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ABSTRACT

THE BONDS THAT BREAK: SIBLING ABUSE PERPETRATION BEHAVIORS AS  
CORRELATES OF PEER BULLYING PERPETRATION BEHAVIORS: A  
STRUCTURAL EQUATION MODEL

by

Curt Bachman

Chair: Elvin Gabriel

## ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

School of Education

Title: THE BONDS THAT BREAK: SIBLING ABUSE PERPETRATION BEHAVIORS AS CORRELATES OF PEER BULLYING PERPETRATION BEHAVIORS: A STRUCTURAL EQUATION MODEL

Name of researcher: Curt J. Bachman

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Date completed: December 2016

### Problem

The literature suggests that the perpetration of sibling violence and peer bullying behaviors present multifaceted concerns for both families and society. Furthermore, there are differences in how the perpetration of peer bullying and sibling violence behaviors have been emphasized in the United States. However, research examining how these experiences may be related is limited.

### Method

A survey was used to collect data on lifetime reports of sibling abuse and peer bullying perpetration behaviors from a sample of 252 adults. A total of six variables were measured using an altered version of the Conflict Tactics Scale.

## Results

Using partial least squares structural equation modeling, a significant relationship was found between lifetime reports of sibling abuse perpetration behaviors from the general population and their peer bullying perpetration behaviors. Reports of perpetrating physical sibling abuse, perpetrating sexual sibling abuse, and perpetrating psychological sibling abuse were significantly associated with reports of perpetrating physical peer bullying, perpetrating sexual peer bullying, and perpetrating psychological peer bullying.

## Conclusions

Perpetration behaviors of sibling abuse and peer bullying impact a substantial number of both individuals and families. These findings may present a better understanding of the processes and relationships between familial and extra-familial abuse, potentially offering new and effective means of not only identifying and treating abuse by siblings and peers, but also to recognize behaviors that may prevent such abuse. Additionally, with gender as a potential mediating factor, educators and counseling therapists should frame and focus their research and clinical services of family and interpersonal violence in a manner that is inclusive of each contributing dynamic.

Andrews University

School of Education

THE BONDS THAT BREAK: SIBLING ABUSE PERPETRATION BEHAVIORS AS  
CORRELATES OF PEER BULLYING PERPETRATION BEHAVIORS: A  
STRUCTURAL EQUATION MODEL

A Dissertation

Presented in Partial Fulfillment

Of Requirements for the Degree

Doctor of Philosophy

by

Curt J. Bachman

December 2016

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by

Curt Jeffery Bachman

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To my son Christopher, “It is Jesus who stirs in you the desire to do something great with your life, the will to follow an ideal, the refusal to allow yourself to be grounded down by mediocrity, the courage to commit yourself humbly and patiently to improving yourself and society, making the world more human and more fraternal.”

Pope Saint John Paul II



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## ABBREVIATIONS

AVE	Average Variance Extracted
B	Beta Coefficient
CB-SEM	Covariance-Based, Structural Equation Modeling
CCA	Canonical Correlation Analysis
CI	Confidence Interval
CTS	Conflict Tactics Scale
GoF	Goodness of Fit
GUI	Graphic User Interface
IP	Internet Protocol
M	Mean
Mdn	Median
MLE	Maximum Likelihood Indicator
N	Population size
P	P value or calculated probability
PLS-SEM	Partial Least Squares, Structural Equation Modeling
SD	Standard Deviation
SE	Standard Error
Skew	Skewness
SPSS	Software Package used for Statistical Analysis
t- Test	Statistic

## ACKNOWLEDGEMENTS

This project was achieved through a combination of love, support, and patience from family, friends, and colleagues. I am thankful to my son, parents, and grandfather for their care and tolerance of a scholar who could often be found toiling away in isolation and silence. I am extremely blessed. To my friends and colleagues, I am forever in your debt for the regular words of encouragement and assistance I silently sought and appreciatively found during the completion of this project and my time as a doctoral student.

Finally, I am thankful for my dissertation committee. Dr. Gabriel, my dissertation Chair, has consistently been a steady and brilliant advisor during my time at Andrews University. Your support and insight have been invaluable and appreciated. Dr. Kijai, my methodologist, has challenged and sharpened the statistical foundation of my work. I am grateful for your patience and time with my project. Dr. Mandy Morrill-Richards, your support of my work, the research opportunities you have provided to me, and your content expertise on sibling and family violence were vital to my success as a graduate student. Thank you.

## CHAPTER 1

### INTRODUCTION

Until recently, the issues of peer bullying had been a matter largely dismissed as a “normal” adolescent rite of passage. Similarly, the issues of sibling abuse have also been ignored. Consequently, while peer bullying has recently gained more attention from researchers as challenges and concerns from social media arise, and while sibling abuse has begun to gain attention in some professional circles, there remains a dearth of knowledge and research related specifically to an association between sibling abuse and bullying (Caspi, 2011; Kiselica & Morrill-Richards, 2007; Morrill & Bachman, 2013). Violence both within the family and within the peer dynamic, often are abusive behaviors that are processed, for both perpetrators and victims, in a private matter, usually within the confines of the home (Phillips-Green, 2002). As a result, these issues often play out behind closed and quiet doors, always to the detriment of victims and their families.

Despite more attention in both academic research and in the media on issues pertaining to familial and peer violence, there are differences in how both peer bullying and family violence have been emphasized in the United States. Sibling abuse, for example, has received very little attention within the family violence literature when compared to work done on other forms of family violence (Rapoza, Cook, Zaveri, &



Malley-Morrison, 2010). More importantly, there has been very little research that directly analyzes the relationship between sibling abuse perpetration and peer perpetration behaviors, (Ammerman & Hersen, 1991; Morrill-Richards & Leierer, 2010).

A comprehensive survey of the general population, which includes college students, on issues pertaining to abuse and violence is important; college students endure a quickening of pace compared to high school that requires significantly adapted emotional and mental facilities. Individuals, who are either survivors or perpetrators of peer bullying and/or sibling abuse, may have difficulties with the transition associated with the responsibilities and challenges of college work and its differing social dynamic (Morrill-Richards, 2009). This population of students are at a significantly high risk of living in crisis because of failed attempts to deal with and resolve issues related to past and/or present peer bullying and/or sibling violence; this may create a dissonance between meeting the responsibilities of university life (separation from home, academic achievement, finding sense of self, connecting with peers, connecting with faculty), as well as lack of trust, limited ego strength and sense of autonomy (Grayson, 1989; Morrill-Richards, 2009).

As a primary source of psychological care, university counseling centers are also a place where students can go for information and educational resources related to well-being, either for themselves or others. However, many of these students present at counseling centers without ever being properly assessed for peer bullying and/or sibling violence issues (Morrill-Richards, 2009). Across the board, this is primarily a result of a lack of knowledge regarding both short-term and long-term mental health consequences associated with peer bullying and sibling violence, along with the reality that there is no

current assessment tool for measuring the experience of sibling violence as well as very little in regards to peer bullying (Morrill-Richards, 2009; Simonelli, Mullis, Elliot, & Pierce, 2002). The ability to assess for and identify individuals presenting with issues related to peer bullying and sibling abuse would broaden both the scope of resources and specific counseling skills of clinicians, allowing for meaningful clinical intervention, both inside and outside all college campuses. Better understanding the outcome data of these types of assessments would allow for meaningful and more effective clinical interventions and general counselor education, data which can be assessed and discussed in psychology and counseling classrooms as well as staff meetings within both community and college counseling centers.

### **Rationale of the Study**

There are very few studies that specifically look at the relationship between peer bullying and sibling abuse. In fact, studies focusing only on sibling abuse which assess relational dynamics, and potential consequences of sibling violence, have been almost entirely overlooked in the academic literature (Teicher & Vitaliano, 2011). A study conducted by Hoetger, Hazen, and Brank (2015) is one of the only empirical, peer-reviewed studies conducted during the last decade that attempts to compare sibling abuse with peer bullying. This study used the Family and Relationships survey in concert with the University of Illinois Bully scale to explore perceptions of 392 young adults in regard to sibling and peer bullying behaviors. While this study explored the similarities and differences in perceptions of these behaviors, it did not address specific experiences with sibling abuse and peer bullying and how these experiences might be related. Hoetger et al. (2015) found that perceptions of sibling bullying were actually more severe and

frequent than perceptions of peer bullying, which supports the pervasive, yet understudied area of sibling abuse. While sibling abuse has been documented as the most common form of intra-familial abuse, it has largely been ignored in the academic literature (Button & Gealt 2010; Caffaro & Conn-Caffaro, 2005; Wiehe, 1998). While extensive research has been done on childhood and school-yard bullying, little is known about the sibling bullying phenomenon (Skinner & Kowalski, 2013).

### **Statement of the Problem**

While an increasing number of studies in the past few decades have examined both peer bullying and family violence concepts individually, very few studies have explored a possible relationship between sibling abuse perpetration and peer bullying perpetration behaviors. Peer bullying has gained traction within the research community as an increasing concern in recent years, particularly because of the rise in use of social media platforms (Duncan, 1999; Finger, Marsh, Craven, & Parada, 2005; Holt, Kaufman Kantor & Finkelhor, 2009; Renda, Vassalo, & Edwards, 2011; Vaillanourt et al., 2008; Whitted & Dupper, 2005). While bullying research has increased, studies that specifically look at a possible relationship between family violence and peer bullying behaviors is limited (Finger et al., 2005). Within the family violence literature, sibling abuse is largely overlooked, despite it being the most common form of abuse within the family dynamic. (Morrill & Bachman, 2013; Wiehe, 1990). Family violence as a whole, and specifically child abuse behaviors have rightly received significant attention over the last several decades, and is recognized by professionals as a significant and widespread problem with life-lasting consequences (Adler & Shutz, 1995; Finkelhor, Hotaling, Lewis, & Smith, 1990; Morrill-Richards & Leierer, 2010; Wiehe, 1990). It is clear the

area of sibling abuse has not received the same recognition or attention. As such, given that bullying and sibling abuse have much in common on the surface, the next logical step is to attempt to fill the gap in research between these two areas, and build on current understanding of the complexity of peer bullying behaviors.

### **Purpose of the Study**

The purpose of this study was to determine to what extent two or more variables of sibling abuse perpetration maximally correlate with two or more variables of peer bullying perpetration, and how gender may mediate this relationship. Participants who are 18 years of age and older, from the general population of the United States responded to a set of questions, using an online survey, based on an altered version of the Conflict Tactics Scale (CTS) (Morrill-Richards, 2009; Morrill & Bachman, 2013). One section specifically asked questions related to sibling abuse perpetration, and one section specifically asked questions related to peer bullying perpetration. Once the surveys had been completed, partial least squares structural equation modeling was used to analyze the data and determine if there is an association between the variables measuring sibling abuse perpetration and peer bullying perpetration. Individual studies of sibling violence and peer bullying reveal that a substantial percentage of young people are affected by these abusive behaviors, many on a frequent basis (Roberts, Zhang, & Truman, 2010).

### **Research Question/Research Hypothesis**

The research question that will be considered in this exploration: What is the nature and dimension of the relationship between sibling abuse perpetration and peer

bullying perpetration, and is gender a mediating factor? The research hypothesis is as follows:

1. There is a significant relationship between lifetime reports of sibling abuse perpetration behaviors from the general population and their peer bullying perpetration behaviors, with gender being a mediating factor.

### **Significance of the Study**

A study that analyzes both peer bullying and sibling violence behaviors is relevant to many areas within social science, including topics related to: education, psychology, criminology, counseling, and sociology. Within education and counseling in particular, an understanding of bullying behaviors within any interpersonal or group dynamic is critical for educators and clinicians to combat unhealthy social environments in both our schools and homes (Olweus, 1999). In a study completed in the United Kingdom which assessed the attitudes of educators, results suggest that educators measured physical bullying as the most worrying, trailed by verbal bullying and relational bullying (Birkinshaw & Eslea, 1998). Whether bullying is verbal or physical, research suggests that students may struggle developing appropriate interpersonal skills because they fear aspects of the social environment (Batsche & Knoff, 1994). Studies have found that early bully victimization in childhood contributes to the development of delinquency and both aggressive and non-violent behavior later in life (Lansford et al., 2007; Wong & Schonlau, 2013).

A school or home environment that encourages factors that enhance the development of positive self-esteem provides school-age kids with the ability to adapt and persist in reaching personal and professional goals, is very important in achieving

success as a college student in both academics and life in general (Morrill-Richards, 2009; Morrill-Richards & Leierer, 2010). Whether this research topic is addressed for teachers in the classroom, parents of vulnerable children, or local counselors, a balanced and fresh look at peer bullying and its relationship with familial violence among siblings can make a positive difference within our communities.

Assessing common forms of bullying, particularly cyberbullying, severity, and social norms related to bullying- all are lacking in significant academic research that address these specific concerns either within an academic or family environment (Bradshaw, 2007). Because both peer and sibling bullying can have long-lasting effects on both perpetrators and victims, this study is relevant to researchers of peer bullying and familial violence, educators, clinicians, parents, as well as students of all ages.

### **Limitations**

One limitation of this study is that the professional research on the topic of sibling abuse does not mirror the depth of study that other areas of familial violence document, specifically, the relationship between reports of sibling abuse and peer bullying.

Although the study of siblings has some history in the professional literature, much of this research has to do with developmental outcomes as it relates to birth order and abuse trauma by parents (Buhrmester, 1992). The theme within the majority of the research is that understanding sibling relationships occurs only within the context of the family dynamic and the processes that frame those relationships (Hetherington, 1994).

Over the last several decades, only 11% of child abuse research specifically address sibling issues, very little of which incorporates a system of assessment that is comprehensive and systematic (Caffaro & Conn-Caffaro, 1998). While this study

attempts to fill a gap in these areas, comparable studies in the professional literature are inconsistent and scarce.

This will be a self-report survey which presents as an additional limitation. Despite the reality that the survey will be anonymous and voluntary, the force of social desirability within any survey could have influence in how participants choose to respond. It will be assumed by the primary researcher that participants will report in a truthful manner; however, there will not be an accessible, reliable, and accurate means for which to test the validity of participant responses in this study. Therefore, it is not possible to completely validate the truthfulness of subject responses to the survey. Family violence is a dynamic and universal problem. Within this framework, it is suggested that sibling abuse does not occur in isolation from other forms of abuse (Caspi, 2011; Morrill-Richards, 2009). Possible considerations of research modeling this dissertation may suggest for future research in these areas is to modify and/or add questions addressing other abusive family experiences which may be relevant or important to the overall study of the sibling abuse and peer bullying dynamic.

Another limitation of this study is the attempt to categorize and compare sibling and peer violence. While classifying these topics into areas related to psychological, sexual and physical abuse, these definitions may not accurately reflect or appropriately assess a perpetrator's experience while completing the survey for this study (Morrill-Richards, 2009). While the majority of individuals grow up with siblings, however their perspective on what constitutes verbal or psychological abuse may differ, and thus, their reporting for this study's survey may not accurately reflect actual sibling or peer violence of the participants' past. This in turn may affect the reliability and validity of the survey

scales. Another related limitation within this study is reports of sexual abuse, either within familial or peer relationships. For both survivors and perpetrators, experiences of sexual abuse are often more difficult to report than other forms of abuse, and further, when it is disclosed, parents often refuse to believe the disclosure (Alaggia, 2004; Caffaro & Conn-Caffaro, 2005; Morrill-Richards, 2009; Wiehe, 1997). As such, because of the challenges present when reporting sexual abuse, there is the possibility sexual perpetration experiences may be underreported in the survey. Therefore, the primary researcher expects a potential underreporting of sexual abuse by perpetrators in this study and that it may not be within the scope of the instruments of this study to encompass all aspects of the sexual abuse experience as reported by the test subjects. Further, because the primary researcher expects underreporting for all categories of abuse covered within this study, it is likely the altered CTS used in this study will not encompass all aspects of the abuse experience as reported by the test subjects.

### **Delimitations**

An important consideration and delimitation in regard to results concerning sibling sexual abuse, is that sexual abuse is often more problematic to communicate to others about than other forms of abuse, either because of fear, shame, or a lack of understanding as to what is normal and what is not (Alaggia, 2004; Caffaro & Conn-Caffaro, 1998; Morrill-Richards, 2009; Wiehe, 1997; Wolfe, Francis, & Straatman, 2006). In cases of sibling abuse, disclosure often occurs when it is discovered by a third party, whether by a parent, relative, or a routine medical examination (Alaggia, 2004; Morrill-Richards, 2009). The average time between when the abuse occurred and when it is eventually discovered is 3-18 years, which indicates many children move on with their



lives post-abuse, without receiving any medical or psychological treatment (Morrill-Richards, 2009). The literature suggests that it is rare for survivors of any form of sexual abuse to immediately disclose the abuse, and even rarer for perpetrators; however, survivors of sibling sexual abuse experience the additional complication of not wanting to betray a family member (Alaggia, 2004; Finklehor & Browne, 1985; Morrill, 2014; Morrill-Richards, 2009; Wolfe et al., 2006).

The potential sample of this study is an added delimitation. The participants to be surveyed in the study will be obtained through a convenience sample using Survey Monkey software. While it is the intent of the primary researcher to survey participants from multiple demographic and socio-economic areas, the variability of the sampled participants is unpredictable. While the study intends to survey participants across the United States of America, it may not be generalized to the general population.

Finally, a further delimitation involves identity variables (such as age and cultural identity). While these variables may prove to have significance, a thorough exploration of these aspects was not included as a primary focus of this research study. Future research will need to build on this exploratory study and consider the impact the identity variables may have on the relationship between experiences with sibling abuse and peer bullying. Given the above, it is important to note that the results of this study cannot be generalized to the larger population, but rather, can only be applied to the specific population surveyed through Survey Monkey with the parameters of living in the United States and being at least 18 years of age.

## **Conceptual/Theoretical Framework**

Attachment theory provides the conceptual basis and theoretical framework utilized for this study on reports of sibling abuse and peer bullying in the general population. John Bowlby is credited with developing attachment theory through his studies with infants and how they develop emotional ties with parental figures. Bowlby distinguished four primary types of emotional bonding, or attachment: secure, ambivalent, avoidant, and disorganized (Bowlby, 1969; Sharf, 2004). Secure attachment refers to a relationship bond in which an infant wants the security of knowing a parental figure is close, but is also comfortable exploring the world independently. Ambivalent attachment refers to a relationship bond in which an infant will tend to cling to a parental figure and will feel agitated or anxious when the parental figure is not present. Avoidant attachment refers to a relationship bond in which the infant will exhibit extreme independence and emotional disconnection from parental figures. Disorganized attachment refers to a relationship bond in which there is no regular, discernable pattern to emotional connection made with a parental figure (Sharf, 2004). Ainsworth (1982) expanded attachment theory to consider how early emotional attachment relates to how we attach to others outside of the family in childhood, and consequently, into adulthood. Given this framework of attachment, it would follow that how one connects to the closest peer in the family (a sibling) will be reflective of how one connects to peers outside of the home.

There are a number of studies that support a relationship between attachment theory and the overall health of both personal and family relationships. In a study by Liem and Boudewyn (1999), attachment theory was used as a base for the functioning

and bonding of relationships from childhood to adulthood, to explore their hypothesis that experiences with multiple forms of abuse in childhood had a direct impact on adult problems with self-esteem and social functioning. A secondary analysis of data was collected in the study which included 687 college students between 1990 and 1992. The results of this work indicated that abuse as a child enforces a working model of the self as an adult; this working model included feelings of unworthiness and incompetence within healthy relationships while simultaneously others are viewed as rejecting and unreliable (Morrill-Richards, 2009).

Furthermore, lower levels of self-esteem from college students were reported from those who had multiple abuse experiences. Liem and Boudewyn (1999) suggested that the relationship experience with one's closest peer was related to expectations of self and other relationships across time. While the authors' work does not specifically address sibling relationships and violence, considering siblings frequently represent the closest peer during childhood, the results support the likelihood that sibling abuse has a tremendous, and perhaps unmatched, influence on interpersonal relationships and self-esteem for adults (Morrill-Richards, 2009; Morrill-Richards & Leierer, 2010).

Attachment theory focuses on relationships as the central core of the human inner-self. When an abusive relationship exists, a healthy attachment bond is not achieved and a trauma bond (or attachment) develops instead (Schwartz, 2015). A trauma bond threatens the growth of basic interpersonal competencies, such as conflict resolution, and reinforces the roles one takes on in an abusive family structure, be it perpetrator or victim. These dynamics are often reconstructed outside of the family from childhood through adulthood (Schwartz, 2015). Following the basic tenets of attachment

theory, it seems logical that perpetrating sibling abuse may be related to perpetration of peer bullying. How one attaches to relationships within the family system early in life has implications for repeating these patterns of attachment into adulthood. Therefore, a trauma bond in which one has been the perpetrator within the family often manifests as one being a perpetrator in relationships outside of the family (Karakurt & Silver, 2014; Schwartz, 2015). As such, the studies examined in this dissertation support the conceptualization that abuse experience within the family (such as sibling abuse perpetration) may be related to abuse experienced outside of the family (such as peer bullying perpetration).

### **Defining Terminology**

#### **Peer Bullying**

Bullying can be described as a systematic abuse of power which creates an unhealthy interpersonal dynamic (Rigby, 2002). This dynamic can be conceptualized as intentionally aggressive behavior that is recurrent against a victim who cannot readily defend him- or herself (Olweus, 1994). Peer bullying can include aggression in which one or more students physically, psychological and/or sexually harass another student repeatedly over a period of time, which may involve acts of battering and teasing (Batsche & Knoff, 1994). Violence includes any conditions or acts that create an environment in which an individual feels terror, anxiety or intimidation in addition to more physical examples of aggression, such as being the victim of an assault, theft, vandalism, or violence which often is unprovoked. (Batsche & Knoff, 1994).

Hazler, Hoover, & Oliver (1992) describe bullying as a form of aggression in which one or more individuals physically, psychologically, and/or sexually, harass

another individual or group repeatedly over a period of time. Indirect bullying can be just as domineering and vicious as direct forms of bullying and should be considered an important part of the bullying concept. Indirect bullying may consist of behaviors by the perpetrator which includes: communicating hurtful messages via email, texting or through social networking sites such as Facebook (Keith & Martin, 2005).

For the purpose of this study, bullying will be defined as any condition or act that creates an environment, either online or offline, where an individual or group feels fear or intimidation which may include physical, psychological, verbal, or sexual aggression and or harassment (Batsche & Knoff, 1994; Keith & Martin, 2005; Olweus, 1999; Rigby, 2002). In order to further conceptualize abusive interactions among peers, it is necessary to define bullying by examining three peer bullying categories, which will parallel the categorization of sibling abuse. The three components of peer bullying are: psychological/verbal abuse, physical abuse, sexual abuse.

#### Psychological/Verbal Abuse

Bullying definitions generally are categorized as physical, verbal, and psychological. Other studies about abuse have combined verbal and psychological abuse as they are closely related and extremely challenging categories to create as finite (Morrill-Richards, 2009; Wiehe, 1997; Wiehe, 2000). The psychological, verbal, and cyber-bullying aspects of peer bullying will be included under the psychological and verbal abuse category for this study. Batshe and Knoff (1994) described psychological abuse as circumstances or actions that create an environment in which individuals or groups feel anxiety, terror, or intimidation in addition to being the victims of physical abuse or vandalism. This “indirect” type of bullying can refer to behaviors that lead to the

social exclusion of individuals or groups caused by hurtful gossip and the eventual loss of friends (Wolke, Woods, Bloomfield, & Karstadt, 2000). Verbal bullying, which is often thought of as the most common type of bullying, refers to the practice of name calling and teasing as well as verbal threats of physical harm or social exclusion, often referred to as relational bullying (Bauman & Del Rio, 2006).

### Physical Abuse

Overt or direct bullying suggests behaviors that are in physical in nature, such as slapping, pushing, or kicking, with the purpose of causing physical harm to individuals or groups (Crick, Casas, & Mosher, 1997; Curtner-Smith et al., 2006; Woods & Wolke, 2004). Physically abusive bullying is often the most recognizable type of bullying, as the victim will sometimes have visual marks as a result of the abuse in the form of scratches, a black eye, or other types of bruising (Nansel et al., 2001).

### Sexual Abuse

Defining bullying under any label of sexual abuse is uncommon. Sexual peer abuse likely occurs less often than other forms of abuse, and is often related to reports and definitions of direct and indirect sexual taunting and harassment (Nansel et al., 2001). Sexual peer abuse can be defined as any abuse that is sexual in nature, which may range from sexual harassment, inappropriate touching to rape (Morrill, 2014; Morrill-Richards, 2009). Issues of sexual harassment, sexual aggression, or even rape is important to note here as peer bullying can occur both between and within genders, whether at school or at a workplace (Vartia, 1996). A conceptual definition of sexual peer bullying is important even if it may be less common than other forms of abuse; it does occur, and it is

important for this study to draw parallels of reports of sexual bullying and reports of sexual abuse among siblings.

### Sibling Relationships

Often, sibling relationships are viewed as quite basic and easy to define, when in reality sibling relationships do not encompass one type of relationship and can prove complicated to define. Morrill-Richards (2009) defined sibling relationships as “interactions that may be comprised of biological siblings (sharing the same biological parents), half siblings (sharing one parent), step-siblings (related through marriage of parents), adoptive siblings, foster siblings (related through a shared home) or fictive siblings (may not be biologically related, but are considered siblings)” (Morrill-Richards, 2009, p. 22). All actions of being in contact, whether verbal or nonverbal, that include two or more members of the same sibling subsystem comprise the sibling relationship (Caffaro & Conn-Caffaro, 1998). Given the complex nature of sibling relationships and sibling abuse, it is necessary to further dissect the abusive interactions as well as to make distinctions in psychological, physical, and sexual abuse.

### Sibling Abuse

Wiehe, (1997, 2000) suggests there are three components to defining sibling abuse: perception, intent, and severity. These components are important to incorporate in order to distinguish what may be sibling rivalry as opposed to sibling abuse. Perception refers to how the sibling interprets the interaction. For example, if one sibling involved in the sibling dyad perceives another sibling’s behavior as abusive, a dynamic beyond the range of ‘normal’ sibling rivalry is likely present within the sibling dynamic (Morrill-

Richards, 2009). Intent, the second component, refers to what a sibling resolves to accomplish through focused behavior. Intent usually only encompasses a desire to cause harm to the sibling rather than other motivations, such as gaining positive or negative attention from a parent, which is normally the case in a healthy sibling rivalry dynamic (Kiselica & Morrill-Richards, 2007). Severity is related to the length and intensity of the abusive actions, and as it increases, the greater the possibility the sibling dynamic becomes abusive and unequal (Caffaro & Conn-Caffaro, 1998; Morrill-Richards, 2009; Wiehe, 2000). Perception, intent, and severity within sibling abuse exists within the same categorical representations as peer bullying: psychological, physical, and sexual.

#### Psychological/Verbal Sibling Abuse

Whipple and Finton (1995) suggest that the consistency and intensity of psychologically abusive behavior is what distinguishes it from normal behavior within the sibling dynamic. These behaviors may involve name calling, threats of violence, and harassment, which often negatively impacts the overall well-being of the sibling (Whipple & Finton, 1995; Wiehe, 1997). Psychological abuse is often ignored by caretakers as normal behavior between siblings, much to the detriment of the survivor (Wiehe, 1997). In a related study on the experiences of survivors of sibling violence, Wiehe (2000) identified psychological sibling abuse to include belittling, intimidation, provocation and destroying of possessions, which further defines this variable and the related survey questions for this study. The psychological, verbal, and cyber-bullying aspects of sibling bullying will be included under the psychological and verbal abuse category for this study.



## Physical Sibling Abuse

Wiehe (1997) defines physical abuse as one sibling deliberately causing physical harm to another sibling. For a sibling interaction to be considered abusive, the aggression must go beyond the “normal” developmental assertion that may occur within a dyad. Consequently, a key component to determining if a sibling relationship is abusive is the intent to cause harm. Physical sibling abuse should be defined by a repeated intention of the sibling to harm for harm’s sake, and those harmful actions are perceived by other siblings as harmful in nature (Wiehe, 2000). Examples of sibling abuse may include: hitting, kicking and pushing, harmful use of coat hangers, hairbrushes, belts, forks, knives and guns as more severe examples of items used to inflict injury and pain (Caffaro & Conn-Caffaro, 1998; Morrill-Richards, 2009; Wiehe, 2000).

## Sexual Sibling Abuse

A comparison of sibling and peer sexual abuse is important as both occur with similar patterns of behavior. Examples of behaviors within these dynamics may include inappropriate fondling, indecent exposure, exposure to pornography, and sex of any type (Morrill-Richards, 2009; Phillips-Green, 2002; Whelan, 2003; Wiehe, 1990). Divergent from sexually abusive behaviors in peers, sexual abuse among siblings occurs more often (Morrill, 2014; Rudd & Herzberger, 1999; Wiehe, 1998). Sibling sexual abuse is conceptualized as sexual behavior between siblings that is not motivated or inspired by developmental or age appropriate inquisitiveness, and is not fleeting in nature (Caffaro & Conn-Caffaro, 1998; Morrill-Richards, 2009).

## CHAPTER 2

### REVIEW OF LITERATURE

The purpose of this quantitative predictive study is to determine to what extent two or more variables of sibling abuse perpetration maximally correlate with two or more variables of peer bullying perpetration. This review of the literature serves to define concepts related to sibling abuse and peer bullying while eventually explaining methodology, and finally, data collection and analysis. The funnel method of reviewing the literature was used in which only peer-reviewed research was considered. Studies more than 30 years old were excluded from this review, unless the study was considered a landmark case for the field. Each study was assessed based on consideration of what was significant in the findings, if the research was relevant to this study, and the perceived accuracy of the research conducted. The following literature review begins with a broad historical perspective of familial and bullying violence, which uses the research that has been conducted to highlight the need for more research related to sibling and peer violence. Following the broad, historical overview, a review of the patriarchal model is provided, which has traditionally framed research on family violence. The review continues by narrowing the broad aspects of family violence down to the studies used to conceptually define peer bullying and sibling abuse, including specific studies related to perpetration of physical, sexual and psychological abuse for each, respectively. Once the definitions have been examined, the literature review narrows to a particular

focus on support for the hypothesis of this study, which then moves in to an exploration of research that supports perspectives on methodology.

### **Historical Perspective of Familial and Bullying Violence**

We can track the word “bully” as far back as the 1530s; while originally having a positive connotation, the current, more negative meaning of the word appears to have emerged at some point in the 1600s (Harper, 2015). Whether we are conceptualizing a relationship between peers or siblings, bullying behaviors are often quite similar. Furthermore, bullying and sibling abuse relationships have been studied in a variety of ways all around the world; however, there is a significant gap in the literature assessing the relationship between these two constructs. For the past four decades issues related to domestic familial violence have been researched heavily in the mental health field. Research that has addressed abuse within the family has changed the perception of it being a private concern into a public and dynamic issue that society as a whole, should be concerned about (Ammerman & Hersen, 1991; Bess & Janssen, 1982; Caffaro & Conn-Caffaro, 2005; Kiselica & Morrill-Richards, 2007).

There have been tremendous advances made in the areas of prevention, treatment, and education in regard to family violence, despite its short-sighted emphasis on being primarily a patriarchal model—a model that suggests familial dynamics are completely dominated by the male in almost all aspects. The vast majority of research related to this issue however, has ignored any study of familial and sibling violence and their relationship to peer bullying behaviors (Hamel, 2009; Morrill & Bachman, 2013). While there has been research supporting the notion that abuse experienced in childhood greatly increases the risk for abuse as an adult, there has been surprisingly little study conducted

to explore this aspect within the family violence field (Caspi, 2011; Morrill & Bachman, 2013; Morrill-Richards & Leierer, 2010; Phillips-Green, 2002; Rudd & Herzberger, 1999). A study using the CTS (Straus, 1979) conducted by Goodwin and Roscoe (1990), found 60% of 272 high school students interviewed identified as having some experience with sibling abuse as either the survivor or perpetrator. In 1994, Graham-Berman, Cutler, Litzenburger, and Schwartz surveyed 1,450 college students regarding family violence. Their results found 54% of the students participating identified a sibling as being “aggressive,” while 20% perceived their sibling relationships to be more violent than those in other households. Research conducted in 2002 by Simonelli et al. sought to increase awareness regarding the connection between sibling relationships and violence in the family. Of the 120 college students interviewed, over 66% reported being physically assaulted by a sibling while nearly 3.5% disclosed they had been threatened by a sibling with a gun or knife. Duncan (1999) conducted a study related to peer bullying in which 22% of the children interviewed reported being “hit” by a sibling. Additionally, he found 8% of the children in the sample were beaten by a brother or sister (Duncan, 1999).

The research suggests there may be a strong association between peer bullying perpetration behaviors and sibling abuse perpetration behaviors (familial violence). The concepts and data presented in this section serve to provide a background on previous work done in sibling abuse and peer bullying research, as they relate to the patriarchal model. Use of the CTS (Straus, 1979) in assessing familial abuse, as well as prior research using college students as a sample in the study of sibling violence, will also be presented in this section. The presentation and review of each of these components is

relevant to this study as the primary investigator intends to address and utilize each in this study.

### **The Patriarchal Model**

A patriarchal model has been consistently used when framing violence, specifically family violence (Caspi, 2011; Hamel, 2009). In spite of the history attached to theorizing violence with this model, it is becoming clear this construct is no longer accurate (Hamel, 2009; Morrill & Bachman, 2013; Robertson & Murachver, 2007; Straus & Gelles, 1990). Understanding weaknesses of the patriarchal model can provide a clearer understanding of the relationship between familial and peer violence that will be examined in this research, as this study's results may not align with how these concepts are historically framed using the patriarchal model. One of the biggest challenges with using the patriarchal model is that it supports a faulty assumption that men commit a significantly greater portion of severe abuse than women (Hamel, 2009). In fact, several studies have found this deeply held belief to not hold true. Straus and Gelles (1990) were at the forefront in exploring violence in families and uncovered results supporting mothers were more likely to inflict physical abuse than any other family member, including fathers. Within the past decade, several studies have supported this initial finding and have found empirical support to suggest women are actually more likely to engage in acts of abuse considered severe than are men. These studies have found results indicating, in general, that men and women are perpetrators of abuse at similar rates (Caspi, 2011; Hamel, 2009; Morrill & Bachman, 2013). In order to accurately explore dynamics of abuse, it is critical to consider the role of gender and the fact men may not be the architects of abuse in every situation.

In conjunction with the notion that men are not always the perpetrators of abuse, it is important to consider the reality that men are also victims of abuse. Straus and Gelles (1986) found an important shift in patterns of violence, in that from 1975 onward, male against female violence decreased while during this same period, female against male violence increased. In a 1998 study by Bowman and Morgan, a self-report survey was used, in conjunction with results from the 1994 Bureau of Justice National Conference on Domestic Abuse, with results indicating approximately two million men are the victims of physical abuse each year. Additionally, Hamel (2009) conducted research with outcomes suggesting approximately 1/3 of all physical injuries connected to abuse within the family are sustained by men. Acknowledging the reality that men can be the victims of abuse is essential when studying abusive actions.

### **Peer Bullying**

One similarity between sibling abuse and peer bullying is the challenge in finding associated and contributing factors related to defining the issue. The literature on the topic presents multiple definitions rather than one universally accepted term (Espelage & Swearer, 2003; Olweus, 1994; Vaillancourt et al., 2008). Vaillancourt et al. (2008) studied student perceptions of bullying behaviors and found that while the perceptions were consistently attributed to negative behaviors (over 90%), the three constructs of intentionality, repetition, and power imbalance commonly used to define bullying were identified at extremely low rates with all falling below 25%. While there are clearly issues in regard to consistency in developing a definition, one aspect of bullying largely agreed upon is that the aggression is proactive. A proactive aggression indicates the bully is taking initiative by acting first, rather than reacting to an event. There is a power

imbalance created in this situation for which the victim will likely be unable to be protected appropriately (Espelage & Swearer, 2003; Finger et al., 2005). Olweus (1994) presented a definition of peer bullying in which the aggressive acts demonstrated a pattern of behavior designed to maintain power within a relationship. It seems clear that a commonality with bullying behavior is that the intent is to purposefully inflict harm in some way to gain a sense of relational power (Finger et al., 2005).

### **Types of Peer Bullying**

A similar comparison with sibling abuse is the way in which bullying is often minimized as a normal developmental interaction, or an experience that is just part of being in a school environment. Individuals who bully do so to those they have power over, and should not be considered a normal childhood behavior (Crothers & Levinson, 2004; Whitted & Dupper, 2005). Bullying occurs in three main ways: Physical, verbal, and relational (indirect), which is similar to other forms of abusive behavior (U.S. Department of Education, 1998).

#### **Physical Peer Bullying**

It has been suggested that physical bullying is the most common type perpetrated, which may include the perpetrator pushing, hitting or using a weapon (Espelage & Swearer, 2003; Olweus, 1994; U.S. Department of Education, 1998).

#### **Psychological/Verbal Peer Bullying**

Teasing, threatening, and forms of humiliation are examples of intention to psychologically harm a victim in a verbal manner (Clarke & Kiselica, 1997; Crothers &

Levinson, 2004; Espelage & Swearer, 2003; Olweus, 1994; Smith, 1999; U.S. Department of Education, 1998).

### Sexual Peer Bullying

Sexual peer abuse likely occurs less often than other forms of abuse, and is often related to reports and definitions of direct and indirect sexual taunting and harassment (Nansel et al., 2001). Sexual peer abuse can be described as any abuse that is sexual in nature, which may range from sexual harassment, inappropriate touching to rape (Morrill, 2014; Morrill-Richards, 2009). Issues of sexual harassment, sexual aggression, or even rape is important to note here as peer bullying can occur both between and within genders, whether at school or at a workplace (Vartia, 1996). Relational bullying is somewhat unique when compared to other forms of bullying, because the emotional harm inflicted is often perpetrated through the involvement of others in an indirect way, which can be seen through group exclusion, group teasing, encouragement of isolation of another, and negative gossiping (Crothers & Levinson, 2004; Whitted & Dupper, 2005). This form of bullying is damaging, with consequences as severe as any other form of peer bullying (Crothers & Levinson, 2004; Olweus, 1994; Whitted & Dupper, 2005).

Further exploration of the characteristics connected to peer bullying demonstrates a possible connection between the family environment and bullying behaviors. In a study by Komiyama (1986), 1,735 students from junior high school were asked questions related to values, home life, and violence. Over 40% of those surveyed reported being a victim of bullying. Of those who reported being bullied, nearly 70% admitted to perpetrating bullying against another. The participants who identified as having any type of experience with bullying (as either a victim, perpetrator, or both) reported significantly



higher rates of “disagreeable” home environments, feeling rejection/lack of affection from a parental figure, and feeling a desire to inflict violence on those viewed as close (Komiyama, 1986). This study supports the notion that bullying is a dynamic concept, and does not happen in isolation to the family environment.

There are a myriad of different perspectives to consider when attempting to explain bullying, which makes defining it a complicated process. To gain a better perspective on bullying, it is important to consider perspectives of all those involved, including parents and teachers, as well as victims and perpetrators (Duncan, 1999; Knous-Westfall, Ehrensaft, MacDonell, & Cohen, 2012; Mishna, 2004; Morrill & Bachman, 2013). In 2004, Mishna interviewed victims of bullying, teachers, and parents and found some teachers and parents perceived the intent to bully may not always be present, which was in contrast to perceptions of other teachers who had the exact opposite perspective. This same study uncovered that participants disagreed on how to define indirect bullying. Additionally, this same research found victims of bullying believed their friends to be more receptive to reports of bullying than parents or teachers, and they were also more likely to make reports of these behaviors to friends rather than adult figures (Mishna, 2004). Another link between the home environment and bullying can be found when looking at the results of a study by Knous-Westfall et al. (2012). This research examined the relationship between reports made by parents indicating experience with intimate partner violence and their children’s involvement with peer bullying as either a victim or perpetrator. While parents reporting any type of intimate partner violence (mild to severe) had a positive correlation with their children being victims of bullying, reports made by parents specifically in the severe intimate partner

violence category had a positive correlation with their children being victims of bullying, as well as perpetrating relational peer bullying (Knous-Westfall et al., 2012). When broken down by gender, parental reports of any intimate partner violence were positively correlated with daughters being victims of bullying while parental reports of severe intimate partner violence positively correlated with sons likelihood to perpetrate peer bullying (Knous-Westfall et al., 2012). How the act of bullying is perceived from a gender perspective may have an effect on how the actions are dealt with individually, at home, and at school.

Research supports a relationship between experiences with bullying and violent or anti-social behavior. Renda et al. (2011), followed 800 young adults (13-14 years old), for 27 years. The subjects were selected for being known perpetrators of bullying and were followed into adulthood tracking any anti-social behaviors through contact with police, court cases, and violence determined to be criminal in nature. The outcome of the study found a positive correlation with anti-social behaviors as an adult. After accounting for gender, males demonstrated a stronger relationship to anti-social behavior than women, though both remained significant (Renda et al., 2011). The findings highlight the importance of giving attention to peer bullying as a critical risk factor for anti-social behavior throughout the lifetime.

The psychological impact of peer bullying cannot be understated when evaluating the overall dynamic of peer violence. Roland (2002) sampled 2,083 eighth grade students in Norway, regarding bullying behaviors and mental health symptoms. The results indicated a significant and positive correlation between perpetration of bullying and symptoms of depression. In a study by Holt et al. (2009), the family

environment in relation to bullying behaviors was examined. Two hundred and five fifth-grade students were interviewed along with their parents regarding the constructs of family characteristics related to later victimization and perpetration of peer bullying, parental perspectives of peer bullying, and how “matched” parental and child perspectives were in regard to bullying. The results suggest a general sense of disconnect of parents views from the reality of what their children experience in regard to peer bullying. The frequency rates of bullying behavior either as victims or perpetrators were significantly higher in families for which the children reported bullying and the parents did not. Another important finding from this research indicated that there were significantly higher levels of child abuse, criticism, and lack of structure in the family environment of bullying victims, while there was a significantly higher occurrence of child abuse and witnessing other forms of violence in the family environment of perpetrators of bullying (Holt et al., 2009). These studies reveal a potential relationship between peer and familial violence, reliability and validity of differing reports of abuse, and poor social and psychological well-being. Thus, the primary researcher believes it is important in studying the possible relationship between perpetration of sibling abuse and perpetration of peer bullying.

### **Sibling Abuse**

Sibling abuse presents a challenge in that, while multiple studies have shown this phenomena is the most engaged form of abuse compared to research on family violence in general, it has received very little acknowledgement in the fields of counseling and psychology (Caffaro & Conn-Caffaro, 2005; Caspi, 2011; Duncan, 1999; Freeman, 1993; Morrill & Bachman, 2013; Morrill-Richards & Leierer, 2010; Wiehe, 1997). One of the

first studies to comprehensively examine issues of abuse within the family was conducted in 1980 by Straus, Gelles, and Steinmetz. A significant finding from this research indicated nearly 40% of children in the United States physically abuse a sibling, while approximately 85% emotionally or verbally abuse a sibling. In 1990, Straus and Gelles piloted a national survey for 8,145 families who were interviewed regarding a variety of patterns of interaction and conflict within the family system. One result of this research indicated approximately 80% of children in the United States between the ages of 3 and 17 engage in some form of sibling abuse. As highlighted earlier in the chapter a study by Goodwin and Roscoe (1990), administered the CTS (Straus, 1979), to 272 high school students for which approximately 60% of these students indicated they had experience with sibling abuse. Wiehe (1997) also conducted research on family violence and concluded an average of 53% of children in the United States perpetrate some form of abuse against a brother or sister. Kiselica & Morrill-Richards (2007), analyzed data from the Federal Bureau of Investigation crime reports and discovered 6.1% of all murders committed within the family were committed by a sibling (Federal Bureau of Investigation, 2004). Clearly, sibling abuse is a serious issue deserving of greater attention.

The distinctive nature of sibling relationships adds to the complexity in identifying this type of abuse, as well as the proclivity of the abuse to occur. For most people, the relationships they have with their siblings are essential for the development of healthy attachment and interpersonal competencies (Caspi, 2011; Kiselica & Morrill-Richards, 2007; Liem & Boudewyn, 1999; Morrill-Richards, 2009). Given siblings are, in reality, our closest peer, the impact of that relationship being positive or negative is

powerful, lasting through adulthood. A negative sibling relationship may have consequences connected to high risk factors throughout life (Caspi, 2011; Morrill-Richards, 2009). Some studies support the notion that people who have been either a victim or perpetrator of any type of sibling abuse are at greater risk of experiencing serious mental health issues throughout life compared to those who report no experience with sibling abuse (Freeman, 1989; Gary, 1999; Kiselica & Morrill-Richards, 2007; Liem & Boudewyn, 1999; Morrill-Richards, 2009; Phillips-Green, 2002; Simonelli, et al., 2002; Snyder, Bank, & Burraston, 2005).

### **Types of Sibling Abuse**

Sibling abuse is difficult to describe and is not easily defined. One primary reason for this difficulty is that virtually every sibling experiences rivalry, which is part of normal developmental behavior among brothers and sisters (Caffaro & Conn-Caffaro, 1998; Caspi, 2011; Morrill-Richards, 2009; Wiehe, 2000). The challenge becomes the identification of the line where normal and healthy rivalry ends and abusive actions begin. When assessing if an interaction among siblings is abusive, the elements of intent, perception, and severity must be considered (Caspi, 2011; Morrill & Bachman, 2013; Morrill-Richards & Leierer, 2010; Wiehe, 1997). In addition to these considerations, it is important to note that “normal” sibling challenges tend to occur in regard to sharing resources within the family (attention from parental figures, access to material objects such as computers, etc.), while abusive family sibling behaviors tend to center around gaining power and control of another sibling (Kiselica & Morrill-Richards, 2007; Morrill-Richards, 2009; Wiehe, 2000). As is the case with other types of abuse, sibling abuse can be identified within the construct of three primary types: psychological (emotional),

physical, and sexual (Caffaro & Conn-Caffaro, 1998; Johnston & Freeman, 1989; Morrill-Richards, 2009; Wiehe, 2000).

### Psychological Sibling Abuse

Of the three types of sibling abuse, psychological sibling abuse is the easiest to ignore or overlook and the most difficult to define. Adults will often dismiss psychological abuse as “no big deal” and minimize the behavior (Caspi, 2011; Wiehe, 1997). Some questions to consider in regard to an action being abusive include how often the behavior is occurring (how consistent is the action) and how severe the words being verbalized (calling a brother a “jerk” versus threatening to stab him) (Whipple & Finton, 1995). Usually, psychological sibling abuse occurs to gain control through humiliation, degradation, and the promotion of fear. As such, sustained abusive interactions of this nature can have a long-term impact on self-esteem, conflict resolution, and interpersonal competencies (Caspi, 2011; Morrill-Richards, 2009; Morrill-Richards & Leierer, 2010; Whipple & Finton, 1995).

Given the severity and lasting nature of the implications unaddressed psychological sibling has on both the perpetrator and survivor, it is critical to respond to reports of this type of abuse in earnest (Garey, 1999). When left untreated, both victims and perpetrators of psychological sibling abuse are likely to experience low levels of self-esteem as well as a variety of mental health issues including depression, neurotic tendencies, and anxiety (Ammerman & Hersen, 1991; Morrill-Richards & Leierer, 2010; Wiehe, 2000). Victims of psychological abuse may isolate, feel a lack of control over emotions, and internalize the abuse which often leads to lifelong history of involvement

in emotionally abusive relationships (Caffaro-Conn Caffaro, 1998; Garey, 1999; Kiselica & Morrill-Richards, 2007).

As psychological abuse describes a broad category of behavior, this study will focus on two primary subgroups, emotional abuse and verbal abuse, in order to gain a more comprehensive sense of the specific type of psychological maltreatment that has occurred. Some examples of emotional abuse include intentional destruction of property, intentional neglect of a sibling, and exposing a sibling to danger with intent and purpose (Caspi, 2011; Whipple & Finton, 1995). Verbal abuse among siblings is a bit more concrete and requires speaking to a brother or sister with the intent to terrorize, insult, threaten, or emotionally wound (Caffaro & Conn-Caffaro, 1998; Wiehe, 2000).

#### Physical Sibling Abuse

Multiple studies have found physical abuse to be the most prevalent found violence in the United States; this holds true in regard to sibling physical abuse (Duncan, 1999; Goodwin & Roscoe, 1990; Siminelli et. al. 2002; Wiehe, 1997). As mentioned previously, over 66% of college students surveyed experienced physical sibling abuse in a study conducted by Simonelli et al. (2002). Duncan (1999) conducted research in which he found 22% of the children surveyed identified as having been “hit” by a sibling with over 8% of participants reporting being severely physically beaten. In addition, Straus and Gelles (1990), found results from a national survey of family violence indicating approximately 80% of children under the age of 17 had hit a sibling at least once, while over 50% stated they had engaged in severe acts of physical aggression against a brother or sister, which included stabbing or punching/hitting with an object.

Sibling violence among brothers and sisters typically declines as children age, which may lead parents to dismiss the acts and minimize the impact of the aggressive exchanges among the siblings. It has been established that the victims of physical abuse as a child are at high risk for re-experiencing abuse through their lifetime (Goodwin & Roscoe, 1990; Steinmetz, 1981). Often, this experience will manifest in dating experiences and choice of romantic partners (Simonelli et. al., 2002). As sibling abuse begins during childhood, it creates a particular risk for this type of re-victimization (Goodwin & Roscoe, 1990; Morrill-Richards, 2009). This may suggest a transition to peer bullying experiences as either a perpetrator or survivor, with each behavior experienced on a developmental continuum.

### Sexual Sibling Abuse

When considering the definition of sibling sexual abuse, it is first necessary to understand there are two primary reasons for this type of abuse to occur, though they are extremely different (Morrill, 2014). When a child has unmet needs for safety, security, and support, they may seek out a sibling to fill this void through sexual interaction (Morrill, 2014; Whelan, 2003). Frequently, the perpetrator of this type of sexual abuse is also a victim of abuse from another family member (Morrill, 2014; Phillips-Green, 2002). In contrast to the first type of abuse, the second revolves around gaining power. When a sibling is feeling powerless, that child may threaten retaliation or use physical force to gain sexual control of a brother or sister in order to feel in a position of power over at least one person (Phillips-Green, 2002; Whelan, 2003).

There are unique challenges present in regard to identifying and treating sibling sexual abuse. For example, most other forms of sexual abuse inflicted on a child involve



an adult perpetrating against a child, leaving a clear distinction of who is in the role of victim and who has the role of perpetrator (Morrill, 2014; Rudd & Herzberger, 1999; Whelan, 2003). Typically, as it relates to sibling sexual abuse, there are no adults involved, which makes identifying who is the victim and who is the perpetrator more challenging. This dynamic also makes sexual abuse among siblings easier to conceal (Caffaro-Conn Caffaro, 1998; Morrill, 2014). Several studies have found a family atmosphere supportive of either a repressive or exaggerated sexual climate allows for greater ease in concealing sibling sexual abuse (Caspi, 2011; Phillips-Green, 2002). Often, siblings share a bedroom and have easy access to one another, which can allow for sexual abuse to occur regularly and undetected by family members. All of these factors contribute to underreporting of this type of sexual abuse in contrast to other forms of sexual abuse against children (Morrill, 2014; Whelan, 2003; Wiehe, 1997).

When left untreated, the impact of sibling sexual abuse can lead to confusion regarding power and control in interpersonal relationships throughout adulthood (Caspi, 2011; Phillips-Green, 2002). Both victims and perpetrators may struggle to overcome the shame, guilt, and humiliation which can translate into challenges finding healthy attachments in adult relationships (Caffaro & Conn-Caffaro, 1998). The experience of sibling sexual abuse may also lead to greater risk for depression and social isolation (Morrill, 2014; Snyder et al., 2005).

### **Support for Hypothesis**

Individual studies that have been conducted on both bullying and sibling abuse suggest growing endemics that have significant and damaging consequences for both families and adult survivors (Ammerman & Hersen, 1991; Duncan, 1999; Morrill-

Richards & Leierer, 2010; Olweus, 1999). Studies of peer bullying and sibling abuse have shown that the two may correlate. Duncan (1999) conducted a study related to peer bullying in which 22% of children interviewed stated they had been hit by a sibling, while approximately 8% reported being severely beaten by a brother or a sister. Research on family violence conducted in 1994 by Graham-Berman and colleagues found that of the 1,450 college students participating in the study, nearly 55% identified a sibling as being aggressive, while 20% characterized their relationships with brothers and sisters as being more violent than in other households. A study by Simonelli et al. (2002) sought to explore the potential connection between sibling relationships and violence in the family. Over 66% of the 120 college students interviewed reported being physically assaulted by a sibling, and almost 4% disclosed they had been threatened with a gun or knife by a sibling.

Approximately 30% of middle school and high school students report moderate or frequent involvement in bullying as either perpetrators or victims, which often leads to poorer psychosocial adjustment issues (Nansel et al., 2001). Depending on the type of bullying, however, these numbers may be low. Wang, Iannotti, and Nansel (2009) found that of middle and high school students, 21% had been physically bullied in the prior two months of the study, 54% had been verbally bullied, 51% socially bullied, and 14% bullied by electronic means. Accessibility to technology has shifted the bullying paradigm as the online world has become an even bigger, and often times anonymous platform for abusive behavior. Donegan (2012) reports that over 27% of teenagers have been victims of cyberbullying with approximately 20% admitting they have been perpetrators of bullying behavior. While cyberbullying can happen in a myriad of ways,

data from studies have shown that offenses occur in the following areas: mean or hurtful comments posted online (14.3%), rumors online (13.3%), threats made via text message (8.4%) (Hinduja & Patchin, 2010).

Hawker and Boulton (2000) established depression, anxiety and low self-esteem as consistent correlates of victim experience which effects all areas of life. A meta-analysis conducted by Card (2003) supports these findings. In this meta-analysis, 205 studies were included that measured characteristics of abuse victims. The largest effect sizes included low self-esteem, peer rejection, poor social skills, problems internalizing behaviors and poor quality of friendships (Card, 2003).

Some may question whether adolescents tend to ignore or deny harm caused by bullying behaviors; however, research suggests the opposite. Donegan (2012) surveyed 3,000 students in which victims of bullying reported feeling vengeful (38%), angry (37%), and helpless (24%). Clearly, the effects of bullying behaviors have a tremendous impact on the emotional well-being of victims. It is important to note that bullying can happen in many contexts, with school bullying having the greatest depth of research, spanning the last 35 years (Smith, 2004). An interesting study by Nansel et al. (2001) found that not only the victims, but also the perpetrators of peer bullying experienced a range of psychological and social impairment. For example, those who perpetrated peer bullying demonstrated a strong dislike for school and had problems related to conduct disorders, while victims of bullying identified significant levels of low self-esteem, anxiety, depression, and insecurity (Nansel, et al., 2001). Identifying children who bully or who are bullied may not be as easy as it appears. Children who bully may share many characteristics with generally more aggressive children, which may include anger, lack of

affection at home, more domestic violence in the home, limited parental oversight, and viewing aggression as a value in intimate relationships as a way of gaining power over an individual or peer group (Olweus, 1999).

Research shows violence at home has an impact on behavior at school, and vice-versa. Further supporting a potential link between peer bullying and sibling abuse, Wolke (2012) suggests individuals who are victimized in both the home and at school have increased emotional and behavioral problems, while increased sibling support is likely to increase well-being and decrease bullying behaviors. Sibling abuse and victimization show a positive relationship with reports of bullying and victimization in the school environment, regardless of gender. Elevated levels of conflict and low levels of empathy were significantly associated to sibling bullying and sibling abuse victimization (Menesini, Camodeca, & Nocentini, 2010). Further supporting a potential relationship between peer bullying and sibling violence, a study by Straus et al. (1980) suggests nearly 40% of American children experience physical sibling abuse as either the victim or perpetrator, while over 80% partake in verbal abuse on a regular basis. This data appears to reveal a significant link between negative emotional well-being, peer bullying and sibling abuse.

The peers we grow up with and the siblings that form the primary family structure significantly impact our view of self and the world around us. Sibling abuse and peer bullying occur as frequently as they do because the inherent relationships between siblings and peers are unlike any other throughout the lifetime in regard to influence and length of contact (Morrill-Richards, 2009). This study attempts to analyze the data gathered from reports of peer bullying perpetration and sibling abuse perpetration with

the purpose of identifying a strong association between each other. As such, this information may serve to help better understand the processes and relationship between interpersonal and familial abuse. With this knowledge, it is the hope that this study will offer new and effective means of not only identifying and treating abuse by peers and siblings, but also in recognizing behaviors that may prevent such abuse.

### **Perspectives on Methodology**

Methodology with past studies related to familial violence has generally included background investigations into reports of violence within a population followed by a targeted assessment utilizing the CTS (Straus, 1970). The CTS (Straus, 1979) was originally developed as an assessment tool to measure type and severity of verbal and physical aggression within the family structure. The original version has been modified for use in hundreds of studies dealing with issues of abuse both inside and outside of the family (Caspi, 2011; Goodwin & Roscoe, 1990; Morrill, 2009; Morrill & Bachman, 2013; Straus & Gelles, 1990). The CTS has been revised to address issues related directly to sexual abuse and coercion (Caspi, 2011; Hines & Saudino, 2003).

Several studies have been conducted to investigate the prevalence of sibling abuse and familial conflict using an altered version of the CTS (Caspi, 2011; Goodwin & Roscoe, 1990; Morrill & Bachman, 2013; Morrill-Richards, 2009; Morrill-Richards & Leierer, 2010; Straus & Gelles, 1990; Sugaman & Hotaling, 1996). In 1990, Goodwin and Roscoe used the CTS (Straus, 1979) to assess the report of intra-familial violence by high school students. Of the 272 participants, approximately two-thirds reported having some type of interaction with sibling abuse as either a victim or perpetrator. Morrill-Richards and Leierer (2010) used an altered version of the CTS to measure the propensity

of psychological, physical, and sexual sibling abuse in college students. Their results indicated approximately 50% of those surveyed had been either a victim or perpetrator of sibling abuse (Morrill-Richards & Leierer, 2010).

In addition to being widely used in the academic study of family violence and extra-familial abuse, the CTS has begun to be used in clinical settings. Over the past several decades, the CTS has grown in popularity at agencies and clinics that have begun to use the instrument as part of relationship assessment batteries (Stappenbeck & Fals-Stewart, 2004). The CTS has proven to be an effective tool in assessing rates of personal violence across populations (Straus & Ramirez, 2007). When compared to personal violence rates uncovered by the National Crime Victimization Survey, the CTS has shown to detect these same actions at a range of 10-30 times higher (Straus, 2012). Personal violence includes conflict both inside and outside of the family, which is an important consideration when comparing bullying behaviors (Ballinger, 2000).

The CTS has primarily dominated the study of familial violence and peer violence in general. Its broad and consistent use in this field has solidified its reliability and validity. However, it is important to note that the study of a topic with multiple instruments that are consistently reliable and valid may likely give researchers a more accurate picture of the data and subsequent conclusions they draw from their work. This lack of variety regarding instrumentation should be noted as a possible weakness and considered in future research related to this and associated issues.

### **Conclusion**

Since the 1970's, the study of family violence has moved from being a private, family issue to one that is now public and a focus of research related to prevention,

treatment, and education (Ammerman & Hersen, 1991; Phillips-Green, 2002; Rudd & Herzberger; 1999; Wiehe, 2000). The majority of research that has been conducted on family violence has focused on the patriarchal model and abuse between spouses/partners or parent to child abuse (Caspi, 2011; Hamel, 2009). In spite of this growing literature related to family violence, the study of sibling abuse has been underrepresented in the academic research, comparatively (Caffaro & Conn-Caffaro, 2005; Caspi, 2011; Kiselica & Morrill-Richards, 2007; Wiehe, 1997; Wiehe, 2000).

Over the past few decades, research related to peer bullying has increased, along with the perception that peer bullying is comparable to other abusive behaviors (Clarke & Kiselica, 1997; Duncan, 1999; Espelage & Swearer, 2003; Olweus, 1994). Historically, the perpetration of peer bullying has been minimized as normal developmental behavior, much like that of perpetration of sibling abuse (Whitted & Dupper, 2005). Additionally, the manner in which siblings bond is similar to that of peers, with siblings being considered ones closest peer throughout life. As such, the consequences of experience with both sibling abuse and peer bullying have shown to have similar and damaging psychological consequences lasting into adulthood (Ammerman & Hersen, 1991; Hawker & Boulton, 2000; Morrill-Richards & Leierer, 2010; Simonelli, et al., 2002). The background in this literature review provides the foundation for moving family and peer violence literature forward, and to address a potentially missing area of research that associates perpetration of sibling abuse and perpetration of peer bullying. An altered version of the CTS (Straus, 1979) will be used to survey the test subjects, which, as was detailed in this review, has been shown to be a reliable and effective measure for abusive

relationships across hundreds of studies (Goodwin & Roscoe, 1990; Morrill & Bachman, 2013; Morrill-Richards, 2009; Straus, 2012; Straus & Ramirez, 2007).

Research addressing various types of sibling abuse has hypothesized possible links between experience with sibling abuse as a child and long-term consequences as an adult; however, there is currently no quantitative study specifically investigating these proposed connections, particularly with experiences of bullying. This review of literature attempts to identify these connections and provide a clear and understandable background into previous research on these topics.

This study characterizes the effort to promote and expand much needed serious research on this under-studied topic. One of the primary benefits of this research will be providing one of the only empirical studies conducted on the relationship between perpetration of peer bullying and perpetration of sibling abuse. As such, this research opens the door for future study to provide more insight into addressing the phenomenon in a meaningful way.



## CHAPTER 3

### METHODOLOGY

#### **Introduction**

The purpose of this study was to determine to what extent two or more variables of sibling abuse perpetration maximally correlate with two or more variables of peer bullying perpetration, and how gender may mediate this relationship. This chapter explains the type of research, a description of the population, selection of the sample, hypotheses, definitions of the variables, descriptions of the research instruments, procedure for data collection, and the statistical procedures used to analyze the data. The research question that will be considered in this exploration: What is the nature and dimension of the relationship between sibling abuse perpetration and peer bullying perpetration, and is gender a mediating factor?

#### **Research Design**

A quantitative design was adopted for this study. Within the quantitative framework, this study used a correlational, survey design in which there was no treatment given to the subjects involved in the study. The self-report survey instrument was used to gather information related to already existing life-experiences across a population at one point in time. The variables were not manipulated in this study; rather information gathered from the self-report survey was used to explore patterns and trends to determine the extent of a

possible relationship between the variables. This correlational aspect of the design does not attempt to determine a causal relationship, which is an important aspect to note in correlational design (Kline, 2010). The advantages of using this type of research design includes the ability to gather a large amount of information from a population being sampled in a relatively short amount of time, as well as the capability to explore the potential interrelations of a greater number of variables (Edwards & Lambert, 2007; Kline, 2010). The disadvantages of using this type of research design include issues related to the self-report survey not accurately reflecting reality because of social desirability phenomenon, and the importance of understanding that correlational studies do not indicate causation (Aldrich, 1995; Edwards & Lambert, 2007).

### **Population and Sample**

The targeted population for this study was a general population pool where surveys were distributed across the internet within the United States of America. The data base used to distribute the survey was Survey Monkey. Some parameters for inclusion were set for the sample, such as all participants had to be at least 18 years of age and surveys could only be distributed to participants within the United States. There were also no incentives provided for participation and all participation was voluntary. The sample of this study included participants consenting to take the survey which contributed to this research study. The age range for the sample was 18 years and older, with participants under the age of 18 ineligible to complete the survey. It was required the participant be 18 years or older as participants under 18 are considered minors and consent to participate would require additional releases from guardians, which was

beyond the scope and ability of the primary researcher in this study. An a priori power analysis was conducted to help estimate an accurate sample size which helped define the variables for this study. The analysis established that the minimum acceptable sample size for this study to be 205, with a predicted effect size of .15, a desired statistical power of .80, and an alpha of .05. In addition to a power analysis, sample sizes were compared in prior related studies. The majority of the research related to this topic had a final sample size between 85 and 650 (Caffaro & Conn-Caffaro, 1998; Goodwin & Roscoe, 1990; Liem & Boudewyn, 1999; Morrill-Richards, 2009; Simonelli et al., 2002; Steinmetz, 1978; Wiehe, 1997; Wiehe, 2000). After considering the related research, a target sample size of 300 was established before collection. A return rate of 75% was estimated for this study after consideration of those who choose not to respond and those who return incomplete surveys (five or more questions unanswered). That left a final estimate of the final sample size to be approximately 225 participants for this analysis, all of which would be English proficient. The subjects of this study were purposively chosen because they are 18 years or older and this life experience will likely provide valuable insight in the study's focus areas of peer bullying and sibling abuse. Upon the completion of data collection, a total of 252 participants were received for the purpose of data analysis for this study

### **Hypothesis**

The proposed hypothesis addressed a specific gap in research on peer bullying, sibling violence, and gender, which suggests that when surveyed reports of sibling abuse and peer bullying perpetration among the general population during the lifetime are compared, there will be a strong association between the variables. More specifically, the

hypothesis for the study as well as the specific relationship between variables, was as follows: There is a significant relationship between lifetime reports of sibling abuse perpetration behaviors and lifetime reports of peer bullying perpetration behaviors, from the general population. The statistical test used to study this relationship was structural equation modeling utilizing partial least squares. The null hypothesis for this study: There is not a significant relationship between lifetime reports of sibling abuse perpetration behaviors and lifetime reports of peer bullying perpetration behaviors, from the general population.

### **Definition of Variables**

The operational definition for perpetration in this study is someone who brings about or produces, performs, or executes an abusive act against either a sibling or a peer. The specific variables of this study included reports of physical, sexual and psychologically abusive behaviors in both peer bullying and sibling violence, from the perspective of perpetration. This study deployed an exploratory survey which is based on an altered version of the original CTS (Morrill-Richards, 2009; Straus, 1979).

Three variables were analyzed from reports of sibling perpetrators and three from reports of peer perpetrators. Therefore, there was a total of six variables used in this study with three total variables comprising perpetration of sibling abuse (perpetration of sibling psychological abuse, perpetration of sibling physical abuse, and perpetration of sibling sexual abuse), and three total variables comprising perpetration of peer bullying (perpetration of peer psychological bullying, perpetration of peer physical bullying, and perpetration of peer sexual bullying).

## Perpetrating Sibling Abuse

Establishing when normal developmental behavior between siblings begins and ends, is not an easy task (Caffaro & Conn-Caffaro, 1998; Wiehe, 2000). The severity, frequency, and emotional damage caused by abusive behaviors are essential aspects in whether a behavior is defined as abnormal and abusive in nature (Morrill-Richards, 2009). Sibling abuse can be defined into three main groupings: Physical, Psychological, and Sexual, which is consistent with other types of abuse (Johnston & Freeman, 1989).

### **Perpetrating Physical Sibling Abuse**

The conceptual definition of this variable includes any aggression that goes beyond the “normal” developmental assertion that may occur within a dyad. Consequently, a key component to determining if a sibling relationship is abusive is the intent to cause harm. A repeated intention to harm and the perception of other siblings that the abusive action is severe in nature are main components in defining the physical sibling abuse dynamic (Morrill-Richards, 2009). Items for this variable that define the instrument include: I threw an item at a sibling that could hurt; I hit, slapped or kicked a sibling; I grabbed a sibling in a forceful manner; I beat a sibling up; I forcibly grabbed the neck of a sibling to control or hurt; and, I used a sharp object or a gun against my sibling. For the operational definition of this variable, in SPSS, we introduced each item score as raw data per participant or survey and created a raw database for the study with all participants and all variables in the study. The average score per person was calculated by adding the score of each of the items in the variable and dividing the total score by the total if items. This average score will be a number between 0 and 4 (exact interval scale).

### **Perpetrating Sexual Sibling Abuse**

The conceptual definition of this variable includes any sexual behavior that includes inappropriate touching, indecent exposure, exposure to pornography, and any type of sexual activity. Items for this variable that define the instrument include: I touched a sibling in a sexual way; I insisted a sibling have sexual contact with me; and, I showed a sibling pornographic material. For the operational definition of this variable, in SPSS, we introduced each item score as raw data per participant or survey and created a raw database for the study with all participants and all variables in the study. The average score per person was calculated by adding the score of each of the items in the variable and dividing the total score by the total if items. This average score will be a number between 0 and 4 (exact interval scale).

### **Perpetrating Psychological Sibling Abuse**

The conceptual definition of this variable includes any behavior, verbal or otherwise, where the abuse and deviation from what is normal are centered around the intensity and frequency of each action. Instances of relevant behavior would include words and actions communicating humiliation and contempt that have considerable bearing on the overall well-being and self-esteem of a sibling. Items for this variable that define the instrument include: I showed a sibling affection even though we disagreed; I ridiculed a sibling; I warned I would physically hurt a sibling; I screamed at a sibling; I talked with a sibling in a calm manner; I consoled a sibling when he/she was feeling troubled; I warned a sibling using a gun or knife; I have laughed with others at a sibling which hurt him/her; I have harassed a sibling via texting or social media; and, A sibling disliked attending school because of me. For the operational definition of this variable, in

SPSS, we introduced each item score as raw data per participant or survey and created a raw database for the study with all participants and all variables in the study. The average score per person was calculated, after reversing the score in those items that are stated in different direction per variable, adding the score of each of the items in the variable and dividing the total score by the total if items. This average score will be a number between 0 and 4 (exact interval scale). Numbers 26, 28, and 37 were reverse coded before entering raw data into SPSS and calculating the total score per participant.

### Perpetration of Peer Bullying

Bullying will be defined as any condition or act that creates an environment, either online or offline, where an individual or group feels fear or intimidation which may include physical, psychological/verbal, or sexual aggression and or harassment (Batsche & Knoff, 1994; Keith & Martin, 2005; Olweus, 1999; Rigby, 2002).

#### **Perpetrating Physical Peer Bullying**

The conceptual definition of this variable includes any aggression directed at peers with the intent of causing physical harm to others. Items for this variable that define the instrument include: I threw an item at a peer that could hurt; I hit, slapped, or kicked a peer; I grabbed a peer in a forcible manner; I beat a peer up; I forcibly grabbed the neck of a peer to control or hurt; and, I used a sharp object or a gun against a peer. For the operational definition of this variable, in SPSS, we introduced each item score as a raw data per participant or survey and created a raw database for the study with all participants and all variables in the study. After this, the average score per person was calculated by adding the score of each of the items in the variable and dividing the total

score by the total of items. The average score will be a number between 0 and 4 (exact interval scale).

### **Perpetrating Sexual Peer Bullying**

The conceptual definition of this variable includes any abuse that is sexual in nature, which may range from sexual harassment, inappropriate touching, to rape. Items for this variable that define the instrument include: I forcefully touched a peer in a sexual way; I insisted a peer have sexual contact with me; I showed a peer pornographic material. For the operational definition of this variable, in SPSS, the primary researcher introduced each item score as raw data per participant or survey and created a raw database for the study with all participants and all variables in the study. The average score per person was calculated by adding the score of each item in the variable and dividing the total score by the total of items. This average will be a number between 0 and 4 (exact interval scale).

### **Perpetrating Psychological Peer Bullying**

The conceptual definition of this variable includes any condition or verbal act that creates an environment in which individuals or groups feel fear or intimidation in addition to being the victims of assault, theft, or harassment; this “indirect” type of bullying can refer to behaviors that lead to social exclusion by spreading malicious gossip or withdrawal of friendships. Items for this variable that define this instrument include: I ridiculed a peer; I warned I would physically hurt a peer; I talked with a peer in a calm manner; I consoled a peer when they felt troubled; I warned a peer using a gun or knife; I have laughed with others at a peer which hurt him/her; A peer dislikes attending school



because of me; I have harassed a peer via texting or social media; and, I showed a peer affection even though we disagreed. For the operational definition of this variable, in SPSS, the primary investigator introduced each item score as raw data per participant or survey and created a raw database for the study with all participants and all variables in the study. The average score per person was calculated, after reversing the score in those items that are stated in different direction per variable, adding the score of each of the items in the variable and dividing the total score by the total if items. This average score will be a number between 0 and 4 (exact interval scale). Numbers 1, 10, and 14 were reverse coded before entering raw data into SPSS and calculating the total score per participant.

### **Instrumentation**

The variables in this study are designed to assess two aspects of abuse that this researcher is hypothesizing to be connected: perpetration of sibling abuse and perpetration of peer abuse (bullying). The questions are designed to assess for three areas of abusive behavior: psychological, physical and sexual. The first section of this survey addressed sibling abuse perpetration interactions and consisted of measures for the variables: perpetration of sibling psychological abuse, perpetration of sibling physical abuse, and perpetration of sibling sexual abuse, which were used to create the canonical measure of sibling abuse perpetration. The second section of the survey addressed peer bullying (abuse) perpetration interactions and consisted of the measures for the variables: perpetration of peer psychological bullying, perpetration of peer physical bullying, and perpetration of peer sexual bullying, which were used to create the canonical measure of peer bullying perpetration.

The instrumentation for this study was utilized to determine what data was needed to answer the specific research questions relevant to this study. This study deployed an exploratory survey which is based on an altered version of the original CTS (Morrill-Richards, 2009; Straus, 1979). The original CTS was designed to measure the frequency, severity, and prevalence of various types of aggression among partners. A huge strength of the CTS is that the measure has consistent and well established internal consistency, test-retest reliability and validity across hundreds of studies. This fact holds true when the original study is adapted to measure aggression among groups other than intimate partners, which has shown to hold the same levels of reliability, validity and internal consistency across groups tested, and across hundreds of studies (Bohannon, Dossier, & Lindley, 1995; Cascardi, Avery-Leaf, O'Leary, & Slep, 1999; Schafer, 1996; Simpson & Christensen, 2005). Over the past four decades, construct validity of the CTS has been demonstrated across hundreds of studies (Ballinger, 2001; Morrill-Richards, 2009). In addition to construct validity, content validity has also been consistently high across time and numerous studies that have used the altered version to assess conflict among different groups (Morrill-Richards, 2009; Straus & Gelles, 1990; Straus & Mickey, 2012). Concurrent validity of the CTS has also been measured frequently through a comparison of the reports obtained separately from partners taking the survey, with correlation results consistently ranging from .68 to .82 across the areas of conflict measured (Straus & Mickey, 2012; Simpson & Christensen, 2005). The CTS has decades of established research behind its use in the psychology and counseling fields. Construct validity of the CTS has been consistently demonstrated and internal reliability of the instrument has been shown to be between .79 and .96 (Straus & Gelles, 1990). With limited gender

variances, the CTS has been both valid and reliable with clinical, community and college subjects (Cascardi et al., 1999). Straus and Mickey (2012) found median alpha coefficients of reliability to between .78 and .86 for both men and women respectively, across dozens of national and international studies.

The altered CTS developed by Morrill-Richards (2009) which specifically deals with sibling conflict, tested the inter-correlation of each scale related to experience with physical abuse, psychological abuse, and sexual abuse, respectively. The psychological sibling abuse scale reflected a Cronbach's alpha coefficient of .85. The physical sibling abuse scale reflected a Cronbach's alpha coefficient of .924. The sexual sibling abuse scale reflected a Cronbach's alpha of .847. As such, this altered scale has been cited and/or used by leaders in the sibling abuse field (Caspi, 2011; Morrill, 2014; Morrill-Richards & Bachman, 2013; Morrill-Richards & Leierer, 2010).

Responses to the first 18 questions of the CTS, which address prevalence and severity of perpetration of sibling abuse, were answered in a range from never to always (0= never; 1= very rarely; 2= rarely; 3= occasionally; 4= very frequently). The second set of 18 questions address the prevalence and severity of perpetration of peer bullying, were answered in a range from never to always (0= never; 1= very rarely; 2= rarely; 3= occasionally; 4= very frequently) . Further analysis of the instrument included possible answers grouped into five categories, which are as follows: 0= never; 1=1-3; 2=4-6; 3=7-9 and 4=10+ with each representing number of occurrences of the item in question happening at any point during the lifetime. These questions and their answers not only measured recollection of presence and severity of perpetration of sibling abuse and peer bullying, but also provided information regarding the type of experience with sibling or

peer conflict as a perpetrator. The following is an example of the altered CTS questions in this survey:

I grabbed a sibling in a forceful manner 0 1 2 3 4

### **Data Collection**

Survey Monkey was used for data collection in this study. Survey Monkey, an online survey company, provides free, customizable surveys, as well as programs that include data analysis, sample selection, bias elimination, and data representation tools. Settings for this study included any person over the age of 18 years old. The primary investigator hid all IP addresses connected to each completed survey, ensuring anonymity. Since the survey used was self-paced, there was only minimal risk associated with individual participation. Participation was voluntary. All data gathered for this study was treated confidentially. The primary investigator included with the survey a front page explaining what informed consent is, contact information for questions regarding the survey, and a national phone number to contact for any mental health concerns related or unrelated, to participation in this study. Subjects had to agree to the conformed consent via a button on the screen before proceeding to the survey questions.

Participants completed the survey individually; there was no competition involved. The primary researcher communicated openly with participants about potential risks and ways to seek help or counseling for issues related to the completion of this survey, ensuring that they feel comfortable with the process, thereby avoiding psychological risk. Participants who felt uncomfortable prior or during completion of this study, were instructed that they may stop participating at any time, without consequence. It was communicated to participants that they do not have to participate if they do not

want to. It also was communicated they would not be putting their names on the survey they complete, further managing both risk and confidentiality.

### **Data Analysis**

After a review of similar studies that have examined sibling abuse or peer bullying, some trends in methodology used were noted. Numerous studies have taken a multivariate approach in order to explore potential relationships of various dimensions of abuse (Duck, 2005; Field, Crothers, & Kolbert, 2007; Moore, 2002; Morrill-Richards, 2009; Sterzing, 2013). Due to the very strong violations of the assumptions of classical CCA (as described in the results chapter) the researcher decided to use structural equation modeling (SEM), which is a more modern method of canonical correlation analysis, developed mainly in the last twenty five years (Kline, 2004). Two SEM techniques could potentially be used to address the research question and hypotheses: (a) covariance-based (CB-SEM) or (b) partial least squares-based (PLS-SEM), which operate using very different statistical algorithms. Covariance-based SEM operates by reproducing the empirical covariance matrix to explain the relationships between the latent variables. In CB-SEM the aim is to minimize any difference between the estimated and sample covariance by estimating model parameters. Consequently CB-SEM uses a maximum likelihood estimator (MLE) to fit data to a predefined model, and goodness of fit (GoF) tests are used to determine if the model should be accepted or rejected. In contrast, PLS-SEM, operates by maximizing the explained variance to predict the relationships between the latent variable; PLS-SEM uses an iterative algorithm to compute the model parameters, but MLE and GoF tests are not used in the analysis (Reinhartz, Haenlein, & Henseler, 2009).

Similar to CCA, CB-SEM, operates within the parametric statistical framework. Both assume normally distributed continuous variables measured at the interval level. However, PLS-SEM, was more appropriate for this study because it is a non-parametric method that has less constricting data requirements. An important consideration is that PLS-SEM is not as sensitive as CB-SEM is to the distributional and measurement features of the empirical data (Hair, Hult, Ringle, & Sarstedt, 2014; Reinhartz, Haenlein, & Henseler, 2009; Wong & Schonlau, 2013). In general, parametric statistics that assume normally distributed variables measured at the ordinal level, are not justified to analyze skewed questionnaire item scores with a 5-point scale rated at the ordinal level (Jamieson, 2004).

The sample size requirements for CB-SEM and PLS-SEM are very different. Similar to classical CCA, CB-SEM requires a very large sample size (usually at least  $N = 300$ ) to produce reliable results. It is suggested that over 80% of research article utilizing CB-SEM portrayed inaccurate conclusions because of insufficient samples sizes analyzed by researchers (Westland, 2010). On the other hand, PLS-SEM has minimum demands regarding the sample size and often achieves high levels of statistical power, even when the sample size is low (Hair et al., 2014).

Structural equation modeling utilizing partial least squares was chosen to address the research question and test the hypothesis of this study for the following three reasons. First, the empirical data consisted of interval ratings for questionnaire items, based on 5-point scales (0 = Never to 4 = Very Frequently). This data revealed skewed distributions that could compromise the results of canonical correlation analysis or covariance based-structural equation modeling. Second, the sample size was too low to achieve stable

estimates of canonical correlation coefficients using CCA or CB-SEM. Finally, there were heteroskedacity and multicollinearity issues with the data.

Composite reliability and Chronbach's alpha were considered for assessing reliability for this analysis. There are considerable concerns however with using Chronbach's alpha, particularly for this study. Cronbach's alpha is a very conservative measure of reliability, based on classical parametric theory, which assumes uncorrelated errors of measurement and parallelity- in essence, all factor loadings and error variances are constrained to be equal. Cronbach's alpha underestimates reliability when using PLS-SEM because these assumptions are violated (i.e., the measurement errors are correlated, and the factor loadings and error variances are unequal). The only measure of internal consistency that can be justified when using PLS-SEM is composite reliability, which is a measure of the overall uniformity of a collection of heterogeneous but similar items when combined to operationalize a variable (Hair, Ringle, & Sarstedt, 2011; Raykov, 1997). The values of Cronbach's alpha are consistently less than the values of composite reliability, because Cronbach's alpha is only a lower bound estimate of composite reliability (Hair et al., 2014; Werts, Linn, & Joreskog, 1974).

Peterson and Kim (2013) suggest it is more appropriate to use composite reliability in PLS-SEM path models, which can be interpreted in a similar fashion as Cronbach alpha, as Cronbach often provides a stark underestimation of internal consistency reliability of latent variables. Composite reliability was defined by Raykov (1997), as the sum of the standardized loadings squared / [(sum of standardized loadings) squared + the sum of the variance due to random measurement error for each loading- 1 minus the square of each loading].

Hair et al. (2011) suggests that at least 50% of an indicator's variance should be explained by the latent variable and therefore, absolute correlations between a construct and each of its manifest variables should be near or above 0.7. Outer loadings with a value above 0.6 are acceptable if the convergence criteria are fulfilled, or by eliminating the loading, this action does not singularly raise the reliability composite above the .70 threshold (Hair et al., 2011); this study complies with both thresholds. When these requirements are met, indicator reliability is confirmed (Chin, 2010; Hair et al., 2011; Henseler, Ringle & Sinkovics, 2009; Nitzl, 2010; Werts, Linn, & Joreskog, 1974).

Accordingly, indicator reliability for this study is as follows: Physical Sibling Abuse (.784), Psychological Sibling Abuse (.756), Sexual Sibling Abuse (.762), Physical Peer Bullying (.857), Psychological Peer Bullying (.680), and Sexual Peer Bullying (.776). Composite reliability of sibling abuse and peer bullying as latent variables are .811 and .817 respectively. Overall, reliability requirements were met for this study (Chin, 2010; Churchill, 1979; Hair et al., 2011; Henseler et al., 2009; Nitzl, 2010; Peterson & Kim, 2013; Werts et al., 1974).

The PLS-SEM analysis was conducted using SmartPLS software, which was downloaded from the developers' website ([www.smartpls.de](http://www.smartpls.de)). SmartPLS is based on the use of a graphic user interface (GUI). The use of the GUI in constructing models followed the instructions described by Wong and Schonlau (2013). The path diagram drawn with the GUI comprised two components: the measurement model and the structural model. The measurement model consisted of six reflective indicators, as there were six empirical measurements reflecting sibling abuse and peer bullying. The indicators, represented by rectangular symbols, were linearly combined by factor analysis



to operationalize the two latent variables, represented by the oval symbols. The factor loadings (i.e., the correlations between the indicators and their corresponding latent variables) are symbolized by  $\lambda$ . The structural model consisted of the relationship between the two latent variables, symbolized by the unidirectional arrow (sibling abuse to peer bullying) and the path coefficient, symbolized by  $\beta$ .

The minimum sample size required to construct the model using SmartPLS was obtained from the guidelines suggested by Wong and Schonlau (2013). Because the path diagram contained one arrow pointing at the dependent latent variable, the minimum sample size to achieve a valid model was at least  $N = 56$  (i.e., more than four times less than the actual sample size of  $N = 252$  used in this study).

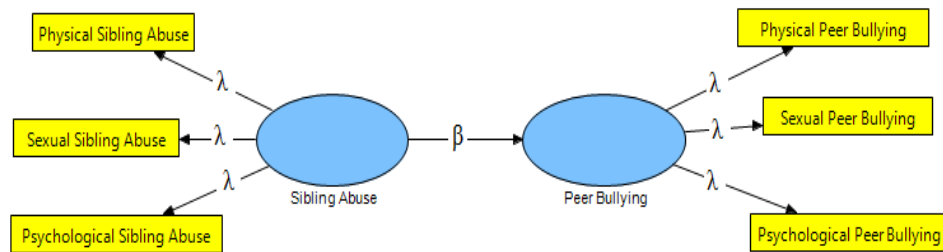


Figure 1. Path diagram for PLS-SEM drawn using the GUI of SmartPLS

Correct inferences centered on theoretical constructs and based on the PLS-SEM model can be assumed when there is construct validity. Hair et al. (2014) suggests that confirming construct validity in PLS-SEM includes evaluation of the coefficient of determination ( $R^2$ ), which signifies the amount of variance in the outcome variables

expounded by the predictor variables. A latent variable within a PLS-SEM model is composed of indicators, all of which must share a large amount of variance. Hair et al. (2014) suggests that assessing convergent validity in a PLS path model include confirming that the factor loading coefficients for each reflector indicator must be strong ( $\geq +.5$ ), and the average variance explained by the reflector variables that compose each latent variable must surpass .5 or 50% of the variance.

A PLS-SEM model must also demonstrate discriminant validity, which means that each latent variable should represent completely different constructs. Discriminant validity is confirmed if the factor loading coefficients for the items that constituted each latent variable were greater than the cross-loadings, and the square root of AVE (expressed as a decimal) was larger than the path coefficient between the latent variables (Wong & Schonlau, 2013).

For this analysis, the path coefficient's statistical significance, which represents the canonical correlation between sibling abuse and peer bullying, was estimated by bootstrapping because the indicator scores were not normally distributed. Wolter (2007) suggests the Monte Carlo algorithm for case resampling, which utilizes random sampling with replacement for bootstrapping. The theoretical premise suggesting that as long as the sample size is large, irrespective of the underlying distributional characteristics of the data, mean values will be normally distributed (Wolter, 2007). The questionnaire data were randomly sampled and resampled for 5000 times, with 250 cases in each sample, with standard error, the mean, and 95% confidence limits of the  $\beta$  coefficient being computed. If the t-statistic provided by mean/standard error was  $> 1.96$ , then the  $\beta$  coefficient was statistically significant at the conventional .05 level of significance.

The possible moderating effect of gender on the relationship between sibling abuse and peer bullying was also evaluated. A multi-level model was constructed using divided data collected either from the male participants or the female participants. The  $R^2$  and  $\beta$  coefficients for the population and multi-level models were compared. If the 95% CI of the  $\beta$  coefficients did not overlap, then it was assumed that they were significantly different at the conventional .05 level of significance.

### **Summary**

This chapter explained the type of research, a description of the population, selection of the sample, hypotheses, definitions of the variables, descriptions of the research instruments, procedure for data collection, and the statistical procedures used to analyze the data.

## CHAPTER 4

### PRESENTATION AND ANALYSIS OF DATA

#### **Description of Variables and Sample**

The responses to the study's survey were imported into the data editor of SPSS version 23.0. The total number of participants who replied to the questionnaire (in the rows of the data editor) was  $N = 252$ . Among the  $252 \times 38 = 9576$  maximum possible responses to the 38 survey items concerning sibling and peer abuse (in the columns of the data editor), a total of 33 respondents provided 45 missing values to 22 of the items (recorded as blank cells).

The distribution of missing values for each questionnaire item in Table 1 indicates that the frequencies of missing values did not appear to vary systematically with respect to the items used to measure each indicator. Table 2 reveals the distribution of missing values between the male participants and the female participants was relatively similar. The missing values did not appear to be a result of participants selecting to omit certain items (due to their reluctance to answer sensitive questions). Additionally, male and females did not selectively omit to answer certain items in preference to other items as it relates to response sensitivity.

Because the six indicators used in the analysis were operationalized by averaging groups of item scores (see Table 1) the presence of missing values could distort the measurements of the indicators. The missing values in each item were replaced using the

serial mean for each item, using the “Transform – Replace Missing Values” procedure in SPSS version 23.

Table 1

*Distribution of Missing Values by Items*

Indicator	Total	Item	Missing
Sexual Sibling Abuse	2	I showed a sibling pornographic material.	1
		I insisted a sibling have sexual contact with me.	1
		I touched a sibling in a sexual way.	0
Sexual Peer Abuse	2	I showed a peer pornographic material.	1
		I insisted a peer have sexual contact with me.	0
		I forcefully touched a peer in a sexual way.	1
Psychological Sibling Abuse	15	I have harassed a sibling via texting or social media.	0
		A sibling disliked attending school because of me.	0
		I have laughed with others at a sibling which hurt him/her.	2
		I warned a sibling using a gun or knife.	2
		I consoled a sibling when he/she was feeling trouble (R)	3
		I talked with a sibling in a calm manner (R)	1
		I screamed at a sibling.	2
		I warned I would physically hurt a sibling.	4
		I ridiculed a sibling.	1
		I showed a sibling affection even though we disagreed (R)	0
Psychological Peer Abuse	14	I have harassed a peer via texting or social media.	0
		I showed a peer affection even though we disagreed (R)	1
		A peer disliked attending school because of me.	0
		I have laughed with others at a peer which hurt him/her.	2
		I warned a peer using a gun or knife.	2
		I consoled a peer when they felt troubled (R)	2
		I talked with a peer in a calm manner (R)	3

Table 1-Continued

Indicator	Total	Item	Missing
		I screamed at a peer	2
		I warned I would physically hurt a peer	2
		I ridiculed a peer	0
Physical Sibling Abuse	4	I used a sharp object or a gun against my sibling.	0
		I forcibly grabbed the neck of a sibling to control or hurt.	1
		I beat a sibling up.	0
		I grabbed a sibling in a forceful manner.	0
		I hit, slapped or kicked a sibling.	3
		I threw an item at a sibling that could hurt.	0
Physical Peer Abuse	8	I forcibly grabbed the neck of a peer to control or hurt.	0
		I used a sharp object or a gun against a peer.	3
		I beat a peer up.	3
		I grabbed a peer in a forceful manner.	2
		I hit, slapped, or kicked a peer.	0
		I threw an item at a peer that could hurt.	0
Total	45		45

Note: (R) = reversed scores

Table 2

*Distribution of Missing Values by Gender*

	Frequency of Missing Values					Total
	None	1	2	3	4	
Female	114 45.2%	12 4.8%	5 2.0%	1 0.4%	0 0.0%	132 52.4%
Male	105 41.7%	12 4.8%	2 0.8%	0 0.0%	1 0.4%	120 47.6%
Total	219 86.9%	24 9.5%	7 2.8%	1 0.4%	1 0.4%	252 100.0%

A total of 252 respondents completed the questionnaire. Their socio-demographic characteristics are summarized in Table 3. Just over a half of the respondents ( $n = 132$ , 52.4%) were female. The respondents ranged in age from 18 years to over 60 years old. The most frequent age group ( $n = 74$ , 29.4%) was 45-59 years old.

Table 3

*Socio-demographic Characteristics of Respondents (N = 252)*

Characteristic		<i>f</i>	%
Gender	Female	132	52.4
	Male	120	47.6
Age (Years)	18 - 29	47	18.7
	30 - 44	71	28.2
	45 - 59	74	29.4
	≥ 60	59	23.8

### Descriptive Statistics

The six indicator variables collected to measure perpetration behaviors (physical peer bullying, sexual peer bullying, psychological peer bullying, physical sibling abuse, sexual sibling abuse, and psychological sibling abuse) were operationalized by averaging their constituent item scores (see Table 1) to create scales ranging from 1 = Never to 4 = Very Frequently. All of the frequency distributions were positively skewed, with modes visibly trending to the left hand side, between 1 and 2, suggesting that the majority of the respondents reported rarely perpetrating sibling abuse or peer bullying. Frequency distributions for each Sibling Abuse and Peer Bullying perpetration question is presented in Appendix C and D, respectively. The majority of respondents reported between 0 and

3 occurrences over the lifetime for a larger percentage of the study's questions, skewing the distributions overall.

Only 13 respondents of the 252 total reported no perpetration experiences with either sibling abuse or peer bullying over the lifetime (0.05%). Over 80% of the respondents reported that they never or very rarely (0-3 occurrences over the lifetime) perpetrated physical peer bullying ( $n = 239$ , 94.8%) or physical sibling abuse ( $n = 208$ , 82.5%). Over two thirds of the respondents reported that they never or very rarely perpetrated psychological peer bullying ( $n = 201$ , 79.4%) or psychological sibling abuse ( $n = 171$ , 67.9%). Over 90% of the respondents reported that they never or very rarely perpetrated sexual peer bullying ( $n = 233$ , 92.4%) or sexual sibling abuse ( $n = 239$ , 94.8%). Less than 5, 2% of the respondents reported that they occasionally or frequently (7-10+ occurrences over the lifetime) perpetrated sibling abuse or peer bullying. All of the Shapiro-Wilk tests in Table 4 were significant ( $p < .001$ ) indicating the indicators deviated strongly from normality and highly skewed.

Table 4

*Test for Normality of Indicator Variables*

Variable	Shapiro-Wilk Test (N = 252)	
	Statistic	p
Physical Peer Bullying	.526	<.001*
Physical Sibling Abuse	.739	<.001*
Psychological Peer Bullying	.921	<.001*
Psychological Sibling Abuse	.968	<.001*
Sexual Peer Bullying	.440	<.001*
Sexual Sibling Abuse	.329	<.001*

Note: \* Significant deviation from normality ( $p < .001$ )



The descriptive statistics for the six indicator variables are presented in Table 5. The six indicator variables demonstrated mean scores (*M*) and median scores (*Mdn*) as follows: Physical Peer Bullying (*M* = 1.18, *Mdn* = 1.00), Physical Sibling Abuse (*M* = 1.51, *Mdn* = 1.17), Psychological Peer Bullying (*M* = 1.65, *Mdn* = 1.59), Psychological Sibling Abuse (*M* = 1.82, *Mdn* = 1.80), Sexual Peer Bullying (*M* = 1.17, *Mdn* = 1.03), Sexual Sibling Abuse (*M* = 1.10, *Mdn* = 1.01). Confirmation of the deviations from normality were suggested by the high positive skewness statistics (Skew = 0.60 to 4.78) and by mean scores (*M* = 1.10 to 1.82) that were consistently higher than the median scores (*Mdn* = 1.00 to 1.80). A total of 51 outliers were identified with positive z-scores ranging from 2.6 to 8.4, which are outside the expected normal limits of  $\pm 2.5$ . The number of outliers identified in each indicator ranged from a minimum of 4 (in Physical Peer Bullying and Psychological Sibling Abuse) to a maximum of 15 (in Sexual Peer Bullying). Detailed frequency data can be found in appendix C.

Table 5

*Descriptive and Statistics for Indicator Variables (N = 252)*

Indicator	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>Mdn</i>	<i>SD</i>	Skew	Outliers
Physical Peer Bullying	1.00	4.17	1.18	1.00	0.39	3.68	4
Physical Sibling Abuse	1.00	4.33	1.51	1.17	0.71	1.80	8
Psychological Peer Bullying	1.00	3.60	1.65	1.59	0.43	1.21	7
Psychological Sibling Abuse	1.00	3.30	1.82	1.80	0.44	0.60	4
Sexual Peer Bullying	1.00	3.67	1.17	1.03	0.45	3.36	15
Sexual Sibling Abuse	1.00	4.00	1.10	1.01	0.35	4.78	13

Note: Descriptive Statistics were run in SPSS which converted raw data scores as follows: 0=1, 1=2, 2=3, 3=4, 4=5. This conversion is reflected in the table above.

A micro-level analysis of the data, which can be lost in the overall trends of the larger data picture, reveals some important findings. For example, 49% of participants reported that at some point in their lifetime, they had hit, slapped, or kicked a sibling, with 17% reporting they had done so occasionally to very frequently (between 7 and 10+ occurrences). Further, 78% of participants stated that at some point in their lifetime, they had ridiculed a sibling, with 30% reporting they had done so occasionally to very frequently. When asked how often they had warned a sibling using a gun or knife, a surprising 86% of participants indicated they had done so at least once.

As it relates to peer bullying perpetration, 6% of participants reported they had used a gun or a knife to warn a peer at some point during their lifetime. When asked how often they had hit, slapped, or kicked a peer, 24% reported they had done so at least once in their lifetime, with a further 24% reporting they had warned a peer they would physically hurt them at least once. When asked how often they had ridiculed a peer, 12% report they had done so either occasionally or on a very frequent basis, with 62% reporting this had occurred at least once. When the participants were asked how often they had laughed with others at a peer which hurt him/her, more than half (52%) reported they had done so at least once in their lifetime. Finally, when asked how often a peer had disliked attending school because of the behavior of the participant, 12% reported this was the case at least once during their lifetime. It is important to note that many of these responses likely indicated that these behaviors occurred more than once, and that it only takes one encounter for the victim to be emotionally and even physically scarred for a lifetime. Possible reasons for the lower overall prevalence of sibling abuse and peer

bullying in the present study however, when compared to some past studies, need to be discussed.

Utilizing a square root or logarithmic transformation to normalize the data was not possible due to the positive skew of the indicator variables. Attempting to normalize the data by excluding outliers was not justified, because the removal of so much important data from the statistical analysis would mean that the results would not be representative of the population from which the sample was drawn. Additionally, the exclusion of outliers would mean that the results of this study would diminish and ignore the questionnaire responses of those participants who reported the perpetration of sibling abuse and/or peer bullying at higher frequencies over the lifetime, indicated by their choice of reported occurrences on the 5-point item scales.

Summarization of the variables using mean and standard deviation was not justified, as the data violated the assumptions of normality. Further, data analysis utilizing classical canonical correlation analysis to test the hypothesis and address the research question would be inappropriate considering the lack of normality within the data. The data violated the assumption of homoskedacity, reflected by the wide range in the variance of the indicators (0.12 in Sexual Sibling Abuse to 0.50 in Physical Sibling Abuse, giving a high variance ratio between the largest and smallest variance ( $0.50/0.12 = 4.17$ ). Multicollinearity was also an issue which violated the use of classical canonical correlation analysis. The matrix of highly significant ( $p < .001$ ) Spearman's rank (non-parametric) correlation coefficients between all of the six indicator variables, reflecting their multicollinearity, is presented in Table 6.

Table 6

*Correlation Matrix between Six Indicator Variables*

	Physical Peer Bullying	Physical Sibling Abuse	Psycho- logical Peer Bullying	Psycho- logical Sibling Abuse	Sexual Peer Bullying	Sexual Sibling Abuse
Physical Peer Bullying	1.000					
Physical Sibling Abuse	.405***	1.000				
Psychological Peer Bullying	.311***	.171***	1.000			
Psychological Sibling Abuse	.250***	.486***	.447***	1.000		
Sexual Peer Bullying	.383***	.365***	.233***	.265***	1.000	
Sexual Sibling Abuse	.205***	.263***	.172***	.151***	.423***	1.000

Note: \*\*\* Highly significant ( $p < .001$ ) correlation

There is non-linearity between the inter-relationships of the indicator variables, which is a further violation of the assumptions of classical canonical correlation analysis. This is reflected by the matrix of scatterplots depicted in Figure 2.

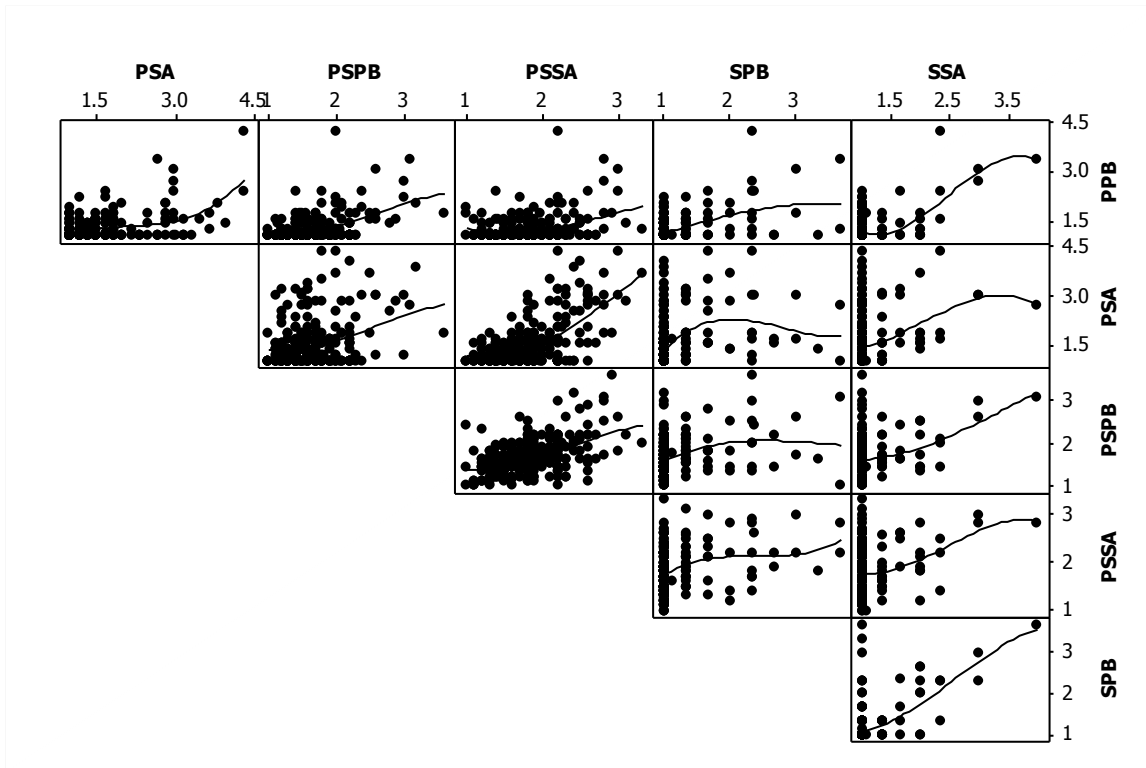


Figure 2. Matrix plot indicating non-linear relationships between indicator variables

Note: PSA = Physical sibling abuse; PPB = Physical Peer Bullying; PSPB = Psychological Peer Bullying; PSSA = Psychological Sibling Abuse; SPB = Sexual Peer Bullying; SSA = Sexual Sibling Abuse

PLS-SEM is appropriate for this analysis because it is a non-parametric method that is insensitive to the distributional and measurement characteristics of the indicator variables, and tolerates heteroskedacity and multicollinearity concerns (Hair et al., 2014). Consequently, the subsequent sections present only the results of PLS-SEM.

### PLS-SEM Population Model

The SPSS data file was imported into SmartPLS using the comma delimited (.csv) file format. Before running the PLS-SEM algorithm, the data were standardized by converting to z-scores (Hair et al, 2014). The “path weighting scheme” option was

selected, with a maximum of 200 iterations required to converge on a solution. Figure 3 presents the path diagram output by the GUI of SmartPLS software for the measurement and structural models based on all the data collected from the population ( $N = 252$ ). The factor loadings for the three indicators used to operationalize each latent variable (in bold) and the cross-loadings of the indicator for the alternative latent variable are also listed in Table 7.

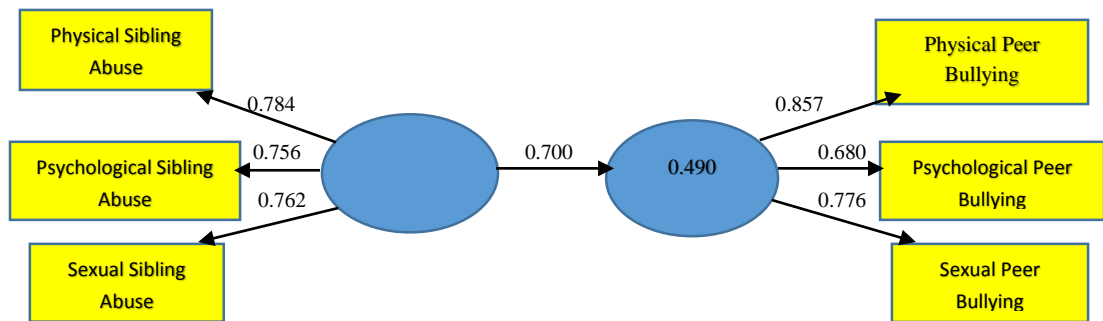


Figure 3. Population model of canonical correlation between Sibling Abuse and Peer Bullying constructed by SmartPLS ( $N = 252$ )

Table 7

*Factor Loadings and Cross Loadings for the Population Measurement Model*

Indicator	Latent Variable	
	Peer Bullying	Sibling Abuse*
Physical Peer Bullying	<b>.857</b>	.617
Physical Sibling Abuse	.464	<b>.784</b>
Psychological Peer Bullying	<b>.680</b>	.456
Psychological Sibling Abuse	.451	<b>.756</b>
Sexual Peer Bullying	<b>.776</b>	.541
Sexual Sibling Abuse	.648	<b>.762</b>

Note: Factor loadings for indicators used to operationalize latent variables are in bold.

The factor loadings for Sibling Abuse ( $\lambda = .756$  to  $.784$ ) and Peer Bullying ( $\lambda = .680$  to  $.857$ ) were strong, reflecting good convergent validity. The factor loadings for the indicators used to operationalize each latent variable were greater than the cross-loadings, reflecting good discriminant validity. The quality criteria for the measurement model in Table 8 also indicated that convergent validity was high, because more than 50% of the average variance was explained in each latent variable (AVE = 60.0% for Peer Bullying and 58.9% for Sibling Abuse). The internal consistency reliability of each latent variable was also good (Composite Reliability = .817 for Peer Bullying and .811 for Sibling Abuse). The strong internal validity of the model was indicated by Sibling Abuse explaining almost 50% ( $R^2 = .490$ ) of the variance in Peer Bullying.

Table 8

*Quality Criteria for the Population Measurement Model*

Latent Variable	AVE	Composite Reliability	$R^2$
Peer Bullying	.600	.817	.490
Sibling Abuse	.589	.811	

Table 9 provides the statistics for the evaluation of the structural population model. The path coefficient representing the canonical correlation for the population ( $\beta = .700$ ) was significantly greater than zero, indicated by the t-test after bootstrapping with 5000 random samples ( $t = 10.10, p < .001$ ).

Table 9

*Significance of Path Coefficient in Structural Population Model (N = 252)*

Path	$\beta$ (Population Model)	$\beta$ (Sample Mean) <sup>a</sup>	SE	<i>t</i>	<i>p</i>
Sibling Abuse → Peer Bullying	.700	.696	.067	10.10	<.001*

<sup>a</sup> Note: Mean and SE computed by bootstrapping with 5000 random samples. \* Significantly different from zero ( $p < .001$ ).

### PLS-SEM Multilevel Model

The method used to construct the multilevel in SmartPLS was the same as described above for the population model ( $N = 252$ ), except that the analysis was conducted twice, one using only the indicators for the male participants ( $N = 120$ ), and the other using only the indicators for the female participants ( $N = 132$ ). The path diagram of the multilevel model output by SmartPLS, which separated its analyses by male and female participants, is presented in Figure 4. The factor loadings for the three indicators used to operationalize each latent variable (in bold) and the cross-loadings of the indicator for the alternative latent variable for the male and female participants are also listed in Table 10 and 11.



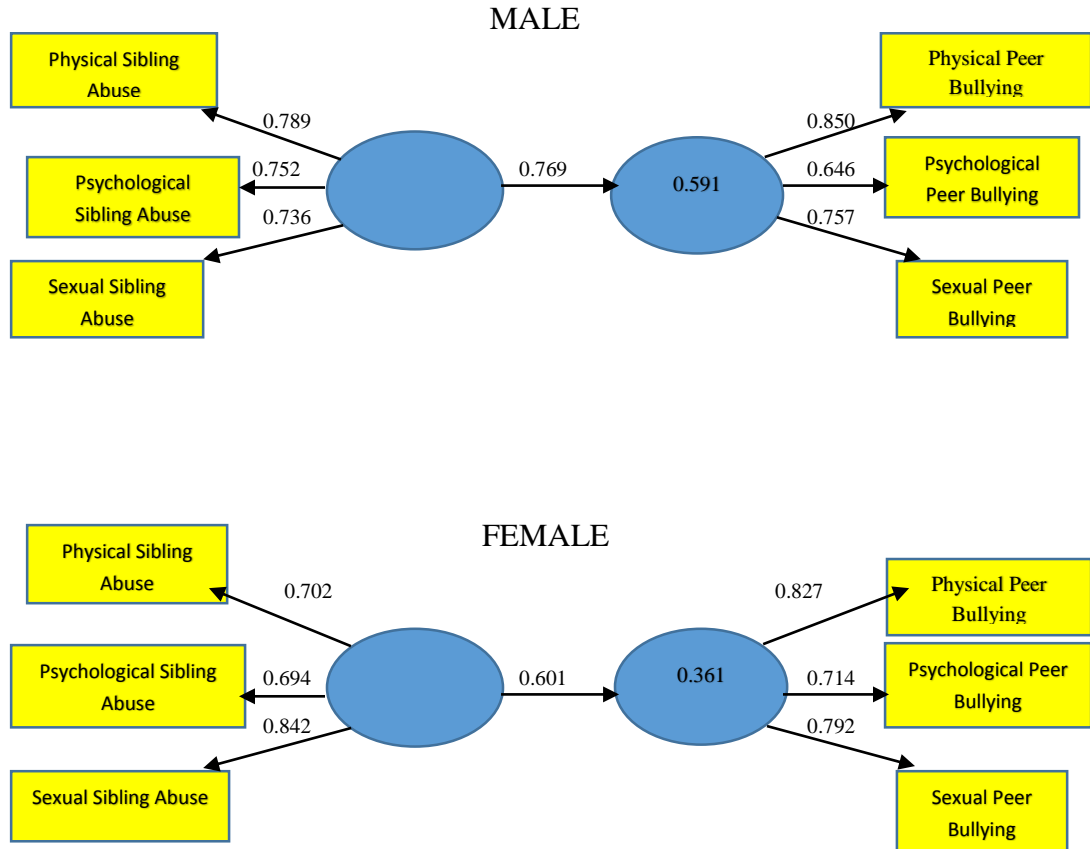


Figure 4. Multilevel model of canonical correlation between Sibling Abuse and Peer Bullying constructed by SmartPLS (Male  $N = 120$  ; Female  $N = 132$ )

Table 10

Factor Loadings and Cross Loadings for Multilevel Measurement Model (Male)

Indicator	Latent Variable	
	Peer Bullying	Sibling Abuse
Physical Peer Bullying	<b>.850</b>	.681
Physical Sibling Abuse	.524	<b>.789</b>
Psychological Peer Bullying	<b>.646</b>	.489
Psychological Sibling Abuse	.540	<b>.752</b>
Sexual Peer Bullying	<b>.757</b>	.554
Sexual Sibling Abuse	.663	<b>.736</b>

Note: Factor loadings for indicators used to operationalize latent variables are in bold.

Table 11

*Factor Loadings and Cross Loadings for Multilevel Measurement Model (Female)*

Indicator	Latent Variable	
	Peer Bullying	Sibling Abuse
Physical Peer Bullying	<b>.827</b>	.466
Physical Sibling Abuse	.319	<b>.702</b>
Psychological Peer Bullying	<b>.714</b>	.382
Psychological Sibling Abuse	.254	<b>.694</b>
Sexual Peer Bullying	<b>.792</b>	.537
Sexual Sibling Abuse	.625	<b>.842</b>

Note: Factor loadings for indicators used to operationalize latent variables are in bold.

In the male level of the measurement model, the factor loadings for Sibling Abuse ( $\lambda = .736$  to  $.789$ ) and Peer Bullying ( $\lambda = .646$  to  $.850$ ) were strong, reflecting good convergent validity. The factor loadings for the indicators used to operationalize each latent variable were greater than their cross-loadings, reflecting good discriminant validity.

The quality criteria for the male level measurement model in Table 12 also indicated that convergent validity was high, because more than 50% of the average variance was explained in each latent variable (AVE = 57.1% for Peer Bullying and 57.7% for Sibling Abuse). The internal consistency reliability of each latent variable was also good (Composite Reliability = .798 for Peer Bullying and .803 for Sibling Abuse). Strong internal validity of the model was indicated by Sibling Abuse explaining over 50% ( $R^2 = .591$ ) of the variance in Peer Bullying.

Table 12

*Quality Criteria for Multilevel Measurement Model*

Gender	Latent Variable	AVE	Composite Reliability	$R^2$
Male	Peer Bullying	.571	.798	.591
	Sibling Abuse	.577	.803	
Female	Peer Bullying	.607	.822	.361
	Sibling Abuse	.561	.792	

In the female level of the measurement model, the factor loadings for Sibling Abuse ( $\lambda = .694$  to  $.842$ ) and Peer Bullying ( $\lambda = .714$  to  $.827$ ) were strong, reflecting good convergent validity. Additionally, factor loadings for the indicators used to operationalize each latent variable were greater than their cross-loadings, reflecting good discriminant validity. The quality criteria for the female level measurement model in Table 12 also indicated that convergent validity was high, because more than 50% of the average variance was explained in each latent variable (AVE = 60.7% for Peer Bullying and 56.1% for Sibling Abuse). The internal consistency reliability of each latent variable was also good (Composite Reliability = .822 for Peer Bullying and .792 for Sibling Abuse). The moderate internal validity of the model was indicated by Sibling Abuse explaining over one third ( $R^2 = .361$ ) of the variance in Peer Bullying.

Table 13 provides the statistics for the evaluation of the structural multilevel model. The path coefficient representing the canonical correlation for the male level ( $\beta = .769$ ) was significantly greater than zero, indicated by the t-test after bootstrapping with 5000 random samples ( $t = 11.59, p < .001$ ).

Table 13

*Significance of Path Coefficient in Structural Multilevel Model*

Gender	Path	$\beta$ (Multilevel Model)	$\beta$ (Sample Mean) <sup>a</sup>	SE	<i>t</i>	<i>p</i>
Male	Sibling Abuse → Peer Bullying	.769	.763	.061	11.59	<.001*
Female	Sibling Abuse → Peer Bullying	.601	.554	.216	3.20	<.001*

Note: Mean and SE computed by bootstrapping with 5000 random samples. \* Significantly different from zero ( $p < .001$ ).

The path coefficient representing the canonical correlation for the female level ( $\beta = .601$ ) was also significantly greater than zero, indicated by the t-test after bootstrapping ( $t = 3.20, p < .001$ ).

To determine if the mean path coefficient for the male level ( $\beta = .763$ ) was significantly greater than the mean path coefficient for the female level ( $\beta = .554$ ) a one-tailed two sample t- test to compare the means of two independent samples with unequal variances was conducted. This test was not available in SmartPLS. The test was conducted manually using the formula:

$$\frac{(\bar{X}_1 - \bar{X}_2)}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

Where  $\bar{X}_1$  = mean of  $\beta$  for male level (.763);  $\bar{X}_2$  = mean of  $\beta$  for female level (.554);  $S_1^2$  = variance of  $\beta$  for male level (.0019);  $S_2^2$  = variance of  $\beta$  for female level (.0165);  $n_1$  = male sample size (120);  $n_2$  = female sample size (132). The mean path coefficient for the male level was found to be significantly greater than the mean path coefficient for the female level ( $t = 21.65, p < .001$ ). The results of the t-test suggests that

the canonical correlation between Sibling Abuse and Peer Bullying for the male participants was significantly stronger than the canonical correlation between Sibling Abuse and Peer Bullying for the female participants.

## CHAPTER 5

### DISCUSSION

The results of the statistical analysis described in Chapter 4 are discussed in r sections as follows: (a) Purpose of the Study; (b) Statement of the Problem; (c) Summary of the Literature Review; (d) Summary of Methodology; (e) Summary of Findings; (f) Interpretation of Findings; (g) Future Research; and (h) Applications to Professional Practice.

#### **Purpose of the Study**

The purpose of this quantitative predictive study was to determine to what extent two or more variables of sibling abuse perpetration maximally correlate with two or more variables of peer bullying perpetration, and how gender may mediate this relationship.

#### **Statement of the Problem**

While an increasing number of studies in the past few decades have examined both peer bullying and family violence concepts individually, very few studies have explored a possible relationship between sibling abuse perpetration and peer bullying perpetration behaviors, and whether gender may be a mediating factor. Sibling abuse and peer bullying behaviors are inherently dynamic problems that have significant impacts on both individuals and families. Given that bullying and sibling abuse have much in common on the surface, the next logical step is to attempt to fill the gap in research

between these two areas, and build on current understanding of the complexity of bullying.

### **Summary of the Literature Review**

Whether we are conceptualizing a relationship between peers or siblings, bullying behaviors are often quite similar. Furthermore, bullying and sibling abuse relationships have been studied in a variety of ways all around the world. In spite of the similarities between the two, there is a dearth of research assessing the association between these two constructs. Over the past several decades research that has addressed abuse within the family has changed the perception of it being a private concern into a public and dynamic issue that society as a whole should be concerned about, yet there is still a need to explore the connection between sibling abuse and peer bullying (Ammerman & Hersen, 1991; Bess & Janssen, 1982; Caffaro & Conn-Caffaro, 1998; Kiselica & Morrill-Richards, 2007).

There have been tremendous advances made in the areas of prevention, treatment, and education in regard to family violence, despite its short-sided emphasis on being primarily a patriarchal model—a model that suggests familial dynamics are completely dominated by the male in almost all aspects. The vast majority of research related to this issue; however, has ignored any study of familial and sibling violence and their relationship to peer bullying behaviors (Hamel, 2009; Morrill & Bachman, 2013). While there has been research supporting the notion that abuse experienced in childhood greatly increases the risk for abuse as an adult, there has been surprisingly little study conducted to explore this aspect within the family violence field (Caspi, 2011; Morrill & Bachman, 2013; Morrill-Richards & Leierer, 2010; Phillips-Green, 2002; Rudd & Herzberger,

1999). A study using the CTS (Straus, 1979) conducted by Goodwin and Roscoe (1990), found 60% of 272 high school students interviewed identified as having some experience with sibling abuse as either the survivor or perpetrator. In 1994, Graham-Berman and colleagues surveyed 1,450 college students regarding family violence. Their results found 54% of the students participating identified a sibling as being “aggressive,” while 20% perceived their sibling relationships to be more violent than those in other households. Research conducted in 2002 by Simonelli and colleagues sought to increase awareness regarding the connection between sibling relationships and violence in the family. Of the 120 college students interviewed, over 66% reported being physically assaulted by a sibling while nearly 3.5% disclosed they had been threatened by a sibling with a gun or knife. Duncan (1999) conducted a study related to peer bullying in which 22% of the children interviewed reported being “hit” by a sibling. Additionally, he found 8% of the children in the sample were beaten by a brother or sister (Duncan, 1999).

In a study by Komiyama (1986), 1,735 students from junior high school were asked questions related to values, home life, and violence. Over 40% of those surveyed reported being a victim of bullying. Of those who reported being bullied, nearly 70% admitted to perpetrating bullying against another. The participants who identified as having any type of experience with bullying (as either a victim, perpetrator, or both) reported significantly higher rates of “disagreeable” home environments, feeling rejection/lack of affection from a parental figure, and feeling a desire to inflict violence on those viewed as close (Komiyama, 1986). Renda et al. (2011), followed 800 young adults (13-14 years old), for 27 years. The subjects were selected for being known perpetrators of bullying and were followed into adulthood tracking any anti-social



behaviors through contact with police, court cases, and violence determined to be criminal in nature. The outcome of the study found a positive correlation with anti-social behaviors as an adult. After accounting for gender, males demonstrated a stronger relationship to anti-social behavior than women, though both remained significant (Renda et al., 2011). The findings highlight the importance of giving attention to peer bullying as a critical risk factor for anti-social behavior throughout the lifetime.

In a study by Holt et al. (2009), the family environment in relation to bullying behaviors was examined. Two hundred and five fifth-grade students were interviewed along with their parents regarding the constructs of family characteristics related to later victimization and perpetration of peer bullying, parental perspectives of peer bullying, and how “matched” parental and child perspectives were in regard to bullying. The results suggest a general sense of disconnect of parents views from the reality of what their children experience in regard to peer bullying. The frequency rates of bullying behavior either as victims or perpetrators were significantly higher in families for which the children reported bullying and the parents did not. Another important finding from this research indicated that there were significantly higher levels of child abuse, criticism, and lack of structure in the family environment of bullying victims, while there was a significantly higher occurrence of child abuse and witnessing other forms of violence in the family environment of perpetrators of bullying (Holt et al., 2009). The research that has been conducted supports a connection between the family environment and behavior with peers outside of the home (Ammerman & Hersen, 1991; Caspi, 2011; Duncan, 1999; Morrill, 2009; Morrill-Richards & Leierer, 2010; Olweus, 1999).

### **Summary of Methodology**

A survey was used to collect data on lifetime reports of sibling abuse and peer bullying perpetration behaviors from a sample of 252 adults. A total of six variables were measured using an altered version of the CTS. Structural equation modeling utilizing partial least squares was chosen to address the research question and test the hypothesis of this study.

### **Summary of Findings**

The responses to 38 questionnaire items concerning the perpetration of sibling abuse and peer bullying were collected from  $N = 252$  respondents recruited online from the general population within the United States of America. A canonical correlation analysis, using partial least squares structural equation modeling was performed to determine if there was a significant relationship between lifetime reports of sibling abuse perpetration behaviors from the general population, and their peer bullying perpetration behaviors. The independent variable was Sibling Abuse, measured by three indicators representing three categories of abuse perpetration behaviors (physical, sexual, and psychological). The dependent variable was Peer Bullying, measured by three indicators representing three categories of bullying perpetrations behaviors (physical, sexual, and psychological).

After a thorough review of the data, it was determined the variables violated the assumptions of the parametric theoretical framework. The frequency distributions of the responses to the questionnaire items, based on a 5-point interval scale (0 = Never to 4 = Very Frequently) were found to be positively skewed, as the majority of participants reported that they never or rarely (between 0 and 3 occurrences over the lifetime)

perpetrated sibling abuse or peer bullying. Therefore, classical canonical correlation analysis and covariance-based SEM, which assume normally distributed continuous variables measured at the interval level, were not appropriate. Data analysis was completed utilizing PLS-SEM, which operates requiring less sensitivity to the distributional and measurement characteristics of the data.

There was an affirmative answer to the study's research question upon interpretation of the PLS-SEM. A significant relationship was found between lifetime reports of sibling abuse perpetration behaviors from the general population and their peer bullying perpetration behaviors. The null hypothesis was rejected, and the alternative hypothesis was accepted. Reports of perpetrating physical sibling abuse, perpetrating sexual sibling abuse, and perpetrating psychological sibling abuse were significantly associated with reports of perpetrating physical peer bullying, perpetrating sexual peer bullying, and perpetrating psychological peer bullying. The strength of this association was indicated by a high canonical correlation coefficient ( $\beta = .700$ ). The statistical significance of this association was indicated by  $p < .001$ , implying that the association was likely not due to random chance. The practical significance of this association was reflected by  $R^2 = 49.0\%$  (indicating that almost half of the variance in Peer Bullying was explained by the variance in Sibling Abuse). Furthermore, evaluation of the results suggest that the strength of the association between the perpetration of sibling abuse and peer bullying behaviors was stronger among the male participants than among the female participants.

## Interpretation of Findings

Interpretation of these findings can be put into context and summarized best by reviewing the relevant literature. Individual studies of sibling violence and peer bullying suggest that a large percentage of young people are affected by these dynamically abusive behaviors, many with very high frequency (Robers, Zhang, & Truman, 2010). Sexual peer abuse likely occurs less often than physical or psychological abuse, with similar evidence found in this study; such abuse often relates to reports and behaviors of direct and indirect sexual taunting and harassment (Nansel et al., 2001). The findings of the current study confirmed that the non-normally distributed scores for the frequency of Physical Sibling Abuse (*Mdn* = 1.17); the frequency of Psychological Peer Bullying (*Mdn* = 1.56); and the frequency of Psychological Sibling Abuse (*Mdn* = 1.80) were higher than the median scores for the frequency of Sexual Peer Bullying (*Mdn* = 1.00) and Sexual Sibling Abuse (*Mdn* = 1.00). A very low percentage of respondents however, reported no experience with perpetration of sibling abuse or peer bullying over the lifetime (0.05%). There was no confirmation based on the results of the current study that sexual abuse among siblings occurs more frequently than sexual bullying among peers (Morrill-Richards, 2009; Rudd & Herzberger, 1999; Wiehe, 1998).

Overall, the proportion of the respondents in the current study who reported on the high frequency end (7-10+ occurrences), that they occasionally or frequently perpetrated sibling abuse and peer bullying- was low (less than 2%). In contrast, other studies investigating the prevalence of sibling abuse and peer bullying have reported higher proportions. Straus et al. (1980) conducted a study in which he found approximately 40 % of American children engaged in sibling aggression, while over 80%

engaged in verbal abuse against a brother or sister. Wiehe (1998) estimated that approximately half of children in the United States are perpetrators of sibling abuse. In a 1999 study, Duncan found over 20% of children participating were hit while approximately 8% were severely beaten. Komiyama, (1986) estimated that almost half of children surveyed were victims of bullying, and over 2/3 of those children reported perpetrating bullying behaviors on others.

Skipped items in self-report questionnaires can be a problem when respondents are asked to reply to sensitive questions (e.g., about sexual perpetration) because they may feel uneasy about disclosing personal behaviors, even when the responses are confidential and anonymous (Catania, McDermott, & Pollock, 1986; Morrill-Richards, 2009). Furthermore, data on the prevalence of sibling violence may be biased because perpetrators and victims often fail to answer the researcher's questions properly (Horner, Guyer & Kalter, 1993; Morrill-Richards, 2009). Upon screening of the responses to the questionnaire in this study, however, revealed only 45 missing values. A review of missing values for each of the 38 items in the questionnaire suggests that the participants did not appear to selectively skip certain items.

Social desirability may be the primary reason for the low overall reports of occurrences (between 0 and 3 over the lifetime) of sibling abuse perpetration and peer bullying, suggesting that many respondents may misrepresent the descriptions of their beliefs and behaviors in answers to self-report questionnaires or interviews regarding their behaviors, well-being, and associated social activities (Holtgreaves, 2004; Paulhus, 2002). Socially desirable responding often includes the over-reporting of events and behaviors that are perceived to be good (e.g., not perpetrating sibling abuse or peer

bullying) and the under-reporting events and behaviors that are perceived to be bad (e.g., perpetrating sibling abuse or peer bullying) (Holtgreaves, 2004). This study did not assess whether any participants overestimated or underestimated their frequencies of sibling or peer abuses; social desirability however may explain why many of the participants reported having never or rarely ever perpetrated sibling abuse or peer bullying behaviors.

The current study is the first to analyze empirical data gathered from reports of sibling abuse perpetration and peer bullying perpetration that specifically examined how these experiences might be related, how gender may be a mediating factor, and which identified a strong canonical correlation between them. The interpretation of this significant correlation is limited however. Aldrich (1995) suggests that a major constraint of all methods of correlational analysis is that correlation does not infer causation, implying that, in the context of the current study, the variance in sibling abuse (the independent variable) was not necessarily the direct cause or determinant of the variance in peer bullying (the dependent variable). However, a statistically significant correlation with a high effect size may suggest a meaningful causal or deterministic relationship if the independent variable is precursory of the dependent variable; and the independent and the dependent variables are adjoining in time and/or space (Pearl, 2009; Sklar, 1995). The results of this study suggests that Sibling Abuse and Peer Bullying, as dynamic and evolving behaviors, are commonly experienced during the lifetimes of individuals and that the significant canonical correlation recognized in this study might suggest the possibility that Sibling Abuse is a causal factor leading toward Peer Bullying (Pearl, 2009).

Another limitation of this study's analysis is that, even if the independent and dependent variables appear to have close or predictive relationships with each other, their correlation may be the result of variable influences unacknowledged or unknown by the researcher. The correlation may be fully or partially caused by other extraneous variables that were not included in the analysis (Waliczek, 1996). Mediation assessment involves identifying any influence a third variable may have on the correlation between an independent and dependent variable; mediation caused by other variables may suggest these other variables are the underlying causes of a significant canonical correlation between an independent and a dependent variable (Baron & Kenny, 1986; Edwards & Lambert, 2007; MacKinnon, 2007).

Understanding how moderation can play an influential role in partial least square SEM analysis is an essential aspect of accurate and proper data analysis interpretation. For example, we can label a mediating variable, which may have a positive or negative influence, the emotional mindset of a study's subjects towards questions related to sibling abuse and/or peer bullying perpetration; this variable, Mindset, sits at the apex of a path diagram triangle. Sibling Abuse would be positioned at the bottom left corner of the triangle and Peer Bullying, the bottom right. In this example, if Sibling Abuse was significantly correlated with Mindset; Mindset was significantly correlated with Peer Bullying; and the correlation between Sibling Abuse and Peer Bullying, at the bottom, was not significantly different from zero, we may conclude full mediation is present (Edwards & Lambert, 2007; MacKinnon, 2007). We can suggest this because the variance in mindset, and not Sibling Abuse, accounted for all of the explained variance in Peer Bullying.

If the correlation between sibling and peer bullying is not reduced to zero, partial mediation may be present, particularly if it is significantly reduced in magnitude when the mediating effects of Mindset were added to the relationship between Sibling Abuse and Peer Bullying (MacKinnon, Fairchild, & Fritz, 2007). Full and partial mediation can be analyzed using the Sobel test (Sobel, 1986) to determine if the reduction in the correlation between the independent and dependent variable is significant, after including the mediator in the model; the mediation effect is confirmed if there is a significant reduction (Sobel, 1986). From a clinical perspective, the Mindset of the perpetrator of Peer Bullying could receive appropriate redirection and influence, for example, from cognitive behavioral therapy (Gibson & Vandiver, 2008; Gullotta & Adams, 2005). If so then the correlation between Sibling Abuse and Peer Bullying might become negative, improving socially appropriate behavior that may link these two dynamic behaviors.

The other limitation of correlation analysis is that other variables, not included in the model, may act as moderators, meaning that they control the strength and/or direction of the correlation between the independent variable and the dependent variable (Baron & Kenny, 1986; Edwards & Lambert, 2007). For example, as possibly suggested in this study, gender may act as a moderator, influencing the relationship between Sibling Abuse and Peer Bullying perpetration behaviors. Prior studies in family and peer violence that emphasize psychological, physical and sexual abuse suggest that gender difference may exist within these dynamics (Cho & Wilke, 2010; Straus & Gelles, 1986; Vartia, 1996). Interestingly, other studies have suggested that abuse is perpetuated at a relatively equal rate between men and women (Gilfus, Trabold, O'Brien, & Fleck-Henderson, 2010; Hamel, 2009; Morrill & Bachman, 2013; Robertson & Murachver, 2007).



Gender was found to be a mediator in this study, because the canonical correlation coefficient computed using the data collected only from the male participants ( $\beta = .769$ ) was significantly greater than the canonical correlation coefficient computed using the data collected only from the female participants ( $\beta = .601$ ). The relationship between Peer Abuse and Sibling Abuse appeared to be stronger among men than it was among women, reflecting the moderating effect of gender. It is suggested that gender as a mediating or moderating variable should be further considered in future sibling violence and peer bullying studies.

### **Future Research**

Future research should not be solely focused on the relationship between Sibling Abuse and Peer Bullying. The ability of researchers to pinpoint mediating variables that may influence the correlation between Sibling Abuse and Peer Bullying would benefit our ability to accurately frame these abusive dynamic behaviors. First generation statistics that allow assessment of mediating and moderating data collected for research in the social sciences are well developed, which includes multiple linear regression analysis (Baron & Kenny, 1986) and second generation methods including structural equation modeling (Edwards & Lambert, 2007). Socially desirable responding, while not specifically addressed in this study, can be addressed and measured by using instruments sensitive to these concerns, such as the Marlowe-Crowne Scale (Barger, 2002).

Qualitative methodologies should be another consideration for researchers addressing the familial violence and peer bullying dynamic. Interviewing research subjects in person allows for a number of benefits for the researcher, including the ability to clarify questions, encourage more detailed answers if necessary, and to develop a

rapport with subjects, allowing for the possibility of more accurate data collection (Merriam, 2014).

Based on the results of this study, it may be suggested there is a greater need for further empirical research exploring gender differences related to perpetration behaviors within both the sibling and peer dynamic. This study found a meaningful difference between male perpetration behaviors from female perpetration behaviors, potentially suggesting that there may be gender differences specific to perpetration behaviors. Prior research on sibling perpetration found that females exhibited a higher level of propensity and severity than males, in the perpetration of sexual sibling abuse (Morrill & Bachman, 2013). This was further supported by earlier research from Hamel (2009), Robertson and Murachver, (2007), and Straus and Gelles (1990), all of which suggested that males have been inaccurately portrayed as overwhelming perpetrators of abuse in general, and that female perpetration of abuse may be underreported. Of course neither this study, nor the cited studies can confidently confirm that men (or women) perpetrate specific forms of abusive behaviors more than their gender counterparts. However, pursuing answers to these questions can lead to a myriad of different prevention and treatment strategies for clinical therapists and researchers working with individuals and families with sibling and peer abuse concerns.

### **Implications for Professional Practice**

The findings of the current study provide a better understanding of the processes and relationships between familial and interpersonal abuse. These findings may offer new and effective means of not only identifying and treating abuse by siblings and peers, but also to recognize behaviors that may prevent such abuse. There is a possibility that

interventions prescribed by therapists and educators may reverse the positive correlation between sibling abuse and peer bullying into a negative correlation. For example, the findings of this study provide a rationale for prescribing interpersonal and cognitive behavioral therapy, with relapse prevention as a mediating intervention to reduce the prevalence of verbal bullying by middle school students, and other behaviors related to the peer bullying dynamic (Gibson & Vandiver, 2008; Gullotta, & Adams, 2005).

APPENDIX A

ALTERED VERSION OF CONFLICT TACTICS SCALE SURVEY

Sibling relationships may include biological siblings, half siblings, step siblings, adoptive siblings or fictive siblings (may not be biologically related, but are considered siblings). A peer relationship may include any relationship with a friend, who may or may not be equal to another in regards to abilities, qualifications, age, background, or social status.

Age:

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Gender:

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Response Categories (Over the lifetime)

0=Never

1= Very Rarely (1-3 occurrences)

2= Rarely (4-6 occurrences)

3=Occasionally (7-9 occurrences)

4=Very Frequently (10+ occurrences)

- |  |           |
|--|-----------|
| 1. I showed a sibling affection even though we disagreed | 0 1 2 3 4 |
| 2. I ridiculed a sibling                                 | 0 1 2 3 4 |
| 3. I warned I would physically hurt a sibling            | 0 1 2 3 4 |
| 4. I touched a sibling in a sexual way                   | 0 1 2 3 4 |
| 5. I screamed at a sibling                               | 0 1 2 3 4 |
| 6. I threw an item at a sibling that could hurt          | 0 1 2 3 4 |
| 7. I hit, slapped or kicked a sibling                    | 0 1 2 3 4 |
| 8. I grabbed a sibling in a forceful manner              | 0 1 2 3 4 |
| 9. I insisted a sibling have sexual contact with me      | 0 1 2 3 4 |
| 10. I talked with a sibling in a calm manner             | 0 1 2 3 4 |

11. I beat a sibling up	0 1 2 3 4
12. I forcibly grabbed the neck of a sibling to control or hurt	0 1 2 3 4
13. I showed a sibling pornographic material	0 1 2 3 4
14. I consoled a sibling when he/she was feeling troubled	0 1 2 3 4
15. I warned a sibling using a gun or knife	0 1 2 3 4
16. I used a sharp object or a gun against my sibling	0 1 2 3 4
17. I have laughed with others at a sibling which hurt him/her	0 1 2 3 4
18. A sibling disliked attending school because of me	0 1 2 3 4
19. I have harassed a sibling via texting or social media	0 1 2 3 4
20. I ridiculed a peer	0 1 2 3 4
21. I warned I would physically hurt a peer	0 1 2 3 4
22. I screamed at a peer	0 1 2 3 4
23. I threw an item at a peer that could hurt	0 1 2 3 4
24. I hit, slapped, or kicked a peer	0 1 2 3 4
25. I grabbed a peer in a forceful manner	0 1 2 3 4
26. I talked with a peer in a calm manner	0 1 2 3 4
27. I beat a peer up	0 1 2 3 4
28. I consoled a peer when they felt troubled	0 1 2 3 4
29. I warned a peer using a gun or knife	0 1 2 3 4
30. I used a sharp object or a gun against a peer	0 1 2 3 4
31. I forcibly grabbed the neck of a peer to control or hurt	0 1 2 3 4
32. I have laughed with others at a peer which hurt him/her	0 1 2 3 4
33. A peer dislikes attending school because of me	0 1 2 3 4
34. I forcefully touched a peer in a sexual way	0 1 2 3 4
35. I insisted a peer have sexual contact with me	0 1 2 3 4
36. I showed a peer pornographic material	0 1 2 3 4
37. I showed a peer affection even though we disagreed	0 1 2 3 4
38. I have harassed a peer via texting or social media	0 1 2 3 4

APPENDIX B  
TABLE OF VARIABLES

Table of Variables Definitions

Variable	Conceptual definition	Instrumental definition	Operational definition
Perpetrating physical peer bullying	Physical aggression directed at peers with the intent of causing physical harm to others.	23. I threw an item at a peer that could hurt 24. I hit, slapped, or kicked a peer 25. I grabbed a peer in a forceful manner 27. I beat a peer up 30. I used a sharp object or a gun against a peer 31. I forcibly grabbed the neck of a peer to control or hurt 6 Total Items 0=Never 1= Very Rarely (1-3 occurrences) 2= Rarely (4-6 occurrences) 3=Occasionally (7-9 occurrences) 4=Very Frequently (10+ occurrences)	In SPSS we will introduce each item score as raw data per participant or survey. Creating a raw database for the study with all participants and all variables in the study. After that, the average score per person will be calculated by adding the score of each of the items in the variable and dividing the total score by the total if items. This average score will be a number between 0 and 4 (exact interval scale).

<p>Perpetrating sexual peer bullying</p>	<p>Sexual peer abuse can be defined as any abuse that is sexual in nature, which may range from sexual harassment, inappropriate touching to rape</p>	<p>34. I forcefully touched a peer in a sexual way  35. I insisted a peer have sexual contact with me  36. I showed a peer pornographic material  3 Total Items  0=Never  1= Very Rarely (1-3 occurrences)  2= Rarely (4-6 occurrences)  3=Occasionally (7-9 occurrences)  4=Very Frequently (10+ occurrences)</p>	<p>In SPSS we will introduce each item score as raw data per participant or survey. Creating a raw database for the study with all participants and all variables in the study.  After that, the average score per person will be calculated by adding the score of each of the items in the variable and dividing the total score by the total if items. This average score will be a number between 0 and 4 (exact interval scale).</p>
<p>Perpetrating psychological/verbal peer bullying</p>	<p>Conditions or acts that create a climate in which individuals or groups feel fear or intimidation in addition to being the victims of assault, theft, or vandalism; this “indirect” type of bullying can refer to behaviors that lead to social exclusion by</p>	<p>20. I ridiculed a peer  21. I warned I would physically hurt a peer  26. I talked with a peer in a calm manner  28. I consoled a peer when they felt troubled  29. I warned a peer using a gun or knife  32. I have laughed with others at a</p>	<p>In SPSS we will introduce each item score as raw data per participant or survey. Creating a raw database for the study with all participants and all variables in the study.  After that, the average score per person will be calculated, after</p>

	<p>spreading malicious gossip or withdrawal of friendships</p>	<p>peer which hurt him/her  33. A peer dislikes attending school because of me  37. I showed a peer affection even though we disagreed  38. I have harassed a peer via texting or social media  9 Total Items  0=Never  1= Very Rarely (1-3 occurrences)  2= Rarely (4-6 occurrences)  3=Occasionally (7-9 occurrences)  4=Very Frequently (10+ occurrences)</p>	<p>reversing the score in those items that are stated in different direction per variable, adding the score of each of the items in the variable and dividing the total score by the total if items. This average score will be a number between 0 and 4 (exact interval scale). Numbers 26, 28, and 37 will be reverse coded before entering raw data into SPSS and calculating the total score per participant.</p>
<p>Perpetrating physical sibling abuse</p>	<p>Aggression must go beyond the “normal” developmental assertion that may occur within a dyad. Consequently, a key component to determining if a sibling relationship is abusive is the intent to cause harm. Physical sibling abuse must include the intent to harm for the</p>	<p>6. I threw an item at a sibling that could hurt  7. I hit, slapped or kicked a sibling  8. I grabbed a sibling in a forceful manner  11. I beat a sibling up  12. I forcibly grabbed the neck of a sibling to control or hurt  16. I used a sharp object or a gun against my sibling</p>	<p>In SPSS we will introduce each item score as raw data per participant or survey. Creating a raw database for the study with all participants and all variables in the study. After that, the average score per person will be calculated by adding the score of each of the</p>



	sake of injury, the perception by one or more siblings that the action is abusive in nature, and the severity of a repeated pattern of behavior rather than an isolated incident	6 Total Items 0=Never 1= Very Rarely (1-3 occurrences) 2= Rarely (4-6 occurrences) 3=Occasionally (7-9 occurrences) 4=Very Frequently (10+ occurrences)	items in the variable and dividing the total score by the total if items. This average score will be a number between 0 and 4 (exact interval scale).
Perpetrating sexual sibling abuse	Behavior include inappropriate fondling, touching, sexual contact, indecent exposure, exposure to pornography, oral sex, anal sex, digital penetration and intercourse	4. I touched a sibling in a sexual way 9. I insisted a sibling have sexual contact with me  13. I showed a sibling pornographic material  3 Total Items 0=Never 1= Very Rarely (1-3 occurrences) 2= Rarely (4-6 occurrences) 3=Occasionally (7-9 occurrences) 4=Very Frequently (10+ occurrences)	In SPSS we will introduce each item score as raw data per participant or survey. Creating a raw database for the study with all participants and all variables in the study. After that, the average score per person will be calculated by adding the score of each of the items in the variable and dividing the total score by the total if items. This average score will be a number between 0 and 4 (exact interval scale).
Perpetrating psychological/verbal sibling abuse	Distinct from “normal” behavior based on	1.I showed a sibling affection even	In SPSS we will introduce each item score as raw

	<p>consistency and intensity. Examples would include words and actions expressing degradation and contempt that have an impact on the sense of well-being (insecurity, lack of self-esteem) of a sibling</p>	<p>though we disagreed 2. I ridiculed a sibling 3. I warned I would physically hurt a sibling 5. I screamed at a sibling 10. I talked with a sibling in a calm manner 14. I consoled a sibling when he/she was feeling troubled 15. I warned a sibling using a gun or knife 17. I have laughed with others at a sibling which hurt him/her 18. A sibling disliked attending school because of me 19. I have harassed a sibling via texting or social media 10 Total Items 0=Never 1= Very Rarely (1-3 occurrences) 2= Rarely (4-6 occurrences) 3=Occasionally (7-9 occurrences) 4=Very Frequently (10+ occurrences)</p>	<p>data per participant or survey. Creating a raw database for the study with all participants and all variables in the study. After that, the average score per person will be calculated, after reversing the score in those items that are stated in different direction per variable, adding the score of each of the items in the variable and dividing the total score by the total if items. This average score will be a number between 0 and 4 (exact interval scale). Numbers 1, 10, and 14 will be reverse coded before entering raw data into SPSS and calculating the total score per participant.</p>
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<p>Reports of peer bullying</p>	<p>Bullying will be defined as any condition or act that creates an environment, either online or offline, where an individual or group feels fear or intimidation which may include physical, psychological, verbal, or sexual aggression and or harassment (Olweus, 1999; Batsche &amp; Knoff, 1994; Rigby, 2002; &amp; Keith &amp; Martin, 2005).</p>	<p>19 Total Items</p>	<p>In SPSS we will introduce each item score as raw data per participant or survey. Creating a raw database for the study with all participants and all variables in the study. After that, the average score per person will be calculated, after reversing the score in those items that are stated in different direction per variable, adding the score of each of the items in the variable and dividing the total score by the total if items. This average score will be a number between 0 and 4 (exact interval scale). This process will ultimately assess if there is a relationship between experience with sibling abuse and experience with peer bullying.</p>
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<p>Reports of sibling abuse</p>	<p>Similar to other forms of abuse, sibling abuse has three main categories, psychological, physical and sexual (Johnston &amp; Freeman, 1989). Many factors, such as the intent and severity of an act by one sibling and the emotional impact of that act on another sibling, must be considered when determining if an interaction is abusive. Sibling abuse may include physical, psychological, verbal, and or sexual aggression and or harassment.</p>	<p>19 Total Items</p>	<p>In SPSS we will introduce each item score as raw data per participant or survey. Creating a raw database for the study with all participants and all variables in the study. After that, the average score per person will be calculated, after reversing the score in those items that are stated in different direction per variable, adding the score of each of the items in the variable and dividing the total score by the total if items. This average score will be a number between 0 and 4 (exact interval scale). This process will ultimately assess if there is a relationship between experience with sibling abuse and experience with peer bullying.</p>
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APPENDIX C  
FREQUENCY DISTRIBUTION OF SCORES

*Frequency Distribution of Item Scores for Sibling Abuse*

Item	Score									
	1		2		3		4		5	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
<b>Physical Sibling Abuse:</b>										
I threw an item at a sibling that could hurt	152	60.8	55	22.0	21	8.4	14	5.6	8	3.2
I hit, slapped or kicked a sibling	127	50.8	57	22.8	24	9.6	20	8.0	22	8.8
I grabbed a sibling in a forceful manner	147	58.8	53	21.2	20	8.0	14	5.6	16	6.4
I beat a sibling up	208	83.2	23	9.2	10	4.0	5	2.0	4	1.6
I forcibly grabbed the neck of a sibling to control or hurt	216	86.4	20	8.0	8	3.2	4	1.6	2	0.8
I used a sharp object or a gun against my sibling	243	97.2	3	1.2	2	0.8	0	0.0	2	0.8

Sexual Sibling Abuse:

I touched a sibling in a sexual way	231	92.4	12	4.8	4	1.6	2	0.8	1	0.4
I insisted a sibling have sexual contact with me	244	97.6	2	0.8	2	0.8	2	0.8	0	0.0
I showed a sibling pornographic material	232	92.8	7	2.8	7	2.8	2	0.8	2	0.8

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Psychological Sibling Abuse:

I showed a sibling affection even though we disagreed (Reverse)	113	45.2	72	28.4	26	10.4	30	8.0	20	8.0
I ridiculed a sibling	55	22.0	59	23.6	62	24.8	37	14.8	37	14.8
I warned I would physically hurt a sibling	126	50.4	58	23.2	28	11.2	20	8.0	18	7.2
I screamed at a sibling	59	23.6	70	28.0	44	17.6	49	19.6	28	11.2
I talked with a sibling in a calm manner (Reverse)	187	74.8	36	14.4	5	2.0	6	2.4	16	6.4
I consoled a sibling when he/she was feeling trouble (Reverse)	90	36.0	85	34.0	28	11.2	21	8.4	26	10.4
I warned a sibling using a gun or knife	230	92.0	8	3.2	4	1.6	5	2.0	3	1.3
I have laughed with others at a sibling which hurt him/her	151	60.4	67	26.8	20	8.0	6	2.4	6	2.4

A sibling disliked attending school because of me	230	92.0	13	5.2	4	1.6	2	0.8	1	0.4
I have harassed a sibling via texting or social media	239	95.6	7	2.8	1	0.4	2	0.8	1	0.4

*Frequency Distribution of Item Scores for Peer Bullying*

Item	Score									
	1		2		3		4		5	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
<b>Physical Peer Bullying:</b>										
I threw an item at a peer that could hurt	214	85.6	25	10.0	7	2.8	2	0.8	2	0.8
I hit, slapped, or kicked a peer	189	75.6	48	19.2	8	3.2	2	0.8	3	1.2
I grabbed a peer in a forceful manner	200	80.0	38	15.2	6	2.4	3	1.2	3	1.2
I beat a peer up	222	88.8	20	8.0	5	2.0	1	0.4	2	0.8
I used a sharp object or a gun against a peer	245	98.0	2	0.8	2	0.8	1	0.4	0	0.0
I forcibly grabbed the neck of a peer to control or hurt	238	95.2	6	2.4	4	1.6	1	0.4	1	0.4
<b>Sexual Peer Bullying:</b>										
I forcefully touched a peer in a sexual way	236	94.4	8	3.2	2	0.8	1	0.4	0	0.0
I insisted a peer have sexual contact with me	241	96.4	6	2.4	1	0.4	1	0.4	0	0.0
I showed a peer pornographic material	208	83.2	21	8.4	6	2.4	9	3.6	6	2.4
<b>Psychological Peer Bullying:</b>										
I ridiculed a peer	92	36.8	99	39.6	29	11.6	24	9.6	6	2.4
I warned I would physically hurt a peer	188	75.2	42	16.8	9	3.6	8	3.2	3	1.2

I screamed at a peer	126	50.4	85	34.0	28	11.2	11	4.4	0	0.0
I talked with a peer in a calm manner (Reverse)	175	70.0	44	17.6	11	4.4	11	4.4	16	6.4
I consoled a peer when they felt troubled (Reverse)	121	48.4	72	28.8	19	7.6	17	6.8	21	8.4
I warned a peer using a gun or knife	231	92.4	11	4.4	2	0.8	3	1.2	3	1.2
I have laughed with others at a peer which hurt him/her	119	47.6	100	40.0	17	6.8	11	4.4	3	1.2
A peer disliked attending school because of me	220	88.0	17	6.8	6	2.4	4	1.6	3	1.2
I showed a peer affection even though we disagreed (Reverse)	65	26.0	79	31.6	28	11.2	32	12.8	46	18.4
I have harassed a peer via texting or social media	229	91.6	14	5.6	4	1.6	2	0.8	1	0.4



## APPENDIX D

### INFORMED CONSENT

#### INVITATION TO PARTICIPATE-CONSENT INFORMATION

You are being invited to take part in a study examining both peer and sibling relationships. Participation in this study involves completion of the subsequent survey. Approximate completion time is 10-20 minutes.

#### WHO CAN TAKE PART IN THIS SURVEY?

Any person 18 years of age or older may complete this survey. This study does not intend to collect parental consent for minors, and therefore those under the age of 18 are not invited to participate.

#### WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?

Although every effort has been made to minimize risk and discomfort, you may find some questions in the survey to be upsetting or stressful. At any point during the survey, you may elect to skip any question(s) that you do not wish to answer. You may also at any point, close out of the survey completely, and end your participation.

If anything in the survey brings up feelings and/or emotions about which you feel you wish to speak with someone, it is encouraged you speak to a local mental health care professional in your current home or living area. The following is a national number you may choose to contact if you need help finding a mental health care professional to communicate with.

- NAMI Helpline National Alliance for the Mentally Ill 1-800-950-NAMI

## WHAT ARE THE BENEFITS?

The results of this study will provide useful information regarding peer and sibling conflicts, and how each relate to one another. This information will be valuable in assessing the counseling needs of individuals who have experienced varying levels of peer and/or sibling conflict. There will be no incentives or compensation offered directly by the primary investigator for participation in this study, however donations to your chosen charity is an aspect of participating using Survey Monkey online surveys.

## CAN MY TAKING PART IN THE STUDY END EARLY?

You may elect to stop your participation at any time by simply not completing the survey. Refusal to participate or a decision to discontinue will involve no penalty. This study is completely voluntary and you may stop at any time or decide not to answer questions that cause you to feel uncomfortable.

## A NOTE ABOUT ANONYMITY

Participation in this study is entirely anonymous and voluntary. The results will be analyzed and reported as group trends without directly identifying any individual response. To protect your privacy, there is no way to know whether any particular individual has participated-names will not be required as part of the completion of the survey. Further, IP addresses will not be collected as part of the Survey Monkey collection process by the primary investigator in this study.

## QUESTIONS ABOUT THE STUDY

Any questions regarding this study and research subjects' rights may be directed to the primary investigator: Curt Bachman ([bachmanc@andrews.edu](mailto:bachmanc@andrews.edu)), or the Chair of my

dissertation committee: Dr. Elvin Gabriel ([gabriel@andrews.edu](mailto:gabriel@andrews.edu)), who is located at Bell Hall, School of Education, at Andrews University.

#### ACKNOWLEDGEMENT

I consent to participate in this research. The following has been completely explained to me: the purpose of the study the procedures to be followed, and the expected duration of participation. Possible benefits and risks of the study have been described. I acknowledge that I have been given the opportunity to obtain additional information regarding the study and that any questions I have raised have been answered to my full satisfaction. Furthermore, I understand that I am free to withdraw consent at any time and to discontinue participation in the study without prejudice to me.

By continuing with this survey, you confirm that you have read and understood the above information, are 18 years of age or older, and voluntarily agree to participate in this study.

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## VITA

### **Curt J. Bachman**

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#### **EDUCATION**

**Ph.D Educational Psychology**, Graduate Psychology and Counseling, Andrews University, Berrien Springs, MI. Research interests: Peer bullying, family violence, anxiety disorders, mood disorders, issues pertaining to academic and career achievement. Dissertation: *The Bonds That Break: Sibling Abuse Perpetration Behaviors as Correlates of Peer Bullying Perpetration Behaviors: A Structural Equation Model*. Chair: Professor Elvin Gabriel.

**Masters of Clinical Mental Health Counseling**, Graduate Psychology and Counseling, Andrews University, Berrien Springs, MI. May. 2015. Completion of over 1,000 clinical hours. (CACREP Accredited)

**Masters of Applied Psychology**, Chicago School of Professional Psychology, Chicago, IL. Professional specialization: Child and adolescent behavior. Dec. 2009.

**Bachelor of Science**, Criminal Justice; Psychology, Indiana University, Bloomington, IN. May, 2004.

#### **PUBLICATIONS**

Morrill, M. & Bachman, C. (2013). Confronting the gender myth: An exploration of variance in male vs. female experience with sibling abuse. *Journal of Interpersonal Violence*, 8(28), 1693-1708.

#### **Papers Under Review**

Morrill, Mandy M., Bachman, C., Polisuk, B., & Kostelyk, K. An exploration of the relationship between experience with sibling abuse and experience with peer bullying: An exploratory study. Under review at *Journal of Mental Health Counseling*

### **Papers Soon to be Submitted**

Bachman, C. (2016/2017; In Progress). Can sibling abuse perpetration behaviors predict peer bullying perpetration behaviors? A structural equation modeling approach to understanding the dynamics between family and peer relationships.

Bachman, C. (2016/2017; In Progress). The role of gender as it relates to peer bullying and sibling abuse perpetration behaviors. A multi-level analyses.

Bachman, C. (2016/2017; In Progress). Predicting peer bullying perpetration behaviors from sibling abuse perpetration behaviors: Effective intervention and educational strategies for healthier family and peer relationships.

Morrill, M. & Bachman, C. (2016/2017; In Progress). The long-term impact of psychological sibling abuse: An educational perspective.

Bachman, C. (2015; In Progress). Addiction education awareness for pregnant women: A review on programs, policies, and problems.

### **INVITED PROFESSIONAL CONFERENCE PRESENTATIONS**

Midwestern Psychological Association, Chicago IL (2013)

Title: The forgotten victims: Considering male survivors of sibling abuse

Indiana Counseling Association, Terra Haute, IN (2013)

Title: Girl interrupted: A psychological profile of female sibling abuse offenders

### **PROFESSIONAL DEVELOPMENT AND SERVICE**

#### **Peer Reviewer-Journal Referee**

Psychology of Woman Quarterly 2012-Present

Evaluation of articles of research and statistical efforts as they relate to areas of trauma, abuse, counseling, women's health and well-being.

#### **Professional Affiliations**

American Counseling Association (ACA) 2013-Present

American Psychological Association (APA) 2012-Present

Midwest Psychological Association (MPA) 2012-Present