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UNIVERSITY OF NORTHERN COLORADO

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The Graduate School

AN EXPLORATION OF THE PATHWAY FROM CHILDHOOD
NEGLECT TO SCHOOL BULLYING VICTIMIZATION

A Dissertation Submitted in Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

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College of Education and Behavioral Sciences
Department of School Psychology

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This Dissertation by: Natalie D. Johnson

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Victimization*

has been approved as meeting the requirement for the Degree of Doctor of Philosophy in the
College of Education and Behavioral Sciences in the Department of School Psychology,
Program of School Psychology.

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ABSTRACT

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The objective of the current study was to explore the association between two widely prevalent sources of trauma occurring early in life, child neglect and bullying victimization (BV), via adult recollections of maltreatment experiences. One hundred and twenty participants, recruited from a mid-sized university in the Rocky Mountain region of the United States, were ultimately included in the sample. Of the total sample, 30 participants (25%) endorsed a history of moderate to severe neglect in childhood and 62 participants (52%) endorsed experiencing at least one form of BV in school.

Childhood maltreatment, including various forms of neglect and abuse, was measured by the Childhood Trauma Questionnaire and BV, including the frequency and severity of various forms of BV, was measured by a revised version of the Retrospective Bullying Questionnaire. A cross-sectional, correlational research design was implemented as participants were asked to complete a survey at one point in time.

T-test analyses reported those with a history of neglect to be significantly more likely to report general peer BV experiences than those who reported childhood non-maltreatment. Regression analyses identified physical neglect to be consistently significant in predicting the frequency and severity of physical BV only, while emotional neglect was significant in

predicting the frequency and severity of verbal and indirect BV only. The presence of significant physical and emotional neglect predicted stable BV rates across primary and secondary school.

Implications for mental health professionals working in the schools largely cued the roles of preventative and remedial service delivery, consultation, and community resource outreach. Trauma-informed practices are at the center of service delivery for students who report current or prior childhood neglect. School psychologists are in a unique position to assist students with suspected or unknown histories of childhood neglect in building healthy relationships with others, regulating their emotions, bolstering their sense of self-worth, and ideally reducing the chances of maltreated students becoming revictimized by their peers.

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CHAPTER I

INTRODUCTION

Physical safety and psychological security are foundations—the essential preconditions—for a child’s health, education, and overall development. (Zinsmeister, 1990, p. 49)

Karl Zinsmeister (1990) succinctly captured the essence of human services work and emphasized the role of safety when working with children. Functioning in direct opposition to child safety are two widely prevalent sources of trauma occurring in primary and secondary student populations across the world: Childhood maltreatment and bullying victimization. The Centers for Disease Control and Prevention (CDC, 2008) defined child maltreatment as “any act or series of acts of commission or omission by a parent or other caregiver that results in harm, potential for harm, or threat of harm to a child” (p. 11). By commission, the authors referred to the physical, sexual, and psychological forms of abuse. Acts of omission included emotional, physical, medical, and educational neglect (CDC, 2008). Definitions of bullying, however, were more difficult for researchers to agree upon. A frequently used definition of bullying, conceptualized by Espelage and Swearer (2003), is described as verbal, physical, or social forms of aggression inflicted by an individual or group of individuals and directed against a child or adolescent who is not able to defend themselves. The definition of bullying also typically includes systematic, ongoing behaviors by peers who are aiming to gain some form of reinforcement such as power (Espelage & Swearer, 2003). Given that both experiences of child maltreatment and bullying victimization have a general onset in childhood, it is imperative that

professionals housed within the school setting are aware of their unique and overlapping presence.

In the United States, school psychologists are expected to strictly adhere to ethical guidelines delineated in the National Association of School Psychologists (NASP, 2010) *Principles for Professional Ethics*. Principle IV.1 stated the expectation that “school psychologists use their expertise in psychology and education to promote school, family, and community environments that are safe and healthy for children” (NASP, 2010, p. 12). Globally, school psychologists function to endorse the welfare of children (Jimerson et al., 2007) as they generally work closely with other professionals and help people understand the effects that children’s experiences can have on their development (Woods et al., 2011). Given that student and client safety are of utmost importance to the profession, it is imperative that the field acknowledge and collaboratively address all possible sources of harm toward children and adolescents.

Hussey et al. (2006) estimated that as many as 30% of people within the United States have experienced some form of childhood maltreatment. Moreover, recent literature suggested the base rate of childhood maltreatment history among college students ranged from mid-20% to more than 40% (Bachrach & Read, 2012; Duncan, 2000; Elliott et al., 2009; Freyd et al., 2001; Gibb et al., 2009; Hussey et al., 2006; Jordan et al., 2014; Welsh et al., 2017). These percentages are likely to be underestimates, however, because many instances of maltreatment are likely to go unreported or unsubstantiated (Maples et al., 2014). This is especially true of child neglect, as the most severe cases tend to be reported while milder cases are more likely to go undetected. Even so, neglect has been the most frequent form of child maltreatment documented by child-protection agencies (Gilbert et al., 2009) with a rate of 60.8% of all child maltreatment

investigations in 2018. This was in comparison with 10.7% who were physically abused and 7.0% who were sexually abused (U.S. Department of Health & Human Services [HHS], Administration for Children and Families [ACF], Administration on Children, Youth and Families [ACYF], Children's Bureau [CB], 2020).

Research data indicated an even larger proportion of students have been victimized by bullying while in grade school (Blitz & Lee, 2015; Holt et al., 2014; Sesar et al., 2012; Young-Jones et al., 2015) and prevalence further increased to peak levels during the middle school years (Bradshaw et al., 2007). With the alarming prevalence of these scourges and broad research correlating them with adverse mental and physical health outcomes, it is no surprise that maltreatment is closely associated with poor outcomes for youth (Maples et al., 2014). Thus, evidence supported that abuse, neglect, and bullying victimization are widespread, detrimental issues afflicting U.S. schools at all levels that need to be rectified to improve youth well-being.

Evidence Base for Concurrent Childhood Maltreatment and Bullying Victimization Research

Literature concerning childhood maltreatment and bullying predominantly developed independently and rarely crossed over with each another (Hong et al., 2012). Bullying victimization can be considered a form of child maltreatment with the only distinction being it mainly manifests within the school or peer-interaction circumstances. This is crucial as school is an influential environment where children spend a large amount of time outside of the home. Some authors even referred to bullying victimization events as “abuse” in the physical, verbal, relational, and/or sexual sense (e.g., Sesar et al., 2012). Given the large prevalence of home abuse and neglect, practitioners and school professionals must consider the educational setting as another context in which previously maltreated (i.e., abused and/or neglected) children and adolescents could be at great risk for re-victimization (Duncan, 1999; Dussich & Maekoya,

2007; Hong et al., 2012). The literature indicated that youth who endured experiences of victimization in multiple settings, such as at home and in school, were more likely to experience behavioral and mental health burdens compared to those who only reported victimization in one setting (Finkelhor et al., 2007; Mrug et al., 2008). Therefore, there was an inherent need to study the interaction between bullying at school and maltreatment at home (Hong et al., 2012) in order to inform preventive and remedial interventions and/or services in schools from the primary to collegiate level.

The Cycle of Violence as Related to the Current Study

The cycle of violence, in its broadest sense, has been a leading theory in explaining why those who abused others often had a prior history of being abused themselves (Widom, 1989). However, there are many branches to examine within this expansive cycle as associations between different forms of child maltreatment and perpetration of future violence aid in understanding the specific mechanisms involved within the cycle of violence. As such, a substantial amount of research supported the pathway from childhood maltreatment to aggressive behavior and bullying perpetration (Bolger & Patterson, 2001a; Knutson et al., 2004; Ohene et al., 2006; Widom, 1989). In a large, cross-sectional study examining the relationship between physical abuse and bullying behaviors in 852 Japanese, South African, and American college students, a significant relationship between child physical abuse and physical peer bullying perpetration (i.e., beating and kicking) was reported (Dussich & Maekoya, 2007). Perry et al. (2001) determined that parental abuse was associated with higher frequencies of bullying perpetration and victimization for these children at school. It was not only a history child abuse that could be associated with peer bullying perpetration but neglect as well. Research determined

that a history of child neglect was a major precursor to problematic externalizing behaviors characterized by aggressive, destructive, assaultive, and antisocial actions (Maguire et al., 2015).

The Cycle of Victimization

The pathway from child maltreatment to bullying victimization, otherwise referred to as the cycle of victimization, was far less established in the literature. Widom et al. (2008) recognized that neglected children merited more scholarly attention and discussed findings that risk for re-victimization was substantial in this group of maltreated children. More specifically, very little was known about the direct correlation between neglect and peer victimization. Generally, some studies found victims of child abuse and neglect to be easier to target as they were more likely to display submissive, isolated, and/or socially withdrawn behaviors (Juvonen & Graham, 2014; Lereya et al., 2013; Widom, 2014). Furthermore, the literature suggested that different forms of maltreatment might be associated with different forms of bullying victimization in school and minimal existing research on this prospect made it a prime area of focus (Benedini et al., 2016). The current study added to the “cycle of victimization” knowledge base by examining the association of physical and emotional neglect with bullying victimization in primary and secondary schools.

An examination of the broad child maltreatment literature revealed that maltreated children (with far more evidence related to abuse than that of neglect) were at increased risk of becoming re-victimized by their peers in and/or outside of the school setting (Herrenkohl & Herrenkohl, 2009). Strikingly, a meta-analysis of bullying experiences conducted by Lereya et al. (2013) reported that of all parenting variables examined (authoritative parenting, parent-child communication, parental involvement/support, supervision, warmth/affection, child abuse/neglect, maladaptive parenting, and overprotection), a history of child maltreatment was

one of the two most significant predictors of peer victimization with an effect size of 0.31 across all studies. Furthermore, Day et al. (2013) cross-sectionally studied a sample of 112 incarcerated youth and found those with a history of physical abuse were significantly more likely than non-maltreated (i.e., those with no history of abuse and/or neglect) youth to report a variety of bullying experiences (including peer victimization) prior to incarceration. In another cross-sectional study examining 992 middle school students in the Midwest region of the United States (Espelage et al., 2012), those who fell victim to multiple forms of bullying in school were more likely to indicate a history of physical and sexual abuse than those who reported minimal peer victimization. Similarly, Shields et al. (2001) found that out of 169 maltreated and low-income children, physically and sexually abused youth were at heightened risk of bullying victimization. In one of the only studies to use prospective instead of retrospective data to examine the link between child maltreatment and bullying victimization in adolescence (together with Kim et al., 2009; Tyler & Johnson, 2006), Benedini et al. (2016) reported a significant relationship between child physical maltreatment and peer intimidation as well as a significant relationship between child physical and sexual abuse with later physical assault by peers.

Addressing Gaps in the Childhood Maltreatment and Bullying Victimization Literature

As just previewed, a link between broad childhood maltreatment and bullying victimization has been established. However, upon examination of the extensive child maltreatment literature, there was evidence that the area of child neglect has received less empirical (Dubowitz, 1999) and public attention than that of physical and sexual abuse (Polonko, 2006; Stoltenborgh et al., 2013) despite evidence of its equal—or even greater—long-term harm (Gilbert et al., 2009). A recent meta-analysis on the prevalence of neglect in research published

between 1980 and 2008 (Stoltenborgh et al., 2013) found only 16 studies that reported data on physical neglect and 13 studies that reported data on emotional neglect. This was in stark contrast to the study of the prevalence of child sexual abuse as recent meta-analytic findings identified a total of 217 articles published within the same 28-year time frame (Stoltenborgh et al., 2011). This perceived lack of prioritizing neglect research within the overall maltreatment domain could be due to the highly comorbid nature of neglect with other forms of childhood abuse (Stoltenborgh et al., 2013) but it still represented an important gap in the literature.

Examination of the pathway from childhood abuse to bullying perpetration, victimization, or a combination of both has been well-documented (Bowes et al., 2009; Duke et al., 2010; Duncan, 1999; Lereya et al., 2013; Wang et al., 2019). However, research on the relationship between school bullying experiences and childhood neglect specifically was far more limited (Wang et al., 2019). When investigating the broader association between child maltreatment and bullying experiences, studies have shown that children who were victims of more than one type of child maltreatment (e.g., physical abuse and emotional neglect) were at higher risk of school bullying in general (as a bully, victim, or bully-victim). Most of this research examined the sole role of childhood abuse on subsequent bullying (Duke et al., 2010; Vaughn et al., 2011; Wang et al., 2019) but shed little light on the role of neglect. Furthermore, the vast majority of studies examining effects of the co-occurrence of multiple forms of child maltreatment on bullying had not additionally examined links with different types of bullying experiences (Wang et al., 2019). In an attempt to understand how different forms of child abuse and neglect are associated with different forms of peer bullying, Wang et al.'s (2019) cross-sectional research utilizing over 5,760 school-age children in China reported childhood physical and emotional neglect were the

most significant predictors of displaying bullying behaviors, being victimized, or being a bully-victim.

The limited number of child neglect-specific studies relative to the large body of child maltreatment literature was problematic, given the high prevalence of neglect and its significantly detrimental consequences on child development and future outcomes. Given that neglect has been reported to be the most frequent form of documented childhood maltreatment (Gilbert et al., 2009), this dearth of child neglect research was even more notable and concerning. Additionally, neglect has been shown to be the form of maltreatment most highly linked to early onset in the student's lives and continuing over time (Bolger & Patterson, 2001b). Studies on the global incidence of child physical and emotional neglect, based on self-reports, estimated they affected 16.3% and 18.4% of the world's population, respectively (Stoltenborgh et al., 2013). Child neglect was commonly examined comprehensively with other forms of child maltreatment including abuse and, therefore, was rarely the center of attention (Stoltenborgh et al., 2013). A plethora of recent research discussed in their limitations and future research sections (e.g., Augsburg et al., 2019; Gilbert et al., 2009; Stoltenborgh et al., 2013) the significant need for child maltreatment research to pivot its primary focus onto effects of child neglect on outcomes.

At the current time, only two known studies (Shields et al., 2001; Wang et al., 2019) examined the separated role of childhood neglect (in concurrence with the role of abuse) on bullying victimization outcomes. Shields et al. (2001) found nonsignificant differences in neglected children compared to sexually abused, physically abused, and non-maltreated children when examining risk of being bullied by peers. Wang et al. (2019) reported significant relationships between physical and emotional neglect and increased risk of participation in each

form of bullying (physical, verbal, relational, and cyber) as perpetrators, victims, and bully-victims. While bullying perpetration and the dual experience of being a victim and perpetrator are common for youth across the globe, the present research focused on the victimization experience only. The current study is one of only three known studies to examine the neglect-bullying victimization relationship specifically and uniquely aimed to explore which forms of bullying victimization were specifically associated with emotional and physical neglect.

Theoretical and Behavioral Foundations

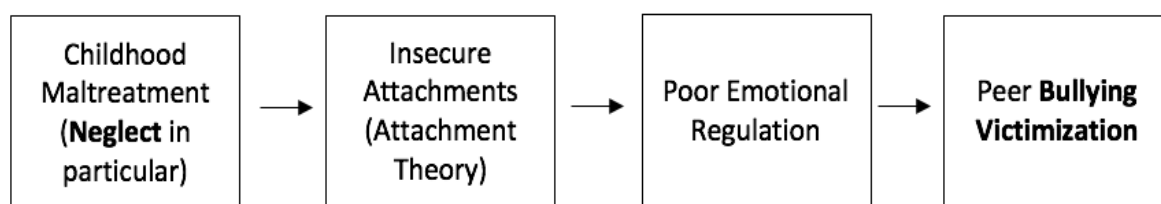
Researchers have identified several theories to explain the link between child maltreatment and subsequent bullying perpetration/victimization. An abundance of research (e.g., Shields et al., 2001) supported the cycle of violence or the trajectory from child maltreatment to peer bullying perpetration. In relation to this association, attachment theory provided rationale for the interaction between violence at home and future violence toward peers at school. Developmental research deemed the parent-child relationship to be a key influence on a child's ability to develop positive peer relationships (Bolger & Patterson, 2001a; Parke & Ladd, 1992). Although studied far less frequently than abuse, there appeared to be an association between parental neglect and peer rejection as well (Bolger & Patterson, 2001a; Bolger et al., 1998; Chapple et al., 2005; De Paúl & Arruabarrena, 1995).

The cycle of victimization, which like the cycle of violence, could be supported by a variety of different theoretical orientations but was far less studied, especially in relation to childhood neglect. An interaction between a selection of related theories appeared to provide a solid foundation for expected outcomes of the current research (see Figure 1). Finkelhor et al. (2009) discussed poly-victimization, how children who are maltreated in various contexts and/or with different abusers, might experience an atypical developmental process. As such, an insecure

attachment style could result from neglectful family and parental circumstances, making these children more likely to be revictimized in the future (Perry et al., 2001). For instance, when children are raised in an environment characterized by child maltreatment and/or violence, they are more likely to become emotionally dysregulated within the school context (Shields et al., 2001). Emotional dysregulation could be conceptualized as the inability to recognize and modify emotional responses in a way that is appropriate to the current situation or context (Gratz & Roemer, 2004).

Figure 1

Interaction Between Related Theories



Evidence supported that neglected children's ability to detect and respond to others' emotional expressions was weakened (Pollak, 2008), and that neglected children generally displayed poor emotional regulation skills (Egeland et al., 1983; Kim & Cicchetti, 2010; Shipman et al., 2005). This difficulty could be attributed to fewer opportunities within the home environment to practice and observe healthy emotional regulation skills due to the absence of positive, supportive parent-child relationships (Cassady & Shaver, 2008; Mikulincer et al., 2003; Zimmerman et al., 2001). Congruent with Cicchetti's (1993) organizational-transactional model of development, abuse and neglect that occurred during infancy and/or toddlerhood were

associated with insecure parental attachment, which then increased the risk for problematic peer interactions and relationships along with other behavioral obstacles (Kim & Cicchetti, 2010).

Existing research upheld the connection between childhood maltreatment and an insecure parental attachment style (Egeland & Sroufe, 1981; Toth et al., 2000; Wilson et al., 2008) and that a link between insecure parental attachment styles and emotional dysregulation in abused and/or neglected children existed (Finzi-Dottan & Harel, 2014). While attachment style was an important component in the foundational structure for expected results in the current research, it was not a variable that was explored in the context of the current study. The factors of insecure attachment style and emotion regulation difficulties have been examined as mediators in the association between childhood abuse and neglect and subsequent risk behaviors (e.g., substance use; risky sexual behaviors, antisocial behaviors; Oshri et al., 2015), further bolstering their presence as foundational components in the cycle of victimization. Both attachment style and emotion regulation are theoretical links in the chain from childhood neglect to peer victimization, and they provide the model for what was expected to be found in the present research, although both were not explicitly examined in the current study.

Prior research recognized child neglect to be associated with stress (Glaser, 2000) and decreased emotional regulation skills in childhood (Egeland et al., 1983; Kim & Cicchetti, 2010; Shipman et al., 2005). This emotional dysregulation might manifest as specific behaviors within the school setting that lead abused and/or neglected students to experience higher rates of exclusion, targeting by bullies, difficulties making social connections, and lower quality peer relationships (Contreras & Kerns, 2000; Contreras et al., 2000; Finkelhor et al., 2009; Kerns et al., 2007; Kim & Cicchetti, 2010; Shields & Cicchetti, 2001; Shields et al., 2001; Trickett et al., 2011). Shields and Cicchetti (2001) specifically described how “emotional residues” persisting

from maltreatment at home contributed to emotional dysregulation, which could negatively influence social information processing and interactions with peers.

Statement of Purpose

The purpose of the present study was to add to the knowledge base for the cycle of victimization by retrospectively investigating the association of physical and emotional neglect with various forms and dimensions of bullying victimization in primary and secondary school. The current research was characterized as an exploratory study that aimed to understand the unique relationships existing between each form of neglect in the home and each type of bullying victimization in the school. Due to the high prevalence of child neglect globally and the toll both neglect and bullying could have on student populations, it was important to report findings on the association between the two to better help school psychologists, counselors, administrative personnel, and other school practitioners address unique concerns with these multi-victimized student populations in their schools before they graduate. Educational professionals are in a unique and ideal position to be able to observe students, identify those who might be most vulnerable in the school setting, and then make an effort to develop a rapport with these students so they might feel they have a trusted adult in the school in whom they could confide (Gilbert et al., 2009; King & Scott, 2014; McGarry & Buckley, 2013). Benedini et al. (2016) discussed the current interventions and curricula available to help identify and intervene with students with a history of maltreatment. Many interventions for neglected children involved outside support from social workers and private therapists and emphasize parent trainings to support positive parent-child interactions (Farmer & Lutman, 2012, p. 20-21). However, due to the paucity of research on how neglect specifically affected peer victimization in the school setting (Wang et al., 2019), it was difficult to inform specific efficacious methods of providing services within the

school setting to children known to experience neglect at home. It is imperative that services and support be provided at school for these students as only a portion of neglectful parents are likely to seek outside services or participate in parent-child therapy.

This exploratory study attempted to delineate the specific influence of neglect upon dimensions of various bullying experiences (see Figure 2 for an overall conceptualization of this research study). One overarching question asked was whether neglected children were more likely to be victims of bullying and if the perceived frequency and severity of physical, verbal, and/or indirect peer victimization was heightened in youth who experienced one form of neglect (e.g., physical or emotional) over the other. Efforts to locate studies that examined the perceived severity of each form of bullying victimization in persons who were neglected in childhood came up short at the time of this writing. With such data, the present research aimed to inform specific school-based or therapeutic interventions that function to prevent and disrupt the child maltreatment to bullying victimization pathway. Understanding the relationship between neglect and bullying victimization might help school-based and clinical psychologists feel better prepared to help neglected youth navigate the unique social challenges they might face during these formative years and to prevent re-victimization in the school setting.

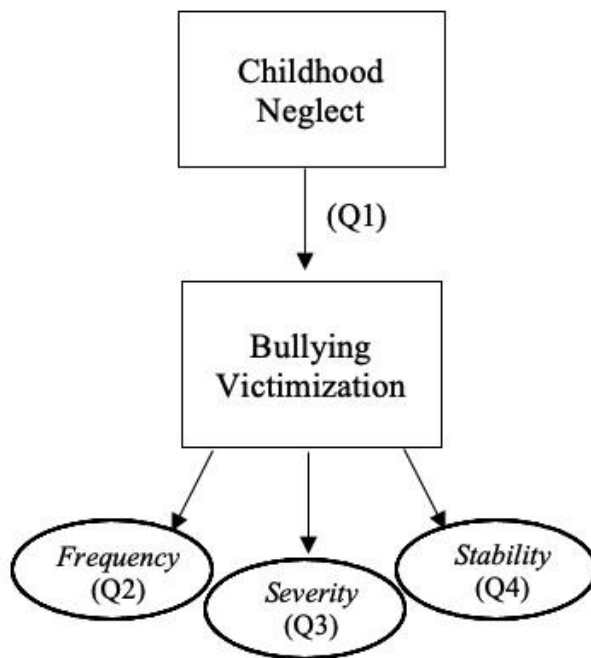
Research Questions

Figure 2 provides a visualization of the overarching child neglect and bullying victimization association that was explored in the present research. Research question 1 aimed to examine the broad relationship between child neglect and bullying victimization while research questions 2-4 specifically analyzed a unique dimension (i.e., frequency, severity, and chronicity) of each form of bullying victimization in relation to both physical and emotional neglect.

Specific research questions are listed below, and further detailed visualizations for each research question is referenced in the Data Analysis section of Chapter III (Methodology).

Figure 2

Conceptualization of Research Questions



- Q1 Is there a significant difference in childhood bullying victimization rates between people with a history of childhood neglect and people with a history of childhood non-maltreatment?
- Q2 To what extent does neglect type (physical and emotional) predict the *frequency* of each form of school bullying victimization (physical, verbal, indirect)?
- Q3 To what extent does neglect type (physical and emotional) predict the *severity* of each form of school bullying victimization (physical, verbal, indirect)?
- Q4 To what extent does physical and emotional neglect predict the *stability* (e.g., consistency over time) of bullying victimization across primary and secondary levels of school?

Limitations

Several limitations need to be recognized in this study. The first limitation involved the data collected as it was self-reported data recounted in a retrospective fashion. Since retrospective methodologies rely on the self-report of former maltreatment and victimization experiences, a causal relationship cannot be identified and the reliability and validity of these autobiographical reports have been questioned over time (Schäfer et al., 2004). However, research supported that adult memories of maltreatment in childhood are highly salient for these individuals and there is no outstanding evidence that these memories are prone to being forgotten (Brewin et al., 1993; Eslea & Rees, 2001; Rivers, 2001). Brewin et al. (1993) reported overestimates in the lack of reliability of self-report data and that recollection of childhood events (particularly those that are emotionally charged) were especially reliable and stable. Rivers (2001) found retrospective data to exhibit reasonable test-retest reliability when recollecting bullying experiences in terms of chronicity and the specific types of bullying they experienced in specific locations.

Secondly, the survey was administered in an online format and participants (i.e., college undergraduate students) were able to take the survey at any time and in any location. This extinguished any experimental control over the survey-taking environment. Although participants were explicitly asked to take the survey in a private and quiet location, it remained impossible to know of any environmental factors that might have been present to influence responses within the survey. With this being said, Miller et al. (2002) provided support for the reliability and validity of self-reported data obtained via online self-administration methods and that the psychometric properties of electronic psychological measures were acceptable (Skinner & Pakula, 1986). As an additional note, it was determined that research participants reported

more comfortability in answering sensitive questions related to prior traumatic events in the online realm than they would have within a one-on-one interview format (Shapiro et al., 2013).

Another limitation involved the bullying victimization measure employed in the present study (the Retrospective Bullying Questionnaire; RBQ). Although widely utilized in the bullying literature base (Kritsotakis et al., 2017; Sesar et al., 2012), the RBQ does not report any explicit validity evidence nor that of internal consistency. For this reason, internal consistency data were provided from my sample. As the RBQ is the only retrospective measure available at this time to assess the bullying victimization variable in respondents over the age of 18 years, the lack of adequate psychometric evidence for this measure was a notable limitation.

Finally, in measuring the construct of childhood neglect, the many other stressful life experiences that commonly accompany experiences of neglect should also be considered. For instance, concurrent parental abuse, prenatal exposure to substances, domestic violence exposure in the home, poor nutrition, poverty, and compromised access to quality education are familiar confounders (De Bellis, 2005) when examining the link between neglect and bullying victimization experiences. Although efforts to control for poverty were undertaken via a demographic item related to each respondent's childhood socioeconomic status (SES), all of these other factors were inadequately controlled for in the present study. Future research should aim to make this a priority as it would strengthen the practical and scientific impact of the associations found in this research.

Delimitations

There was also a handful of delimitations to this research. Firstly, this study employed a cross-sectional methodology, making results susceptible to different biases. By collecting data at one point in time, significant relationships might hold less empirical and clinical value than if

they had been yielded by longitudinal research. As such, causal associations could not be established. Furthermore, the participants in this study were self-selected—they decided whether or not they wanted to participate in the study. This left the present study open to selection bias where participants might characteristically differ from those who chose not to participate in the study, leading to possible bias in the results (Pandis, 2014). This could increase the chance for non-generalizable results as respondents who participated might have found the description of the study to be more appealing than those who did not participate.

CHAPTER II

LITERATURE REVIEW

Introduction

The ever-persisting phenomena of childhood maltreatment and bullying victimization present many deleterious outcomes that could linger well past school-age years. Neglect has been identified in the extant literature as being the most common (Gilbert et al., 2009) and the deadliest form of child maltreatment. Of the estimated 1,770 children to die of child maltreatment-related causes in the United States in 2018, 72.8% were neglected and 46.1% were physically abused (either solely or alongside another form of maltreatment; U.S. Department of HHS, ACF, ACYF, CB, 2020). Despite this frightening mortality rate, neglect confusingly remained far less studied (Dubowitz, 1999) and publicly attuned to (Polonko, 2006) than other types of maltreatment. Similar, damaging short and long-term consequences related to mental health, social functioning, and academic outcomes could be associated with peer victimization. A vast amount of research has been dedicated to the two pervasive literature bases of both maltreatment and bullying victimization in childhood; however, specific associations between emotional and physical neglect and each form of peer victimization (physical, verbal, and indirect/relational) have seen little to no empirical exploration. The present, exploratory study examined the relationships that exist between neglect and bullying victimization in a sample of undergraduate, adult college students in the Midwest region of the United States.

Definitions of Childhood Maltreatment

Four major classes of maltreatment are most commonly encountered by children. These classes encompass physical, sexual, and emotional abuse along with neglect (Finkelhor et al., 2013). The CDC (2008) defined child maltreatment as “any act or series of acts of commission or omission by a parent or other caregiver that results in harm, potential for harm, or threat of harm to a child” (p. 11). By commission, the authors referred to the physical, sexual, and psychological forms of abuse. Acts of omission represented those of child neglect (CDC, 2008).

While not directly analyzed in the present study, it was important to discuss how abuse was conceptualized in the literature compared to that of neglect. According to the *Diagnostic and Statistical Manual of Mental Disorders* (Fifth Edition; American Psychiatric Association [APA], 2013), physical abuse can be defined as “nonaccidental physical injury to a child by a parent, caregiver, or other individual who has responsibility for the child, regardless of whether the caregiver intended to hurt the child” (p. 717). Emotional and psychological abuse are generally used interchangeably (Tonmyr et al., 2011). This form of abuse is delineated in the *Diagnostic and Statistical Manual of Mental Disorders* as “nonaccidental verbal or symbolic acts by a child’s parent or caregiver that result in significant psychological harm to the child” (APA, 2013, p. 719). Conversely, sexual abuse is elucidated as “any sexual act involving a child that is intended to provide sexual gratification” to either “a parent, caregiver, or other individual who has responsibility for the child” (APA, 2013, p. 718).

Although emotional neglect is considered to be the most common form of childhood maltreatment, it curiously stands to be the least well-defined, diagnosed, and understood form of maltreatment (Giardino et al., 2009, p. 279). Emotional neglect is said to occur when parents/guardians do not attend to their child’s “needs for affection, emotional support, attention,

and competence (Giardino et al., 2009, p. 262).” Examples of emotional neglect comprise “(a) markedly overprotective restrictions that foster immaturity or emotional overdependence; (b) chronically applying clearly inappropriate expectations in relation to the child’s age or level of development; (c) domestic violence in the child’s presence; and (d) encouragement of or permitting other maladaptive behavior (e.g., severe assaultiveness, chronic delinquency)” (Giardino et al., 2009, p. 262). Emotional neglect could also occur when parents delay or fail to provide mental health care when recommended by a competent professional (Giardino et al., 2009, p. 262). In comparison, physical neglect could be conceptualized as “the failure to meet a child’s basic physical needs such as food, clothing, shelter, personal hygiene, and medical care” (Cohen et al., 2017; Giardino et al., 2009, p. 262).

General Consequences of Childhood Maltreatment

The existence of childhood maltreatment has been widely deemed a major public health concern (Benedini et al., 2016; Espelage et al., 2016; Norman et al., 2012), and an entire body of literature has evolved over the decades to best understand the specific short-term and life-long consequences of childhood abuse and neglect. As the literature in this arena has consistently revealed, major detrimental emotional, social, cognitive, and academic implications are associated with childhood maltreatment. People with a history of physical abuse have been found to have significantly increased risks of depression, anxiety, post-traumatic stress disorder, eating disorders, alcohol dependence/abuse, risky sexual behaviors, sexually transmitted infections, and suicidal behavior. Similar mental and physical health outcomes have been found in those who experienced sexual and emotional abuse (Norman et al., 2012).

Rouse and Fantuzzo (2009) examined a variety of risk factors in a large sample of second graders (e.g., maltreatment, homelessness, biological birth risk, etc.) and consistently found child

maltreatment to yield the strongest associations with poor academic functioning. In early childhood, experiences of abuse and neglect can largely disrupt cognitive, language, and emotional maturation processes at a crucial time in neurological development. These effects cross over with academic functioning as cognitive, language, and emotional abilities are critical for sufficient academic performance (Rouse & Fantuzzo, 2009). More specifically, problem-solving and self-regulation abilities might become interrupted as a result of childhood abuse and/or neglect (Cicchetti & Valentino, 2006), negatively influencing a youth's cognitive and intellectual growth and increasing the concurrent risk of experiencing mental health and behavioral problems early in life (Romano et al., 2015). These negative outcomes might then persist across higher levels of schooling.

General Research Base on Childhood Neglect

Neglect is deemed to be at least as harmful as physical or sexual abuse across time; yet, it is an area of maltreatment often understudied and receives the least amount of public attention (Gilbert et al., 2009). Of the 3.5 million child maltreatment cases investigated by child protective services in 2018 (U.S. Department of HHS, ACF,ACYF, CB, 2020), a vast majority of cases were coded as neglectful (60.8%). It was very difficult to locate research that examined outcomes of physical and emotional neglect individually. Instead, evidence was scattered within the broad childhood maltreatment literature base as certain studies were able to collect a large enough sample size to allow researchers to run analyses related to each form of neglect. Specific consequences linked with childhood neglect are discussed below.

Social Concerns in Neglected Youth

The relationship with a parental figure is often an underlying feature in cases of neglect. Most healthy and non-abusive parent-child relationships are characterized predominately by

secure attachment styles. Neglect, however, is reportedly associated more so with an anxious-ambivalent attachment style over any other types of attachment (Finzi et al., 2001, 2002).

Parental bonds are not the only relationships to be affected by childhood neglect as it was found that associations with peers were also at-risk. This is largely a result of poor social skills, which makes it difficult for these kids to approach peers and develop friendships with them (Maguire et al., 2015). Low self-esteem and behavioral problems that often accompany childhood neglect tend to further perpetuate a divide between the neglected students and other classmates as those who are neglected sometimes take on the “class clown” or “strong guy” roles (Finzi et al., 2003).

Physical neglect, specifically, demonstrates worsened outcomes in terms of social competence (Manly et al., 1994, 2001) and difficulties in establishing and maintaining peer relationships in comparison with non-neglected controls (De Paúl & Arruabarrena, 1995). Research suggested that neglected children hold fewer reciprocated, close friendships compared with non-maltreated classmates (Bolger et al., 1998) and physically neglected children are more likely to be rejected by peer groups (Chapple et al., 2005). Parents who neglect their children could be socially isolated and have a limited amount of friends of their own (Crittenden, 1985), making opportunities for their children to observe healthy and reciprocal friendships harder to come by and weakening the ability of these parents to facilitate friendships their children are making (Bolger et al., 1998; Lewis & Schaeffer, 1981; Mueller & Silverman, 1989). Furthermore, neglected children might be less likely to invite peers over to their houses due to potentially dirty or disorganized home environments that might have inadequate food and entertainment availability (Bolger et al., 1998). Children who reside in such homes are subsequently placed at a further disadvantage when attempting to develop and maintain interpersonal relationships compared to their peers who are adequately provided for at home.

Childhood neglect could also lead to unhealthy sexual encounters later on in life. Upon young adulthood, individuals with experiences of earlier childhood neglect were found to be at heightened risk of partaking in risky sexual behaviors and receiving sexually transmitted infections when compared to those who had not been neglected (Norman et al., 2012). Similar outcomes were also reported in adults who endured physical and emotional abuse during their school years.

Behavioral and Emotional Concerns in Neglected Youth

Not only could cognitive and executive functioning consequences arise from child neglect (De Bellis, 2005) but emotional and behavioral dysregulation could also be implicated. It is likely that neglect was sensed and perceived by a child as intense anxiety (De Bellis, 2005), which concurrently activated stress response systems at the biological level and aided in adverse brain development during critical times of maturation. It has been hypothesized that the stress and anxiety neglected children endure are the result of a failure to feel trust for a parent in a dysfunctional family relationship and the lack of socially appropriate interactions expected to accompany that trust (De Bellis, 2005). Valentino et al. (2008) examined the role of maternal schema in maltreatment outcomes and found negative maternal schemas were significantly associated with internalizing symptoms (i.e., depression) in neglected children (but not in abused or non-maltreated youth) and that having a positive maternal schema could protect neglected children from developing internalizing symptomatology. Individuals with a history of both physical and emotional neglect were found to be at a significantly increased risk of experiencing depression and anxiety, whereas non-abused individuals were not (Norman et al., 2012). The severity of physical neglect during preschool in particular has been associated with greater

internalizing concerns and withdrawn behavior (Manly et al., 2001). Psychotic symptoms or paranoia have also been reported in neglected children (De Bellis, 2005).

Additional emotional domains that are compromised by childhood neglect are those of self-esteem and depression. In a combined sample of 322 neglected and non-neglected 7 to 12-year-old children (66 of which were in the neglected group), the severity of neglect was negatively associated with children's self-esteem (Lynch & Cicchetti, 1998). Similarly, Kim and Cicchetti (2006) reported increased depression over time in a sample of 142 abused and/or neglected children (74% of which were physically neglected) in comparison to children who reported no history of abuse or neglect. It has been hypothesized that withdrawn, neglected youth might feel their life is driven more by external control (i.e., happenings in life are the result of others, and not themselves), which is encompassed within the neglect and internalizing symptomatology association (Bolger & Patterson, 2001b). Children who experienced emotional neglect in particular (and after controlling for confounding variables such as poverty, family structure, and spanking) had significant difficulty with self-control (Chapple et al., 2005). Moreover, those who experienced neglect were three times more likely to develop eating disorders than those who did not experience neglect. Neglect was also associated with a significantly increased risk of suicidal behavior (i.e., attempts, ideation) relative to those without this form of maltreatment (Norman et al., 2012).

A lack of trust and an inherently negative view of one's parental figures could also lead to externalizing behaviors in neglected youth. In a methodical review of studies examining the short and long-term consequences of childhood neglect from ages 5-14 years old, Maguire et al. (2015) reported externalizing symptoms (i.e., aggressive, destructive, assaultive, antisocial behavior) to be the most common behavioral problem among neglected youth. Similarly,

physically neglected youth were found to be significantly more likely to engage in violence (e.g., threatening and/or engaging in physical fights at school or work) later in life (Chapple et al., 2005). Kendall-Tackett and Eckenrode (1996) studied school records and reported a significant association between neglect and suspensions from school and other disciplinary actions. To the contrary, a handful of studies in the meta-analysis by Maguire et al. (2015) were unable to corroborate these results as they reported non-significant associations between neglect and externalizing behaviors. Other behavioral features related to attention deficit hyperactivity disorder were also frequently associated with youth who were neglected. In children aged 6-12 years, neglected children exhibited more impulse control difficulties than non-neglected children (Finzi et al., 2003; Fishbein et al., 2009).

Notably, all neglected children who participated in a cognitive functioning study by De Bellis et al. (2003) were also exposed to one or more domestic violence disputes up until that point in their childhood. Neglected youth were more likely than non-neglected children to witness domestic violence and to experience post-traumatic stress disorder from being exposed to these traumatic experiences (De Bellis, 2005). In preschool children who witnessed domestic violence between their caretakers at this young age, significant externalizing concerns for boys and internalizing problems for girls carried into adolescence (Yates et al., 2003). Not only was domestic violence exposure heightened in neglected youth but parental substance-use disorders were also commonly associated with child neglect (Chaffin et al., 1996; Kelleher et al., 1994; Murphy et al., 1991) which further interfered with the parent's ability to foster a nurturing and supportive relationship with their child.

Cognitive and Academic Concerns in Neglected Youth

De Bellis (2005) conducted a large review of the developmental, cognitive, and biological deficits characteristic of severely neglected children. Early research on animals, institutionalized infants, and children in orphanages—all of which were characterized by a lack of emotional stimulation from a parental figure—gave warning signs of what child neglect was capable of. In these profound neglectful circumstances, large deficits in social development and emotional and behavioral regulation were recorded (Spitz, 1945) as well as physical growth delays (e.g., smaller head circumference and body size), cognitive and language development delays, and inferior social skills by the age of three years (Macovei, 1986). In less severe cases of childhood neglect, such as when institutionalized children were later returned to their parents or adopted out, the children continued to display significant problems with emotional regulation and interpersonal relationship difficulties as they aged (Hodges & Tizard, 1989).

Despite the historically mixed evidence in relation to the link between parental involvement and educational achievement (Englund et al., 2004), it has been previously theorized that neglect is more strongly associated with academic difficulties compared to other forms of maltreatment. This could be explained by the overlapping effects neglect could have on a child's development. If a child does not get fed a healthy amount of food while growing up, for example, his or her neurological development could be compromised over time (McGuire & Jackson, 2018). Neglect tended to be more chronic in nature (Bolger & Patterson, 2001a) than physical and sexual abuse; therefore, it is viewed to be more directly linked with academic delays (Hildyard & Wolfe, 2002) and the inability to meet other developmental milestones essential for academic success on time (Petrenko et al., 2012). Educational neglect, such as when a parent continually allows their child to miss school or does not care to promote their academic

success, tends to have the most direct effect on a child's academic functioning than abuse or non-maltreatment do (McGuire & Jackson, 2018).

For many children in neglectful circumstances, the stress they feel is chronic and could lead to impairments in brain structures and neurological processes responsible for maintaining attention and motivation, learning new material, and could result in poor academic achievement (De Bellis, 2005). It is not surprising, therefore, that a significant link between childhood neglect and delays in cognitive development, functioning, and head growth was reported in young children (Strathearn et al., 2001) as well as lower IQ and academic performance into adulthood (Perez & Widom, 1994). In fact, De Bellis et al. (2003) reported that neglected children with no concurrent history of abuse, prenatal substance exposure or insults, and who were otherwise healthy performed poorer on all cognitive domains of a common neuropsychological test compared to a group of non-maltreated children (i.e., no history of abuse and/or neglect).

Definitions of Bullying

Although conceptualizations of childhood abuse and neglect are reasonably well-developed, definitions pertaining to bullying tended to be more difficult for researchers to agree upon. The concept of bullying has been around for centuries and conceivably since the beginning of human life as survival often required aggression toward those they were competing with over resources (Donegan, 2012). The first known introduction and conceptualization of the term was attributed to *The Times* in 1862 where it was reported that an army soldier died on account of bullying victimization (Koo, 2007). Further understanding and definitions of bullying have surfaced over the following decades. Olweus (1993) became a renowned innovator within the field of bullying and developed a popular definition that emphasized a perceived power imbalance, repetition of behavior, and malicious intent. Another frequently used definition of

bullying, conceptualized by Espelage and Swearer (2003), was described as any “verbal, physical, or social forms of aggression inflicted by an individual or group of individuals and directed against a child or adolescent who is not able to defend himself or herself” (p. 168). In addition, definitions of bullying usually included systematic, ongoing behaviors by peers who are aiming to gain some form of reinforcement (e.g., power; Espelage & Swearer, 2003). Four major types of bullying commonly were recognized in the literature: physical, verbal, relational (also referred to as social or indirect), and cyber (Wang et al., 2009).

While cyber-bullying is a large aspect of modern-day bullying, it was omitted as it was not incorporated with the present study’s purpose and design. The remaining forms of traditional bullying, however, are included. Physical and verbal bullying are considered forms of ‘direct’ victimization as they involve harmful acts that are overt in nature. As such, physical bullying is commonly understood as comprising any physical act of aggression from one peer unto another such as hitting, pushing, kicking, or punching (Brank et al., 2012; Wang et al., 2009). Verbal bullying, on the other hand, is characterized by spoken aggressions (i.e., name calling and teasing) that are inflicted in a harmful manner (Brank et al., 2012; Wang et al., 2009). A more indirect and covert form of bullying is termed as ‘relational’ (also known as social or indirect victimization) and centers around the transaction of social harm (i.e., spreading rumors, withholding friendships, and social exclusion; Brank et al., 2012; Wang et al., 2009). Relational and verbal bullying are found to occur more frequently in adolescence than physical bullying does (Wang et al., 2009).

General Correlates of Bullying Victimization

As discussed previously, childhood maltreatment is associated with worsened developmental outcomes as discussed in the literature. Similar findings were found in the

bullying literature with comparable, detrimental impacts on mental and physical health outcomes. Children who are bullied are more likely to exhibit physical health issues (e.g., Gini & Pozzoli, 2009; Wolke et al., 2001), anxiety and depression (e.g., Arseneault et al., 2010; Woods & White, 2005; Zwierynska et al., 2013), borderline personality indicators (e.g., Wolke et al., 2012), and increased self-harm and suicidal behaviors (Fisher et al., 2012; Klomek et al., 2009; Winsper et al., 2012) than children who are not victimized by their peers at school. This was significant given that the World Health Organization (2012) recently reported an average childhood bullying rate of 32% across 38 different countries and regions.

Rueger and Jenkins (2014) brought to light the scarcity of research on academic achievement outcomes related to specific types of peer victimization. However, some general academic evidence can be located if one searches meticulously enough. A meta-analysis conducted in 2010 by Nakamoto and Schwartz identified only four studies to analyze the association between different types of bullying victimization on subsequent academic achievement and, therefore, gathered inconclusive results in terms of the correlation between these two variables. An indirect association was discovered between sixth and seventh graders' feelings of self-worth, depression, loneliness, and decreased grade point average and school attendance a year after being bullied (Juvonen et al., 2000). A subsequent, longitudinal study by Nishina et al. (2005) found similar mediational results in that bullying experienced by sixth grade students within the fall semester was associated with psychosocial maladjustment and physical symptoms that were antecedents to poorer school functioning in the spring semester.

Like those of childhood maltreatment, the effects of childhood bullying victimization do not seem quick to disappear and could have long-lasting effects far beyond secondary school. In studies that examined the costs of prior bullying victimization in college students, common

consequences included poorer mental health functioning, increased emotional loneliness, difficulties with friendships, lower sense of self-esteem, decreased health-related quality of life, increased risk of bullying victimization in higher educational settings, shyness, and a decreased sense of trust in others (Chapell et al., 2006; Chen & Huang, 2015; Holt et al., 2014; Jantzer et al., 2006; Schäfer et al., 2004). Even in cross-sectional and longitudinal studies that controlled for early psychiatric issues and other adverse childhood experiences (such as family instability and poverty), a history of bullying victimization in childhood continued to predict poor psychological, educational, and occupational functioning into young adulthood (e.g., Copeland et al., 2013; Holt et al., 2014). Increases in depression persisted up to an average of six years following peer victimization (Ttofi et al., 2011) as well as violent behavior up to an average of 6.9 years after being bullied (Ttofi et al., 2012) according to meta-analytic findings.

At the present time, meta-analyses that analyze the specific types of bullying (i.e., physical, verbal, relational/indirect) separately to determine the specific social, emotional, behavioral, cognitive, and academic effects that accompany each form of bullying were unable to be identified. However, singular research studies were located to give some evidence. For instance, relational victimization in adolescence (e.g., threatening to end friendship) was associated with externalizing symptomatology only in those who endorsed little perceived social support by their classmates in a cross-sectional study by Prinstein et al. (2001).

Physical Characteristics of Bullying Victims

Bullying often enters the lives of children and adolescents who appear to be outwardly “different” than typical peers (Magin, 2013). Puhl et al. (2011) found obesity and overweightness to be of the most common determinants for being bullied in a sample of 1,555 American high school students. Odds ratio (OR) results from a nationally representative American sample of

approximately 7,500 6th through 10th grade students indicated that overweight males (OR = 1.27) and overweight females (OR = 1.36) were more likely to be verbally bullied, underweight males were more likely to be physically bullied (OR = 1.87), and underweight females were more likely to be relationally bullied (OR = 1.71) than average-weight peers (Wang, Iannotti, & Luk, 2010).

Research indicated that bullying victimization could be accompanied by the phenotypic outcomes of a variety of health-related impairments, clinical disorders, or medical processes such as during and/or post cancer treatment (Lähteenmäki et al., 2002; Williamson et al., 2010), skin disorders (e.g., severe acne, etc.; Magin, 2013), diabetes (Storch et al., 2004, 2006a), endocrine disorders (Sandberg, 1999), congenital heart disease (Horner et al., 2000), obsessive-compulsive disorder (Storch et al., 2006b), autism spectrum disorders (Montes & Halterman, 2007; Twyman et al., 2010), and Turner syndrome (Rickert et al., 1996) to name a few. In a sample of over 7,000 adolescents with chronic health conditions (52% males) in Switzerland, the overall frequency of bullying victimization was significantly higher among chronically affected adolescents than among healthy controls with a threefold increase in social exclusion in particular (Pittet et al., 2010). Children and adolescents identified with autism, attention deficit hyperactivity disorder, a specific language impairment, and learning disabilities were also more likely to be bullied than those who did not hold these common special education identifications (Magin, 2013).

What Is Known, and Not Known, About the Neglect to Bullying Victimization Association

The majority of research conducted on the relationship between bullying victimization and neglect also concurrently incorporated the role of abuse (Chapple et al., 2005; Stoltenborgh et al., 2013) or was analyzed as a collective variable of childhood maltreatment (Hong et al.,

2012). In a recent meta-analysis of 67 different studies examining the association between parenting behaviors and bullying victimization, Lereya et al. (2013) concluded that childhood abuse and neglect were the most significant predictors of peer victimization. While very informative, the researchers did not differentiate between abuse and neglect, making it problematic in attempting to draw specific conclusions in relation to bullying outcomes. It is time for research to look separately at the role of parental neglect when analyzing peer victimization experiences as it could very well be associated with unique consequences that differ from those of abuse or non-maltreatment.

Most of the extant literature on this association focused on child abuse (Duke et al., 2010; Dussich & Maekoya, 2007; Vaughn et al., 2011), where emphasis on school bullying and child neglect was far scarcer (Wang et al., 2019). Researchers who were able to parse out the unique consequences of neglect mainly focused on aggressive social interactions perpetrated by victims but very rarely specifically looked into bullying victimization (Maguire et al., 2015). For example, Chapple et al. (2005) reported in a longitudinal study that emotionally and physically neglected children were more likely to be rejected by normal peer groups (with no mention of peer victimization) in early adolescence and developed violent tendencies during late adolescence. While peer rejection might exist concurrently with bullying victimization, or be a precursor for it, both peer rejection and peer victimization were considered by this writer to be two separate constructs. The present research looked to complement Chapple et al. by determining how emotionally and physically neglected children specially experienced bullying at school.

Widom et al. (2008) identified a need to examine how childhood neglect influenced future risk for re-victimization as this association has been largely understudied in the re-

victimization literature. They examined outcomes such as subsequent physical assault and abuse, sexual assault and abuse, family and/or friend murder or suicide, crime victimization, and experiences with stalking or kidnapping in 892 individuals who were abused and/or neglected up to 41 years earlier. All childhood maltreatment types yielded significant increases in lifetime re-victimization rates in the areas of physical and sexual assault/abuse, stalking/kidnapping, and experiencing the loss of a friend via murder or suicide when compared to matched controls. Although child maltreatment and bullying victimization were both faced within the same general timeframe of childhood and/or adolescence, victimization by peers in the school setting was not included as one of Widom et al.'s re-victimization outcomes. Along with this, they did not assess for differences between the different forms of neglect.

Furthermore, Benedini et al. (2016) explored the consequences of physical and sexual abuse on subsequent bullying victimization but did not include analysis of neglect. In examining bullying victimization, the researchers specifically looked into peer intimidation and physical assault, and therefore studied physical bullying victimization outcomes only. The present study built upon these findings by exploring the associations between the specific forms of peer victimization (including verbal and indirect/social forms) in relation to both types of childhood neglect.

To date, very little is known about the specific associations between physical and emotional neglect and the frequency, severity, and stability over time of each form of bullying victimization (physical, verbal, indirect). Wang et al. (2009) studied a large sample of middle and high school students and reported that parental support/warmth was negatively associated with bullying involvement across all three bullying types. This was in support of previous research, indicating positive parental behaviors, relations, and support could be a protective

factor against peer victimization (e.g., Haynie et al., 2001; Lereya et al., 2013). Given this, it was hypothesized that those who were neglected at home would be more likely to be mistreated by their peers (compared to those who were not neglected at home), and that significant results would be found across the physical, verbal, and relational bullying victimization subtypes. Hong et al. (2012) recognized the complexities of the relationship between child maltreatment and bullying. Researchers called for further empirical research to dedicate their time to clearing up the specific pathways that connect the two unfortunate, yet common childhood phenomena (Hong et al., 2012; Wang et al., 2019).

In an extensive literature search, only one study that closely resembled the present study was located. This research was conducted by Wang et al. (2019) as they cross-sectionally studied a sample of 5,726 adolescent students in China. They desired to explore the association of different forms of childhood maltreatment (using the Childhood Trauma Questionnaire Short Form) with traditional forms of bullying and cyberbullying as bullies, victims, and bully-victims. They found the most significant associations were between both physical and emotional neglect and increased risk of bullying involvement as bullies, victims, or a combination of both, indicating the potential for similarly significant results in my analyses.

There were a few distinctions to note between Wang et al. (2019) and the present study. Firstly, this study was conducted within the United States and only included respondents who were born in the United States and spoke English as a first language in the analyses (see Methods section). Undergraduate college students aged 18-30 years old were recruited voluntarily from a mid-sized university's Introduction to Psychology courses in the Rocky Mountain region of the United States. At the time of this writing, there were no known studies to retrospectively

examine the interaction between emotional and physical neglect and all types of traditional bullying victimization events in American college student respondents.

Secondly, adult retrospective accounts of bullying victimization and neglectful experiences during childhood were utilized within the current research, which differed from the much more proximal retrospective accounts of the students studied by Wang et al. (2019). The study of students who were still in primary or secondary school was quite ambitious and difficult to achieve when examining vulnerable populations and those who might have experienced childhood abuse and/or neglect as obtaining consent to conduct research with these non-adult students could be difficult to obtain (Hameed, 2018; Jackson et al., 2012). Therefore, the study of adult college students was deemed to be more feasible.

Third, bullying victimization recollections were collected using a revised version of the RBQ where frequency, severity, and stability (i.e., chronicity from primary to secondary levels of school) of victimization estimates were attained. The present study, at the current time, became the first known study to explore the frequency, severity, and stability estimates of each form of traditional peer victimization (i.e., physical, verbal, and indirect) in neglected and non-neglected college students living in the United States. The unique results produced from this research will aid in further understanding the cycle of victimization for neglected youths in particular and will provide valuable information for school professionals in supporting these vulnerable student populations and preventing further victimization in the school context.

Evidence and Rationale for Frequency, Severity, and Stability Estimates in Child Maltreatment and Bullying Victimization Research

Manly et al. (1994) highlighted the interacting roles of frequency, severity, and chronicity/stability of childhood maltreatment when examining maladaptive outcomes. In a

sample of 235 preteen children attending a week-long summer camp in upstate New York, it was indicated that frequent exposure to low severity child maltreatment yielded prosocial behavior problems while chronicity was associated with peer perceptions of abused and/or neglected youth behaving aggressively. After being clustered by child maltreatment subtype, Manly et al. found physically abused children to display greater behavioral difficulties but additional unique predictive power was reported when physical neglect was added into the regression analysis. Additionally, children who endured more chronic abuse and/or neglect were deemed to be less popular and held fewer friendships over time than their non-maltreated counterparts (Bolger et al., 1998).

The Maltreatment Classification System has been used by some researchers to integrate developmental considerations when considering the severity, onset, and other features of various types of child maltreatment. Smith and Thornberry (1995) used the Maltreatment Classification System to study delinquency outcomes in a group of 1,000 teenagers. Significant increases in delinquent behavior were associated with higher frequencies of exposure, severity, duration, as well as experiencing more than one type of abuse and/or neglect. Lynch and Cicchetti (1998) analyzed the severity of different forms of childhood maltreatment in 188 records of abused and/or neglected children that were coded by the Department of Social Services. They concluded that the more severe the parental neglect, the risk of internalizing behavioral symptomatology, depression, and traumatic stress significantly increased. Severity of each of the other forms of maltreatment (e.g., physical abuse, sexual abuse, and emotional maltreatment), however, did not significantly predict children's functioning across time.

Research examining the severity of neglectful experiences on outcomes was of imperative importance. Evidence supported that even with the milder cases of parental neglect,

marked adverse outcomes on adolescent development remained. In 2018, childhood neglect encompassed 72.8% of all child deaths due to child maltreatment at home (U.S. Department of HHS, ACF,ACYF, CB, 2020), and yet there were likely an immeasurable quantity of children who were suffering the deleterious effects of parental neglect at home who might never be identified by school personnel or other mandated reporters due to neglectful circumstances appearing to be nonthreatening (Chapple et al., 2005). Neglect is hard enough to detect as it is but recognizing that even the mildest forms warrant attention and intervention was noteworthy for the present study as well as the overall childhood maltreatment literature base.

The present study did not have access to prior records of maltreatment but instead collected self-report, retrospective data from adult, college-age respondents who endorsed having experienced childhood neglect before the age of 18 years. Childhood maltreatment scores were recorded via the commonly used and highly regarded Childhood Trauma Questionnaire-Short Form (CTQ; Bernstein & Fink, 1998). Originally, those who endorsed significant histories of childhood neglect without experiencing any form of significant abuse were considered to be ‘purely’ neglected in the present research. Furthermore, those who reported a significant history of abuse along with significant neglect were originally considered to be ‘abused and neglected’ and those who reported nonsignificant histories of abuse and neglect were characterized as ‘non-maltreated.’ Due to limitations of the data collected in the current study, respondents were recategorized into different groupings as is described further on in the current manuscript. Most of the literature on neglect, as discussed above, did not differentiate between physical and emotional neglect when analyzing outcomes, which was a goal of the present research.

Like parental neglect (Bolger & Patterson, 2001b; Klein et al., 2013), school bullying victimization is often considered to be a rather stable occurrence (Barker et al., 2008; Jose et al.,

2012) but estimates of this stability could fluctuate based upon time and age. Stability could also be conceptualized as chronicity in the present context (e.g., the length of time or duration that victims endured bullying victimization). Prior research showed that bullying victimization among younger students was relatively ephemeral (Buhs et al., 2006; Ladd & Kochenderfer-Ladd, 2002), becoming more stable for late elementary school students and across middle school. These stability estimates persisted over shorter intervals of approximately five months (Goodman et al., 2001; Ostrov, 2008) as well as longer intervals of up to two years (Bellmore & Cillessen, 2006; Ladd & Kochenderfer-Ladd, 2002; Salmivalli et al., 1998; Yeung & Leadbeater, 2010) with approximately 45% of students endorsing chronic peer victimization from childhood to adolescence (Beran, 2008; Scholte et al., 2007; Smith et al., 2004). From grades 2 to 8, up to 20% of students experienced stable peer victimization (Kumpulainen et al., 1999; Schäfer et al., 2005). Bullying behavior is said to peak during middle school and is therefore a stage when students are the most likely to be victimized by their peers (Goldbaum et al., 2003). The current research intended to examine if this pattern of bullying victimization was present and consistent in neglected youths specifically compared to those who were non-neglected.

One study carried out by Scholte et al. (2007) investigated social adjustment outcomes in three levels of bullied youths: childhood only victims, adolescent only victims, and stable victims. Scholte et al. conducted a longitudinal study and reported that of the 517 ten to thirteen-year-olds studied, 43% of childhood only victims were still victims in adolescence. This reflected the concern that a large proportion of students who were bullied in primary school might continue to be victimized in secondary school. Youth who were bullied in both childhood and adolescence exhibited the worst outcomes compared to those who were bullied in one level or not bullied at all. The stable victims were rated by their classmates as being less popular, less

cooperative, and as conveying a shy demeanor (Scholte et al., 2007) in contrast to their intermittently and non-victimized counterparts.

The interaction between severity and frequency of bullying victimization estimates was also examined. Thomas et al. (2016) collected cross-sectional data and reported that adolescents who were physically bullied, regardless of the frequency of physical peer victimization, were more likely to indicate higher levels of psychological distress and decreased emotional wellbeing than non-victimized controls. This association was stronger in students who were more emotionally affected and upset by the experience(s). These findings were in line with longitudinal research conducted by Smokowski et al. (2014) where they reported those who were physically/verbally bullied infrequently (during one time of schooling) displayed similar deficiencies in mental health outcomes, school satisfaction ratings, and perceived levels of social support as those who experienced chronic physical/verbal bullying (frequent victimization across more than one period of schooling). This being said, chronic peer victimization led to more damaging outcomes than past victimization or current victimization (Scholte et al., 2007). Therefore, victims of bullying, regardless of reported frequency over time, should be targeted within the school setting for additional supports. Interventions should aim to empower these victimized students to report bullying events to a trusted teacher or parent where they could be assisted in ending these detrimental interactions at school and shortening the potential timeline of peer victimization (Smokowski et al., 2014).

To date, the present study is the only known study to assess for stability and severity of the various forms of bullying victimization experiences of neglected youth. It was the aim of the current research to ascertain if patterns amongst physical and/or emotional child neglect and the various dimensions of bullying victimization existed. The CTQ offered an all-encompassing

measure of the severity of retrospectively reported child maltreatment. The RBQ (Schäfer et al., 2004) was adapted (see methods section below; Retrospective Bullying Questionnaire-Revised; RBQ-R) and utilized to gather frequency, severity, and stability estimates of each type of bullying experience in neglected children.

By examining the influence of the severity of emotional and/or physical neglect experiences in childhood (as measured by the CTQ) with the various dimensions of each form of bullying victimization (as measured by the RBQ-R), practitioners could better understand patterns that might exist amongst these two significant areas of trauma. Specific questions that could be investigated by this research included the following: Does a severe history of emotional and/or physical neglect influence the frequency and perceived severity of bullying victimization experiences in school? Are those who are more likely to report severe emotional and/or physical neglect more likely to experience stable (e.g., chronic) peer victimization across time as opposed to those who report less severe or an absence of childhood neglect? Data on the frequency and chronicity of bullying victimization in this research also offered the opportunity to understand which form(s) of bullying victimization were most likely to be experienced as well as when bullying victimization was most likely to occur in neglected samples of students. If patterns amongst the two individual forms of child neglect and the various dimensions of bullying victimization exist in this research, results could be used to provide valuable information for school psychologists to consider in planning and enacting prevention and intervention efforts for students who were known or suspected to be neglected at home.

It was the hope that this information would further enhance the existing literature base by identifying any predictable pathways from parental neglect to bullying victimization experiences at school. The stability results of the present research might provide further rationale that

immediate support and intervention needs to be taken in an attempt to make this deleterious experience more transient in nature. If stable bullying victimization is not supported in neglected students, it could be that peer victimization is significantly more likely to occur in either primary or secondary school. On the contrary, if significantly stable bullying victimization is reported, it would strengthen the need for early intervention to prevent the continuation of victimization into higher grade levels. This should help school psychologists and counselors pinpoint the approximate time frame when students who have been neglected would be in need of extra support.

Predicted Composition of Recruited Sample

When examining studies with similar purposes and variables as the current study, there were notable breakdowns in sample characteristics that helped to predict the make-up of the sample intended to be recruited. Wang et al. (2009) recruited a large, nationally representative sample of over 7,000 middle and high schoolers and recorded the breakdown prevalence of bullying experience type within the four groups: bullies only, victims only, bully-victims, and non-involved. All students were asked to recall if they had been involved in bullying in some way at least once in the past two months. Of all affected students, 20.8% were physically involved, 53.6% were verbally involved, 51.4% were relationally involved, and 13.6% were victimized via cyberbullying. When examining the victims only group exclusively, 12.8% were victimized physically, 36.5% verbally, 36.5% relationally, and 9.8% endorsed electronic victimization. It was reasonable to infer that a similar breakdown in bullying victimization experiences might be found in the present sample and potential increases in all types of bullying victimization could be endorsed within a neglected sample. It was noted that the occurrence of multiple bullying experiences by respondents within the previous two months was not considered

by Wang et al. and there was no mention of how they handled multi-victimized respondents. This was problematic as research suggested that victims of bullying could experience multiple forms simultaneously (Waasdorp & Bradshaw, 2015; Wang, Ionnotti, Luk, & Nansel, 2010).

Additionally, there was evidence that a significant amount of research failed to acknowledge that victims of child abuse and/or neglect often experienced more than one form of abuse or neglect (Higgins & McCabe, 2001) and that researchers should include within-group comparisons between single maltreatment and multiple-type maltreatment groups (Boxer & Terranova, 2008; Hahm et al., 2010). Evidence also suggested that physically neglected children are more likely to be physically abused by their parents (Chapple et al., 2005). The interaction between physical neglect and physical peer bullying victimization was examined further in the present research and aimed to provide school professionals with extremely valuable information in terms of how to best prevent further victimization in the school environment for neglected students.

The extant literature consistently reported a history of child maltreatment in college populations across the United States to be at approximately 30% or one in three college students (Bachrach & Read, 2012; Duncan, 2000; Elliott et al., 2009; Freyd et al., 2001; Gibb et al., 2009; Hussey et al., 2006; Jordan et al., 2014; Welsh et al., 2017). The Children's Bureau of the U.S. Department of HHS, ACF, ACYF, CB (2020) reported that in 2018, a large proportion of abused and/or neglected youth were classified under one maltreatment type (84.5%) while the remaining 15.5% were coded in the multiple maltreatment group (i.e., having experienced two or more maltreatment types). Of note, approximately 61% of victims were categorized by the Child Welfare System as experiencing neglect only (U.S. Department of HHS, ACF, ACYF, CB, 2020), and neglect remained the most frequent form of child maltreatment documented by child-

protection agencies in the United States (Gilbert et al., 2009). However, a breakdown of the prevalence of emotional and physical neglect is not typically recorded by national databases of child maltreatment. Studies found self-reported, retrospective accounts of childhood abuse to be underreported when compared to court-substantiated accounts (Widom & Morris, 1997; Widom & Shepard, 1996). It is likely the prevalence of self-reported accounts of childhood neglect differed from that of court-verified case records (Negriff et al., 2017).

A study by Moore et al. (2020) utilized the CTQ at the same mid-sized university as the current research and included an overall sample of 369 undergraduate college students for analysis. Of the group of students in Moore et al.'s study, a little less than half (158 students) self-reported moderate to severe child maltreatment in one or more areas of abuse or neglect, although the frequencies for each form of maltreatment were not provided. The large proportion of neglected youth nationwide, along with the stable report of childhood maltreatment histories in college populations, originally promoted confidence that recruitment of a large enough sample of college undergraduate students endorsing a moderate to severe history of child neglect (to be compared with those who have no history of neglect or abuse) was reasonable to acquire. Oversampling procedures were applied in efforts to recruit a large enough sample size to run proposed analyses (see Methodology section below).

Summary

The opening of this chapter encompassed an introduction to the definitions and incidence rates of various forms of childhood maltreatment, the sparsity of child neglect evidence in prior research, and adverse effects of childhood neglect on social, emotional, behavioral, cognitive, and academic development and future functioning. A shift in focus was then made toward that of bullying victimization and a discussion around its relevant definitions, general consequences,

and the physical characteristics of bullying victims. Central to this chapter was a discussion of the gaps in literature addressed by the current study along with the existing evidence and fundamental rationale for further exploring these interactions. This chapter concluded with a prediction of the sample that would be recruited in the current study.

The present research explored the relationship between bullying victimization and childhood neglect by assessing whether there was a difference in peer victimization rates between those who were neglected and non-maltreated, whether neglect type (physical and emotional) predicted the frequency and severity of each form of school bullying victimization (physical, verbal, and indirect), and whether physical and emotional neglect predicted the stability of bullying victimization rates across primary and secondary school. By studying these specific questions, the current research aimed to expand the cycle of victimization knowledge base in order to better equip school psychologists, counselors, and other mental health professionals in the implementation of intervention and prevention efforts for those youths who have known or suspected childhood neglect.

CHAPTER III

METHODOLOGY

Purpose

The purpose of the present study was to add to the knowledge base for the cycle of victimization by retrospectively investigating the association of physical and emotional neglect with various forms and dimensions of bullying victimization in primary and secondary school. The current research was characterized as an exploratory study that aimed to understand the unique relationships existing between each form of neglect in the home and each type of bullying victimization in the school.

Participants

The target population for the given study was adults aged 18 to 30 years old within the United States. The sample for the current study comprised undergraduate college students from a mid-sized university in the Rocky Mountain region of the United States. The online delivery of surveys was intended to attract a more gender-balanced pool of respondents as was deemed effective in Batterham's (2014) study of the online recruitment strategies for a mental health survey. By employing an electronic delivery approach, the current research sought to address a well-documented limitation of childhood abuse and neglect research wherein most samples were made up of a larger portion of females than males (Aspelmeier et al., 2007; Elliott et al., 2009; Kendra et al., 2012; Welsh et al., 2017).

To be eligible to participate in the current study, participants must have been at least 18 years of age and under the age of 31 years upon the day they began the surveys. Age restrictions

were present to ensure that only adults were eligible for participation and to control for possible difficulties and inaccuracies in recalling childhood events that might occur past the age of 30. Evidence from a sample of healthy adults with a median age of 51 years (Majer et al., 2010) suggested those with a history of child physical neglect were more likely to display declines in long-term memory compared to non-neglected and/or abused controls. Furthermore, a recent study conducted by Wang et al. (2016) reported a significant relationship between childhood physical neglect and development of mild cognitive impairment with associated declines in episodic memory in participants over the age of 60 years old. The specific age range chosen for the current research reflected the age norms for the CTQ and RBQ and seemed to reasonably control for any difficulties in recall of events that might occur upon later adulthood. Eligible participants were also required to speak English as their first language and be born in the United States. These criteria were present to control for potential differences in perceptions of abuse and neglect and what was deemed to be ‘normal’ child-rearing practices across cultures (Welsh et al., 2017). Participants who did not meet these requirements were excluded from participation in the present study.

Participants were recruited from sections of a Principles of Psychology class through the School of Psychological Sciences research pool at a mid-sized university in the Rocky Mountain region of the United States. Participation was deemed voluntary and anonymous. Eligible university participants completed a sequence of online measures through Qualtrics and were compensated for participation with research credit. The demographic questionnaire was presented first for all participants followed by the RBQ-R and CTQ in that order.

Power Analyses

A priori power analyses were conducted using G*Power3.1 (Faul et al., 2007) for each of the statistical procedures carried out in Research Questions 1-4. In relation to the first research question, a two-tailed test was utilized to test the difference in means between two independent groups using a medium effect size estimate ($d = .50$) and an alpha of .05. To achieve a power of .80, a total sample of 156 participants with unequal group sizes of $n = 45$ (for group 1) and $n = 111$ (for group 2) were recommended. The remainder of the research questions used multiple linear regressions (MLR). For MLR research, power analyses using G*Power suggested a total sample-size of 77 participants to achieve a statistical power of .80 with three predictors entered in the model, alpha level set at .05, and a medium effect size (f^2) of .15. Green's (1991) formula was also utilized as another method for estimating sample size for the regression analyses and resulted in a total sample size of 74 participants. If testing individual predictors, a sample size of 107 total participants was recommended. Oversampling efforts were undergone in an attempt to recruit approximately 120-160 participants for the current study.

Instrumentation

Demographics Questionnaire

A brief demographic questionnaire was provided after consent was obtained and prior to the completion of the measures listed below. The demographics questionnaire asked participants to self-report the following: age (direct entry), birthdate (direct entry), gender identity (categories of male, female, non-binary/third gender/other, and prefer not to say), race/ethnicity (categories of White, Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Pacific Islander, or Other with a direct entry), sexual orientation (categories of heterosexual [straight], homosexual [gay], bisexual, other, and prefer not to say), country of

origin (United States of America or Other with direct entry), and mother's highest education level (as a proxy for SES; see Baum & Ruhm, 2009; Classen & Hokayem, 2005; Welsh et al., 2017; Zhang & Wang, 2004). The choice categories used for mother's highest education level were as follows: Less than high school degree, High school graduate (high school diploma or equivalent including GED), Some college but no degree, Associate degree in college (two-year), Bachelor's degree in college (four-year), Master's degree, and Doctoral degree or professional degree (Ph.D., MD, JD).

Childhood Trauma Questionnaire Short Form (CTQ)

The CTQ (Bernstein & Fink, 1998) is a retrospective self-report measure of childhood and adolescent abuse and neglect experiences. This measure was chosen for use in the current study as it is widely considered the preeminent measure of adult recall of prior abuse and neglect experiences in childhood (Baker & Maiorino, 2010). The CTQ consists of 28 items and yields five subscales: three scales assess different forms of abuse (emotional, physical, and sexual) and two assess forms of neglect (emotional and physical). There are five items per subscale. The remaining three items are encompassed in an additional subscale, referred to as the minimization/denial subscale, which is used to assess for recall and reporting biases (MacDonald et al., 2015). For each item, participants are asked to report the frequency of a behavioral occurrence on a 5-point Likert-type scale (1 = *never true*, 2 = *rarely true*, 3 = *sometimes true*, 4 = *often true*, 5 = *very often true*). Each scale yields scores that range from 5 (no history of abuse and/or neglect) to 25 (extreme history of abuse and/or neglect) and can be derived by summing the rating scores on each item within the subscale. The higher the raw score on each scale, the greater the severity of the self-reported abuse or neglect. Appendix A provides documentation of the CTQ in its entirety.

The CTQ has been used extensively in trauma literature (e.g., Aas et al., 2014; Bennouna-Greene et al., 2011; MacDonald et al., 2015) and aided the current research in identifying a sample that specifically included adults with a history of traumatic interpersonal experiences. Scores on this measure demonstrated high internal consistency reliability for each subscale ranging from .79 to .94 and test-retest reliability was deemed adequate over a two- to six-month interval (intraclass correlation coefficient = .88; Bernstein et al., 1994). These reliability results were based upon a sample of 286 patients receiving treatment for drug and/or alcohol dependence. Additionally, evidence of convergent and discriminant validity of scores from the CTQ has been supported as this measure was compared with psychologists' reports of childhood abuse and neglect (of which also comprised Child Protective Services evidence and court records; Bernstein et al., 1997).

Although the area of neglect remained of primary interest in this study, it was important to also assess whether neglected participants reported a history of childhood abuse as well. Due to the high rates of comorbidity of child neglect and abuse (Higgins & McCabe, 2001; Stoltenborgh et al., 2013), it was predicted that many respondents might endorse histories of both. However, recent national reports by the U.S. Department of HHS, ACF,ACYF, CB (2020) indicated 60.8% of victims of child protective services-substantiated child maltreatment to be solely neglected so recruitment of a sample containing a significant number of neglected-only respondents originally appeared reasonable to achieve for the current research. Participants endorsing a significant history of neglect with or without a significant history of abuse were included in the primary research analyses. However, participants endorsing significant histories of 'pure' abuse (i.e., physical, emotional, and/or sexual abuse in the absence of significant emotional and physical neglect) had their data coded for possible post-hoc analyses. Only those

with significant missing data and/or a visually inspected suspicious response style (e.g., marking the same response option throughout) were removed from the analyses. Oversampling procedures were employed in an attempt to enlist an adequately sized sample of exclusively neglected (i.e., history of neglect with an absence of abuse) respondents, which only applied for Research Question 1. As is described in further detail later in the present study, recruitment of a large, exclusively neglected sample size was unrealized.

Retrospective Bullying Questionnaire-Revised

The RBQ (Schäfer et al., 2004) is a 44-item, mostly multiple-choice measure that assesses self-reported histories of bullying experiences across primary and secondary levels of school as well as bullying experiences in the workplace and/or college environment. Scores from the RBQ have shown adequate test-retest reliability over a two-month time span across primary school items ($r = .88$) and secondary school items ($r = .87$) with a sample of 26 college students in a German university (Schäfer et al., 2004). Even though the RBQ has been utilized in many studies (Hunter et al., 2004; Kritsotakis et al., 2017; Schäfer et al., 2004; Sesar et al., 2012), the validity evidence (e.g., construct, content, internal, etc.) for the measure was severely lacking and these studies appeared hesitant to explicitly mention this as a major limitation.

On the outset, this seemed to be problematic for the current research. However, a lack of sound psychometric evidence (validity in particular) was found to be common in most bullying measures. In an extensive review and content analysis of 41 bullying behavior instruments (Vivolo-Kantor et al., 2014), it was reported that most measures yielded sufficient reliability estimates but that a majority of these studies did not also assess for validity of the bullying instrument. This was concerning as researchers cannot be certain the measures they are utilizing

are accurately assessing the bullying behaviors they were intending to assess. Inclusion of this critical validity evidence is urgently needed in future analyses of bullying surveys.

Despite this over-reaching limitation in bullying measurement methods across the field, the RBQ (Schäfer et al., 2004) was utilized in the current study as it is normed for ages 18 to 40 (the vast majority of other retrospective measures are intended to be completed by children/adolescents) and addresses the frequency, severity, and stability of different forms of bullying victimization. The RBQ was therefore the only available measure to assess for retrospective accounts of bullying victimization experiences in adults and included identification of the specific dimensions of peer victimization that could be helpful in answering the research questions in the present study.

The questionnaire is introduced by a definition of bullying and is broken into four separate sections: primary school (14 items), secondary school (14 items), general experiences at school (12 items), and bullying or harassment in the workplace (four items). Respondents could be placed into four different categorizations dependent upon their answers to the following items: (a) bully (perpetration of any type of bullying with no victimization), (b) bully-victim (perpetration and victimization of any type), (c) victim (victimization of any type and no perpetration), and (d) no bullying experience (no perpetration or victimization of any kind). The purpose of the present research was to further examine the bullying victimization experience. Although those who fell in the bully or bully-victim groups are important to examine in future research when examining the association with childhood neglect, it was not the aim of the current study to do so. These data were still coded for possible post hoc analyses.

Since bullying victimization was of primary focus in the current study, prior research utilized three different victim types yielded by the RBQ: primary school victim, secondary

school victim, and stable victim (victimized in both primary and secondary school). The response choices varied from item to item. However, it was in the way participants responded to items that addressed the frequency and severity of reported physical, verbal, and indirect bullying at both levels of schooling that placements into the three different victim types were founded. Response ranges for items addressing the frequency of bullying in both primary and secondary school ranged on a 5-point Likert-type scale from *never* (1) to *constantly* (5) and response ranges for items pertaining to the severity of bullying ranged from *I wasn't bullied* (1) to *extremely serious* (5). Adopted from Schäfer et al. (2004), a participant was considered a victim when they responded to an item that asked about the frequency of reported physical, verbal, and/or indirect bullying at the primary and/or secondary level with a *sometimes* (middle response item) or higher. Additionally, they needed to respond to items asking about the severity of physical, verbal, and/or indirect bullying at the primary and/or secondary level as *quite serious* or *extremely serious*. Higher raw scores on the RBQ reflected a higher frequency and greater severity of one's bullying experience. A participant was considered a non-victim if they answered in any other way on this measure, indicating they had minimal to no history of bullying victimization.

Upon examination of the bullying literature, there was evidence that it was not uncommon for researchers to revise or adapt retrospective bullying measures. For instance, Jantzer and Cashel (2017) utilized a revised version of the bullying and relationship scale for the purposes of their study. Similarly, Blood and Blood (2016) adapted the original RBQ (Schäfer et al., 2004) to add a cyber-bullying component to the questionnaire and Hunter et al. (2004) modified the RBQ by adding additional questions at the end pertaining to their specific research questions. Some researchers have been granted approval from the authors of the RBQ

to translate it to a different language and omit items that did not pertain to what they were researching (Sesar et al., 2012). Given the purpose of the current research, the open-ended questions and items unrelated to the frequency and severity of bullying victimization experiences in primary or secondary school were omitted from the measure. Therefore, the current revision of the RBQ, the RBQ-Revised (RBQ-R; see Appendix B) included a total of 26 items (Likert-type and Yes/No questions) that covered the frequency, seriousness, and duration of physical, verbal, and indirect types of bullying victimization in primary and secondary school. The current research anticipated that participants might endorse more than one type of bullying victimization as bullied youth tended to experience more than one form across schooling (Sesar et al., 2012).

Procedures

After obtaining Institutional Review Board approval in December of 2020 (see Appendix C), university undergraduate participants were recruited by way of convenience sampling in the following procedure.

Recruitment of College Students

All participants who wished to participate in the study registered via the university's School of Psychological Sciences participant pool. Students were able to read a description of the study before signing up. Participants were asked to complete an online (Qualtrics) survey that included a set of three separate measures within one sitting and were informed that the instruments measured potentially stressful life experiences that occurred during their childhood and adolescence. The study's description also indicated the expected amount of time required to complete the survey (~20 minutes). Upon signing up for the survey study, participants were immediately presented with the link to the secure Qualtrics platform and survey. In other words,

as soon as they signed up, they were given access to the link connecting them to the Qualtrics platform to begin the survey at their earliest convenience. Participants were asked to find a quiet and private space to complete the survey within one sitting. They did not receive one research credit until the full survey was completed. Screening items were presented at the beginning of the Qualtrics survey (and before questionnaires were presented) asking for ‘yes’ or ‘no’ responses to the first three inclusionary criteria items. If a participant registered for the study but did *not* meet one or more of the three inclusion criteria (e.g., (a) I am 18-30 years old; (b) I was born in the United States; and (c) English is my first language), they were not presented with the questionnaires and were instead exited from the Qualtrics survey (without research credit granted).

Upon meeting the inclusionary criteria, participants were presented with a consent form that described the nature of the survey (see Appendix D), the participant’s right to withdraw at any time without penalty, their right to skip questions, relevant risks and benefits of participation, and contact information for both on-campus and off-campus mental health services in case they felt upset or uncomfortable when working through the survey. They were also given a link to download the consent form for their own personal records. Participants were asked to either answer ‘yes’ or ‘no’ in terms of consent to participate in the study. If they denied consent (provided a ‘no’ response), they were exited from the surveys but they still received full research credit.

Participants who consented to participate in the survey study were taken to the demographics questionnaire page that asked for the aforementioned demographic information (see Appendix E). Following the brief demographic questionnaire, participants were able to access the RBQ-R and CTQ in that order. Upon completion of the last section of the survey,

participants were taken to a debriefing page and were presented once again with contact information for both on-campus and off-campus mental health services. This form also contained a link to download for personal records.

Protection and Confidentiality of Data

The only piece of self-identifying information the participants were asked to provide was their birthdate. The purpose of the birthdate was simply to confirm that participants were at least 18 years old and younger than 31 years old. Participants were not asked to provide their name, university identifier number, or any other identifying information that accompanied their birthdate. Student information from the School of Psychological Sciences research pool system was not connected in any way to the Qualtrics survey. Once completed, each participant's data were coded under a single participant number. It was not possible to link the university student participants to their data in the file. In other words, each participant's name and any other self-identifying information (including the birthdate) were not be included on any of the stored data. As a caveat, however, full confidentiality could not be guaranteed due to the electronic nature of the data collection process and the participant's ability to take the survey at any given time and in any given location. All data files will be deleted permanently from electronic storage upon completion and acceptance of the current scholarly manuscript.

Research Design

A cross-sectional, correlational research design was implemented as participants were asked to complete a survey at one point in time. Utilization of this specific research design was deemed appropriate because the aim was to examine the relationships among the variables presented in the research questions via multiple linear regressions (MLR) for Research Questions 2-4 and an independent samples *t*-test for Research Question 1. Moreover, those with non-bully

victimization experiences, those with multiple forms of bullying victimization experiences (e.g., physical and verbal bullying), and those who were dually-neglected (reported a history of both emotional and physical neglect) were included in the analysis of each research question. Only data with significant patterns of missingness or validity concerns were excluded from analysis in the present research study.

Data Analyses

Multiple linear regression was deemed an effective statistical procedure to analyze Research Questions 2-4. Multiple linear regression is especially useful in detecting the variable that accounted for the most variance and has the largest standardized regression coefficient along with determining what overall variance is being accounted for. It further allows researchers to investigate the individual and collective effects of one or more independent variables in relation to a dependent variable (Wampold & Freund, 1987). Furthermore, all dependent variables within each of the four research questions in the current study were continuous at the ratio level (either by a range of 6 to 30 or 2 to 10), which was a requirement for MLR conduction.

The assumptions of MLR included (a) Normality of the residuals (error is normally distributed), (b) Linearity (a linear relationship exists between the dependent and independent variables), (c) Homoscedasticity (homogeneous error variance across all values of the regression), and (d) Multicollinearity (independent variables are not highly correlated; Alexopoulos, 2010). All four assumptions were assessed via SPSS processes. Normality of the residuals was checked through examination of histograms or of a normal quantile-quantile plot (qq plot). Linearity was assessed through scatterplots and homoscedasticity from scatterplots of residuals versus predicted values. Finally, evidence of no multicollinearity was evaluated via correlation matrices (wanted to ensure the independent variables were not correlated higher

than .80) or variance inflation factor (VIF) values (Kelley & Maxwell, 2010). All MLR analyses were conducted at an alpha level of significance of .05.

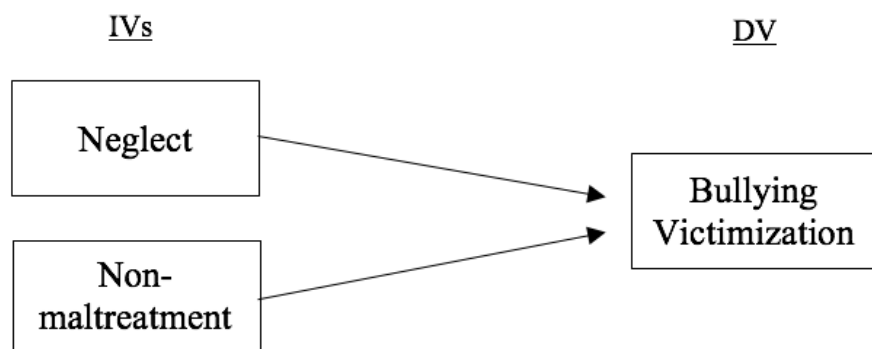
Before conducting MLR analyses for Research Questions 2 through 4, important preliminary analyses were conducted. Frequencies were run on the data via SPSS (Version 25; IBM Corp., 2017) to examine the overall accuracy of the data. This included the identification of any patterns in the data such as patterns of missingness, out-of-range-values, skewness, kurtosis, and so forth. Descriptives were then run on the continuous variables (means, medians, standard deviations, and ranges) to make sure the values were reasonable. After running these preliminary analyses, assumptions of each procedure and methods of checking these assumptions were employed.

After assuring the assumptions for MLR were met, correlations were run to see how highly the demographic variables correlated with the dependent variable (s; bullying victimization) for each research question. It was possible that socioeconomic status (SES) would be significantly correlated with bullying victimization as it is a common substitute for poverty (e.g., Baum & Ruhm, 2009; Classen & Hokayem, 2005; Welsh et al., 2017; Zhang & Wang, 2004) and poverty is frequently confounded with childhood neglect (De Bellis, 2005). If significant relationships existed between the demographic variables (e.g., gender identity, SES, sexual orientation, etc.) and the dependent variable(s) in Research Questions 2-4, post-hoc analyses were conducted. The significantly correlated demographic variable(s) were entered as a block in step one of the SPSS procedure, removing all associated variance before running analyses to test each research question. From there, the dependent variable(s) were regressed onto the independent variables (emotional and physical neglect) within SPSS.

Analyses of Research Questions

- Q1 Is there a significant difference in childhood bullying victimization rates between people with a history of childhood neglect and people with a history of childhood non-maltreatment?

As is discussed at length in Chapter IV, limitations of the sample size collected in the present research commanded that the procedure for forming the groupings of independent variable groups in Research Question 1 be modified. The originally proposed method of addressing Research Question 1 (conceptualized in Figure 3) was as follows: the independent variable was to be measured by the raw scores within the emotional and physical neglect subscales of the CTQ and utilized to form two independent groupings of the independent variable. Both neglect subscales ranged from 5 to 25. The closer a raw score was to 25, the more severe the neglectful experience was for the respondent. For the purposes of the originally proposed research question, participants who reported positive histories of emotional and/or physical neglect and negative histories of physical, sexual, or emotional abuse were to be considered ‘neglected.’ Concurrently, those endorsing negative histories of both neglect and abuse were considered ‘non-maltreated.’ The non-maltreated group was intended to serve as a true control group, thereby strengthening the power of the study to determine how neglect specifically predicted the presence of bullying victimization. Data were not excluded from this study with the exception of data characterized by significant missingness and/or a significantly inconsistent response style (thus jeopardizing the reliability of the data). Therefore, respondents reporting positive histories of abuse and neglect (i.e., dually maltreated) and positive histories of abuse in and of itself (i.e., solely abused) had their data coded for potential post-hoc analyses.

Figure 3*Visual Representation of Research Question 1*

The originally proposed analytical design of Research Question 1 was considered unique from Research Questions 2-4 as the purpose was to create two independent groupings of respondents: those who reported significant histories of childhood neglect (alongside a co-occurrence of non-significant abuse) versus those who reported an absence of significant childhood neglect (while also endorsing an absence of childhood abuse). This particular research question functioned to explore whether a sole history of neglect (absent of concurrent childhood abuse) was more likely to predict childhood bullying victimization than that of a non-maltreatment history regardless of the influence of demographic variables. A range of neglectedness was not deemed to be an appropriate method of measuring the independent variable for the proposed research question (as it was in the remainder of the research questions) for it was feared the range would not adequately capture how ‘true’ child neglect interacted with bullying victimization. For this reason and to best meet the purpose of this research question as originally proposed, separate groupings of respondents who reported a sole history of neglect (in the absence of abuse) and those who reported zero history of neglect or abuse were formed for this research question only.

To form independent groups in the proposed design, moderate to severe cut scores provided by the CTQ were utilized to classify respondents as positive for a significant history of childhood maltreatment in that area. Moderate to severe thresholds within CTQ manual are defined as a score of 15-17 for the emotional neglect subscale and 10-12 for the physical neglect subscale. To control for a history of abuse, those who were to be classified as ‘neglected’ would have reported a score of 15 or higher on the emotional neglect subscale and/or a 10 or higher on the physical neglect subscale while also scoring below the moderate thresholds for each form of abuse. Scores of 10 and higher for physical abuse, 13 or higher for emotional abuse, and 8 or higher for sexual abuse were defined as the moderate to severe thresholds (Bernstein & Fink, 1998). For a detailed explanation of the creation of the modified groups that were formally utilized in Research Question 1 and the rationale for why they were used, please refer to Chapter IV.

Moreover, the dependent variable yielded by the RBQ-R was treated as continuous at the ratio level. Two 5-point Likert-type items addressed the frequency of each form of peer victimization (physical, verbal, indirect) within the RBQ-R. These two independent items (per bullying victimization type) were presented twice—once in the primary school section of the RBQ-R and again in the subsequent secondary school section. The primary and secondary school sections each contained one “Did this happen?” question per peer victimization type to assess for frequency estimates of each form of bullying. Each item was presented with five Likert-type response options: *never*, *rarely*, *sometimes*, *frequently*, and *constantly*. Each of these response options was coded with a value of 1 (*never*) to 5 (*constantly*). Given that there were six total frequency items with three per level of schooling (e.g., primary and secondary school), the RBQ-

R yielded a range of 6 to 30 with higher scores representing a greater frequency of bullying victimization in childhood and/or adolescence.

An independent samples *t*-test was conducted to test for any statistically significant differences that might have existed between two independent groups on the same dependent variable. The dependent variable (bullying victimization) was measured as a continuous variable as raw score sums ranged from 6 (not bullied) to 30 (constantly bullied) across primary and/or secondary levels of school. Along with this, the independent variable (presence of neglect) consisted of categorical and independent groupings (neglected and non-maltreated). The continuous nature of the dependent variable and the categorical nature of the independent variables suggested an independent samples *t*-test to be the most appropriate statistical procedure to conduct. Multiple linear regressions were conducted for Research Questions 2-4 but could not be utilized for this question as MLR required at least one independent variable to be continuous at the ratio or interval level.

Assumptions for an independent samples *t*-test included that of independence (no relationship between observations within or between groups should exist), outliers are not present (or are not significantly and negatively affecting results), normality (close to normal distribution of the dependent variable should exist upon each independent variable grouping), and homogeneity of variance (all groups have similar variance). Before running the analysis, assumptions were checked. The assumptions regarding outliers, normal distribution, and homogeneity of variances were all assessed via SPSS statistical software. Normality was analyzed with histograms, Q-Q plots, estimates of skewness/kurtosis, and the Shapiro-Wilk test of normality within SPSS, and homogeneity was measured with Levene's test.

To conduct an independent samples *t*-test, the continuous dependent variable was entered as a test variable and the categorical independent variable was selected as a grouping variable. Specified values of 1 and 2 were manually coded and utilized in step one of the SPSS procedure to define the groupings of the independent variable (neglect and non-maltreatment). For example, respondent scores at or above the moderate to severe threshold on the physical and/or emotional neglect subscale(s) of the CTQ and below the moderate to severe threshold in each form of abuse (physical, emotional, and sexual) were coded in group 1 ('neglected'; i.e., those who indicated a significant history of physical and/or emotional neglect). Furthermore, respondent scores below the moderate to severe threshold on the neglect and abuse subscales of the CTQ were coded in group 2 ('non-maltreated'; i.e., those who indicated a non-significant history of neglect and abuse). After running the analysis, *p*-values were analyzed to check for significant differences in bullying victimization between two groups (neglect and non-maltreatment). It was noted that significant demographic variables were not controlled for in this specific research question as they were for Research Questions 2-4. However, if significant correlations were to exist amongst demographic variables and bullying victimization, potential post-hoc analyses were considered to better understanding these relationships.

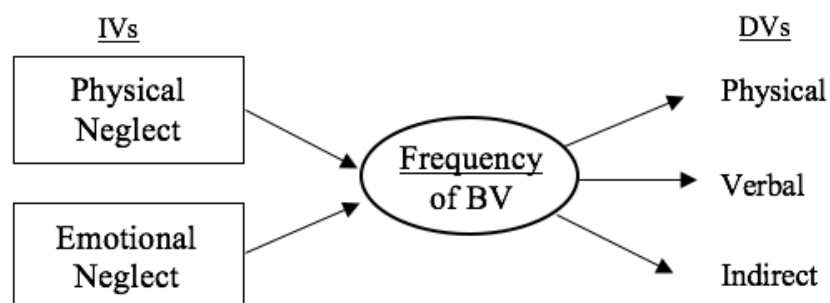
Q2 To what extent does neglect type (physical and emotional) predict the *frequency* of each form of school bullying victimization (physical, verbal, indirect)?

In addressing Research Question 2 (see Figure 4), each of the two independent variables (physical and emotional neglect) were measured by the sum of the raw scores within the emotional and physical neglect subscales of the CTQ. Both subscales ranged from 5 (indicative of an absence of childhood neglect) to 25 (indicative of extreme childhood neglect). The closer a raw score got to 25 on each scale, the more severe the neglectful experience was purported to be. Therefore, the independent variables were measured by the sum of each of the neglect subscale

scores indicated above with higher scores indicating more severe endorsement of childhood neglect (either physical or emotional). Descriptive analyses were conducted to see how a history of abuse correlated with each form of neglect. This particular question did not function to form groupings of those who were exclusively physically or emotionally neglected in childhood and, instead, used the full sample irrespective of other childhood maltreatment type(s) endorsed. The current research question was truly exploratory in nature as it aimed to investigate the associations between the retrospective endorsement of physical and emotional neglect (irrespective of a coinciding history of abuse) and the frequency of each form of bullying victimization in kindergarten through 12th grade.

Figure 4

Visual Representation of Research Question 2



In terms of measuring the dependent variable (frequency of different forms of bullying victimization), a similar system of recording total RBQ-R scores as seen in Research Question 1 was utilized. However, the specific effects of bullying victimization subtypes (physical, verbal, indirect) were analyzed for this particular question; therefore, the two frequency items related to each form of peer victimization within primary and secondary school were summed and analyzed. Since there were two 5-point Likert-type items pertaining to each form of school

victimization in the RBQ-R, a range of raw scores from 2 to 10 was yielded by each bullying victimization subtype. Each form of bullying victimization was effectively considered to be a ‘subscale’ of the RBQ-R with a range of 2-10 on each of the physical, verbal, and indirect bullying victimization subscales. The higher the score, the more frequent the specific type of bullying victimization was reported to occur. For instance, if a respondent answered the “Did this happen?” items pertaining to verbal bullying as *frequently* (4) during primary school and *constantly* (5) during secondary school, they reported a significant frequency of childhood verbal peer victimization (with a score of 9 out of 10). The sum of raw scores within each of the three bullying victimization subscales was collected to assess for significant relationships between variables.

Since Research Question 2 utilized two independent variables measured on a continuous scale (i.e., range of 5-25), and three dependent variables also measured on a continuous scale (i.e., range of 2-10), the conduction of three separate MLRs (one for each dependent variable) was utilized to examine how scores on each neglect subscale predicted scores on each bullying victimization subscale. After checking the assumptions of MLR, correlations were run to see how highly select demographic variables correlated with each dependent variable. Any significant relationships between demographic variables and dependent variables were entered into step one of the SPSS procedure and conducted within a post-hoc analysis, thereby removing all associated variance. From there, the independent variables (emotional and physical neglect) were regressed onto each level of the dependent variable within SPSS to differentiate which type of neglect predicted the frequency of each form of bullying victimization (physical, verbal, indirect). A p value of $<.05$ was used to determine statistical significance and R -squared (R^2) values were analyzed to determine which variable(s) accounted for the most variance. Chapter

IV provides a more detailed account of the statistical procedures utilized for Research Question 2.

Q3 To what extent does neglect type (physical and emotional) predict the *severity* of each form of school bullying victimization (physical, verbal, indirect)?

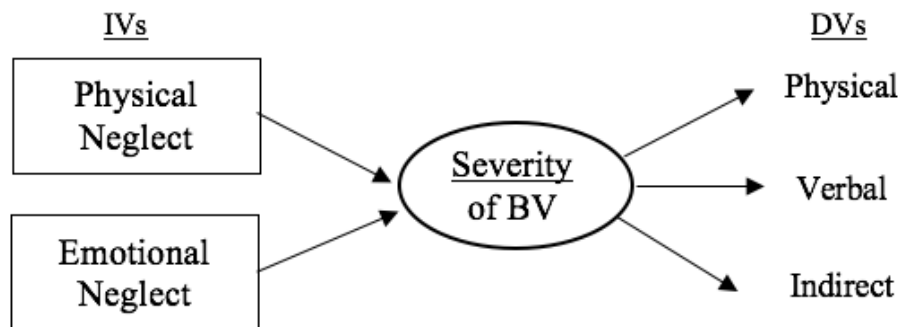
The purpose of this research question (see Figure 5) was to identify any unique associations that each form of neglect had on the perceived severity of each form of bullying victimization. Consistent with Research Question 2, the independent variables (physical and emotional neglect) were measured by the sum of the raw scores within the emotional and physical neglect subscales of the CTQ. Each subscale ranged from 5 (indicative of an absence of childhood neglect) to 25 (indicative of extreme childhood neglect). The closer a raw score was to 25 on each scale, the more severe the retrospectively reported neglectful experience. Again, those who experienced a concurrent history of abuse were included and descriptive analyses were conducted to better understand how these sources of trauma interacted. The difference between this research question and Research Question 2 related to the dimension of bullying experience being measured. Research Question 2 analyzed frequency estimates of bullying victimization, whereas Research Question 3 closely examined the severity of each form of bullying victimization in relation to each form of child neglect.

There were two “severity questions” for each of the three types of bullying victimization (physical, verbal, and indirect) on the RBQ-R. There was one severity question for each type in the primary school section and the same questions were repeated for the secondary school section. For example, to create a score for the severity of physical bullying, the severity of physical bullying rating (Likert-type from 1-5) under primary would be summed with the severity of physical bullying rating (Likert-type from 1-5) under secondary. The total severity of physical bullying subscale created by doing this should range from 2 to 10. Raw scores reaching

10 were indicative of extreme perceived severity of that particular form of childhood bullying victimization. Whereas, a raw score closer to the lower threshold of 2 was indicative of an absence of that particular form of bullying victimization or minimal perceived severity associated with the particular bullying victimization type being measured. As an example, if a participant endorsing a history of emotional neglect answered the severity item pertaining to physical peer victimization in primary school as *not at all* (2) and the same item in secondary school as *I wasn't bullied* (1), it would be suggested that the respondent's history of emotional neglect did not significantly predict a history of serious physical peer victimization.

Figure 5

Visual Representation of Research Question 3



Similar statistical procedures were employed as were for Research Question 2 as both questions utilized two independent variables measured on a continuous scale (i.e., range of 5-25) and three dependent variables were also measured on a continuous scale (i.e., range of 2-10). Three separate MLRs were conducted to address Research Question 3. As such, each independent variable (emotional and physical neglect) was regressed onto each of the three levels of the dependent variable to determine which type of neglect predicted the severity of each

form of bullying victimization (physical, verbal, indirect). Post-hoc analyses were also run to control for significantly correlated demographic variables. Within the post-hoc, the independent variables were entered upon step two to examine how much variance they accounted for above and beyond the demographic variables. A p value of $<.05$ was used to determine statistical significance and R^2 values were analyzed. For further information on the statistical procedure for Research Question 3, please refer to Chapter IV.

Q4 To what extent does physical and emotional neglect predict the *stability* (e.g., consistency over time) of bullying victimization across primary and secondary levels of school?

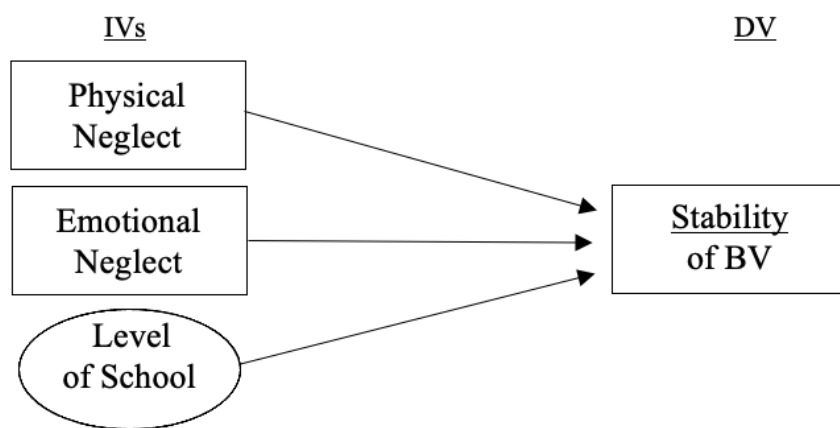
Research Question 4 provided another distinction between what analytical procedures were originally proposed and what was formally carried out in the current study. The modification to the statistical methodology as evidenced in Chapter IV was deemed appropriate due to limitations of the originally proposed statistical and conceptual design of Research Question 4. Further clarification and rationale can be found in Chapter IV.

The following information explains what was originally proposed and can be found as a post-hoc analysis in Chapter IV. The purpose of the originally proposed research question (see Figure 6) was to examine how a history of both physical and emotional neglect exclusively influenced the stability (e.g., chronicity or duration across levels of school) of peer victimization. Additionally, the level of school (primary versus secondary) where physically and emotionally neglected children were most likely to experience bullying victimization was to be explored. As seen in Research Questions 2 and 3, the independent variables of physical and emotional neglect were measured by the physical and emotional neglect subscales of the CTQ. Both subscales ranged from 5 (no history of neglect) to 25 (extreme history of neglect) and were analyzed irrespective of a concurrently reported history of childhood abuse. Additionally, a

categorical grouping variable measuring the level of school (primary school only and secondary school only) was included to examine relationships between physical and emotional neglect and bullying victimization rates across primary and secondary school.

Figure 6

Visual Reproduction of Research Question 4



Stability of bullying victimization estimates was gathered via total raw scores for the frequency items of each form of peer victimization in both the primary and secondary school sections of the RBQ-R. As such, responses to the frequency items of physical, verbal, and indirect bullying victimization in primary and secondary school (a total of six 5-point Likert-type items) were measured at a continuous range of 6 to 30. A score at or close to 6 signified non-existent or non-stable peer victimization across school levels while a score closer to 30 indicated chronic bullying victimization across primary and secondary school.

As originally proposed, multiple linear regression was determined to be an appropriate statistical procedure to analyze Research Question 4 as it included two or more independent variables (with at least one being continuous), and one continuous dependent variable. At step one, all demographic variables that were significantly correlated with the dependent variable

(bullying victimization measured on a scale of 6 to 30) were entered as a block, removing all associated variance before running the analysis. At step two, all independent variables would be entered into the analysis together. The independent variables in this research question were the physical and emotional neglect subscales of the CTQ (each ranging from 5 to 25) and the categorical grouping variable of school level (primary school only and secondary school only). Within step two, the dependent variable was regressed onto each of the independent variables. A p value of $<.05$ was used to determine statistical significance and R^2 values were analyzed to determine which variable(s) accounted for the most variance. For further information regarding the updated procedures and post-hoc analyses for Research Question 4, please refer to Chapter IV.

CHAPTER IV

RESULTS

This chapter reports on the results of this study. The first section reviews the purpose of the current study and is followed by a section where the demographic characteristics of the sample are described. Next, the assumptions for the *t*-test statistic are tested and a *t*-test is conducted to answer Research Question 1. Then assumptions are tested for MLR and a series of MLRs are conducted to answer Research Questions 2-4. Finally, post-hoc analyses are described that further build upon the regression analyses by controlling for significant demographic variables.

Review of Purpose

The purpose of the present study was to add to the knowledge base for the cycle of victimization by retrospectively investigating the association of physical and emotional neglect with various forms and dimensions of bullying victimization in primary and secondary school. The current research was characterized as an exploratory study that aimed to understand the unique relationships existing between each form of neglect in the home and each type of bullying victimization in the school. The main goal of this research was to bring awareness to the potential influence of the cycle of victimization within the school setting. Through consideration of the current data and interpretations, it remains the ultimate intention of this research to promote preparedness in school-based support staff and other mental health providers when it comes to supporting neglected youths and the prevention of re-victimization by classmates. To

achieve this endeavor, participants completed several retrospective measures to investigate the main research questions of this study. The current sample is described in further detail below.

Participants

Data were collected over a six-month span from 01/20/2021 through 07/04/2021. The current study yielded a sample of 144 participants. Of the 144 participants, 24 were omitted (16.6%) from analysis for a variety of reasons. For example, participants who did not meet inclusion criteria, had similar response patterns throughout (e.g., the same response for each question), consented but did not answer any questions, or had missing data for the majority of either of the study's measures were omitted via listwise deletion. All other missing data were assessed as completely random via visual inspection; therefore, mean imputation was utilized for those who had 5% or less missing data (Parent, 2013). Only two participants' data required mean substitution and for only one item each.

Of the 120 participants included in the current analysis, 30 participants (25%) endorsed a history of moderate to severe neglect in childhood (emotional neglect, physical neglect, or a coexistence of both). Of the 30 participants who endorsed neglect, 26 of them concurrently endorsed at least one form of abuse, which accounted for 87% of neglected respondents and about 22% of the entire sample. Four of the 30 participants who reported histories of child neglect were 'purely neglected' (in the absence of moderate to severe abuse), making up roughly 13% of the neglected sample and 3% of the overall sample. This number was much lower than the present research hoped to collect. However, lower numbers of sole neglect in maltreatment research are not uncommon (Shields & Cicchetti, 2001; Stoltenborgh et al., 2013; Wang et al., 2019), especially when considering that self-reported estimates of childhood maltreatment tend

to be lower than that of court-substantiated cases (Negriff et al., 2017; Widom & Morris, 1997; Widom & Shepard, 1996).

When examining the 120 participants further, 22 participants endorsed experiencing only moderate to severe abuse during their childhoods (in the absence of moderate to severe neglect). Therefore, approximately 18% of the overall sample reported sole abuse prior to adulthood. These abuse and neglect estimates indicated that approximately 43% of the overall sample (52 out of 120 total participants) endorsed at least one form of childhood maltreatment (see Table 1). This percentage was considerably higher than the average childhood maltreatment base rate among college students (~30%) reported in the literature (Bachrach & Read, 2012; Duncan, 2000; Elliott et al., 2009; Freyd et al., 2001; Gibb et al., 2009; Hussey et al., 2006; Jordan et al., 2014; Welsh et al., 2017). A detailed description of the procedures used to determine moderate to severe childhood maltreatment and bullying victimization can be found in Chapter III: Methodology.

Table 1

Maltreatment and Victimization History of the Total Sample

Maltreatment and Bullying Victimization Rates	<i>n</i>	%
Childhood Maltreatment		
Maltreated Total	52	43.3
Neglected Only	4	3.3
Abused Only	22	18.3
Dually Maltreated (Neglect & Abuse)	26	21.7
Not Maltreated Total	68	56.7
Bullying Victimization		
Bullied Total	62	51.6
Primary School Only	14	11.6
Secondary School Only	11	9.2
Dually Bullied (Primary & Secondary)	37	30.8
Not Bullied Total	58	48.3

Demographics

The demographic questionnaire collected information related to gender identity, age, race, mother's highest educational degree, and sexual orientation (see Table 2). Consistent with prior research utilizing undergraduate college populations (Barlow & Cromer, 2006; McCray et al., 2005), the majority of participants identified as female. Age was positively skewed as more participants reported being on the younger end of the 18–30-year-old age range for this study ($M = 20$, $SD = 2.70$). When answering the question regarding race, the demographic questionnaire originally included a “check all that apply” item. These responses were coded into five total response categories as seen in Table 2 with the majority of participants reporting to be predominantly White. Thirteen total participants endorsed two or more races and were coded within the “Multiple” category. This group was combined with the “Other” category, which encapsulated those who identified with a race that was not presented as an option. Only three participants responded with this option—one of them indicating they were predominantly Indian and two who did not type their response as to which race they identified.

Table 2*Demographic Characteristics for the Total Sample*

Sample Characteristics	<i>n</i>	%
Gender Identity		
Female	80	66.7
Male	35	29.2
Non-binary/third gender/other	5	4.2
Age range		
18-20	85	70.8
21-23	25	20.8
24-26	4	3.3
27-30	6	5
Race		
White	90	75
Black	5	4.2
Asian	3	2.5
Hispanic	6	5
Multiple & other ^a	16	13.3
Mother's Highest Educational Degree		
Less than high school degree	7	5.8
High school graduate to some college (but no college degree)	49	40.8
Associates degree to Bachelor's degree (2-4-year college degree)	42	30.5
Masters to Doctoral degree	22	18.3
Sexual Orientation		
Heterosexual (straight)	87	72.5
Homosexual (gay)	7	5.8
Bisexual	21	17.5
Other	5	4.2

^a Multiple & other includes one participant who endorsed "Indian," 13 participants who endorsed more than one race, and 3 participants who endorsed "other."

The demographic variable of mother's highest degree originally included seven different response categories. The response options were 1 - *Less than high school degree*, 2 - *High school graduate (high school diploma or equivalent including GED)*, 3 - *Some college but no degree*, 4

- Associate degree in college (2-year), 5 - Bachelor's degree in college, 6 - Masters degree, and 7 - Doctoral degree or professional degree (PhD, MD, JD). This variable was recoded into four collapsed variables in order to maximize the size of each category as few participants reported their mother had less than a high school degree ($n = 7$) or a doctoral degree ($n = 3$). The demographic question regarding sexual orientation originally included five different response options. The last response option of *prefer not to say* was deleted as no participants responded with this option.

Reliability of Measures

Reliability estimates were calculated for instruments used to measure independent and dependent variables. The survey was completed by 120 participants. For the neglect subscales of the CTQ, the emotional neglect subscale consisted of five items ($\alpha = .90$) and the physical neglect subscale consisted of five items ($\alpha = .74$). For the bullying victimization subscales of the RBQ-R, each of the frequency and severity metrics consisted of two items per subscale. The frequency of bullying victimization was physical ($\alpha = .80$), verbal ($\alpha = .78$), and indirect ($\alpha = .80$). The severity of bullying victimization was physical ($\alpha = .80$), verbal ($\alpha = .68$), and indirect $\alpha = (.75)$. Internal consistency estimates between .70 and .80 are considered to be acceptable while estimates between .60 and .70 are considered to be questionable" (Knapp & Mueller, 2010). However, given some of the scales included only two items, lower reliability estimates were to be expected. For the total frequency/stability of bullying victimization (dependent variable used in Research Questions 1 and 4), the scale consisted of six items and internal consistency was reported at $\alpha = .88$.

Demographic and Dependent Variable Correlations

To control for significantly correlated demographic variables as post-hoc analyses in Research Questions 2-4, all demographic variables and dependent variables were entered into the bivariate correlation procedure via SPSS. Pearson correlation values were computed across variables and can be referenced in Table 3. While the demographic variables of age, gender, and sexual orientation were statistically significant, multicollinearity was not considered to be problematic in the data unless variables correlated “.90 or higher” (Tabachnick & Fidell, 2007, p. 90). For this reason, demographic variables were not controlled for in the present research. Post-hoc analyses were conducted to investigate how much variance age, gender identify, and sexual orientation accounted for in bullying victimization.

Table 3

Pearson Correlation Values of Demographic Variables and Dependent Variables Entered Into Research Questions 2-4

Variables	Age	Gender ID	Race	Sex Orient	Mom Deg
Freq of Phys BV	.257**	-.024	.074	.333**	-.046
Freq of Ver BV	.327**	.102	.105	.384**	-.007
Freq of Ind BV	.216*	.270**	.067	.349**	.027
Sev of Phys BV	.263**	-.013	-.018	.242**	-.160
Sev of Ver BV	.234*	.208*	.082	.358**	-.153
Sev of Ind BV	.184*	.331**	.115	.368**	-.082
Tot Stab BV	.305**	.151	.094	.411**	-.005
Tot Prim BV	.284**	.129*	.068	.392**	.049
Tot Sec BV	.288**	.092	.108	.378**	-.057

** $p < 0.01$ (2-tailed); * $p < .05$ (2-tailed); $N = 120$

Note. Freq = Frequency, Sev = Severity, Phys = Physical, Ver = Verbal, Ind = Indirect, BV = Bullying Victimization, Tot = Total, Stab = Stability, Prim = Primary, Sec = Secondary

Results

Q1 Is there a significant difference in childhood bullying victimization rates between people with a history of childhood neglect and people with a history of childhood non-maltreatment?

The initial goal of this study was to over-sample in hopes of collecting a sufficiently large-sized ‘purely neglected’ sample. However, the current research yielded only a 3% prevalence rate of pure neglect in the entire sample of 120 participants. Due to this low percentage, the study included participants with self-reported histories of moderate to severe neglect (emotional and/or physical) in the neglected group even if they also endorsed a history of moderate to severe abuse. Only participants who endorsed scores below the moderate threshold on the neglect and abuse subscales of the CTQ were included in the non-maltreated group. This revised grouping resulted in 30 participants in the neglect group and 68 in the non-maltreatment group. For Research Question 1, the ‘neglect’ group consisted of those who were solely neglected ($n = 4$) combined with those who endorsed neglect with concurrent abuse ($n = 26$).

Prior to running the two tailed t -test to determine if these two groups were significantly different, the data were examined to exclude participants who were solely abused ($n = 22$). Therefore, the neglect group ($n = 30$) and non-maltreatment group ($n = 68$) were included for analysis of Research Question 1. Due to exclusion of the 22 solely abused participants and complete omission of 24 participants’ data prior to analysis, the total sample size for the present t -test analysis was reported to be 98 participants, which fell below the recommended power analysis sample size. This posed a potential limitation as smaller than recommended sample sizes could result in lower statistical power and a reduced ability to detect a true difference between groups (Tabachnick & Fidell, 2007). Results of this t -test should be considered within the context of this limitation.

Assumptions of normality and homogeneity of variance were tested through IBM SPSS Statistics (Version 27). Screenings for the presence of significant outliers also occurred. The skewness and kurtosis values of frequency of bullying victimization (dependent variable) was reported to be .76 and .014, respectively. These values were satisfactory and indicated an absence of evidence for prominent non-normality, which was supported by an observation of reasonable symmetry within the normal Q-Q and histogram plots. Potential outliers were screened via boxplots and none were determined to be extreme. A two-tailed independent samples *t*-test was conducted to determine whether a difference in overall bullying victimization rates existed between neglected and non-maltreated participant groups. The Levene's test for equality of variances reflected differences between the neglect group ($M = 16.233$, $SD = 6.339$) and the non-maltreated group ($M = 11.235$, $SD = 3.841$), indicating the variance between the two groups was not homogenous ($F = 12.077$, $p = <.001$). This difference was further supported by a *T*-test comparing the mean scores of the non-maltreatment group with the neglect group, $t(96) = 4.998$, $p = <.001$, 95% CI [2.474, 7.522], Cohen's $d = 4.736$. Consequently, the null hypothesis stating the means for the two groups were equal was rejected, suggesting those with histories of child neglect were significantly more likely to report bullying victimization than those who reported to be non-maltreated.

Q2 To what extent does neglect type (physical and emotional) predict the frequency of each form of school bullying victimization (physical, verbal, indirect)?

To test the assumptions of MLR in Research Question 2, the full sample of data was first screened for any potential collinearity by analyzing squared multiple correlations between each variable and the others included in the analysis for values larger than .80 (Tabachnick & Fidell, 2007). Skew and kurtosis values greater than the absolute values of 2 and 7, respectively, were considered potential indicators of deviations from the assumption of multivariate normality

(Hoyle, 1995). The independent variables entered into the correlational analysis were the emotional and physical neglect scales of the CTQ and the dependent variables entered were the frequency of the physical, verbal, and indirect bullying victimization subscales of the RBQ-R. Values reported by the correlation matrix for Research Question 2 are provided in Table 4.

Table 4

Correlation Coefficients for Study Variables in Research Question 2

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. CTQ Emotional Neglect	9.93	4.51	—				
2. CTQ Physical Neglect	7.10	2.98	.528**	—			
3. RBQ-R Freq of Physical BV	3.08	1.65	.188*	.363**	—		
4. RBQ-R Freq of Verbal BV	4.74	2.24	.273**	.212*	.610**	—	
5. RBQ-R Freq of Indirect BV	5.38	2.34	.307**	.239**	.500**	.761**	—

Note. ** $p < 0.01$ (2-tailed); * $p < .05$ (2-tailed); $N = 120$

Correlation coefficients presented in Table 4 reflected an absence of multicollinearity across independent variables in the regression model. To corroborate these results, variance inflation factors (VIFs) were calculated to assess the strength of the correlation and whether corrective measures needed to be implemented. Per Tabachnick and Fidell (2007), a VIF value of 1 indicated no correlation between the particular independent variable and any other variables while a VIF value between 1 and 5 implied a moderate correlation, although not severe enough to demand corrective measures. Once a VIF value reached greater than 5, critical levels of multicollinearity were present, suggesting the coefficients were poorly estimated and the p -values could not be trusted (Tabachnick & Fidell, 2007). The VIF values for Research Question 2 were each reported at 1.39, suggesting moderate correlations. Henceforth, multicollinearity

was not significantly affecting these variables, rendering the coefficient and p -value reliable. Normality of the residuals was assessed through examination of the histograms and normal probability plots. Linearity was assessed through scatterplot inspection and homoscedasticity from scatterplots of residuals versus predicted values. Analysis of residuals and scatterplots suggested an absence of significant deviation from the assumptions of normality, linearity, independence of residuals, or homoscedasticity in the current data. Standardized residuals for this analysis ranged from -2.665 to 5.346 for the frequency of physical bullying victimization, -4.526 to 5.953 for frequency of verbal bullying victimization, and -5.478 to 5.181 for frequency of indirect bullying victimization.

Three separate multiple linear regressions were computed as part of the analysis for Research Question 2—one for each of the three forms of bullying victimization. In the first regression, emotional neglect and physical neglect were regressed onto frequency of physical bullying victimization, $R^2 = .132$, $F(2, 117) = 8.90$, $p < .001$. Results reflected a significant relationship between different types of neglect and the frequency of physical bullying victimization. The effect size (R^2) value of .132 indicated that emotional and physical neglect explained 13.2% of the variance in the frequency of physical bullying victimization. The individual predictors were further examined and suggested that physical neglect ($B = .203$, $t = 3.612$, $p < .001$) was a significant predictor in the model, uniquely accounting for 9.67% of the variance while emotional neglect ($B = -.002$, $t = -.058$, $p = .954$) was not and accounted for 0% percent of the variance.

Results of the second MLR among emotional neglect, physical neglect, and the frequency of verbal bullying victimization indicated a significant effect as well, $R^2 = .081$, $F(2, 117) = 5.15$, $p = .007$. Per the effect size, it was reported that emotional and physical neglect explained 8.1%

of the variance in the frequency of verbal bullying victimization. Examination of the individual predictors indicated that emotional neglect ($B = .111, t = 2.145, p = .034$) was a significant predictor in the model, uniquely accounting for 3.61% of the variance but physical neglect ($B = .070, t = .894, p = .373$) was not and accounted for only 0.62% of the variance.

The final multiple linear regression conducted within Research Question 2 yielded a significant effect ($R^2 = .103, F(2,117) = 6.69, p = .002$) among emotional neglect, physical neglect, and the frequency of indirect bullying victimization. The reported effect size suggested that emotional and physical neglect explained 10.3% of the variance in the frequency of indirect bullying victimization. It was found that only emotional neglect significantly predicted frequency of indirect bullying victimization ($B = .130, t = 2.433, p = .016$) as it accounted uniquely for 4.54% of the variance. Physical neglect was not a significant predictor ($B = .084, t = 1.032, p = .304$) and accounted for only 0.81% of the variance.

Q3 To what extent does neglect type (physical and emotional) predict the severity of each form of school bullying victimization (physical, verbal, indirect)?

Similar analyses were used to test assumptions of MLR for Research Question 3 as were used for Research Question 2. Potential collinearity was assessed via analysis of squared multiple correlations among each variable in the model. The independent variables entered into the correlational analysis were the emotional and physical neglect scales of the CTQ and the dependent variables entered were the severity of the physical, verbal, and indirect bullying victimization subscales of the RBQ-R. Table 5 provides values reported by the correlation matrix for Research Question 3. Correlation coefficients reflected an absence of significant multicollinearity across variables in the regression model as evidenced by correlation values less than .80 and VIF values of 1.39 (indicative of moderate correlations) across both independent variables (Tabachnick & Fidell, 2007). Examination of the histograms and normal probability

plots indicated an absence of significant deviations from normality, linearity, independence of residuals, or homoscedasticity in the current data. The lone exception was in examination of the histogram for the severity of physical bullying victimization (i.e., the first MLR procedure referenced below) as it reflected some kurtosis, a notable spike, and positively skewed data.

Table 5

Correlation Coefficients for Study Variables in Research Question 3

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. CTQ Emotional Neglect	9.93	4.51	—				
2. CTQ Physical Neglect	7.10	2.98	.528**	—			
3. RBQ-R Sev of Physical BV	3.68	2.13	.163	.242**	—		
4. RBQ-R Sev of Verbal BV	4.79	1.99	.241**	.158	.685**	—	
5. RBQ-R Sev of Indirect BV	5.08	2.02	.289**	.157	.543**	.768**	—

** $p < 0.01$ (2-tailed); $N = 120$

One potential outlier was flagged as part of the SPSS Case-Wise Diagnostics when running the first MLR utilizing the dependent variable of severity of physical bullying victimization. However, the standardized residual value remained at an acceptable level of 3.25 (Tabachnick & Fidell, 2007), indicating it was not significantly skewing the results. Standardized residuals for Research Question 3 analysis ranged from -2.617 to 6.717 for severity of physical bullying victimization, -3.708 to 4.599 for severity of verbal bullying victimization, and -4.133 to 4.422 for severity of indirect bullying victimization.

Three separate MLRs were computed as part of the research analysis for Research Question 3. In the first regression, emotional neglect and physical neglect were regressed onto

the severity of physical bullying victimization, $R^2 = .060$, $F(2, 117) = 3.75$, $p = .026$. Results were indicative of a significant relationship between emotional and physical neglect and the severity of physical bullying victimization. The effect size value of .060 indicated that both forms of neglect explained 6% of the variance in the severity of physical bullying victimization. Upon examination of the individual predictors, it was suggested that physical neglect ($B = .155$, $t = 2.052$, $p = .042$) was a significant predictor in the model, accounting uniquely for 3.39% of the variance while emotional neglect ($B = .023$, $t = .456$, $p = .650$) was not and accounted for only 0.17% of the variance.

As part of the second MLR conducted within Research Question 3, emotional and physical neglect were regressed onto the severity of verbal bullying victimization, $R^2 = .059$, $F(2, 117) = 3.69$, $p = .028$. A significant relationship was present between emotional and physical neglect and the severity of verbal bullying victimization. Per the effect size value ($R^2 = .059$), it was reported that both emotional and physical neglect explained approximately 6% of the variance in the dependent variable (i.e., the severity of verbal bullying victimization). In considering the individual predictors, it was determined that emotional neglect was the only significant predictor in the model ($B = .096$, $t = 2.067$, $p = .041$), uniquely accounting for 3.42% of the variance. Physical neglect was not deemed to be a significant predictor ($B = .029$, $t = .406$, $p = .685$) as it accounted for only 0.13% of the variance.

The final MLR conducted within Research Question 3 regressed emotional and physical neglect onto the severity of indirect bullying victimization, $R^2 = .084$, $F(2, 117) = 5.332$, $p = .006$. Results reflected an even stronger relationship between both forms of neglect and the severity of indirect bullying victimization than was reported between both forms of neglect and the severity of physical, verbal, or indirect bullying victimization. It was reported that emotional

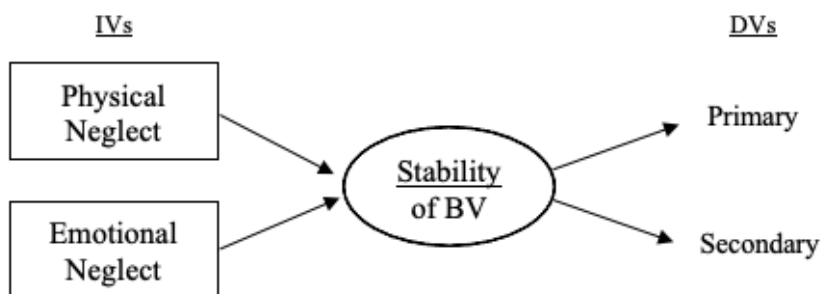
and physical neglect accounted for roughly 8% of the variance ($R^2 = .084$) in the model with emotional neglect being the only independent variable to uniquely contribute to the outcome of the variance by 5.90% ($B = .128, t = 2.744, p = .007$). Moreover, physical neglect was not determined to be a significant predictor in the model ($B = .004, t = .054, p = .957$) as it accounted for 0% of the variance.

Q4 To what extent does physical and emotional neglect predict the *stability* (e.g., consistency over time) of bullying victimization across primary and secondary levels of school?

During the proposal meeting, a statistical procedure was offered to answer the above research question that was recognized as confounding the independent variable, 'Level of School,' and the dependent variable, 'Chronicity of BV' (see Figure 6). In essence, the same construct (i.e., the frequency of bullying victimization metric) was being measured in both variables. First, findings are reported from a statistical lens that was more conceptually appropriate to answer Research Question 4 (see Figure 7) and then as a post-hoc analysis, results of the initially proposed regression analysis are reported. Conceptually, the proposed analysis did not provide meaningful information to the overall study and the current, restructured analysis was conducted to explore aspects that might be deemed more applicable to the intended purpose of Research Question 4, which was to explore aspects of neglect that were more directly related to a stable history of bullying victimization.

Figure 7

Visual Reproduction of Updated Research Question 4 Analyses



The present analysis employed two newly created bullying victimization scales used as dependent variables in separate MLR procedures. The first dependent variable was the Total Primary Bullying Victimization scale, which was created by summing the scores of all frequency and severity items of each form of bullying victimization in primary school (six total items on the RBQ) that resulted in a range of scores from 6 to 30, with higher scores suggesting greater bullying victimization. The second dependent variable was termed the Total Secondary Bullying Victimization scale that summed all frequency and severity estimates across each form of bullying victimization in secondary school (six total items on the RBQ; ranging from 6 to 30). The higher the number in each scale, the greater the impact of bullying victimization during one or both levels of school. All VIF, standardized residual statistics, correlational values between variables, histograms, and scatterplots looked normal, suggesting an absence of significant deviations from the assumptions of MLR.

In the first regression, the predictor variables of emotional and physical neglect were regressed onto the first outcome variable (i.e., Total Primary BV), $F(2, 117) = 8.759, p < .001$. A significant relationship between both the various forms of neglect and bullying victimization in primary school was identified with 13% of the variance in the outcome explained by both

forms of neglect ($R^2 = .130$). Examination of the individual predictors suggested that emotional neglect ($B = .260, t = 2.107, p = .037$) was a significant contributor to the model, uniquely accounting for 3.3% of the variance while physical neglect approached but did not reach significance at the alpha level of .05 ($B = .365, t = 1.957, p = .053$) and accounted for 2.9% of the variance in the model.

Within the second regression, emotional and physical neglect were regressed onto the Total Secondary Bullying Victimization variable and yielded a significant relationship, $F(2, 117) = 3.675, p = .028$. The effect size (R^2) value of .059 indicated that both forms of neglect explained roughly 6% of the variance in total bullying victimization in secondary school. It was reported that neither emotional neglect ($B = .222, t = 1.698, p = .092$) nor physical neglect ($B = .178, t = .897, p = .371$) were significant predictors in the model, uniquely accounting for 2.3% and 0.64% of the variance, respectively. Assumptions for MLR were checked and did not flag any significant deviations.

Post-Hoc Analyses

As post-hoc analyses, significantly correlated demographic variables were controlled in each statistical process through a hierarchical multiple regression (HMR) analysis. The demographic variables of age and sexual orientation were significantly correlated with each outcome variable while the demographic variable of gender identity was significantly correlated with only a few outcome variables (i.e., frequency of indirect BV, severity of verbal BV, severity of indirect BV, and total primary BV). Therefore, HMR analyses were conducted within Research Questions 2-4 to control for each of the significantly correlated demographic variables. The statistical procedure and assumptions for HMR were consistent with MLR with the main distinction being that the demographic variables of note (covariates that were to be controlled

for) were loaded into the first blocks of the procedure. The predictor variables (emotional and physical neglect) were then loaded into the final block of the procedure. Recoding of the following demographic variables took place to transform them from multi-categorical to categorical variables: gender (male = 0, female = 1) and sexual orientation (heterosexual = 0, bisexual/gay/other = 1). Five participants identified as non-binary/third gender/other. Given the low number, these participants were excluded from analysis in the HMR procedures, given a total sample size (N) of 115 for the HMR designs described below.

Post-Hoc for Research Question 2

The first hierarchical design was employed using four blocks: (a) Step 1 predicted Frequency of Physical BV from the demographic variable of gender, (b) Step 2 added the demographic variable of sexual orientation, (c) Step 3 added the demographic variable of age, and (d) Step 4 added the independent variables of emotional and physical neglect scales. For each of the three HMR procedures conducted for this post-hoc analyses, all demographic variables were entered individually into separate blocks of the HMR design as opposed to entering all demographic variables into block 1 simultaneously in order to explore how much variance in the Frequency of BV was uniquely accounted for by the individual predictors. Step 1 did not account for a significant amount of variance, $F(1,113) = .155, p = .694, R^2 = .001$. The addition of sexual orientation significantly increased the variance accounted for in Frequency of Physical BV, $F(1,112) = 12.429, p = <.001$ and accounted for 10% of the total variance ($R^2 = .100$). The addition of age significantly increased the variance accounted for in the outcome, $F(1,111) = 5.845, p = .017$ and accounted for additional variation of roughly 5% ($R^2 = .045$). The final step added emotional and physical neglect to the model and significantly increased the

variance in the Frequency of Physical BV, $F(2,109) = 6.568, p = .002$. The overall model explained an additional 9% of the variance in the outcome ($R^2 = .092$).

The second hierarchical design was conducted using four blocks: (a) Step 1 predicted the Frequency of Verbal BV from the variable of gender, (b) Step 2 added the variable of Sexual orientation, (c) Step 3 added the variable of age, and (d) Step 4 added the predictors of emotional and physical neglect. Step 1 did not account for a significant amount of variance, $F(1,113) = 1.549, p = .216, R^2 = .014$. The addition of sexual orientation significantly increased the variance accounted for in Frequency of Verbal BV, $F(1,112) = 13.686, p = <.001$ as it accounted for roughly 11% of the variation ($R^2 = .107$). The addition of age in Step 3 significantly increased the variance ($R^2 = .097, \sim 10\%$) and accounted for in the outcome, $F(1,111) = 13.714, p = <.001$. The final step did not account for a significant amount of additional variance in the Frequency of Verbal BV when entering all predictors into the design, $F(2,109) = 1.797, p = .171, R^2 = .025$.

The third hierarchical analysis consisted of four blocks: (a) Step 1 predicted the Frequency of Indirect BV from the demographic variable of gender, (b) Step 2 added the demographic variable of sexual orientation, (c) Step 3 added the demographic variable of age, and (d) Step 4 added the predictors of emotional and physical neglect. Step 1 accounted for a significant amount of variance, $F(1,113) = 5.871, p = .017$, explaining approximately 5% of the variation in the outcome ($R^2 = .049$). The addition of sexual orientation also produced a significant result, $F(1,112) = 7.025, p = .009$, and added another 6% of variance explained ($R^2 = .056$) in the Frequency of Indirect BV. The addition of age significantly increased the variation accounted for in the outcome, $F(1,111) = 5.828, p = .017$, by approximately 5% more than was accounted for in Step 2 ($R^2 = .045$). The final step added the predictors of emotional and physical

neglect and accounted for a non-significant amount of increased variance explained, $F(2,109) = 2.400, p = .096, R^2 = .036$.

The assumptions of the HMR analysis were tested as they would be in a typical MLR analysis. Multicollinearity was screened via examination of correlations between variables entered into the model and VIF statistics. There were no concerns with multicollinearity as all values were within the expected ranges. Standardized residuals for the current analyses ranged from -1.833 to 2.849 in HMR 1, -2.002 to 2.783 in HMR 2, and -2.097 to 2.889 in HMR 3. The maximum Cook's Distance values for HMR 1 (.126), HMR 2 (.107), and HMR 3 (.133) were not flagged as surpassing a value of 1.0. Examination of the histograms, scatterplots, and normal P-P plot reflected acceptable patterns in HMR 2 and 3. In HMR 1, a notable spike was observed in the data and the normal P-P plot denoted greater deviations from the line of fit in HMR 1 than was observed in HMRs 2 and 3.

Post-Hoc for Research Question 3

The first hierarchical design was employed using four blocks: (a) Step 1 predicted Severity of Physical BV from the demographic variable of gender, (b) Step 2 added the demographic variable of sexual orientation, (c) Step 3 added the demographic variable of age, and (d) Step 4 added the independent variables of emotional and physical neglect scales. For each of the three HMR procedures conducted for this post-hoc, all demographic variables were entered individually into separate blocks of the HMR design as opposed to entering all demographic variables into block 1 simultaneously in order to explore how much variance in the Severity of BV was uniquely accounted for by the individual predictors. All VIF, standardized residual statistics, correlational values between variables, histograms, and scatterplots looked normal, suggesting an absence of significant deviations from the assumptions of HMR.

Step 1, including gender, did not account for a significant amount of variance in the outcome, $F(1,113) = .016, p = .900, R^2 = .000$. The addition of sexual orientation significantly increased the variance accounted for in the Severity of Physical BV, $F(1,112) = 5.897, p = .017$, and accounted for 5% of the total variance ($R^2 = .050$). The addition of age significantly increased the variance accounted for in the outcome, $F(1,111) = 7.278, p = .008$, and accounted for additional variation of roughly 6% ($R^2 = .058$). The final step added emotional and physical neglect to the model and did not result in a statistically significant, incremental amount of variance to the outcome, $F(2,109) = 2.476, p = .089, R^2 = .039$.

The second HMR was conducted using four blocks: (a) Step 1 predicted the Severity of Verbal BV from the variable of gender, (b) Step 2 added the variable of sexual orientation, (c) Step 3 added the variable of age, and 4) Step 4 added the predictors of emotional and physical neglect. Step 1 accounted for a significant amount of variance, $F(1,113) = .5671, p = .019$, explaining approximately 5% of the variation in the outcome ($R^2 = .048$). The addition of sexual orientation significantly increased the variance accounted for in Severity of Verbal BV, $F(1,112) = 9.268, p = .003$, as it accounted for over 7% of the variance ($R^2 = .073$). The addition of age in Step 3 significantly increased the variance ($R^2 = .058, \sim 6\%$) and was accounted for in the outcome, $F(1,111) = 7.904, p = .006$. The final step did not account for a statistically significant amount of additional variance in the Severity of Verbal BV when entering all predictors into the design, $F(2, 109) = .630, p = .535, R^2 = .009$.

The third hierarchical analysis consisted of four blocks: (a) Step 1 predicted the Severity of Indirect BV from the demographic variable of gender, (b) Step 2 added the demographic variable of sexual orientation, (c) Step 3 added the demographic variable of age, and 4) Step 4 added the predictors of emotional and physical neglect. Block 1 accounted for a significant

amount of variance, $F(1,113) = 14.845, p = <.001$, explaining approximately 11% of the variation in the outcome ($R^2 = .049$). The addition of sexual orientation also yielded a significant result, $F(1,112) = 10.936, p = .001$, and added another 8% of variance explained ($R^2 = .079$) in the Severity of Indirect BV. The addition of age significantly increased the variation accounted for in the outcome, $F(1,111) = 6.951, p = .010$, by approximately 5% more than was accounted for in Step 2 ($R^2 = .047$). The final step added the predictors of emotional and physical neglect and accounted for a non-significant amount of incremental variance explained, $F(2,109) = 1.760, p = .177, R^2 = .024$.

Post-Hoc for Research Question 4

To answer Research Question 4 as proposed, an HMR was conducted whereby a dummy coded 'level of education' variable (i.e., 1 for BV in only primary school, 0 for BV in only secondary school) was introduced as an independent variable in block one with bullying victimization across primary and secondary levels considered to be the reference group. Those who were initially coded as not-bullied were excluded from analysis in the current procedure, leaving 48 participants to be included for this analysis. This sample size was much smaller than power analyses recommended for the MLR procedure, which was a notable limitation of the present post-hoc analysis. The independent variables of emotional and physical neglect derived from the CTQ were then entered into Block 2 of the HMR procedure. The Chronicity of BV variable was entered as the dependent variable in the analysis and was formed by summing the frequency scores of each form of bullying victimization across primary and secondary school levels (for a range of 6-30). The way in which the Chronicity of BV was calculated led to another unintentional limitation as it was not possible to ascertain true stability across school levels. For example, a higher score might imply bullying victimization across both levels (i.e.,

chronic) but it was also possible that someone might have a comparable score when reporting severe BV at only the primary or secondary level (i.e., not chronic).

The assumptions of the HMR analysis were tested as they would be in a typical MLR analysis. Multicollinearity was screened via examination of correlations between variables entered into the model and VIF statistics. There were no concerns with multicollinearity as all values were within the expected ranges. Standardized residuals for the current analysis ranged from -1.438 to 2.388 and the maximum Cook's Distance value (.098) was not flagged as surpassing a value of 1.0. Examination of the histogram and normal P-P plot reflected acceptable patterns while the scatterplot denoted a bimodal distribution.

Results of the analysis reflected that level of school accounted for 44% of the variance in the outcome ($R^2 = .440$) within model 1. It was reported that the forms of neglect explained very little variance in the outcome ($R^2 = .026$) via model 2. Both primary ($B = -5.736, t = -4.122, p = < .001$) and secondary ($B = -5.786, t = -4.689, p = < .001$) levels of school in which bullying victimization occurred contributed unique variance to the overall model while emotional neglect ($B = 0.15, t = .124, p = .902$) and physical neglect ($B = .194, t = 1.217, p = .230$) did not.

Controlling for Demographic Variables in Updated Research Question 4

In the updated statistical procedure to answer Research Question 4, significantly correlated demographic variables were controlled for in the analysis of each dependent variable through separate HMR analysis. Assumptions of HMR were evaluated in the same manner as previously described and were found to be reasonably met. The first HMR was conducted using four blocks: (a) Step 1 predicted the Total Primary School BV from the demographic variable of gender, (b) Step 2 added the demographic variable of sexual orientation, (c) Step 3 added the demographic variable of age, and (d) Step 4 added the predictor variables of emotional and

physical neglect scales. For both of the HMR procedures employed in this post-hoc, all demographic variables were entered individually into separate blocks of the HMR design instead of entering all demographics collectively into Block 1. The inclusion of gender in Step 1 did not account for a significant amount of variance in the outcome, $F(1,113) = 3.216, p = .076, R^2 = .028$. The addition of sexual orientation significantly increased the variance accounted for in the Total Primary School BV, $F(1,112) = 9.140, p = .003$, and accounted for 10% of the total variance ($R^2 = .101$). The addition of age significantly increased the variance accounted for in the outcome, $F(1,111) = 8.030, p = .005$, and accounted for additional variation of roughly 16% ($R^2 = .162$). The final step added the predictor variables of emotional and physical neglect to the model and resulted in a significant, incremental amount of variance of almost 23% to the outcome, $F(2,109) = 4.624, p = .012, R^2 = .227$.

The last HMR consisted of four blocks: (a) Step 1 predicted the Total Secondary School BV from the demographic variable of gender, (b) Step 2 added the demographic variable of sexual orientation, (c) Step 3 added the demographic variable of age, and (d) Step 4 added the independent variables of emotional and physical neglect. Block 1 accounted for a non-significant amount of variance explained at 2.9%, $F(1,113) = 3.327, p = .071, R^2 = .029$. The addition of sexual orientation yielded a significant result, $F(1,112) = 14.996, p < .001$, and added another 14% of variance explained ($R^2 = .143$) in Total Secondary School BV. The addition of age significantly increased the variation accounted for in the outcome, $F(1,111) = 12.067, p < .001$, by approximately 23% more than was accounted for in Step 2 ($R^2 = .227$). The final step added the predictors of emotional and physical neglect and accounted for a non-significant amount of incremental variance explained, $F(2,109) = .894, p = .412, R^2 = .240$.

Further Examination of Post-Hoc Analyses

Interpretation of the post-hoc analyses reflected that the demographic variables of sexual orientation and age accounted for a significant amount of variance in (a) the Frequency and Severity of Physical, Verbal, and Indirect BV and (b) the Total Primary and Secondary School BV. The possible range of values for the frequency and severity of each form of BV was from 2-10 and the possible range of values of Total and Secondary School BV was from 6-30. Gender accounted for a significant amount of variance in the frequency and severity of Indirect BV and the Severity of Verbal BV only. Females ($M = 5.64$, $SD = 2.26$) reported more frequent indirect BV than males ($M = 4.51$, $SD = 2.34$). Although only five participants identified as non-binary, third gender, or other gender identity, these participants reported even greater frequencies ($M = 7.20$, $SD = 1.79$) of indirect BV than did males and females while severity estimates ($M = 5.80$, $SD = 0.45$) of indirect BV were consistent with female ratings. Similarly, females ($M = 5.51$, $SD = 1.99$) endorsed greater severity of indirect BV incidents than did male counterparts ($M = 4.00$, $SD = 1.81$). In terms of verbal BV, females ($M = 5.06$, $SD = 2.02$) and those who identified as non-binary/third gender/other ($M = 5.20$, $SD = 1.643$) indicated greater severity of BV incidents than did males ($M = 4.11$, $SD = 1.83$).

The demographic variable of sexual orientation was also analyzed in relation to the various forms and dimensions of bullying victimization. When examining the Frequency of Physical BV, those who identified as gay, bisexual, or other orientation ($M = 3.85$, $SD = 2.21$), reported greater average rates of victimization in comparison to those who identified as straight or heterosexual ($M = 2.79$, $SD = 1.29$). When breaking down sexual orientation in relation to the Frequency of Physical BV, the seven participants who reported to be gay ($M = 3.14$, $SD = 1.95$), 21 participants who reported to be bi-sexual ($M = 3.76$, $SD = 2.12$), and the five participants

who reported other ($M = 5.20, SD = 2.78$) endorsed higher rates of physical victimization on average. In relation to the Severity of Physical BV, those who identified as gay, bisexual, or other ($M = 4.33, SD = 2.33$) reported greater average rates of physical victimization than did those who identified as straight ($M = 3.43, SD = 2.01$). Participants who identified as gay actually reported lower severity rates ($M = 3.14, SD = 1.95$) in comparison to those who identified as straight while those who identified as bi-sexual ($M = 4.43, SD = 2.36$) and other ($M = 5.60, SD = 2.30$) reported higher average severity rates.

In terms of verbal bullying victimization, those who identified as gay/bisexual/other ($M = 5.91, SD = 2.40$) reported more frequent rates of verbal victimization than did those who identified as straight ($M = 4.30, SD = 2.02$). More specifically, those who identified as gay ($M = 4.14, SD = 2.27$) reported consistent frequency of BV experiences as those who identified as straight; however, those who identified as bisexual ($M = 6.10, SD = 2.14$) and other ($M = 7.60, SD = 2.51$) reported much more frequent verbal BV experiences. A similar pattern was observed in relation to the severity of verbal BV as those who identified as gay/bisexual/other ($M = 5.76, SD = 2.00$) reported greater severity of verbal victimization experiences than those who identified as straight ($M = 4.43, SD = 1.87$). Consistent with the frequency of verbal BV, those who identified as bi-sexual ($M = 6.14, SD = 1.88$) and other ($M = 6.60, SD = 1.67$) reported much more severe verbal BV experiences than those who identified as gay ($M = 4.00, SD = 1.73$) and straight.

When examining the frequency and severity of indirect BV, those who endorsed a sexual orientation of gay/bisexual/other ($M = 6.55, SD = 2.37$) reported more frequent indirect BV on average when compared to those who identified as straight ($M = 4.93, SD = 2.18$). Those who endorsed 'other' sexual orientation ($M = 8.40, SD = 2.07$) were more likely to report frequent

indirect BV over those who identified as gay ($M = 5.71, SD = 1.89$) or bisexual ($M = 6.38, SD = 2.44$). Furthermore, similar patterns were observed in relation to the severity of indirect BV as those who identified as gay/bisexual/other ($M = 6.21, SD = 1.92$) reported more severe indirect BV experiences than those who identified as straight ($M = 4.66, SD = 1.89$). Greater severity of indirect BV was reported by those who identified with a sexual orientation of 'other' ($M = 7.00, SD = 1.00$) as compared to those who identified as gay ($M = 5.43, SD = 1.81$) or bisexual ($M = 6.21, SD = 1.96$).

The outcome variables of primary and secondary school BV were also examined within this study. An investigation into the role of sexual orientation and BV in Primary School yielded greater, overall BV scores for those who reported to be gay/bisexual/other ($M = 16.64, SD = 6.22$) in comparison with those who identified as straight ($M = 12.79, SD = 4.80$). More specifically, those who endorsed a sexual orientation of 'other' ($M = 21.40, SD = 4.77$) were much more likely to report higher average BV in primary school than those who identified as gay ($M = 13.29, SD = 4.57$) or bisexual ($M = 16.62, SD = 6.45$). Conversely, overall BV rates in Secondary School were also reported to be higher in those who identified as gay/bisexual/other ($M = 15.97, SD = 6.01$) in comparison to those who identified as straight ($M = 11.76, SD = 5.00$). As was seen in primary school, those who endorsed 'other' under sexual orientation ($M = 19.00, SD = 7.21$) were far more likely to report overall BV in secondary school over those who identified as gay ($M = 12.29, SD = 5.38$) or bisexual ($M = 16.48, SD = 5.38$).

CHAPTER V

DISCUSSION

This chapter begins with a discussion of the results and their relationship with prior research in this area. Next, limitations of this study, particularly in relation to the sample, are also discussed. Then suggested directions for future research are offered as well as a discussion of practice implications for school psychologists.

Contribution to the Literature and Key Findings

As a result of prior researchers' general omission of the role of childhood neglect in bullying victimization investigations (Dubowitz, 1999; Polonko, 2006; Stoltenborgh et al., 2013; Wang et al., 2019; Widom et al., 2008) and the broad abdication of studying the association of various forms of neglect with the distinct types of bullying victimization experiences (Benedini et al., 2016; Hong et al., 2012), the current study offered a necessary contribution to the literature by providing evidence crucial to the development of a greater understanding of these relationships. Results of this study yielded several significant findings. These relationships offered justification for the importance of the development and implementation of early prevention and intervention programs, at both the primary and secondary school levels, so those who have a history of childhood neglect could be supported and ill-effects of peer victimization could be rectified.

There was an established link between neglect at home and problematic peer interactions and rejection at school (Bolger & Patterson, 2001a; Bolger et al., 1998; Chapple et al., 2005; De Paul & Arruabarrena, 1995). Within the school setting, neglected students might be more likely

to exhibit behaviors that result in heightened peer exclusion, targeted bullying, and overall difficulty in establishing healthy peer connections (Contreras & Kerns, 2000; Contreras et al., 2000; Finkelhor et al., 2009; Kerns et al., 2007; Kim & Cicchetti, 2010; Shields & Cicchetti, 2001; Shields et al., 2001; Trickett et al., 2011).

Consistent with prior child maltreatment research (Lereya et al., 2013; Wang et al., 2019), the current study found those with a history of neglect were significantly more likely to report general peer bullying victimization experiences than those who reported childhood non-maltreatment. In the context of the present study, neglect was conceptualized alongside the concurrent role of abuse as most participants reported comorbid forms of childhood maltreatment. Of the 30 participants who endorsed histories of moderate to severe childhood neglect, 20 of them reported moderate to severe bullying victimization experiences in at least one phase of school, making up 67% of the total neglected sample. In comparison, of the 68 participants who reported non-significant childhood maltreatment histories, just 15 of them reported moderate to severe peer victimization in at least one phase of school. This accounted for only 22% of the non-maltreated sample, which was notably lower than the recent estimates of average, worldwide bullying victimization rates (32%; WHO, 2012). Given that the presence of neglect in the current study resulted in a three-fold increase in subsequent school bullying victimization, there was well grounded rationale that childhood neglect be a key variable to consider in predicting the experience of peer bullying from elementary to high school. This evidence was consistent with findings of a large meta-analysis conducted by Lereya et al. (2013) where childhood abuse and neglect were of the most significant predictors of peer victimization.

When exploring the frequency and severity of each form of bullying victimization in the current study, physical neglect was consistently significant in predicting physical bullying

victimization only, while emotional neglect was significant in predicting verbal and indirect bullying victimization only. Although Chapple et al. (2005) established a significant association between childhood physical neglect and peer rejection in school, the present study is the first known study to report a significant link between physical neglect and the physical form of peer victimization. Bernstein and Watson (1997) examined various characteristics of bully victims including that of the home environment. They reported that victims of peer maltreatment generally held insecure attachments with their parents or guardians, a relationship that also existed in parent to child abuse/neglect research (Egeland & Sroufe, 1981; Toth et al., 2000; Wilson et al., 2008). Neglected children are likely to experience varying levels of rejection throughout their childhood and, therefore, they are more likely to take on the 'victim' role and display vulnerable, behavioral tendencies in their interactions with fellow peers (Bernstein & Watson, 1997). Victims reacted more passively (i.e., taking the bullying attacks and making continual attempts to initiate friendships with their bullies) or aggressively (i.e., actively interacting with bullying and even provoking fights).

Implications

For Gender

Of the sample in the present research, 23% of males reported significant physical BV, in primary and/or secondary school, while 17% of females reported significant physical BV. This was consistent with relevant bullying research indicating that male students tended to be physically victimized more often than female students (Scheithauer et al., 2006; Wang, Ionnotti, & Luk, 2010) even if the increased chance was minimal (Perry et al., 1988). Body weight was also a factor in BV as underweight males tended to be more likely victims of physical bullying (Olweus, 1978; Puhl et al., 2011; Wang, Ionnotti, & Luk, 2010). Although body weight and other

physical characteristics of participants were not considered in the present research, prior research of such variables offered potential insight into why physically neglected males were more likely to be physically victimized by their peers. Despite the unknown workings behind this association, Bernstein and Watson (1997)'s research justified the possibility that physically neglected children might display emotional and behavioral tendencies that naturally made them susceptible to physical bullying attacks. Further examination of the mechanisms behind these specific relationships is highly encouraged for future research endeavors.

The relationship between emotional neglect and verbal and indirect bullying victimization has not been widely reported in the literature as the current study appeared to be one of the first to observe these unique interactions and report significant findings. Consistent with gender trends in prior research (Scheithauer et al., 2006), female respondents were almost twice as likely to report verbal and/or indirect BV than males in the present sample. In fact, 32% of females recalled experiencing two significant forms of BV throughout their schooling, while the majority of bullied males (23%) reported to experience only one form of significant bullying during this time. Therefore, it is probable that the majority of bullied females experienced moderate to severe verbal and indirect victimization together or at different stages of their academic years. However, gender trends in bullying victimization research were not always clear-cut. Some researchers found males and females to experience comparable rates of verbal BV (Davidson-Arad & Golan, 2007; Owens et al., 2000; Wang, Ionnotti, & Luk, 2010) as physical victimization in primary school for male students was often replaced with verbal victimization by secondary school (Björkqvist, 1994). Similarly, a meta-analysis conducted by Archer (2004) reported that females tended to engage in more frequent indirect aggression of

other females in middle and/or high school. It would be useful for future research to study the underlying causes for the emotional neglect to verbal and indirect types of BV pathway.

For the Stability of Bullying Victimization Across School Levels

The current study indicated that the presence of significant, self-reported physical and/or emotional neglect predicted stable, self-reported bullying victimization rates across primary and secondary school. These relationships were novel to the childhood maltreatment literature but were more broadly consistent with Scholte et al.'s (2007) prevalent evidence of bullying victimization stability across primary and secondary school. More specifically, the present research results indicated an endorsed history of emotional neglect was a significant predictor of self-reported bullying victimization in primary school but not secondary school. This evidence directly contributed to understanding gaps in the literature as many researchers examined various community, family, and school variables in relation to bullying behaviors across primary and/or secondary school levels (e.g., Cook et al., 2010; Guerra et al., 2011; Khoury-Kassabri et al., 2004); however, childhood neglect was not one of the factors commonly studied. It seems likely there were confounding variables at play in the present research that might have more heavily influenced the relationship between those who reported childhood neglect and stable BV in school.

Evidence related to peer victimization stability across both primary and secondary school in the current study was further corroborated by the finding that 60% of participants who reported moderate to severe bullying experiences were bullied in both primary and secondary school (i.e., stable victimization). An additional 16% of bullied respondents in the present study reported peer victimization in primary school only and 23% of bullied respondents reported peer victimization in secondary school only (i.e., non-stable victimization). The rates of stable BV

from primary to secondary school reported by the current study exceeded stability percentages in prior research as various studies reported average BV stability estimates to be approximately 40-45% (Beran, 2008; Scholte et al., 2007; Smith et al., 2004).

Bullying and aggression generally evolve across different developmental periods as physical aggression tends to develop early on and decreases over time (Björkqvist, 1994). Consistent with Björkqvist's (1994) evidence, approximately 8% of participants in the current study reported physical peer victimization in primary school only, while less than 1% of participants reported physical peer victimization in secondary school only. Inversely, relational aggression has shown to develop in early adolescence as it overlaps with verbal development and increased social skills (Björkqvist et al., 1992; Vaillancourt & Farrell, 2021; Wang et al., 2009). A substantial difference between indirect BV within separate phases of school was not observed in the present research as roughly 8% of participants reported indirect BV in primary school only, whereas 11% reported indirect BV at the secondary level only. While prior research declared overall bullying behavior to be most prevalent in middle school, and therefore a stage of education that youths when most likely to be bullied (Bradshaw et al., 2007; Goldbaum et al., 2003), patterns of BV in the current study were discrepant. Upon collectively examining all forms of BV in the present data, participants were slightly more likely to report overall BV in primary school only (~12%) than they were to report overall BV in secondary school only (~9%). Although the percentage of those victimized solely in primary and secondary levels of school remained relatively low, the proportion of participants simultaneously bullied across both phases of school was drastically higher (~31%). The present research added to the existing literature by exploring which types of bullying victimization were often predicated by individual

forms of neglect and explored bullying victimization experiences across primary and secondary school levels.

Discussion of Post-Hoc Analyses

Overall, those who endorsed a sexual orientation other than heterosexuality were more likely to disclose more frequent and severe BV within the present study across both primary and secondary school levels. These results were consistent with the literature as adolescents who fell into the sexual minority category (i.e., gay/lesbian, bisexual, queer, etc.) were reported to experience higher rates of BV over those of heterosexual peers (Fedewa & Ahn, 2011; Kosciw et al., 2014). While the rate of general BV in high school centered at around 20% (Eaton et al., 2012), adolescents who reported to be LGBTQ+ were more likely to experience physical (~30%), verbal (~87%), and relational (~81%) BV at higher rates (Birkett et al., 2009; Kosciw et al., 2014; Rivers & Noret, 2008; Sterzing et al., 2014). In comparison to the current study, rates of BV reported by LGBTQ+ respondents were ~21% for physical, ~48% for verbal, and ~64% for relational forms of bullying. Participants identifying as LGBTQ+ were 1.5 times as likely to report physical BV, 1.7 times more likely to report verbal BV, and two times more likely to report indirect BV opposed to those who reported to be straight.

With respect to gender and sexual orientation, the present research found that after controlling for said variables, there was little to no contribution of emotional and physical neglect to the frequency, severity, and stability of bullying victimization. This emphasized the idea that there were likely to be many contributing factors to the experience of peer victimization at school. The demographic variable of age was statistically significant in many of the results; however, this variable was not scrutinized within the context of the present study as it simply stated how old each participant was upon completing the questionnaires. The age of completion

of the questionnaires was not considered to be important to consider in the present research as it did not offer anything substantial to the understanding of the pathway between childhood neglect and bullying victimization.

Limitations of Study

While the current study intended to gather a large enough sample of only neglected participants in order to further understand the role of pure neglect on bullying victimization outcomes, this was not achieved as only 3% of participants endorsed histories of childhood neglect absent of significant abuse. This was consistent with prior research utilizing self-report data (Shields & Cicchetti, 2001; Stoltenborgh et al., 2013; Wang et al., 2019) as large sample sizes of solely neglected participants were difficult to locate. This study further explained why the majority of the extant literature resorted to examining the role of child neglect in conjunction with child abuse (Chapple et al., 2005; Shields & Cicchetti, 2001; Stoltenborgh et al., 2013; Wang et al., 2019).

Furthermore, there are inherent limitations of self-report, online survey research. Factors such as selection bias, lack of control over survey-taking environment, and uncertainty of truthfulness of responses are present in studies utilizing online survey-based methods. The present study called for respondents to utilize retrospective accounts of potentially traumatic events to complete the online survey. Research regarding the reliability and validity of self-reported, retrospective accounts of childhood experiences is largely unsettled by researchers (Brewin et al., 1993; Miller et al., 2002; Schäfer et al., 2004). In addition, the RBQ, one of the main measures used in the present study, reported a lack of sound validity evidence in prior research. Fortunately, internal consistency evidence in the present sample was adequate. While

internal consistency is a reliability metric, it spoke to the validity of the RBQ as it analyzed the degree to which the items were measuring what they were intended to measure.

Implications for Future Research

Future research should prioritize replication of the present study with a more extensive, far-reaching net in order to recruit a larger sample size. Although prior research on self-reported neglect versus court-substantiated cases hinted at the probability of an underrepresented sample of solely neglected participants (Negriff et al., 2017), the limited sample size remained of the most consequential hinderances to the current research. The smaller number of participants made it more difficult to gather conclusive evidence in relation to childhood neglect, bullying victimization, and how the presence of neglect influenced the trajectory of peer victimization in the school setting. Recruitment of a large enough sample size of solely neglected participants would be quintessential to drawing even more meaningful conclusions from the data. While a large-scale study of a solely neglected sample would surely garner fascinating findings, it is likely this group would not be reflective of the reality of children in schools. Furthermore, the present research was able to examine the broad relationships between the various forms of neglect and bullying victimization; however, it did not explicitly study the underlying rationale for why these relationships existed. Recommendations concerning the study of the specific associations between emotional neglect and verbal/indirect types of BV, physical neglect, and the physical type of BV are also stressed in the present manuscript.

Implications for School Psychology Practice

Most school staff, and mental health professionals specifically, are legally mandated to report any suspected child abuse and neglect to a reputable child welfare agency. In some cases, teachers might not consistently report suspected child maltreatment (Kesner & Robinson, 2002)

and might rely on consultation with mental health professionals in the school to guide them in making these calls. Reporting such suspicions of maltreatment, no matter how ambiguous or equivocal, is a key duty of school psychologists in order to advocate for the welfare of children outside of the bounds of the school building. Early identification of child maltreatment is essential to interrupting the trauma and preventing it from continuing in the future, especially in relation to peer victimization. Protection and assurance of safety for maltreated children should be the priority of all school-based mental health professionals (Zinsmeister, 1990), while ongoing treatment of trauma associated with abuse and neglect should remain another prominent responsibility to reduce lasting psychological and physical sequelae.

Many of the empirically supported treatments of child abuse and neglect involve systemic, trauma-informed interventions (e.g., parent-child interaction therapy, attachment-based intervention, child-parent psychotherapy, etc.) that are likely to be most effectively served in conjunction with community resources. The advent of trauma-informed care has a decades-long history, although it started to take precedence in mental health over the past 20 years. Trauma-informed practices were spearheaded by women's rights studies published by the Substance Abuse and Mental Health Administration within the U.S. Department of Health and Human Services (Wilson et al., 2013). As discussed at the outset of this manuscript, Karl Zinsmeister (1990) succinctly communicated the indispensable role of physical and psychological safety when working with children. Physical and psychological safety was one of the five core values associated with trauma-informed care presented by Falloot and Harris (2009) and followed by the values of trustworthiness, choice, collaboration, and empowerment. Trustworthiness alluded to the transparency behind expectations, the maintenance of boundaries, and the consistency of services delivered across a system. Often, those who experienced trauma lost their sense of

control through the traumatic event, making the provision of choice all-the-more powerful in the therapeutic environment (Wilson et al., 2013). The role of collaboration and empowerment is effective in enhancing client involvement, creating an equal power balance and strengthening the clients' skills in working through the trauma and other distressing events.

As school psychologists, aspects of trauma-informed care should be integrated into key areas of practice such as in assessment, consultation, and intervention implementation. During initial and reevaluation processes, psychologists should pay close attention to details of a student's early childhood experiences and note any information about past trauma histories. When conducting assessments, Marsac et al. (2015) talked about investigating a child's levels of psychological distress, emotional support, and family factors. Firstly, in determining a child's level of distress, school psychologists are learning about a child's worries related to the assessment process and addressing them through provision of choice and the allowance for frequent child input. This could be as simple as permitting the student to select which measure or subtest they would like to complete first when conditions allow. When a child voices misconceptions or fears about the assessment process, it is important that the psychologist provide clarity behind what is expected and give frequent reassurances. If trauma has occurred or is suspected, it is also recommended that the psychologist consider how the traumatic event(s) might have impacted the student's academic, behavioral, and social/emotional functioning across settings (Marsac et al., 2015).

Moreover, consultation and community outreach efforts are essential in assessing the final aspects of trauma-informed service delivery outlined by Marsac et al. (2015): emotional support and family factors. Effective partnership with parents, guardians, and families of traumatized students is often key to accessing trauma-informed care (Conradi & Wilson, 2010).

By consulting with supportive members of the child's circle, school psychologists could better understand the dynamics of the home, what coping strategies were being used and if there were ones that might be more beneficial to try, and what barriers were in place to prevent access to supports commensurate to what the child needs. When conducting evaluations, psychologists could also take the time to answer any questions that parents have about the assessment process, clarify the reasons behind the assessments, and encourage parents to contribute by providing input and background information for the evaluation report. Through consultative efforts, school psychologists could determine what stressors are at play and what resources might be of use to families. The mental health professional could work to help families access relevant resources in the community (e.g., outside mental health therapies, housing and rent assistance, etc.), which would conceivably facilitate a more stable home environment for the student (National Association of School Psychologists, 2015). In concert with family consultation efforts, the school psychologist should consider consulting with other outside professionals such as social workers, psychiatrists, primary care providers, or others to create a blanketed network of support for the child (Conradi & Wilson, 2010).

Multitier service delivery is another main component of a school psychologist's position in the school setting. A trauma-informed approach could be integrated into the service delivery system through use of evidence-based, trauma-focused interventions and curricula for those who have an identified or suspected history of childhood maltreatment or for those who might be at increased risk of being victimized (Conradi & Wilson, 2010; Keesler, 2014; Walkley & Cox, 2013). Cognitive Behavioral Intervention for Trauma in Schools (Jaycox, 2004) is such an intervention that could be used in group settings within Tier 2. Students who could use more targeted intervention and support could access individualized, trauma-informed care at the Tier 3

level. Interventions that center around the promotion of self-regulation skills and founding of secure attachments with others are often provided by school psychologists or social workers. The use of active and rhythmic activities to help students to refine self-regulation skills, along with practice in identifying feelings, how feelings link to behaviors, and training around effective coping strategies to emotionally regulate are common practices in the school realm (Brunzell et al., 2015). In cases of childhood neglect, students might be predisposed to stress responses characterized by hostility or withdrawal as they often lacked a stable and nurturing home environment. School psychologists are in a unique position to assist neglected students in building healthy and trusting relationships with staff and peers, thereby fostering a sense of safety and ideally reducing the chances of becoming revictimized via bullies. In order to achieve this goal, it is imperative that school psychologists and other school-based mental health professionals operate with empathy, respect, and warmth despite student behavior (Brunzell et al., 2015).

Conclusion

The overarching goal of the present study was to further the investigation of the ‘cycle of victimization’ and to shed light on an often-underemphasized area of childhood maltreatment—that of neglect. Results of the current research stand to expand the breadth of knowledge as it relates to the childhood neglect to bullying victimization pathway. Historically, little has been gleaned about the relationship between emotional and physical neglect and the various forms of bullying victimization from prior research efforts. Commensurate with what the literature has provided thus far (Lereya et al., 2013), those with a history of moderate to severe childhood neglect were three times more likely to report general experiences of peer bullying victimization in the present study when compared to those with non-significant histories of neglect. More

specifically, participants with a history of physical neglect were more likely to report frequent and severe physical BV while those with a history of emotional neglect were more likely to report frequent and severe verbal and indirect forms of BV in school. Furthermore, the presence of significant physical and emotional neglect predicted stable bullying victimization rates across primary and secondary schools. An endorsed history of emotional neglect was particularly associated with self-reported BV in primary school but not secondary school. Consistent with prior research (Fedewa & Ahn, 2011; Kosciw et al., 2014), participants in the current study who identified as LGBTQ+ were 1.5 to two times more likely to report more frequent and severe BV in school. When controlling for the demographic variables of gender and sexual orientation in the present study, there was little to no contribution of emotional and physical neglect to the frequency, severity, and stability of bullying victimization.

One of the most prominent limitations and sources of inspiration for future research endeavors rests in the relatively small sample size garnered for the current study. By recruiting a larger sample size for related studies to come, the opportunity to study a sample of solely neglected participants is more plausible. By achieving a larger sample size, it becomes more feasible to study the underlying mechanisms of the physical neglect to physical BV and emotional neglect to verbal/indirect BV pathways. Implications for mental health professionals working in the schools largely cue the roles of preventative and remedial service delivery, consultation, and community resource outreach. Trauma-informed practices are at the center of service delivery for students who report current or prior childhood neglect. School psychologists are in a unique position to assist students with suspected or unknown histories of childhood neglect in building healthy relationships with others, regulating their emotions, and bolstering their sense of self-worth. By doing so, school psychologists and other school-based mental health

professionals could foster a safe environment at school and ideally reduce the chances of maltreated students becoming revictimized by their peers.

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APPENDIX A
CHILDHOOD TRAUMA QUESTIONNAIRE (CTQ)

This survey asks about some of your experiences **growing up as a child and a teenager, anything before you turned 18**. Although these questions are of a personal nature, please try to answer as honestly as you can.

When I was growing up...

	Never True (1)	Rarely True (2)	Sometimes True (3)	Often True (4)	Very Often True (5)
1. I didn't have enough to eat. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I knew that there was someone to take care of me and protect me. (2 - R)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. People in my family called me things like "stupid," "lazy," or "ugly." (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. My parents were too drunk or high to take care of the family. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. There was someone in my family who helped me feel that I was important or special. (5 - R)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I had to wear dirty clothes. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When I was growing up...

	Never True (1)	Rarely True (2)	Sometimes True (3)	Often True (4)	Very Often True (5)
7. I felt loved. (7 - R)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I thought that my parents wished I had never been born. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I got hit so hard by someone in my family that I had to see a doctor or go to the hospital. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. There was nothing I wanted to change about my family. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. People in my family hit me so hard that it left me with bruises or marks. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I was punished with a belt, a board, a cord, or some other hard object. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When I was growing up...

	Never True (1)	Rarely True (2)	Sometimes True (3)	Often True (4)	Very Often True (5)
13. People in my family looked out for each other. (13 - R)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. People in my family said hurtful or insulting things to me. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. I believe that I was physically abused. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I had the perfect childhood. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. I got hit or beaten so badly that it was noticed by someone like a teacher, neighbor, or doctor. (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. I felt that someone in my family hated me. (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. People in my family felt close to each other. (19 - R)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When I was growing up...

	Never True (1)	Rarely True (2)	Sometimes True (3)	Often True (4)	Very Often True (5)
20. Someone tried to touch me in a sexual way, or tried to make me touch them. (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Someone threatened to hurt me or tell lies about me unless I did something sexual with them. (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. I had the best family in the world. (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Someone tried to make me do sexual things or watch sexual things. (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Someone molested me. (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. I believe that I was emotionally abused. (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. There was someone to take me to the doctor if I needed it. (26 - R)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When I was growing up...

	Never True (1)	Rarely True (2)	Sometimes True (3)	Often True (4)	Very Often True (5)
27. I believe that I was sexually abused. (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. My family was a source of strength and support. (28 - R)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: CTQ

*Note: **R** represents an item that is to be reverse-coded. This will be omitted from version of CTQ that participants see.*

APPENDIX B
RETROSPECTIVE BULLYING QUESTIONNAIRE-
REVISED

Retrospective Bullying Questionnaire

The following questions are about bullying. **Bullying is intentional hurtful behavior. It can be physical or psychological. It is often repeated and characterized by an inequality of power so that it is difficult for the victim to defend him/herself.**

Please think back to your school days. You may have seen some bullying at school, and you may have been involved in some way. (Tick the choice which best describes your own experiences at school)

I was not involved at all, and I never saw it happen

I was not involved at all, but I saw it happen sometimes

I would sometimes join in bullying others

I would sometimes get bullied by others

At various times, I was both a bully and a victim

PART I: PRIMARY SCHOOL

This part deals with your experiences at primary school (4–11 years).

Tick the boxes that are right for you.

1. Did you have a happy time at primary school?

Detested Disliked Neutral Liked a Liked a lot

2. Did you have a happy time at home with your family while in primary school?

Detested Disliked Neutral Liked a Liked a lot

The next questions are about physical forms of bullying – hitting and kicking, and having things stolen from you.

3. Were you physically bullied at primary school?

hit/punched yes no

stolen from yes no

4. Did this happen?

Never

Rarely

Sometimes

Frequently

Constantly

5. How serious did you consider these bullying-attacks to be?

I wasn't
bullied

Not at all

Only a
bit

Quite
serious

Extremely
Serious

The next questions are about verbal forms of bullying – being called nasty names, and being threatened.

6. Were you verbally bullied at primary school?

called names yes no

threatened yes no

7. Did this happen?

Never

Rarely

Sometimes

Frequently

Constantly

8. How serious did you consider these bullying-attacks to be?

I wasn't
bullied

Not at all

Only a
bit

Quite
serious

Extremely
Serious

The next questions are about indirect forms of bullying – having lies or nasty rumors told about you behind your back, or being deliberately excluded from social groups.

9. Were you indirectly bullied at primary school?

had lies told about you yes no

excluded yes no

10. Did this happen?

Never Rarely Sometimes Frequently Constantly

11. How serious did you consider these bullying-attacks to be?

I wasn't Not at all Only a Quite Extremely
bullied few days bit serious Serious

The next questions are about bullying in general.

12. How long did the bullying attacks usually last?

I wasn't Just a Weeks Months A year or
bullied few days more

13. How many pupils bullied you in primary school?

I wasn't bullied

Mainly by one boy

By several boys

Mainly by one girl

By several girls

By both boys and girls

PART II: SECONDARY SCHOOL

This part deals with your experiences at secondary school (11–18 years).

14. Did you have a happy time at secondary school?

 Detested Disliked Neutral Liked a Liked a lot

15. Did you have a happy time at home with your family while in secondary school?

 Detested Disliked Neutral Liked a Liked a lot

The next questions are about physical forms of bullying – hitting and kicking, and having things stolen from you.

16. Were you physically bullied at secondary school?

hit/punched yes no
 stolen from yes no

17. Did this happen?

 Never Rarely Sometimes Frequently Constantly

18. How serious did you consider these bullying-attacks to be?

 I wasn't Not at all Only a Quite Extremely
 bullied bit serious Serious

The next questions are about verbal forms of bullying – being called nasty names and being threatened.

19. Were you verbally bullied at secondary school?

called names yes no

threatened yes no

20. Did this happen?

Never

Rarely

Sometimes

Frequently

Constantly

21. How serious did you consider these bullying-attacks to be?

I wasn't
bullied

Not at all

Only a
bit

Quite
serious

Extremely
Serious

The next questions are about indirect forms of bullying – having lies or nasty rumors told about you behind your back, or being deliberately excluded from social groups.

22. Were you indirectly bullied at secondary school?

had lies told about you yes no

excluded yes no

23. Did this happen?

Never

Rarely

Sometimes

Frequently

Constantly

24. How serious did you consider these bullying-attacks to be?

I wasn't
bullied

Not at all

Only a
bit

Quite
serious

Extremely
Serious

The next questions are about bullying in general.

25. How long did the bullying-attacks usually last?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I wasn't
bullied | Just a
few days | Weeks | Months | A year or
more |

26. How many pupils bullied you in secondary school?

- | | |
|------------------------|--------------------------|
| I wasn't bullied | <input type="checkbox"/> |
| Mainly by one boy | <input type="checkbox"/> |
| By several boys | <input type="checkbox"/> |
| Mainly by one girl | <input type="checkbox"/> |
| By several girls | <input type="checkbox"/> |
| By both boys and girls | <input type="checkbox"/> |

APPENDIX C
INSTITUTIONAL REVIEW BOARD APPROVAL



Date: 12/02/2020
 Principal Investigator: Natalie Johnson
 Committee Action: **IRB EXEMPT DETERMINATION – New Protocol**
 Action Date: 12/02/2020
 Protocol Number: 2011014265
 Protocol Title: The Interaction of Potentially Stressful Childhood Experiences
 Expiration Date:

The University of Northern Colorado Institutional Review Board has reviewed your protocol and determined your project to be exempt under 45 CFR 46.104(d)(702) for research involving

Category 2 (2018): EDUCATIONAL TESTS, SURVEYS, INTERVIEWS, OR OBSERVATIONS OF PUBLIC BEHAVIOR. Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met: (i) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects; (ii) Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; or (iii) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by 45 CFR 46.111(a)(7).

You may begin conducting your research as outlined in your protocol. Your study does not require further review from the IRB, unless changes need to be made to your approved protocol.

As the Principal Investigator (PI), you are still responsible for contacting the UNC IRB office if and when:



- You wish to deviate from the described protocol and would like to formally submit a modification request. Prior IRB approval must be obtained before any changes can be implemented (except to eliminate an immediate hazard to research participants).
- You make changes to the research personnel working on this study (add or drop research staff on this protocol).
- At the end of the study or before you leave The University of Northern Colorado and are no longer a student or employee, to request your protocol be closed. *You cannot continue to reference UNC on any documents (including the informed consent form) or conduct the study under the auspices of UNC if you are no longer a student/employee of this university.
- You have received or have been made aware of any complaints, problems, or adverse events that are related or possibly related to participation in the research.

If you have any questions, please contact the Research Compliance Manager, Nicole Morse, at 970-351-1910 or via e-mail at nicole.morse@unco.edu. Additional information concerning the requirements for the protection of human subjects may be found at the Office of Human Research Protection website - <http://hhs.gov/ohrp/> and <https://www.unco.edu/research/research-integrity-and-compliance/institutional-review-board/>.

Sincerely,

Nicole Morse
Research Compliance Manager

University of Northern Colorado: FWA00000784

APPENDIX D
CONSENT FORM



INFORMED CONSENT FOR PARTICIPATION IN RESEARCH

Project Title: The Interaction of Potentially Stressful Childhood Experiences

Study Researcher: Natalie Johnson, Dept. of School Psychology, Doctoral Candidate

Study Research Advisor: David Hulac, Ph.D., Dept. of School Psychology, Associate Professor

Contact Information: john8008@bears.unco.edu

Project Description. This project will explore the influence of potentially stressful life experiences in college students. The purpose of the study is to provide a better understanding of how potentially stressful experiences in pre-adult life interact with one another.

Procedure for Participation. This study will involve a single 25-minute online session during which you will take a self-report survey on the following topics: (1) a brief demographics questionnaire that asks for your age, birth date, gender identity, race/ethnicity, country of origin, sexual orientation, mother's highest level of education, and (2) two separate measures that ask about potentially stressful and/or traumatic events that occurred during your childhood and/or adolescence. Research credit (1) will be received for completion of the survey and will be applied towards your academic progress in your PSY 120 class.

Confidentiality. In order to maintain confidentiality and anonymity, names and other self-identifying information will not be collected or included in any of the stored data. It is noted that you will be asked to provide your birthdate, but this is simply to confirm that you are at least 18 years old and younger than 31 years old. You will never be asked to provide your name, bear number, or any other identifying information to accompany your birthdate. Upon signing up for this survey study, you will immediately be presented with a link to the Qualtrics survey through the SONA system. Student information from the SONA system will not be connected in any way to the Qualtrics survey. Once completed, the data will be coded under a unique participant number. There will be no way to link UNC student participants to their data in the file. In other words, your name and any other self-identifying information will not be included on any of the stored data. It is noted, however, that the researcher is not able to guarantee full confidentiality due to the electronic nature of the data collection process and the participant's ability to take the survey at any given time and in any given location.

Risks and Benefits. Some people find answering potentially sensitive questions about themselves to be somewhat stressful. If you become upset or uncomfortable at any time and wish to discontinue (or not answer a particular question(s)), you are free to do so without penalty. Your participation in this study will not result in any direct benefit to you as an individual. However, your participation will certainly make a contribution to a research question that is believed to be important. You will receive the appropriate research credit upon completion of the survey.

By consenting to this study, you are acknowledging that:

Your involvement in this study is completely voluntary. You may decide not to participate in this study, and if you do begin participation, you may still decide to stop and withdraw from the study at any time without penalty. Further, you may choose to skip over and not answer any particular question(s) if you wish. Your decision will be respected and will not result in loss of research credit to which you are

otherwise entitled. Having read the above, click on the “Yes, I consent” option on the next page if you would like to participate in this research. If you have any concerns about your selection or treatment as a research participant, please contact the Office of Research, Kepner Hall, University of Northern Colorado, Greeley, CO 80639, (970) 351-1910.

Please respond to the following consent question:

Would you like to complete the following online survey as detailed in the consent form?

By clicking "Yes, I consent", you are electronically signing your name and will be immediately directed to the survey. If you decide you do not want to participate, you will be directed out of this survey.

Yes, I consent to participate in this study’s online survey.

No, I do not consent to participate in this study’s online survey.

Below is a list of on- and off-campus mental health services that can be sought out by UNC students:
If you are in crisis, please call 911.

On-campus services:

- Counseling Center
Cassidy Hall, Second Floor
Phone: 970-351-2496

- Psychological Services Clinic
McKee Hall, Second Floor, Room 247
Phone: 970-351-1645

- Assault Survivors Advocacy Program
Temporary Office: Wiebking 095
Phone: 970-351-1490

Off-campus services:

- North Range Behavioral Health
1300 N 17th Ave, Greeley, CO 80631
Phone: 970-347-2120

- Mountain Crest Behavioral Health
710 11th Ave, Greeley, CO 80631
Phone: 970-346-9800

APPENDIX E
DEMOGRAPHIC QUESTIONNAIRE

Please find a quiet and private space to complete this survey within one sitting. Research credit will not be granted until the survey is completed.

The following questions will ask you for some demographic information.

It is noted that any self-identifying information (e.g. birthdate) will NOT be included in any of the stored data. Data will be treated as fully confidential.

Q1: What is your **age**?

Please accurately type in your response.

(Open text box)

Q2: What is your **Date of Birth**?

Month

(Drop down from Jan – Dec)

Day

(Drop down from 1 – 31)

Year

(Drop down from 1900 – 2019)

Q3: What is your **Gender Identity**?

- Male
- Female
- Non-Binary / Third Gender / Other
- Prefer not to say

Q4: Choose one or more **rac**es that you consider yourself to be:

- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Other

Q5: What **country** were you born in?

- United States of America
- Other

Q6: Which of the following best describes your **sexual orientation**?

- Heterosexual (straight)
- Homosexual (gay)
- Bisexual
- Other
- Prefer not to say

Q7: What is the **highest level of school/highest degree** that your **mother** has completed?

- Less than high school degree
- High school graduate (high school diploma or equivalent including GED)
- Some college but no degree
- Associate degree in college (2-year)
- Bachelor's degree in college (4-year)
- Master's degree
- Doctoral degree or professional degree (PhD, MD, JD)