complete the survey. For completion of the survey, you will receive a "jeans" pass allowing you to wear jeans on a day of your choice.

A form was mailed home to your parents and/or guardians that explained the study as well. Your parents have had the opportunity to ask that you not participate in the study. You do not have to complete the study if you don't want to. You can also stop at any time. Your completion of the study will not affect anything here at school, like your grade.

A link has been posted on the school website titled "Bullying Behavior and Associated School Engagement." If you want to participate, please open this link and enter the code on the provided notecard. The first question asks for your agreement to participate in the study. Keep your eyes on your own device (ex. computer, iPad, iPhone). Remember, this is not a test and your responses will not impact your grades at school. It is, however, important that you respond to all questions honestly. The study is completely anonymous, so no one will ever know what answers you gave.

Please raise your hand if you need help at any time. When you are finished, please return the notecard and you may complete your regular school work.

It is important that you do not discuss the study or your answers with any staff members or other students. If you have any questions, please tell an adult at school.

Thank you.

APPENDIX E

Bullying Behavior and Associated School Engagement

Child Assent Script
(ages 7 - 12)

Title: Bullying Behavior and Associated School Engagement

Study Investigator: Seth Roseman

This is a research study. Only people who choose to take part are included in research studies. You are being asked to take part in this study because you are attending Summit Academy North Middle School and are in grades six, seven, or eight. Please ask questions about anything you do not understand.

This study is being done to learn more about your thoughts and feelings related to family, school, and bullying. If you decide to take part in this study, you will be asked to fill out a survey online. You will be in the study for about 20 – 30 minutes.

This study may not help you right away but knowledge from this study may help other people in the future. You may become upset or tired when answering questions and you can skip any question you do not want to answer. If you become upset, adults will be available to talk to. For taking part in this research study, you will receive a "jeans" pass.

A letter was sent to your parents or guardians about this study. Your parents were given the option to have you not participate. If you participate, the surveys are completely anonymous and no one will ever know what answers you give.

You do not have to be in this study if you do not want to. You do not have to answer any questions you do not want to. If you do not want to participate, please do not open the survey. If you start the survey but change your mind, simply stop answering questions and close the survey. No one will be angry if you choose not to participate or stop answering questions.

For questions about the study please call Seth Roseman at (248) 767 - 4545. If you have questions or concerns about your rights as a research participant, the Chair of the Institutional Review Board can be contacted at (313) 577-1628.

By completing the survey, you are agreeing to participate in the study.

APPENDIX E

Bullying Behavior and Associated School Engagement

Adolescent Assent Form
(ages 13-17)

Title: Bullying Behavior and Associated School Engagement

Study Investigator: Seth Roseman

Why am I here?
This is a research study. Only people who choose to take part are included in research studies. You are being asked to take part in this study because are attending Summit Academy North Middle School and are grades six, seven, or eight. Please take time to make your decision. Please ask questions about anything you do not understand.

Why are they doing this study?
We are doing this study to learn about middle schoolers' thoughts, feelings, and issues related to family, school, and bullying.

What will happen to me?
You could become upset or tired when answering questions and you can skip any question that you do not want to answer.

How long will I be in the study?
You will be in the study for this one-time survey. The survey is expected to last approximately 35 minutes.

Will the study help me?
You may not benefit from being in this study; however information from this study may help other people in the future.

Will anything bad happen to me?
You could become upset or tired when answering questions and you can skip any question that you do not want to answer.

Will I get paid to be in the study?
For taking part in this research study, you will receive a "jeans" pass.

Do my parents or guardians know about this? (If applicable)
This study information has been given to your parents/guardian and they were given the opportunity to decline participation.

What about confidentiality?
The study is completely anonymous, your responses cannot be connected to you. You have been emailed an anonymous link to a web based survey. Your responses will be recorded completely anonymously.

APPENDIX E

Bullying Behavior and Associated School Engagement

What if I have any questions?
For questions about the study please call Seth Roseman at (248) 767 - 4545. If you have questions or concerns about your rights as a research participant, the Chair of the Institutional Review Board can be contacted at (313) 577-1628.

Do I have to be in the study?
You don't have to be in this study if you don't want to or you can stop being in the study at any time. No one will be angry if you decide to stop being in the study. By completing the questionnaires, I am agreeing to participate in the study.

APPENDIX F

Bullying/Victimization at Home

How often does your brother or sister do any of the following to you at home?

	Never	Not Much (1-3 Times in the last 6 months)	Quite a Lot (more than 4 times in the last 6 months)	A Lot (a few times every week)
Hit, kick, or push you				
Take your belongings				
Call you nasty names				
Make fun of you				

How often do you do any of the following to the same sibling closest in age to you?

	Never	Not Much (1-3 Times in the last 6 months)	Quite a Lot (more than 4 times in the last 6 months)	A Lot (a few times every week)
Hit, kick, or push you				
Take your belongings				
Call you nasty names				
Make fun of you				

Bully/Victimization at School

	Never	Not Much (1-3 times in the last 6 months)	Quite a Lot (more than 4 times in the last 6 months)	A Lot (a few times every week)
How often do you get physically bullied at school, for example getting pushed around, hit, or threatened or having belongings stolen?				
How often do you get bullied in other ways at school such as getting called names, getting left out of games, or having nasty stories spread about you on purpose?				
How often do you physically bully at school, for example pushing others around, hitting, threatening, or stealing their belongings?				
How often do you bully in other ways at school such as calling names, leaving others out, or spreading nasty stories about others on purpose?				

Sibling Warmth

	Hardly at all	Not too much	Somewhat	Very Much	Extremely Much
Some siblings do nice things for each other a lot, while other siblings do nice things for each other a little. How much do both you and this sibling do nice things for each other?					
Some siblings care about each other a lot while other siblings don't care about each other that much. How much do you and this sibling care about each other?					
How much do you and this sibling go places and do things together?					
How much do you and this sibling like the same things?					
How much do you and this sibling tell each other everything?					
How much do you admire and respect this sibling?					
How much does this sibling admire and respect you?					
Some siblings cooperate a lot, while other siblings cooperate a little. How much do you and this sibling cooperate with other?					
How much do you and this sibling love each other?					
Some siblings play around and have fun with each other a lot, while other siblings play around and have fun with each other a little. How much do you and this sibling play around and have fun with each other?					
How much do you and this sibling have in common?					
How much do you and this sibling share secrets and private feelings?					
How much do you look up to and feel proud of this sibling?					
How much does this sibling look up to and feel proud of you?					
How much do both you and your sibling share with each other?					

Parenting

The following are a number of statements about your family. Please rate each item as to how often it TYPICALLY occurs in your home. The possible answers are Never, Almost Never, Sometimes, Often, Always. If your mom or dad is not currently living with you, think about your guardian.

	Never	Almost Never	Sometimes	Often	Always
Involvement					
1. You have a friendly talk with your mother.	O	O	O	O	O
1a. How about your dad?	O	O	O	O	O
4. Your mom helps with some of your special activities (such as sports, boy/girl scouts, church youth groups).	O	O	O	O	O
4a. How about your dad?	O	O	O	O	O
7. You play games or do other fun things with your mom.	O	O	O	O	O
7a. How about your dad?	O	O	O	O	O
9. Your mom asks you about your day in school.	O	O	O	O	O
9a. How about your dad?	O	O	O	O	O
11. Your mom helps you with your homework.	O	O	O	O	O
11a. How about your dad?	O	O	O	O	O
14. Your mom asks you what your plans are for the coming day.	O	O	O	O	O
14a. How about your dad?	O	O	O	O	O
15. Your mom drives you to a special activity.	O	O	O	O	O
15a. How about your dad?	O	O	O	O	O
20. Your mom talks to you about your friends.	O	O	O	O	O
20a. How about your dad?	O	O	O	O	O
23. You help plan family activities.	O	O	O	O	O
26. Your mom goes to a meeting at school, like a PTA meeting or parent/teacher conference.	O	O	O	O	O
26a. How about your dad?	O	O	O	O	O
Positive Parenting					
2. Your parents tell you that you are doing a good job.	O	O	O	O	O
5. Your parents reward or give something extra to you for behaving well.	O	O	O	O	O
13. Your parents compliment you when you have done something well.	O	O	O	O	O
16. Your parents praise you for behaving well.	O	O	O	O	O
18. Your parents hug or kiss you when you have done something well.	O	O	O	O	O
27. Your parents tell you that they like it when you help out around the house.	O	O	O	O	O
Poor Monitoring					
6. You fail to leave a note or let your parents know where you are going.	O	O	O	O	O
10. You stay out in the evening past the time you are supposed to be home.	O	O	O	O	O
17. Your parents do not know the friends you are with.	O	O	O	O	O
19. You go out without a set time to be home.	O	O	O	O	O
21. You go out after dark without an adult with you.	O	O	O	O	O
24. Your parents get so busy that they forget where you are and what you are doing.	O	O	O	O	O
28. You stay out later than you are supposed to and your parents don't know it.	O	O	O	O	O
29. Your parents leave the house and don't tell you where they are going.	O	O	O	O	O
30. You come home from school more than an hour past the time your parents expect you to be home.	O	O	O	O	O
32. You are at home without an adult being with you.	O	O	O	O	O
Inconsistent Discipline					
3. Your parents threaten to punish you and then do not do it.	O	O	O	O	O
8. You talk your parents out of punishing you after you have done something wrong.	O	O	O	O	O
12. Your parents give up trying to get you to obey them because it's too much trouble.	O	O	O	O	O
22. Your parents let you out of a punishment early (like lift restrictions earlier than they originally said).	O	O	O	O	O
25. Your parents do not punish you when you have done something wrong.	O	O	O	O	O
31. The punishment your parents give depends on their mood.	O	O	O	O	O

Beliefs About Aggression

For the following questions:
Does your parent (or guardian) tell you these things about fighting?

	Yes	No

If someone hits you, hit them back.

If someone calls you names, hit them.

If someone calls you names, call them names back.

If someone calls you names, ignore them.

If someone asks you to fight, hit them first.

If someone asks you to fight, you should try to talk your way out of a fight.

You should think the problem through, calm yourself, and then talk the problem out with your friend.

If another student asks you to fight, you should tell a teacher or someone older.

If you can't solve the problem by talking, it is best to solve it through fighting.

No matter what, fighting is not good; there are other ways to solve problems.

Resilience

Listed below are a number of questions about you, your family, your community, and your relationships with people. These questions are designed to help us better understand how you cope with daily life and what role the people around you play in how you deal with daily challenges. There are no right or wrong answers.

	Not at All	A Little	Somewhat	Quite a Bit	A Lot
I have people I look up to					
I cooperate with people around me					
Getting an education is important to me					
I know how to behave in different social situations					
My parent(s)/caregiver(s) watch me closely					
My parent(s)/caregiver(s) know a lot about me					
If I am hungry, there is enough to eat					
I try to finish what I start					
Spiritual beliefs are a source of strength for me					
I am proud of my ethnic background					
People think that I am fun to be with					
I talk to my family/caregiver(s) about how I feel					
I am able to solve problems without harming myself or others (for example by using drugs and/or being violent)					
I feel supported by my friends					
I know where to go in my community to get help					
I feel I belong at my school					
My family stands by me during difficult times					
My friends stand by me during difficult times					
I am treated fairly in my community					
I have opportunities to show others that I am becoming an adult and can act responsibly					
I am aware of my own strengths					
I participate in organized religious activities					
I think it is important to serve my community					
I feel safe when I am with my family/caregiver(s)					
I have opportunities to develop skills that will be useful later in life (like job skills and skills to care for others)					
I enjoy my family's/caregiver's cultural and family traditions					
I enjoy my community's traditions					
I am proud to be a citizen of the United States of America					

School Engagement

	Never	On Occasion	Some of the Time	Most of the Time	All of the Time
Behavioral Engagement					
I follow the rules at school.					
I get in trouble at school.					
When I am in class I just act as if I am working.					
I pay attention in class.					
I complete my work on time.					
Emotional Engagement					
I like being at school.					
I feel excited by the work in school.					
My classroom is a fun place to be.					
I am interested in the work at school.					
I feel happy in school.					
I feel bored in school.					
Cognitive Engagement					
I check my schoolwork for mistakes.					
I study at home even when I don't have a test.					
I try to watch TV shows about things we are doing in school.					
When I read a book, I ask myself questions to make sure I understand what it is about.					
I read extra books to learn more about things we do in school.					
If I don't know what a word means when I am reading, I do something to figure it out.					
If I don't understand what I read, I go back and read it over again.					
I talk with people outside of school about what I am learning in class.					

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ABSTRACT

SIBLING VICIMTIZATION PREDICTED BY PARENT AND SIBLING RELATED FACTORS AND RESILIENCE AS A MODERATOR OF PREDICTED SCHOOL ENGAGEMENT

by

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August 2018

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Major: Educational Psychology

Degree: Doctor of Philosophy

The topic of bullying has been a focus of research for many decades. Largely conceptualized as a social phenomenon, research has been predominantly executed in the school or large group environments. More recent research has shifted the focus to the home environment. However, few studies have included both parent and sibling factors as predictors of victimization. The purpose of this study was to (1) examine correlations between victimization and perpetration at home and victimization and perpetration at school, (2) identify significant parent and sibling characteristics as predictors of sibling victimization, and (3) understand if resilience moderates the relationship between being involved in bullying and one's school engagement.

Participants included 216 students in grades six through eight (114 Females, 102 Males) who were enrolled in a Public School Academy (e.g. Charter School) in Southeastern Michigan and completed a one-time, self report survey. Significant relationships were identified between bullying and victimization at home and school. Parenting and sibling factors were also found to be significant predictors of sibling victimization. Bullying involvement at home and school were

determined to be predictive of school engagement. Resilience was also found to be predictive of school engagement but did not moderate the relationship between bullying behavior (at home or at school) and school engagement.

AUTOBIOGRAPHICAL STATEMENT

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EDUCATION

Ph.D.	Wayne State University Educational Psychology Dissertation Title: TBD Advisor: Barry Markman, Ph.D.	2018
Specialist Certificate	Wayne State University School Psychology	2014
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