2020

Confusing Conversations: Assessing Traumatic Stress in Young Children

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Confusing Conversations: Assessing Traumatic Stress in Young Children

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BA, Montclair State University, 2013
MS, Antioch University New England, 2016

DISSERTATION

Submitted in partial fulfillment for the degree of
Doctor of Psychology in the Department of Clinical Psychology
at Antioch University New England, 2020

Keene, New Hampshire

Department of Clinical Psychology
DISSERTATION COMMITTEE PAGE

The undersigned have examined the dissertation entitled:

CONFUSING CONVERSATIONS:
ASSESSING TRAUMATIC STRESS IN YOUNG CHILDREN

presented on February 20, 2020

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Dedication

This dissertation is dedicated to my Nana and Mom. Nana, you instilled a belief in higher education in me from an early age and continue to watch over me from Heaven. Mom, your continued support throughout this process has been invaluable, and this dissertation would not have been possible without you. I would have been lost long ago without your guidance and belief in my abilities. To all the struggling graduate students and those feeling lost in academia, this dissertation is also for you. Not knowing how to navigate the systems in higher education can be terrifying, which makes reaching the other side that much more satisfying once you are there. Lastly, I want to dedicate this dissertation to children growing up in inner cities with dreams to escape that culture and lifestyle. There is another way, and you can do it. I am proof of that, so this is for you. Dream big!

Acknowledgements

First and foremost, I would like to thank the guardians and children who participated in my research. Additional thanks go to the sites that allowed me to collect data and work with their families. Thank you all for trusting me and allowing me to work with you and your families. I literally would not have been able to complete this dissertation without you.

Gratitude also goes out to all my teachers. Special recognition belongs to Dr. Kathi Borden, Dr. Vince Pignatiello, and Dr. Gina Pasquale for being on my committee and helping me through this progress. Recognition also goes to Dr. Karen Meteyer and Dr. Aryssa B. Batman for helping me navigate and increase my understanding of statistics and SPSS. Thank you for all you have done to educate me and help me reach my potential.

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Abstract

Early detection and interventions are important for the prevention of negative long-term effects of Posttraumatic Stress Disorder (PTSD). Current evaluations of PTSD in young children rely heavily on caregiver reports, and there are few self-report measures for children under 8 years old (Mash & Barkley, 2007). This study examined the construct validity of the Post Traumatic Symptom Inventory for Children (PT-SIC), a self-report measure of PTSD symptomatology for young children, through a comparison of results with the Trauma Symptom Checklist for Young Children (TSCYC), an empirically supported caregiver measure of child PTSD symptomatology. Results of the Spearman correlation indicated that there was a significant positive relationship between child reports of arousal symptoms and caregiver reports, (rs(2) = .518, p < .01). However, limitations of the current study increased the risk of error and decreased the generalizability of the results. Suggestions for future research are discussed.

Keywords: trauma, children, assessment, self-report measures,

caregiver reports, correlations, PTSD

Confusing Conversations: Assessing Traumatic Stress in Young Children

Numerous studies have been conducted on the manifestation and presentation of

Posttraumatic Stress Disorder (PTSD) in children since the illness was first listed in the

Diagnostic and Statistical Manual of Mental Disorders (DSM) in 1980. However, most of these

studies involved adolescents' exposure to trauma and the aftereffects. Even today, few studies

look at the effects of trauma in younger children. However, the latest edition of the Diagnostic

and Statistical Manual of Mental Disorders (DSM5) added separate criteria for a diagnosis of

PTSD in children ages 6 years and younger, and assessment tools are currently being updated to

include these new criteria. Despite this recognition, current evaluations of PTSD in young

children continue to rely heavily on caregiver reports, and there are few self-report measures for

children under 8 years old (Mash & Barkley, 2007). Additionally, measures continue to be

updated to reflect the new DSM criteria for children younger than 7 years old. Eisen (1997)

developed the Post Traumatic Symptom Inventory for Children (PT-SIC), a structured interview

that measures PTSD symptomatology for children 4–8 years old. This paper compared PTSD

symptomatology reported by children using the PT-SIC with symptoms reported by caregivers

using the Trauma Symptom Checklist for Young Children (TSCYC) to explore whether young

children are capable of self-reporting symptoms of PTSD using this self-report measure.

Literature Review

PTSD in Children

Posttraumatic Stress Disorder (PTSD) is a trauma- and stressor-related disorder that is

closely related to anxiety, obsessive-compulsive, and dissociative disorders (American

Psychiatric Association, 2013). A majority of residents in the U.S., both children and adults,

have experienced at least one traumatic event that meets the stressor criterion for PTSD, as

defined in both current and past editions of the DSM (Breslau, Wilcox, Storr, Lucia, & Anthony, 2004; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Stein, Walker, Hazen, & Forde, 1997). An individual's level of psychological distress following a traumatic event varies depending on a number of factors, both environmental and internal. In extreme cases, this distress can result in the development of PTSD following a traumatic event. However, the effects of traumatic events may manifest in symptomatic behaviors even if an individual does not meet the full criteria for a formal diagnosis of the disorder (Gil, 2006).

Individual clinical presentations of PTSD vary in the same way as levels of psychological stress vary, and age is a major predictor of how this disorder will manifest (Scheeringa, Zeanah, & Cohen, 2011). PTSD presents differently in younger children than it does in older children, adolescents, and adults. For example, the symptom of recurring, intrusive memories may be expressed through young children's repetitive play (American Psychiatric Association, 2013). It is important for psychologists to be aware of the different manifestations of symptomatology in young children and have access to accurate assessment measures that specifically address the symptoms of this younger population.

When PTSD was first listed in the DSM in 1980, it was largely based on the experiences of combat veterans and was perceived as a disorder developed in adulthood (Dyregrov & Yule, 2006). This disorder was originally believed not to affect children or adolescents. There was a widely held belief that children were more "flexible" than adults, and children would "spontaneously outgrow [it] or improve themselves" after experiencing a traumatic event (Terr, 1983, p. 1550). Today there is strong acknowledgment that PTSD can, and in some cases does, develop in children following their exposure to a traumatic event, and the disorder may not spontaneously remit (Brown, Becker-Weidman, & Saxe, 2014).

Psychological studies conducted since PTSD was first listed in the DSM have shown how this disorder manifests in children. These studies observed childhood PTSD following a variety of events, such as exposure to violent crimes (Terr, 1979; 1983), natural disasters (Goenjian et al., 1995; Shaw, Applegate, Tanner, & Perez, 1995), man-made disasters (Mghir, Freed, Raskin, & Katon, 1995; Živčić, 1993), and catastrophic accidents (Tyano et al., 1996; Yule et al., 2000). Additionally, whole community studies of children observed PTSD in different communal environments (Breslau, Davis, Andreski, & Peterson, 1991; Giaconia et al., 1995). However, most of these studies involved adolescents' exposure to trauma and the aftereffects. Few studies have looked at the effects of PTSD in children. For example, a recent estimate of PTSD prevalence in children found their prevalence rate is 4%, but the study assessed only adolescents 13 to 18 years old (Merikangas et al., 2010). Prevalence rates of PTSD in younger children have not been studied, and the current prevalence rates of PTSD in children under the age of 13 are unknown (Hamblen & Barnett, 2015).

Negative Consequences of PTSD

Numerous negative effects of PTSD have been found for adults, and research is still needed to assess whether these health complications affect children as well. For example, individuals with PTSD have higher rates of (a) congestive heart failure (Boscarino & Chang, 1999; Kang, Bullman, & Taylor, 2006; Qureshi, Pyne, Magruder, Schulz, & Kunik, 2009); (b) chronic ischemic heart disease (Kang et al., 2006); (c) hypertension (Dedert et al., 2010; Kang et al., 2006); (d) musculoskeletal disorders, such as arthritis (Quershi et al., 2009); (e) digestive disorders (Qureshi et al., 2009); (f) abdominal obesity (Dedert et al., 2010); (g) diurnal cortisol disruption (Suglia, Staudenmayer, Cohen, & Wright, 2010); (h) ulcers (Qureshi et al., 2009), and (i) insulin resistance (Dedert et al., 2010). Although few studies have looked at the

long-term effects of PTSD starting in childhood, negative physiological and psychological

consequences have been associated with exposure to traumatic experiences and PTSD in

childhood.

Physiological. Exposure to traumatic events in childhood changes the chemical

composition of the brain and can negatively affect brain growth and development (Beers & De

Bellis, 2002). Chemical changes in the brain related to PTSD can affect neural growth and cell

death, which can be significantly detrimental in the developmental years of childhood (Heim,

Newport, Mletzko, Miller, & Nemeroff, 2008). These changes to the brain in childhood can

become permanent (De Bellis & Zisk, 2014). Effects to areas of the brain, such as the prefrontal

cortex, can result in lifelong complications with planning, decision making, and impulse control

(Meaney, Brake, & Gratton, 2002). Chemical changes in the brain from traumatic events can also

adversely affect attachment, trust, stress, and anxiety throughout an individual's lifespan (Heim

et al., 2008). There is also an increased risk of premature morbidity linked to adverse life

experiences in childhood, including trauma (Boullier & Blair, 2018). Individuals with traumatic

childhood experiences have higher rates of chronic disease later in life, such as diabetes, heart

disease, or respiratory disease (Gilbert et al., 2015).

Psychological. Other psychological disorders are linked to a PTSD diagnosis, and there

is an increased risk of developing additional mental health problems for both children and adults

diagnosed with PTSD. Anda et al. (2006) noted an increased risk of complications in adulthood

subsequent to adverse childhood experiences due to deficits in emotional functioning, increased

somatic symptoms, substance abuse, memory difficulties, sexual dysfunction, and aggression.

Individuals with PTSD, both children and adults, are 80% more likely to meet the diagnostic

criteria for at least one other mental health disorder with depression, anxiety, substance use, and

bipolar disorder being the most common comorbid disorders (American Psychiatric Association, 2013). Other negative psychological effects include depressive symptoms that do not meet the criteria for a depressive disorder and a diminished quality of life (Muhtz et al., 2011), as well as an increased risk of suicide due to higher rates of suicidal ideation and suicide attempts (American Psychiatric Association, 2013).

Assessment of PTSD in Children

There are a multitude of options and a variety of tools that can be used to assess a child for PTSD, such as clinical interviews, self-report questionnaires, or caregiver reports. Current best practices for assessing childhood disorders recommend clinicians collect as much information as possible from a variety of sources, including the children themselves (Mash & Barkley, 2007). However, there are few structured interviews and no self-report measures for PTSD symptomatology in children under 8 years old. The current lack of diagnostic measures for young children results in clinicians relying heavily on caregiver reports when a diagnosis of PTSD is made, which may complicate assessment and diagnosis since many symptoms are internal and not directly observable by others (Mash & Barkley, 2007).

Symptom recognition by caregivers. Reports of symptoms or illnesses often come from caregivers, but caregivers may not be the most accurate reporters. Previous studies have found poor to moderate agreement between child and caregiver reports of psychosocial problems, such as attention, externalizing problems, and internalizing problems (Mahrer, Mahrer, Nager, Gold, & Gold, 2011). Low congruency among child and caregiver reports combined with a lack of child measures creates complications for accurate assessment and diagnosis of disorders, such as a diagnosis of PTSD (Morris & March, 2004).

According to Mash and Barkley (2007), one possible reason for the lack of agreement between child and caregiver scores is caregivers' minimization of possible traumatic reactions in their children. Caregiver minimization of symptoms in their child may occur for a variety of reasons. For instance, it is possible that the caregiver may not recognize that an event has the potential to create stress in the child or be unaware of the experiences of the child, such as an unreported traumatic event that happened at school (Mash & Barkley, 2007). In addition, many children are also sensitive to caregiver reactions and may refrain from discussing their experiences with a caregiver if they fear that their caregiver will become upset (Dyregov & Yule, 2006). Another factor is the caregiver's own experiences. Caregivers who experience the same traumatic event, such as a natural disaster, may have trouble reporting on the symptomatology of their children due to their own experience of the trauma (Dyregov & Yule, 2006).

According to a recent study, discrepancies between child and caregiver symptomatic reports is particularly high for internalizing symptoms, which may be due to their being harder to observe (Mahrer et al., 2011). Caregivers do not have the ability to observe internalizing symptoms or they may interpret them differently than the child. Many symptoms of PTSD are internal and subjective (American Psychiatric Association, 2013). For example, caregivers may not notice that their child is experiencing a flashback and engaging in play reenactments while playing. The caregiver perspective may be that the child is just playing a game or engaging in dramatic play.

The divergence between child and caregiver symptom reports shows the importance of acquiring multiple viewpoints when working with children (Burks, Brooks, Hill, Peters, & Wood, 2013). By relying solely on caregiver reports and not taking the child's viewpoint into account, clinicians risk making an inaccurate diagnosis of PTSD or missing a PTSD diagnosis

altogether. The creation of self-report measures for children would assist clinicians in gathering data from an additional source and fulfill requirements for best practices in assessment of PTSD.

Cognitive Development of Children

An understanding of cognitive development is important in developing self-report measures for children. Piaget and Vygotsky both developed theories of cognitive development, and Mahler developed a model of separation-individuation that explained a child's sense of self as an individual. Components of these models support the theory that young children can self-report symptomatology.

Piagetian theory of cognitive development. Piaget's theory of cognitive development is a stage theory with four distinct levels: (a) sensorimotor, (b) preoperational, (c) concrete-operations, and (d) formal-operations. Although these stages were assigned age ranges, Piaget acknowledged that other factors, such as heredity, physical experience, social transmission, and equilibrium, affected the rate of a child's cognitive development (Piaget & Inhelder, 2000; Thomas, 2000). As a result, the age designations are intended to be approximations. For the purposes of this study, emphasis was placed on the transition from preoperational thought to concrete-operations.

Preoperational thought is the second stage of cognitive development that occurs from the age of 2 to 7 years (Thomas, 2000). However, children as young as 5 years old have been reported to begin transitioning from preoperational to concrete operational thinking (Wood & Crain, 2007). Until the age of 4 or 5 years old, children primarily use trial and error for problem solving and base their reasoning abilities on what they see or hear instead of what they remember (Thomas, 2000). This is seen in the child's development of object permanence, which is the understanding that objects continue to exist despite our inability to see the object. Object

permanence uses sensory activation and executive functioning to draw conclusions. As such, object permanence is more process-oriented reasoning rather than memory-based (Cowan, 2008). Around the age of 5 children begin to transition from perceptual thought to more logical and decentered thinking patterns. This allows children to have a better understanding of how multiple factors influence an event.

Concrete-Operations is the next stage of Piaget's theory where children develop reasoning abilities in relation to objects. This stage occurs from the approximate ages of 7 to 11. Children at this level of development reason and solve problems through identifiable objects that are either imagined or perceived. Mastery of mental operations is further developed in this stage as children's knowledge of objects in the world and understanding of change increases. Children expand their knowledge of conservation and reversibility, decenter their attention, recognize multiple aspects of an event, and increase language and socialization to develop "a more objective view" of the world (Thomas, 2000, p. 265). This also allows for greater understanding of other people's points of view and causation (Thomas, 2000). Concrete-operations is the stage for which most self-report forms are developed, as children are more likely to understand and respond to questions than at earlier stages. The Piagetian theory of cognitive development supports the idea that children are capable of understanding questions posed to them by interviewers, and Vygotsky's theory supports the idea that children have the capacity to answer these questions.

Vygotsky's theory of cognitive development. Vygotsky (1997) focused on the context of human behavior within the framework of interactions within a person's environment. Vygotsky's theory of cognitive development provides insight into the connections between thoughts and language, as well as information on how children gain understanding in a social

context. An understanding of both of these concepts is needed for the construction of questions in children's self-reports. Vygotsky noted four stages of speech development: (a) primitive, (b) naive, (c) egocentric, and (d) ingrowth. Children go through all four stages by the time they are 7 or 8 years old.

The egocentric speech stage occurs around the ages of 3 to 4 years old. Children in this stage have already gained some experience with the use of language and have some understanding of how language relates to objects. Although children use speech to communicate with others at this stage, children's talk at this stage is often directed at themselves rather than in conversations with others. According to Vygotsky, children at this stage of development "think to speak" and influence their thinking by using their speech simultaneously (Thomas, 2000, p. 300). Another way of looking at this is that children in this stage often think out loud to themselves without a filter to separate internal thoughts and verbal speech. Around the age of 7, children move into the ingrowth stage where they develop the capability for internal speech and begin to develop a filter that uses both inner and outer speech to reflect their thoughts (Thomas, 2000).

Vygotsky also conceptualized the Zone of Proximal Development (ZPD). The ZPD is defined as the difference between what a child can accomplish alone and what the child can accomplish with the collaboration of others (Daniels, Cole, & Wertsch, 2007). This concept is widely held in academic settings and applied in education. If the ZPD is taken into account when questioning children, interviewers will be able to frame questions in a way that allows young children to answer.

Mahler's model of separation-individuation. Separation relates to a child's sense of self as a distin ct individual in their environment. Although Margaret Mahler's theory regarding

the process of separation and individuation focused on the first three years of a child's life, Mahler noted individuation can be viewed as a lifelong process that is affected by life events (Birnbaum, 2005). Mahler's model is composed of six developmental stages: (a) Normal Autistic Stage, (b) Normal Symbiotic Stage, (c) Early Differentiation, (d) Practicing, (e) Rapprochement, and (f) Identity Formation and Object Constancy.

The Normal Autistic Stage occurs from birth until the child's first month. The infant in this stage is primarily focused on internal phenomena rather than the outside world. During this stage, the infant does not distinguish between their inner world and the outer world of their environment (Mahler, 1967). As infants age, their attention "gradually expands" due to their interactions with the world when they are awake (Mahler, Pine, & Bergman, 1975). An infant then moves to the Normal Symbiotic Stage from the ages of 1 month to 5 months where infants increase their awareness of their environment outside of their inner world (Mahler & Furer, 1963). At this stage infants begin to put effort into bonding with their caregivers and develop their first interpersonal relationships. However, infants make little differentiation between the self and others at this stage. In the Early Differentiation, which occurs from the age of 6 months to 8 months, infants are more alert and begin the differentiation process. At this stage the infant actively investigates their caregivers through sensory input, both visual and tactile (Mahler et al., 1975). This is noted to be the beginning of the infant's understanding that their body is separate from that of their caregivers.' During Practicing, from 8–16 months, the infant's awareness of separateness from their caregiver increases. This is seen through behaviors and games where infants physically explore their environment away from their caregiver but frequently return to the caregiver for security and support (Mahler, 1972).

As the child continues to grow, they move into Rapprochement; from age 16–25 months, the child develops an even greater understanding of the caregiver as a "separate entity" from themselves than what was developed in prior stages (Birnbaum, 2005, p. 988). The child's autonomy increases despite continued dependence on their caregivers, and internal boundaries between the child's experiences and the caregivers' experiences begin to develop. This is the stage when the child begins to engage with their caregiver as a separate person rather than an extension of themselves. The child's awareness of separation may cause anxiety that presents as increased dependence on the caregiver once again in an effort to maintain the connection. The final stage of Identity Formation and Object Constancy occurs from 25–36 months. When a child reaches this stage, they develop an understanding of themselves as a separate being from others in their environment, including their caregiver. At this stage the child has developed their individual identity and stable representations of themselves and others (Mahler et al., 1975). Mahler's model of separation–individuation supports the idea that young children have an understanding of themselves as separate beings and are capable of self-reporting their symptoms.

Feasibility of Young Children's Self-Reports

Researchers have questioned young children's ability to identify and effectively report their cognitions and physiological-somatic sensations about the past (Morris & March, 2004). Children often experience difficulties with their ability to verbalize internal thoughts or thinking processes (Larkin, 2010). However, child development and memory research support the idea that young children are able to accurately self-report as long as questions are asked in a developmentally appropriate way (Bray, Huffman, & Fletcher, 1999; Ghetti & Lee, 2011; Ornstein & Haden, 2001). This section explores the feasibility of child self-reports by exploring lexical phrasing of questions and child testimony in courts.

Lexical phrasing. According to Wood and Crain (2007), young children are considered to be prelogical and start to develop more complex cognitive patterns at approximately 5 years old. While 5-year-old children are not yet capable of thinking about the world in the same way that adults do, these children do possess the ability to comprehend complex concepts as long as they are explained in a literal way. This means that word usage is concrete and straightforward, and questions are asked using simple, literal terminology. For example, a young child is more likely to understand and respond accurately to the question, "Does your head hurt?" rather than "Do you have a migraine?" Children are capable of self-reporting. The issue is whether or not they are being asked the right questions.

Additionally, questions should be less open-ended when working with young children. For example, when asking young children about their dreams, the child should be asked, "Do you have bad dreams?" rather than, "What are your dreams like?" Repetition of questions also needs to be carefully considered when working with this population as well because younger children are more susceptible to suggestion and may change their answers to what they believe the interviewer wants to hear (Odegard & Toglia, 2013).

Young children's testimony in court. There is growing confidence in and increased usage of young children's testimony in court (Klemfuss & Ceci, 2013). If one believes that young children have the capability to testify in court, then it stands that one would also support the belief that young children are capable of self-reporting, as both require accurate communication of experiences and memory. Young children are capable of accurately remembering and reporting events from their past, but they give fewer details than older children (Odegard & Toglia, 2013). A study of children between the ages of 3 and 7 found that children as young as 3 years old remembered and reported approximately 80% of the events of a scripted

medical examination (Baker-Ward, Gordon, Ornstein, Larus, & Clubb, 1993). Baker-Ward et al., also reported that younger children required more cues to remember past events and responded less to open-ended questions than older children.

Studies similar to the one by Baker-Ward et al. (1993), as well as new knowledge of childhood development, have found best practices for questioning young children that help with memory retrieval and reporting accuracy. A key factor to assessment with children is that the measure used needs to be both culturally and developmentally sensitive, taking into account the child's level of emotional understanding and self-awareness (Morris & March, 2004). According to Morris and March, earlier instruments used to assess children were adapted from adult measures and were not ideal for measuring presentations of disorders in children.

Development of the PT-SIC

The Post Traumatic Symptom Inventory for Children (PT-SIC) is a measure that was developed as a screening tool for PTSD in young children and assesses symptoms that are found in children who have experienced trauma (Holliday, 2012a). The PT-SIC was created based on the diagnostic criteria for PTSD as found in the DSM IV and has not yet been updated to fit the DSM 5 criteria.

There has been limited psychometric evaluation of the PT-SIC, which can deter its use in the field. Today, there is an increasing focus on using evidence-based practices and empirically supported assessments, and this creates a need for assessments to become more developed and refined (Morris & March, 2004). Psychometrics for the PT-SIC were collected using two samples. The first was a sample of 70 children, but no demographic data, including age, were collected (Holliday, 2012a). The second sample consisted of 220 children ages 4 to 17, but the measure is for use with children between the ages of 4 and 8 (Holliday, 2012a). It is unclear how

many young children were sampled, and more data are needed for psychometric evaluation with this younger group. There is also no evidence for its use with culturally diverse populations or translations into other languages (Crandal & Conradi, 2013). Important demographic information, such as ethnicity, socioeconomic status, region, location, education level, or age, was not collected for the two samples that were tested with the PT-SIC (Holliday, 2012a).

Statement of Purpose

There is a clear knowledge gap in regard to children's capabilities for self-reporting PTSD symptomatology. Although research supports the theory that children are capable of self-reporting symptoms, there is still uncertainty regarding the accuracy of their statements. This uncertainty hinders the development of self-reporting tools for children. As a result, clinicians may have difficulties or be unable to gather information from child clients. This study's research begins to address this gap by comparing reports of young children to that of their caregivers. Specifically, this study assessed the extent to which young children's self-report of PTSD symptomatology on the PT-SIC agreed with their caregivers' reports.

This study was based on a correlational model and compares results of the PT-SIC interview to the TSCYC, which is a caregiver measure traditionally used to assess PTSD symptomatology in young children. Although there is typically low congruence between child and caregiver reports, a previous study of posttraumatic symptomatology in children found a moderate to high correlation between child and caregiver reports (Clawson, Jurbergs, Lindwall, & Phipps, 2013). In this current study, a similar correlational design was used to look at the relationship between symptoms self-reported by children and child symptoms reported by a child's caregiver. Reports of PTSD symptomatology made by children using the PT-SIC were compared to symptoms reported by caregivers using the Trauma Symptom Checklist for Young

Children (TSCYC) to evaluate whether levels of PTSD as assessed by child (PT-SIC) and adult (TSCYC) measures are correlated sufficiently to indicate concurrent validity of these measures and support theories regarding the ability of children to self-report PTSD symptoms. In order to increase the sample size of the current study, both the English and Spanish version of the TSCYC were used with caregivers. However, the PT-SIC has not been translated into Spanish and was only provided to children in English.

Research Questions and Hypotheses

The research question addressed by this study was: *What is the relationship between caregiver observations of posttraumatic stress symptomatology recorded by the TSCYC, and child self-reports measured by the PT-SIC in children between the ages of 5 and 8 years old?* There were three hypotheses regarding these relationships. The first was a positive, moderate correlation would occur on the avoidance and arousal scales. The second was that there would be no correlation for the intrusion scale due to the internal nature of the symptoms and lack of observability. The third hypothesis was there would be a positive, moderate correlation between child and caregiver reports of overall posttraumatic symptomatology. This study was designed to contribute to our knowledge of children's ability to self-report symptoms related to mental health.

Method

Measures

Post Traumatic Symptom Inventory for Children (PT-SIC). The Post Traumatic Symptom Inventory for Children (PT-SIC) is a 30-question interview for children between the ages of 4 and 8 that uses simple language and validity questions to ensure that children understand how to respond to the interviewer. This measure was developed as a screening tool

for PTSD in young children and assesses symptoms that are associated with children who have experienced trauma (Holliday, 2012a). Children are asked about various symptoms of PTSD, and their responses are scored as 0 (no endorsement), 1 (experienced occasionally), or 2 (experienced almost every day). There is no score computed for total posttraumatic stress within this measure. However, given the numerical value obtained for each item, a total score can be calculated by summing the values of each response.

Previous tests of construct validity for the PT-SIC included testing against the Trauma Symptom Checklist for Children (r=.66), the Child Dissociate Checklist (r=.38), and the Children's Perceptual Alteration Scale (r=.38). Additionally, factor analysis was conducted on the PT-SIC and two main factors were found: (a) Re-Experiencing (alpha=.74), and (b) Fear and Hyperarousal (alpha=.70; Holliday, 2012a).

Trauma Symptom Checklist for Young Children (TSCYC). The TSCYC is a widely used caregiver-report measure that assesses posttraumatic symptoms in children between the ages of 3 and 12 years. It is a 90-item questionnaire with two reporter validity scales and eight clinical scales that evaluate posttraumatic stress symptoms and give a tentative PTSD diagnosis (Briere, 2005). The TSCYC also has a Spanish version available, but the psychometrics for the translated version are still being evaluated. As such, the Spanish version of the TSCYC continues to utilize the norms from the English version at this time. Both the English and Spanish version of the TSCYC were used in this study.

The internal consistency of the English TSCYC was found to be acceptable with an alpha range of .81 to .93. Additionally, convergent and concurrent validity were tested against the Child Behavior Checklist (CBCL), The Child Depression Inventory (CDI), The Child Dissociative Checklist (CDC), The Child Sexual Behavior Inventory (CSBI), and the Trauma

Symptom Checklist (TSCC) with both nonabused and abused children (Holliday, 2012b). Given the consistency and validity of the TSCYC, this caregiver measure was chosen for this current study since there were no validated self-report measures for children in this age group.

Participants

This study was based on volunteer participation and constituted a convenience sample of children and caregivers. No prescreening for traumatic experiences was completed prior to participation as children with all levels of traumatic stress were included. Participants of this study were children between the ages of 4 and 8 years and their caregivers (n = 37 pairs). The average age of the children participants was 6.3 years old with 54.1% identified as males and 45.9% identified as females by their caregivers. A majority of the children were White/Caucasian (70.3%). Other races identified were Hispanic/Spanish (10.8%) and Native American (2.1%). Some caregivers (16.2%) chose not to disclose their child's race.

All 37 caregivers who completed the TSCYC were biological parents of the child participant. Identified genders of the caregivers were female (51.4%) and male (48.6%). Age of the caregivers was not identified on the TSCYC or in this current study. Caregivers completed either the English version of the TSCYC or the Spanish version. Almost all caregivers chose to complete the TSCYC in English (97.3%). One caregiver chose to complete the TSCYC in Spanish.

Procedure

Flyers were posted in schools and mental health clinics with permission from administrators. Additionally, letters and consent forms were provided to students in preschool, kindergarten, first, second, and third grades to take home to their caregivers. Caregivers were asked to return the forms to their child's teacher or contact me by phone or email. I collected

consent forms from teachers weekly. One follow-up letter and consent form were provided to students after two weeks. Only the children of caregivers who contacted me were selected to participate in the study. Compensation was provided to child participants in the form of a small toy. Caregivers were provided the option to be entered in a raffle to win a $50 Visa gift card.

Upon receiving signed consent forms, the TSCYC and a return envelope was given to the child to take home to their caregivers. Lockboxes were placed in classrooms and clinics for returned assessments until weekly pickup by me. Once the completed TSCYC was returned by the child's caregiver, appointments for the administration of the PT-SIC were created with school staff and administration. I administered the PT-SIC to the child during the school day at the designated time slot. Before the PT-SIC was administered, I spent a few minutes explaining the process of the interview and gaining assent from the child to complete the PT-SIC. The entire interview process with the child took approximately 20 minutes.

Upon completion of the interview, I checked-in with the child to see how the child was feeling and asked if there was anything else they would like to talk about. Children were then escorted back to class or back to their caregivers. References to local mental health clinics were provided to the child and their caregiver during the debriefing process. If a child's score for posttraumatic stress symptomatology (PTSS) was elevated, their caregiver was notified and referrals to the school counselor were provided.

Results

Clinical Scales

To see how PTSD symptoms reported by caregivers related to symptoms reported by children, this study used the following clinical scales generated by the TSCYC: (a) Intrusion, (b) Avoidance, (c) Arousal, and (d) Total Posttraumatic Stress. These scales are also categories

of criteria for PTSD in the DSM. Although the PT-SIC did not produce clinical scales, the PT-SIC identified the specific DSM criterion assessed by each individual question. Therefore, scales were developed for the PT-SIC by matching each question's DSM criterion to the TSCYC categories: (a) Intrusion (PT-SIC questions 1-6, and 8); (b) Avoidance (PT-SIC questions 7, and 9-19); (c) Arousal (PT-SIC questions 20-30); and (d) Total Posttraumatic Stress (PT-SIC questions 1-30).

Descriptive Statistics

In order to further understand different features of the data set acquired in this study, measures of central tendency and measures of variability were calculated. The mean, median, and mode were used to assess the central tendency of the data. Measures of variability, such as the standard deviation, variance, skewness, and kurtosis, were also calculated to analyze the spread of the distribution the set of data (see Table 1).

Monotonic Functions

Correlational methods were utilized to assess the relationship between caregiver reports of the child's PTSD symptoms and the child's report of their own symptoms. The Pearson product-moment correlation coefficient could not be used in this study due to the data set being collected from Likert scales, which classified the data as being measured on an ordinal scale. Instead of treating the ordinal data as continuous in order to run a Pearson correlation, the Spearman rank-order correlation coefficient was used to calculate correlations in this study. Before a Spearman correlation was calculated, the data set was assessed for monotonic function. In a monotonic relationship, there is no change of direction. There is no curve, and the data should not switch from increasing to decreasing or vice versa. A scatterplot was used to graphically represent the correlation coefficient of the data and assess whether the data set met

the monotonic function assumption for Spearman's correlation (see Figure C1–4). Visual analysis of the scatterplots showed the possibility of a monotonic relationship.

Correlations

Results of the Spearman correlation indicated that there was a significant positive relationship between child reports of arousal symptoms and caregiver reports, ($rs(2) = .463$, $p <$ .01). This finding supports the hypothesis of a positive correlation between child and caregiver reports of arousal symptoms, and indicated parents may directly observe symptoms of arousal within their children. In contrast, no significant correlation was found between child and caregiver report of intrusion symptoms, ($r(2) = -0.036$), which also supported the hypothesis that no relationship would be found due to the internal nature of intrusion symptoms. The hypothesis of a positive correlation for the avoidance and overall posttraumatic symptoms scales was not supported by the results of this study (see Table 2).

Discussion

Summary of Results

The important findings from these results were that children were capable of providing answers related to their mental health and symptoms of PTSD, and in the case of symptoms of arousal, children's reports were similar to those of their caregivers' reports. Although no significant correlation was found for symptoms of intrusion, avoidance, and overall posttraumatic stress, the cause for a lack of relationship was not revealed in this current study. No correlation suggests there was no association of responses between caregiver and child responses. This is not synonymous with children being inaccurate reporters or that caregivers are unable to accurately report symptoms of their children. Results suggested child and caregiver

reports of symptoms were different, but the actual accuracy of these reports was not measured in this current study.

       Comparison with prior research. Although variations among correlations were found in this current study, results were consistent with variations found in previous research on child reports of mental health and PTSD. Previous studies suggested correlations between child and caregiver reports vary from fair to moderate depending on the population and what is being assessed. In a study on mental health diagnoses, results showed low-to-moderate correlations between children, parents and teachers (Kolko & Kazdin, 1993). However, another study by Jensen et al. (1999) did not show agreements between parent and child reports. At least some variations from the studies appear to be due to the specific sample and variables measured. For example, the Kolko and Kazdin study found higher correlations between parent and child reports in families with lower stress and higher acceptance. The impact of these sample factors on the current study is not clear since family stress and child acceptance were not controlled, but they may account for some of the observed variability in the results.

       Additionally, a study of posttraumatic stress symptomatology (PTSS) found a moderate to high correlation between child-reported PTSS and the parent proxy report for traumatized families of children diagnosed with cancer, but there was no significant correlation found for the control group of healthy children (Clawson et al., 2013). Unlike the Clawson study, this current study did not control for exposure to traumatic events in order to produce a broader sample. Even so, the sample from this current study did have clinical elevations for symptoms on the TSCYC. Results showed 21.62% of the children were clinically elevated for intrusion, 13.51% were clinically elevated for avoidance, 16.22% were clinically elevated for arousal, and 21.62% of children had clinical elevations for total posttraumatic stress symptoms.

Behavioral Observations

Given the emphasis of this study on addressing whether or not young children are capable of self-reporting symptoms, I am providing a brief synopsis of their interactions with child participants. Almost all of the children were initially shy when their teacher introduced them to me. I was able to introduce myself and build rapport quickly through an introductory activity. The activity allowed the children the choice of reading the letter of assent or having me read the letter to them. A couple of children chose to read the letter themselves, and most requested I read the letter to them. At the end of each paragraph, I paused and asked the children if they had any questions. Before starting my assessment, the children were allowed to ask me questions. Many children did not have any questions. A few children had many questions about different topics, such as my age, school, and personal life. None of the children had questions about the assessment. By answering their questions, I was able to build rapport and develop a sense of trust and safety within the quick interview setting.

During the assessment, children were allowed to fidget in their chair or talk about tangents. For example, one child, when asked about playing violent games, stated they did not and talked about their sibling playing different video games. The children did not appear to make up answers and asked I to repeat a question if they became distracted by something outside of the room or the school bell. For the questions on dissociation, the children often became confused and stated, "I don't know," which is not uncommon given the difficulties using language to explain this concept. However, this was an important observation as the children were able to acknowledge their inability to answer the question, and they did not provide me with a random answer to the question. This observation was consistent with my implications from theories of child development and argument that young children could self-report if measures were

developed that utilized age-appropriate language.

Implications

Variations found in the results show a need for continued research into self-report measures for young children given that partial agreement was found between child and caregiver reports. Continued focus on instrument development, particularly for assessment of mental health symptoms, can increase understanding of young children's capabilities for symptom acknowledgement and reporting. Believing that children are capable of self-reporting and being able to effectively communicate with young children are important for professionals in multiple fields, such as education, social services, and medicine. As such, findings from this current study are relevant for professionals working with young children, including but not limited to teachers, social workers, child protective workers, physicians, and nurses. Given the purpose of this study, specific emphasis had been placed on clinical implications in the field of psychology.

Findings from this study can have clinical implications for clinicians working with young children, specifically how clinicians assess childhood PTSD. Although the findings of this study focused solely on PTSD, continued research might assess child reports of other mental health symptomatology. Being able to obtain information from multiple sources allows clinicians be more informed about their clients' specific presentations. By considering child reports, clinicians can also develop a more complete understanding about the child's experience of their symptoms, which can increase rapport building and effective communication and intervention with child clients. Additionally, clinicians may be able to identify what behaviors or symptoms caregivers are able to observe directly and which are private events known only to the child. Clinicians can then consider how to combine child and caregiver reports based on what the caregiver might or might not see as well as on what the child is able to verbalize. This can also allow clinicians to

use judgment in understanding similarities and differences and integrating child with caregiver reports.

Even though accuracy of reporting was not fully assessed in this study, results indicated young children were able to provide information that was sometimes similar to, and at other times differed from, caregiver reports. Given the internal nature of many mental health symptoms, young children have access to information that their caregivers may not necessarily have. As such, until we know more about the accuracy of young children's self-reports, professionals need to look at reports from both the child and the adults in their lives. If data are not collected from both parties during an assessment, important information and a full picture of the child's presentation may be missed.

Limitations

The use of a convenience sample resulted in a concentrated sample. Participants of this study may not accurately reflect the general population, and the sample may not be truly random given the limited responses from and access to diverse populations. This decreases the ability to generalize findings and increases the possibility of bias and sampling error, particularly given the small sample size. According to Cohen (1992), detecting a medium-sized relationship at $\alpha = 0.05$ would have required a sample of 85 participants. The current study was limited to a sample size of 37 due to the difficulty accessing more child-caregiver dyads. Without a larger sample size, power of the study to detect significant relationships was limited, and the results may be due to chance. Although the level of error was set at $\alpha = 0.05$, running multiple analyses for each scale also elevated the chances of error. As such, there was increased risk of both Type 1 and Type 2 errors within this study.

Analysis also showed at least one outlier in the data sets. Although the outlier was often the same participant, there were one or two other participants who presented as outliers depending on the scale measures. Data were not modified due to the limited number of participants in this study. Despite the possibility of the statistical analysis being affected by the presence of an outlier, the outlier data were treated as legitimate observations in the research. As such, a Spearman correlation was calculated from the scores of the TSCYC scales and the PT-SIC scales using responses from all participants to determine the strength of the relationships between the child and caregiver variables.

Future Directions

Additional research is needed to further analyze the possible relationships between child and caregiver reports of trauma symptoms based on the limitations of this current study. A larger sample size including more diverse participants is needed to increase statistical power and identify whether the correlations were related to a true phenomenon or a fluke. The collection of additional demographic data from participants, such as the age of the caregivers or children's special education status, may be helpful in identifying outliers or patterns related to specific groups in future studies. Utilizing a different sampling approach and controlling for exposure to traumatic events may also increase the strength of future studies and allow for study of the accuracy of symptom reporting. Participants in this current study were recruited mostly from rural areas. Recruitment of both urban and rural areas would result in a more diverse sample. Additional focus on the differences between reports from urban and rural areas can also increase knowledge of this issue.

The PT-SIC has not been revised since the updated publication of the DSM 5 in 2013. The new diagnostic criteria for PTSD have been separated into two categories in this latest

edition. The first category is for adults, adolescents, and children over the age of 6. The second is for children younger than 6 years old. Many symptoms of PTSD are applicable to both categories, but some symptoms present differently or not at all based on age. As a result, there is a need for the PT-SIC to be re-evaluated using the new diagnostic criteria for young children. A reorganization of this scale will be needed to take into account the separate diagnostic criteria for each age group. Another important aspect is the need to develop normative data sets for the PT-SIC. Obtaining scores on the PT-SIC and comparing them to scores of caregiver reports with clinical cut-offs can be further analyzed in future studies.

Conclusion

There are a limited number of tools available for assessing PTSD symptomatology in children under 8 years old. The current lack of diagnostic measures for young children results in clinicians relying heavily on caregiver reports when a diagnosis of PTSD is made, which decreases a clinician's ability to follow best practices of assessment and subsequent treatment. By further exploring and improving self-report measures for young children, such as the PT-SIC, the psychological community will be able to identify needs sooner and provide better services and early interventions to improve the lives of children and minimize adverse effects later in life. This is not only an issue for the field of psychology, but also one for society and humanity as a whole. Nelson Mandela (1995) once said, "There can be no keener revelation of a society's soul than the way in which it treats its children." Finding ways to screen for symptoms of PTSD is the first step in providing the treatment our children deserve.

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Table 1

Descriptive Statistics of Posttraumatic Stress

	Intrusion (Child)	Intrusion (Caregiver)	Avoidance (Child)	Avoidance (Caregiver)	Arousal (Child)	Arousal (Caregiver)	Total (Child)	Total (Caregiver)
Mean	3.78	11.38	7.65	10.70	7.62	14.41	18.24	36.49
Median	3.00	10.00	7.00	10.00	7.00	13.00	17.00	33.00
Mode	3	9	9	9	7, 8, 9	12	16	28
SD	2.540	3.570	3.910	2.559	4.297	4.839	9.708	9.427
Variance	6.452	12.742	15.290	6.548	18.464	23.414	94.245	88.868
Skewness	1.536	2.364	.636	2.012	.284	1.196	.566	1.803
Kurtosis	3.553	5.934	.441	4.148	-.445	.745	.452	3.876

Table 2

Correlations Between Child and Caregiver Reports of Posttraumatic Stress

		Caregiver (TSCYC)			
		Intrusion	Avoidance	Arousal	Total
Child (PT-SIC)	Intrusion	-0.036	–	–	–
	Avoidance	–	0.157	–	–
	Arousal	–	–	0.463*	–
	Total	–	–	–	0.25

*p < .01

Appendix A: Consent Form for Caregivers

Study Title: PT-SIC Study
Principal Investigator: Jennifer Moniz

I am a graduate student at Antioch University New England, working with my faculty advisor, Dr. Kathi Borden, in the Department of Clinical Psychology. I am writing to ask you to take part in a research study. This form has important information about the reason for doing this study, what we will ask you and your child to do if you choose to be in this study, and the way we would like to use the information you provide if you choose to be in the study.

Why are you doing this study?
You are being asked to take part in a research study about children's responses to stress. All parents who have a child who is between the ages of 4 and 8 years old who attends (SCHOOL/CLINIC) are being invited to participate because it is important that I get responses from a wide range of parents. Some of the children may have experienced very little stress, while others may have experienced a great amount of stress, but I need responses about all levels of stress. The purpose of the study is to gain understanding about symptoms of traumatic stress in children and how children talk about those symptoms.

What will I do if I choose to be in this study?
You will be asked to complete a 90-item questionnaire about your child's behavior in the past month that will ask you to rate each item on a four-point scale. Your participation will take approximately 15-20 minutes. Parent forms may be completed at [SCHOOL/CLINIC] or taken home and returned to the child's [TEACHER/CLINICIAN] at [SCHOOL/CLINIC] in a sealed envelope upon completion.

What will my child be asked to do if my child is in this study?
Your child will be asked to participate in a structured interview with the researcher in a one-to-one setting at [SCHOOL/CLINIC]. Questions include topics such as the child's feelings, play habits, and dreams. The interview will take approximately 20-30 minutes and will take place at [SCHOOL/CLINIC]

What are the possible risks or discomforts?
Your participation in this study may involve the following risks:
   • You may be uncomfortable with some of the questions and topics on the form. If you are uncomfortable, you are free to not answer or to skip to the next question. You can also stop participating if you wish. Simply do not complete or return the materials.
   • You may feel emotional or upset when answering some of the questions. Tell the researcher at any time if you wish to take a break or stop filling out the questionnaire. Should the questionnaire be filled out at home, stop filling out the form and contact the researcher.
   • We will not ask about child abuse or neglect, but if your child tells us about child abuse or neglect we are required to report that information to child protective services.

What are the possible risks or discomforts to my child?
Your child's participation in this study may involve the following risks:
- Your child may be uncomfortable with some of the questions and topics we will ask about. If your child is uncomfortable, they are free to not answer or skip to the next question. They can also stop participating at any time.
- Your child may feel emotional or upset when answering some of the questions. Your child can tell the researcher at any time if they wish to take a break or stop the interview.
- Your child may become upset after the interview has taken place. Should you notice that your child is behaving differently or seems upset, please ask the [SCHOOL]/ [CLINICIAN] for a referral to a counselor or school psychologist.

What are the possible benefits for me or others?
You are not likely to have any direct benefit from being in this research study. This study is designed to learn more about young children's ability to express the presence of symptoms of traumatic stress. The possible benefits to you from this study include increased knowledge and awareness of symptoms of traumatic stress in children.

Caregivers who take part in the study at [CLINIC] have the option of sharing the results of their questionnaire with their child's clinician to inform current treatment. This information may be useful to the child's clinician and help inform the child's therapy.

_____   I give consent to have a copy of the TSCYC report shared with my child's
(initial)   clinician.

_____   I do **_not_** give consent to have a copy of the TSCYC report shared with my child's
(initial)   clinician.

What are the possible benefits for my child or others?
Your child is not likely to have any direct benefit from being in this research study. The study results may be used to help other people in the future. This study is designed to learn more about symptoms of traumatic stress in children and children's ability to communicate those symptoms. Although taking part in this research study may not benefit your child personally, we may learn new things that will help others. For children who take part in the study at [CLINIC], it may benefit the child if their clinician knows the results of the caregiver questionnaire.

Financial Information
You will not be paid for participating in this study. However, those who participate in the study will be entered into a raffle for a $50 pre-paid Visa card. Children who participate in the interview will receive a small toy.

How will you protect the information you collect about me, and how will that information be shared?
Your study data will be handled confidentially. Upon receipt of the signed consent forms, the researcher will code the form with an individual number. Only the researcher will know which number represents which child or parent. The numbers on the consent forms will then be used instead of participant names on data and questionnaires to minimize the risks to confidentiality.

Consent forms will be kept in a locked filing cabinet that only the researcher has access to. Additionally, consent forms collected on site will be stored in a locked box inside of a locked office room with limited access. Only the researcher, Jen Moniz, will have keys to the lock boxes. The researcher will collect forms from the sites at least once a week. Electronic data files will not include names and will be encrypted and secured using a passcode. You are asked to seal the forms in the enclosed envelope if you return the forms to your child's school or clinic, where I will pick them up. Questionnaires will be destroyed at the end of this research study. Interviews with the children will not be recorded.

If results of this study are published or presented, individual names and other personally identifiable information will not be used. Only group data will be presented and identifying information will be disguised if any quotes are used.

Again, we will not ask about experiences of child abuse or neglect, but if your child tells us about child abuse or neglect we are required to report that information to child protective services.

What are my rights as a research participant?
Participation in this study is voluntary. If at any time and for any reason, you would prefer not to participate in this study, please feel free not to. You do not have to sign the consent form. If at any time prior to the data being combined and analyzed you would like to stop participating, please tell the researcher, even if the consent form was signed. You can take a break, stop and continue at a later date, or stop altogether. If you choose to withdraw from this study, you will not be penalized in any way. Any information collected from you will not be used if you withdraw before finishing the study.

What are my child's rights as a research participant?
Participation in this study is voluntary. Your child may withdraw from this study at any time. You and your child will not be penalized in any way or lose any sort of benefits for deciding to stop participation and you will still be entered into the raffle. If you and your child decide not to be in this study, this will not affect the relationship you and your child have with (SCHOOL/CLINIC) in any way. Your child's grades will not be affected if you choose not to let your child be in this study.

If your child decides to withdraw from this study, the information already collected will not be used, and will be destroyed promptly.

Who can I contact if I have questions or concerns about this research study?
If you have questions, you are free to ask them now. If you have questions later, you may contact the researcher:

Department of Clinical Psychology
Attn: Jennifer Moniz
Antioch University New England
40 Avon St.
Keene, NH 03431

Phone: (XXX) XXX-XXXX *(will purchase prepaid phone for the study)*
Email: xxxxxx@xxxxx.xxx

If you have any questions about your rights as a participant in this research, you can contact Kevin Lyness, the Institutional Review Board Chairperson, at Antioch University New England:

Attn: Kevin Lyness
Antioch University New England
40 Avon St.
Keene, NH 03431
Phone: (XXX) XXX-XXXX
Email: xxxxxx@xxxxx.xxx

You may also contact Melinda Treadwell, Provost of Antioch University New England:

Attn: Melinda Treadwell
Antioch University New England
40 Avon St.
Keene, NH 03431
Phone: (XXX) XXX-XXXX
Email: xxxxxx@xxxxx.xxx

Consent
I have read this form and the research study has been explained to me. I have been given the opportunity to ask questions and my questions have been answered. If I have additional questions, I have been told whom to contact. I agree to participate and give permission for my child to participate in the research study described above and will receive a copy of this consent form after I sign it.

_____ _____
Participant/Parent/Legal Guardian's Name (printed)   Date

_____ _____
Participant/Parent/Legal Guardian's Signature   Date

_____
Child's Name (printed)

_____
Child's Classroom Teacher/Clinician (if applicable)

Caregivers, please be aware that under the Protection of Pupils Rights Act (20 U.S.C. Section 1232(c)(1)(A)), you have the right to review a copy of the questions asked of or materials that will be used with students. If you would like to do so, you should contact Jennifer Moniz to obtain a copy of the questions or materials.

Appendix B: Assent Agreement for Child Participants

I go to school at Antioch University New England. I am doing a project to learn about how kids think and feel. I am going to ask you some questions. You can say "skip" to skip any question that makes you feel uncomfortable. We can stop talking whenever you want to.

Only I will see your answers. Nobody else. When people read about the work we did together, your name will not be on it. I keep all of our work together very safe so no one else sees it. There is only one time this won't be true. If you tell me that someone is hurting you, or that you want to hurt yourself or someone else, then I need to tell another adult, but I will tell you before I say anything to anyone else.

Our talk will help grownups know more about kids. Some of the things we talk about could be scary or make you upset. If our talk doesn't feel good tell me, and we can stop talking whenever you want to. You do not have to answer my questions. It is always up to you. You can say no now or you can even change your mind later. Its ok if you decide not to talk to me, it's your choice. This is not for a grade. There are no right or wrong answers, your answers are your answers. If you want to stop before we are finished, I will throw out any answers you already gave me. Also, remember you can skip a question if you just tell me or say "skip." At the end you will be able to pick a small toy from the prize box if you choose to answer the questions. Even if you answer some questions and choose to stop, you can still take a toy from the box.

Do you have any questions? You can ask them now or anytime while we are talking. If you have questions later, you can ask your parent or teacher to call me.

Department of Clinical Psychology
Attn: Jennifer Moniz
Antioch University New England
40 Avon St.
Keene, NH 03431
Phone: (XXX) XXX-XXXX
Email: xxxxxx@xxxxx.xxx

Agreement:
I agree to participate in the study described above.

 Signature: _____ **Date:** _____
 If obtaining verbal rather than written assent:
DO YOU UNDERSTAND WHAT I AM SAYING AND DO YOU AGREE TO BE IN THIS STUDY?
(TO BE COMPLETED BY PERSON OBTAINING VERBAL ASSENT FROM THE CHILD)

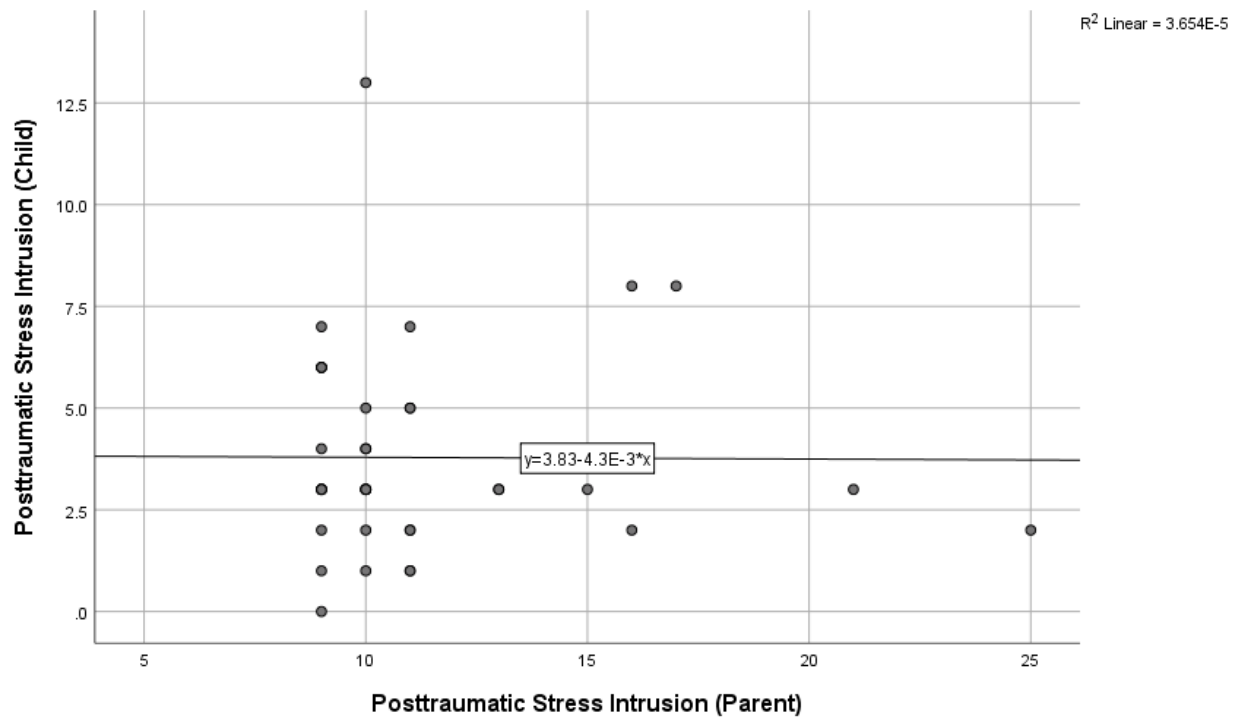Child's response: ☐Yes ☐No

Appendix C: Data Scatterplots

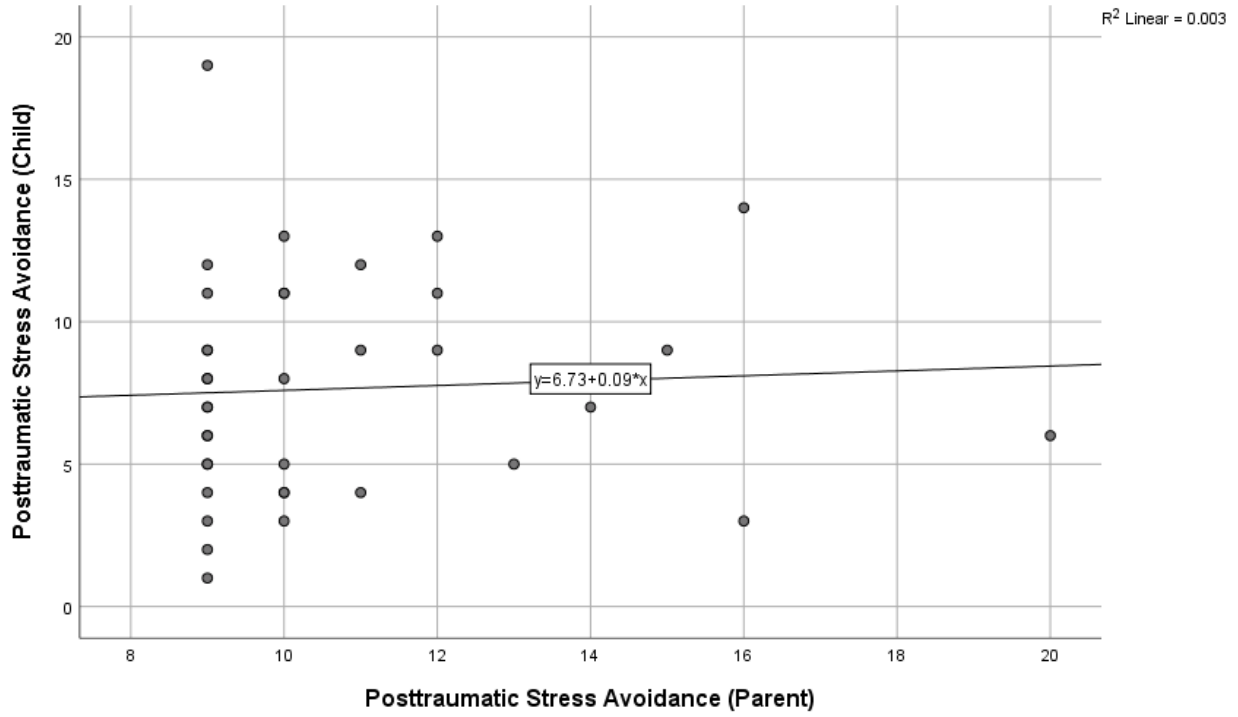*Figure C1*. All Children and Parents Intrusion Scale Correlation

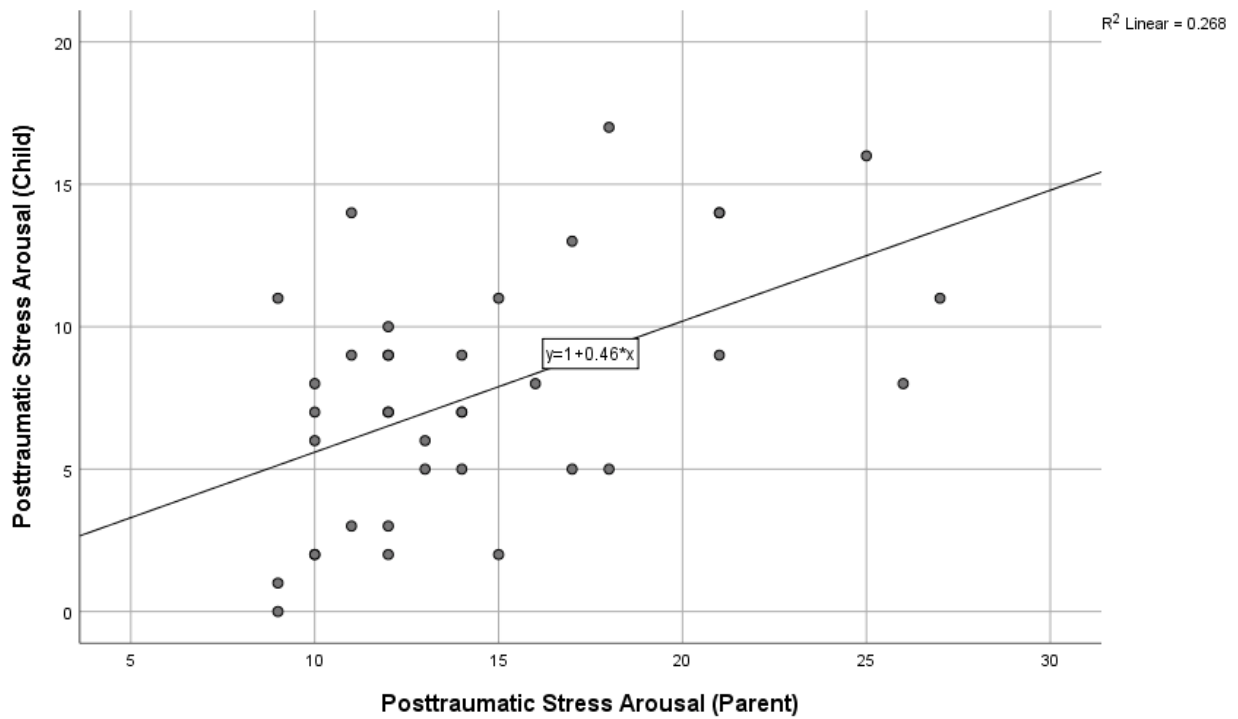*Figure C2*. All Children and Parents Avoidance Scale Correlation

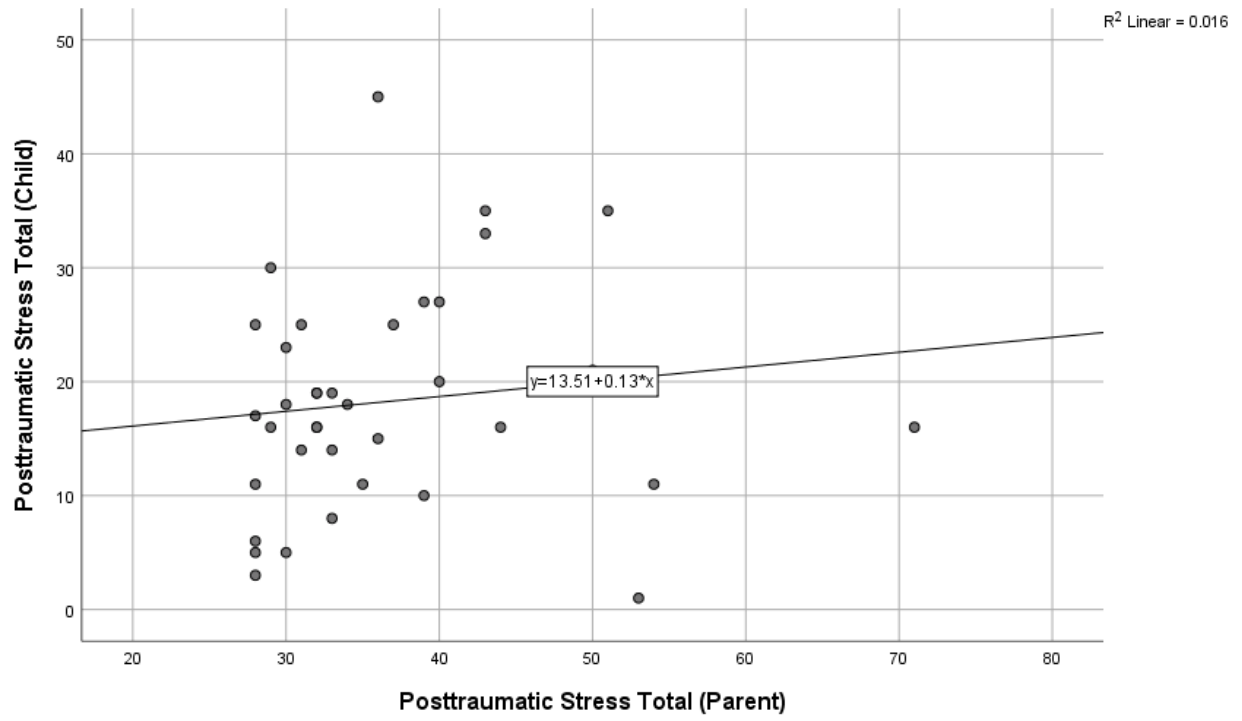*Figure C3*. All Children and Parents Arousal Scale Correlation

Figure C4. All Children and Parents Total Posttraumatic Stress Scale Correlation
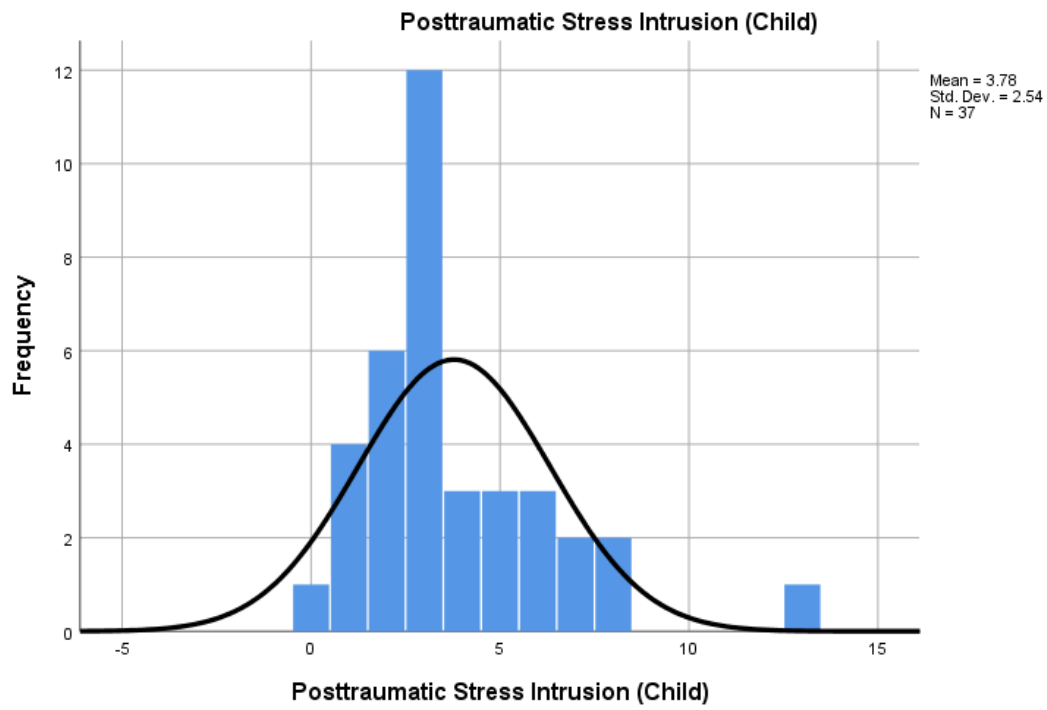
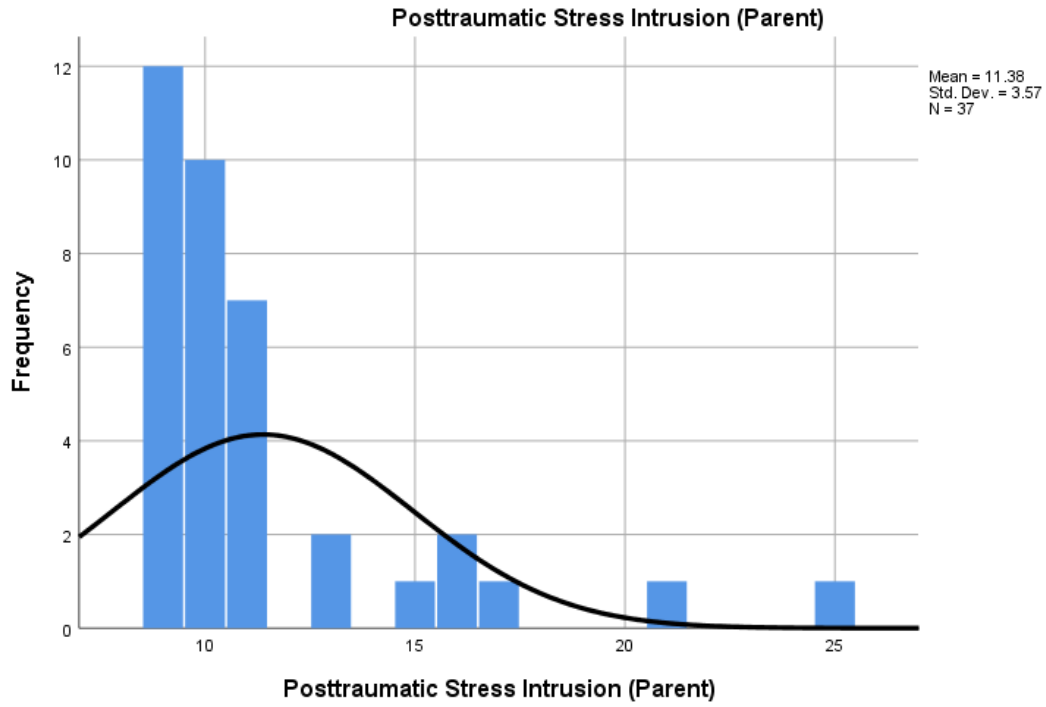Appendix D: Frequency of Scores

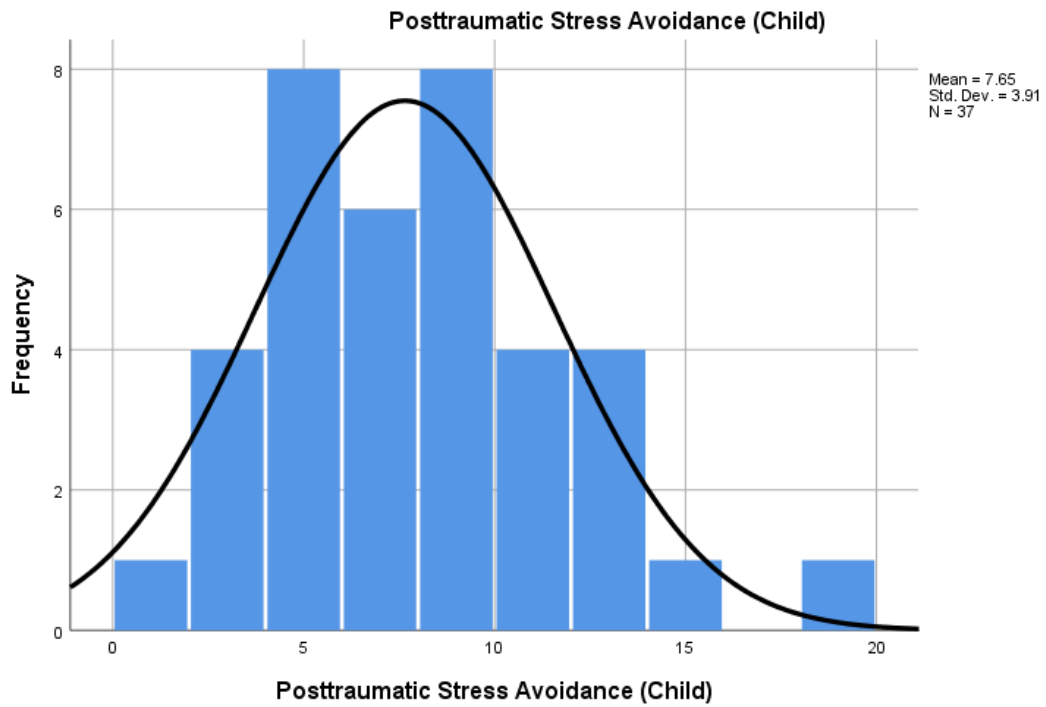*Figure D1*. Child Intrusion Scores

Figure D2. Caregiver Intrusion Scores
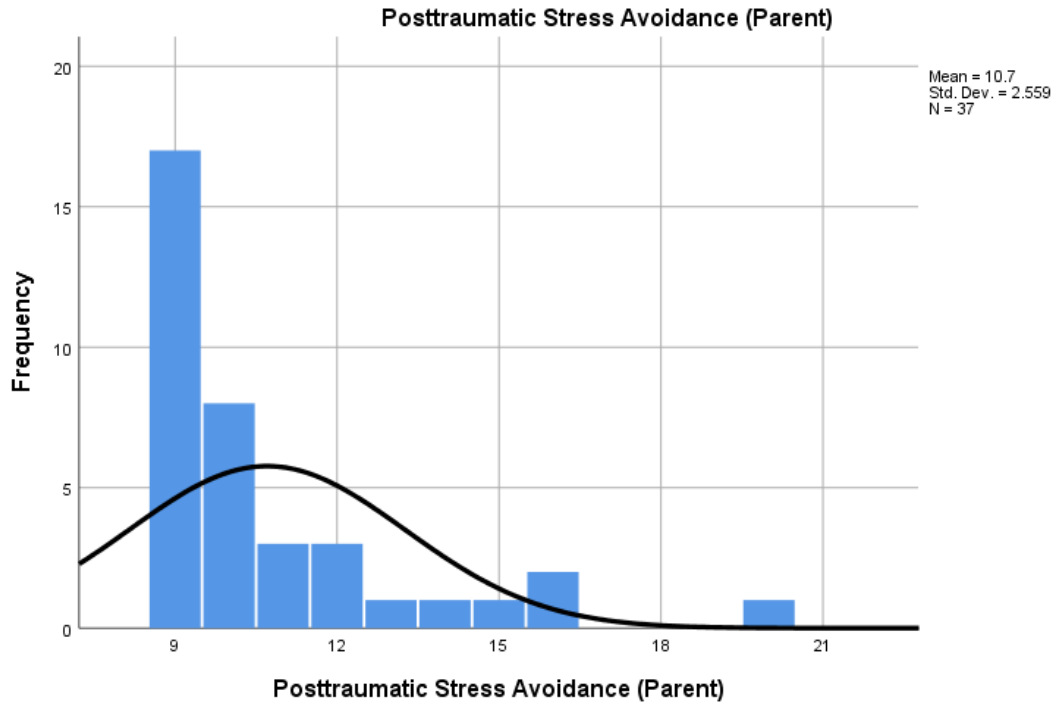

Figure D3. Child Avoidance Scores
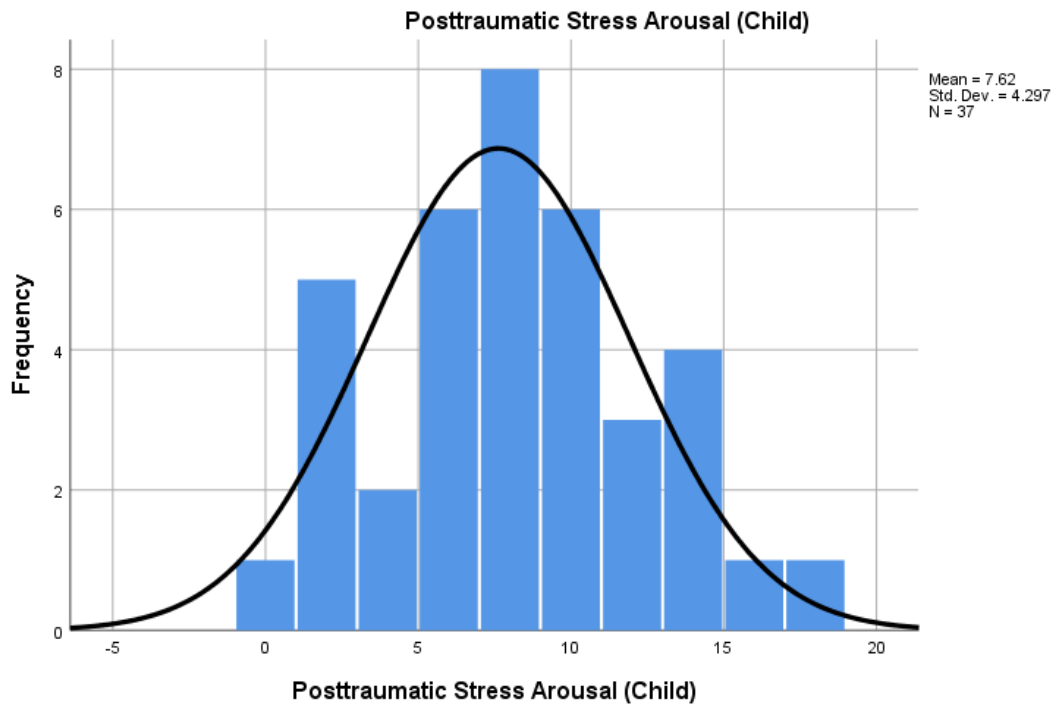
Figure D4. Caregiver Avoidance Scores
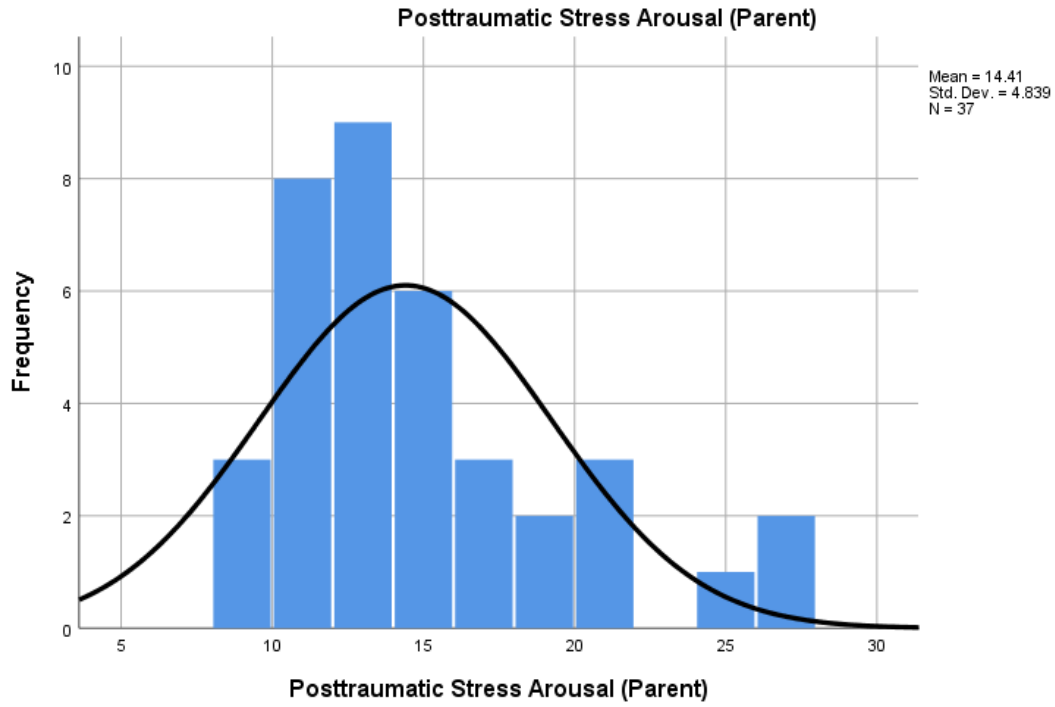

Figure D5. Child Arousal Scores

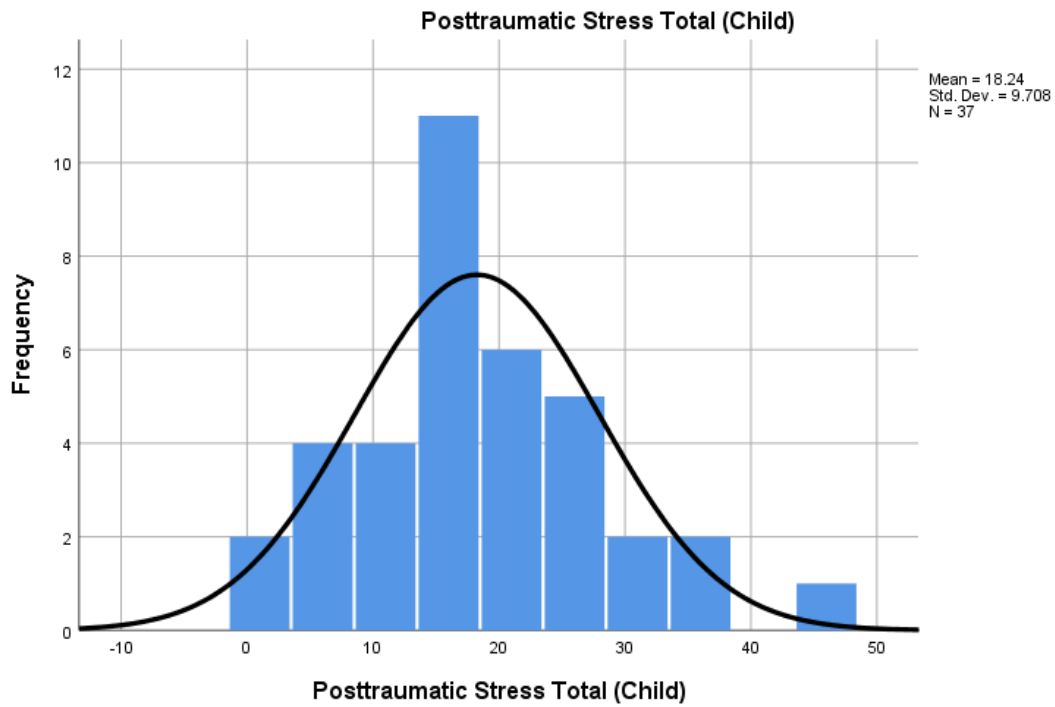*Figure D6*. Caregiver Arousal Scores

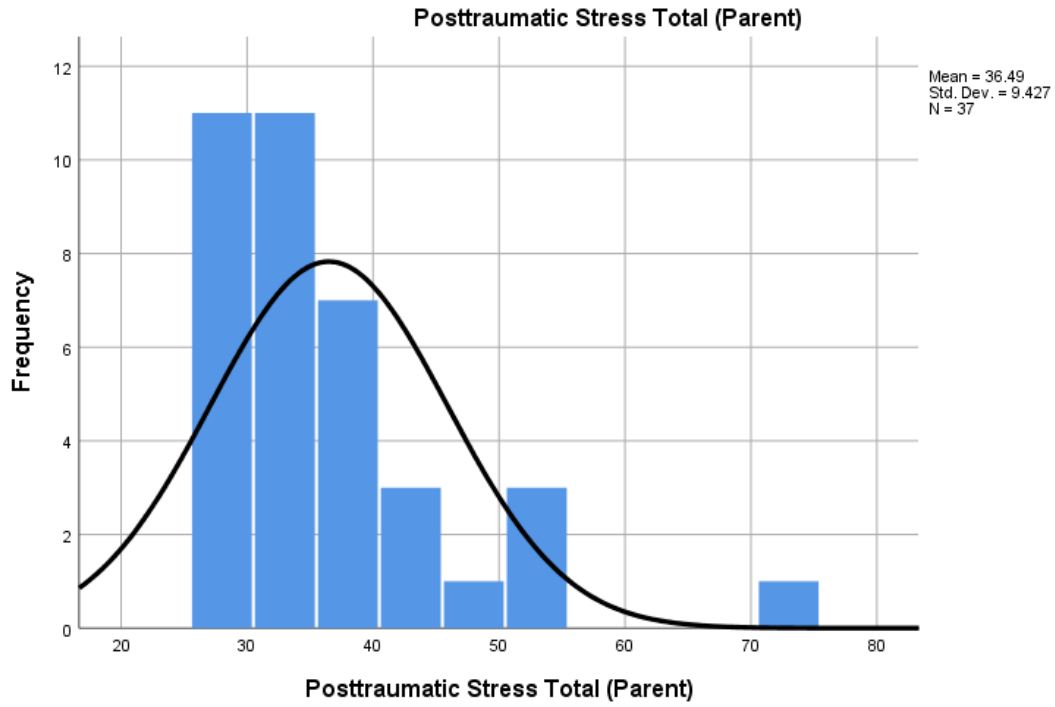*Figure D7*. Child Total Posttraumatic Stress Scores

Figure D8. Caregiver Total Posttraumatic Stress Scores
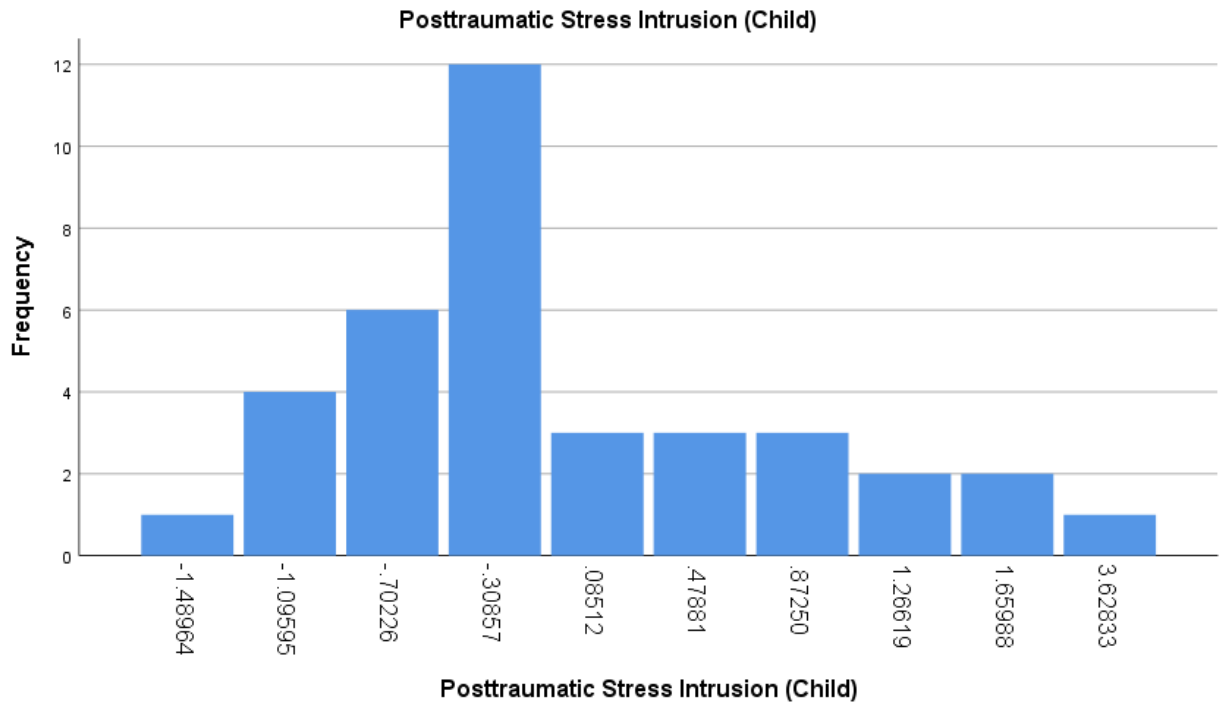
Appendix E: Frequency of Z-Scores

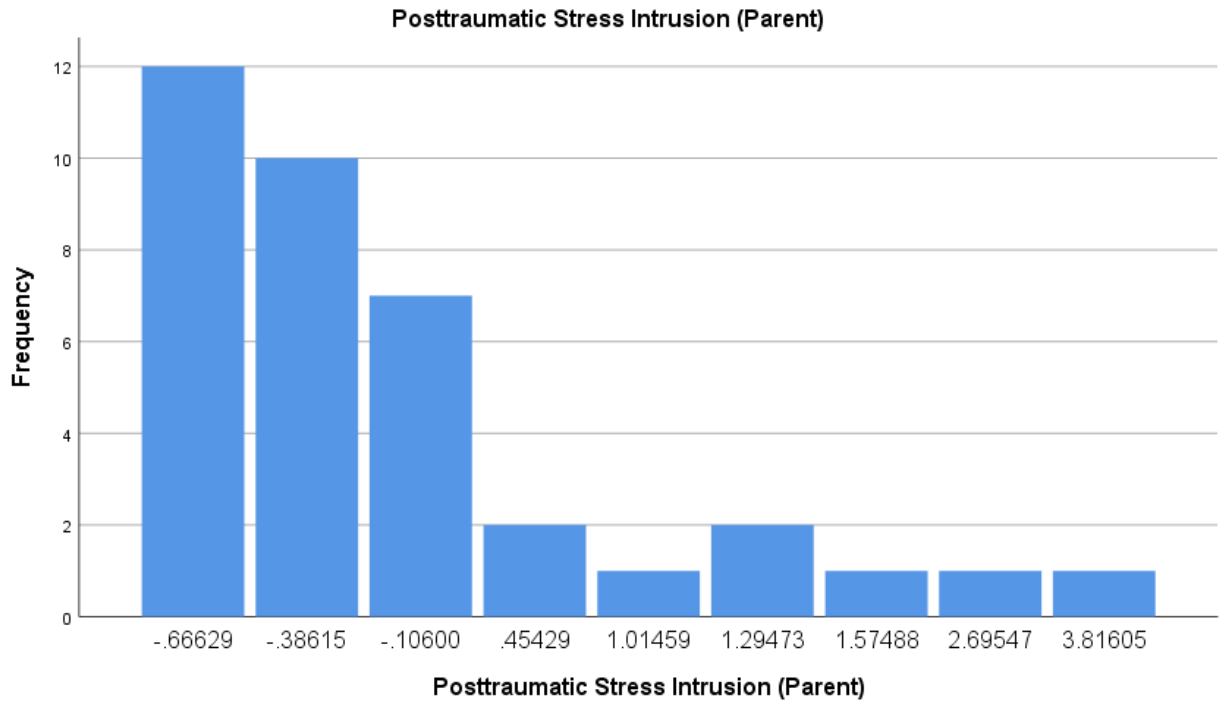*Figure E1*. Child Intrusion Z-Scores

Figure E2. Caregiver Intrusion Z-Scores
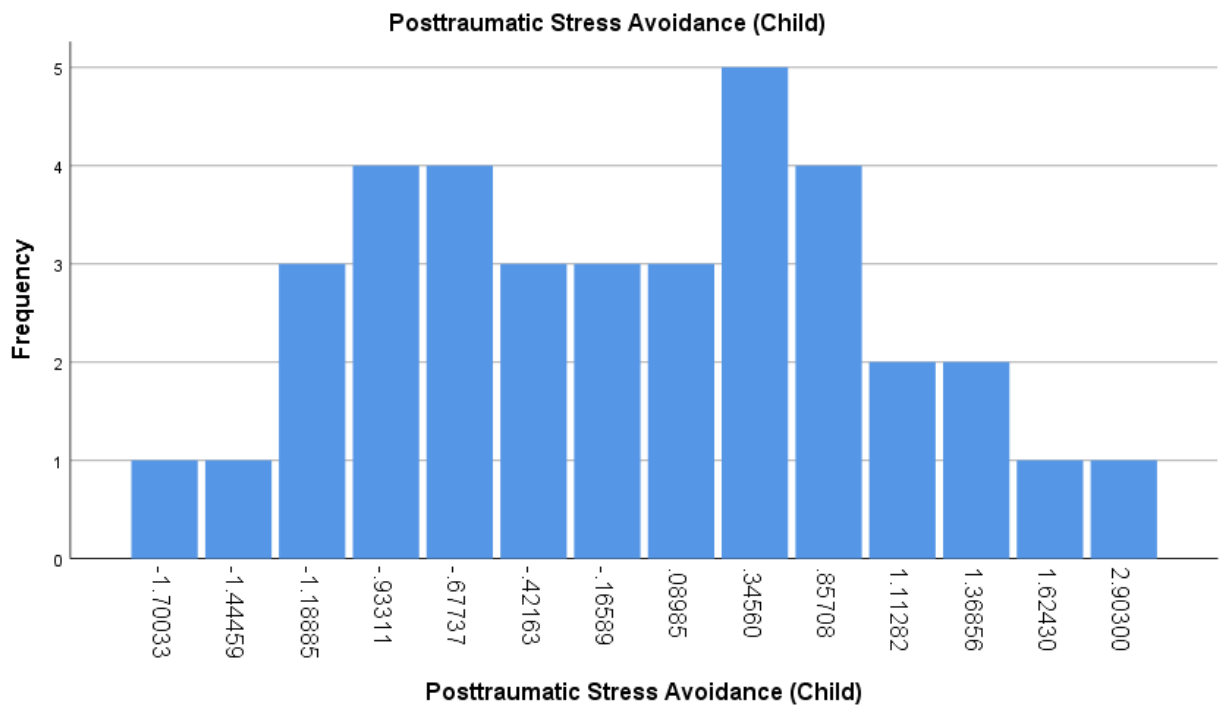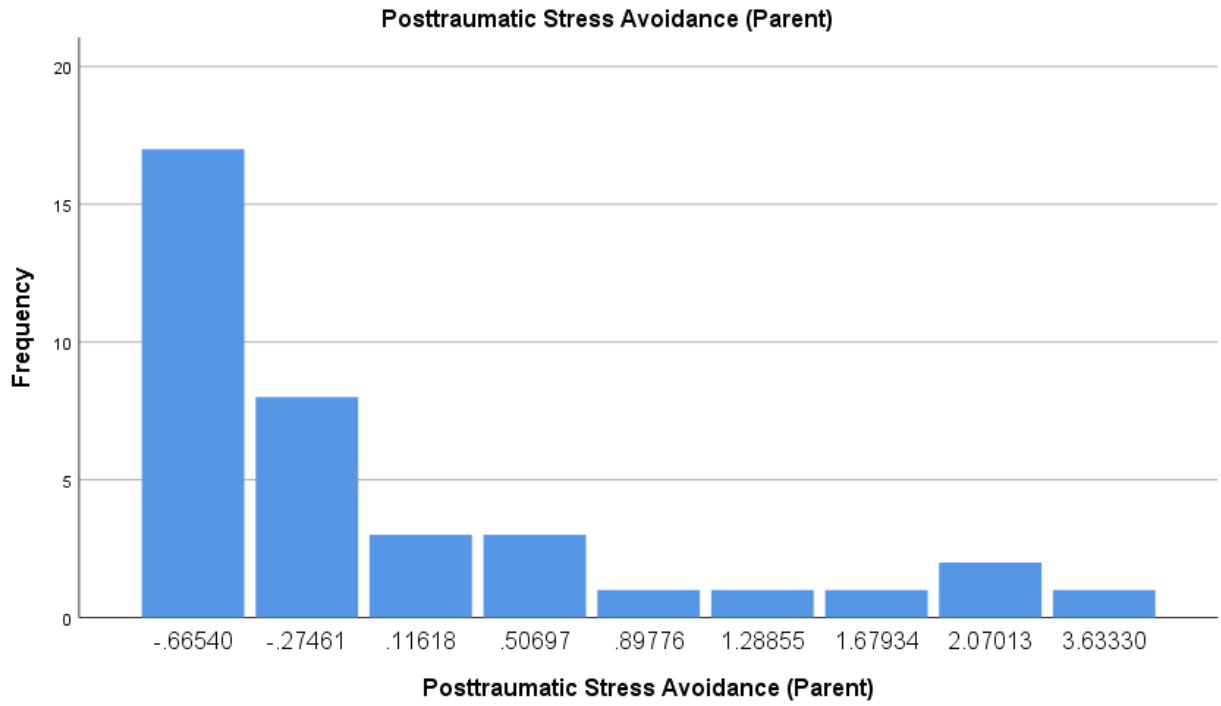

Figure E3. Child Avoidance Z-Scores

Figure E4. Caregiver Avoidance Z-Scores
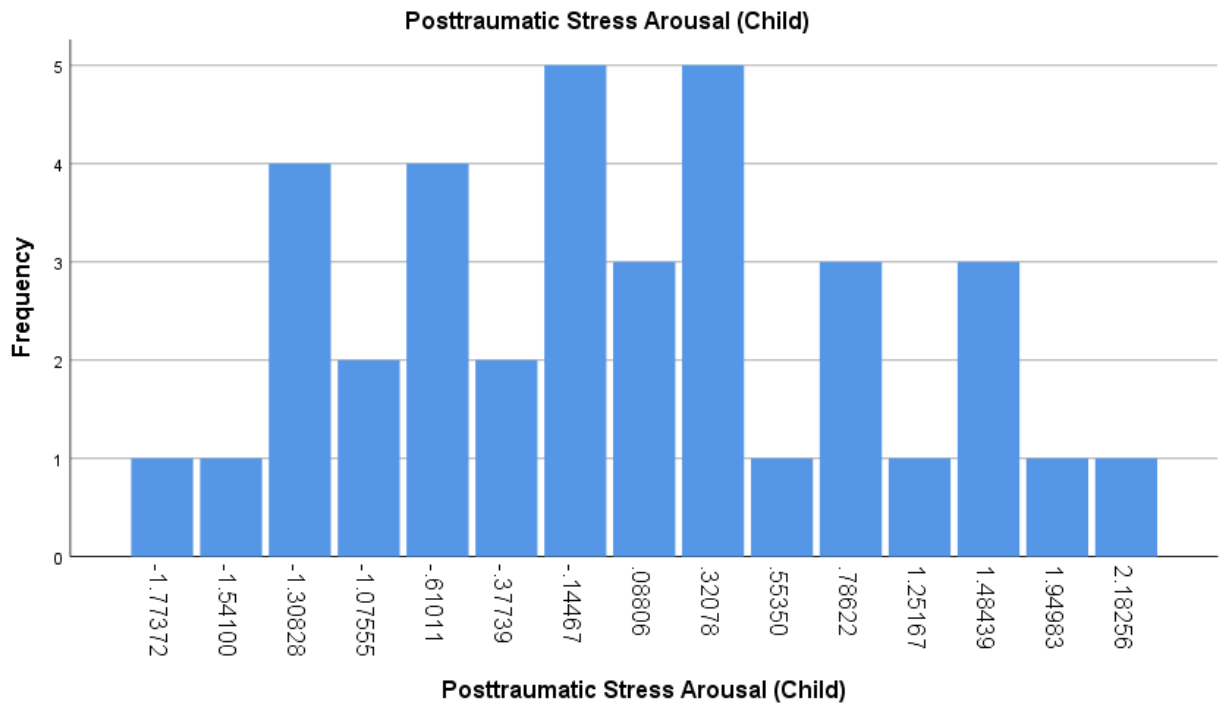
Figure E5. Child Arousal Z-Scores
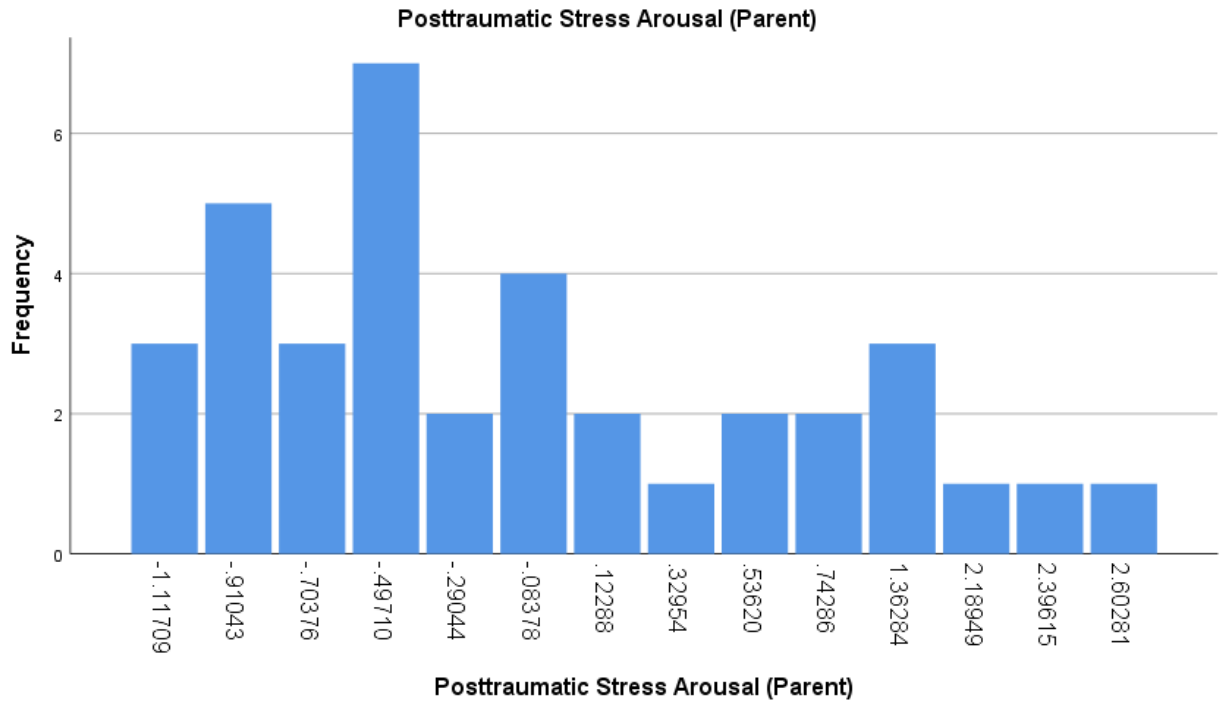
Figure E6. Caregiver Arousal Z-Scores
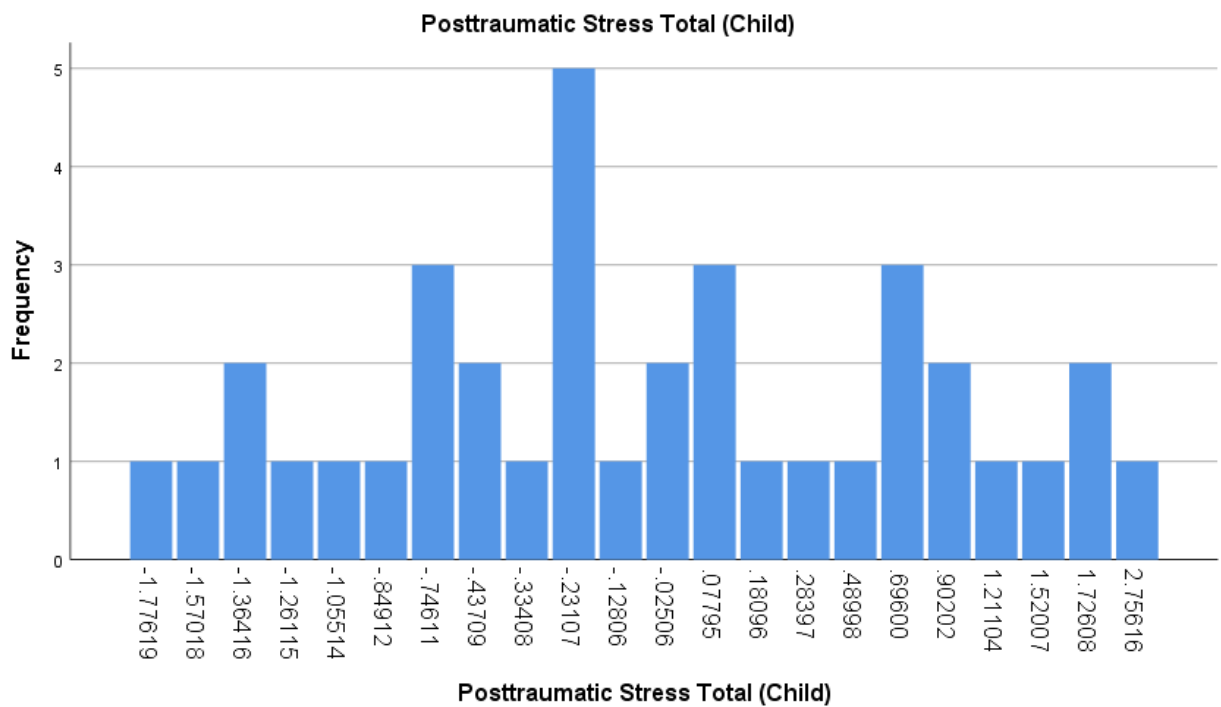
Figure E7. Child Total Z-Scores
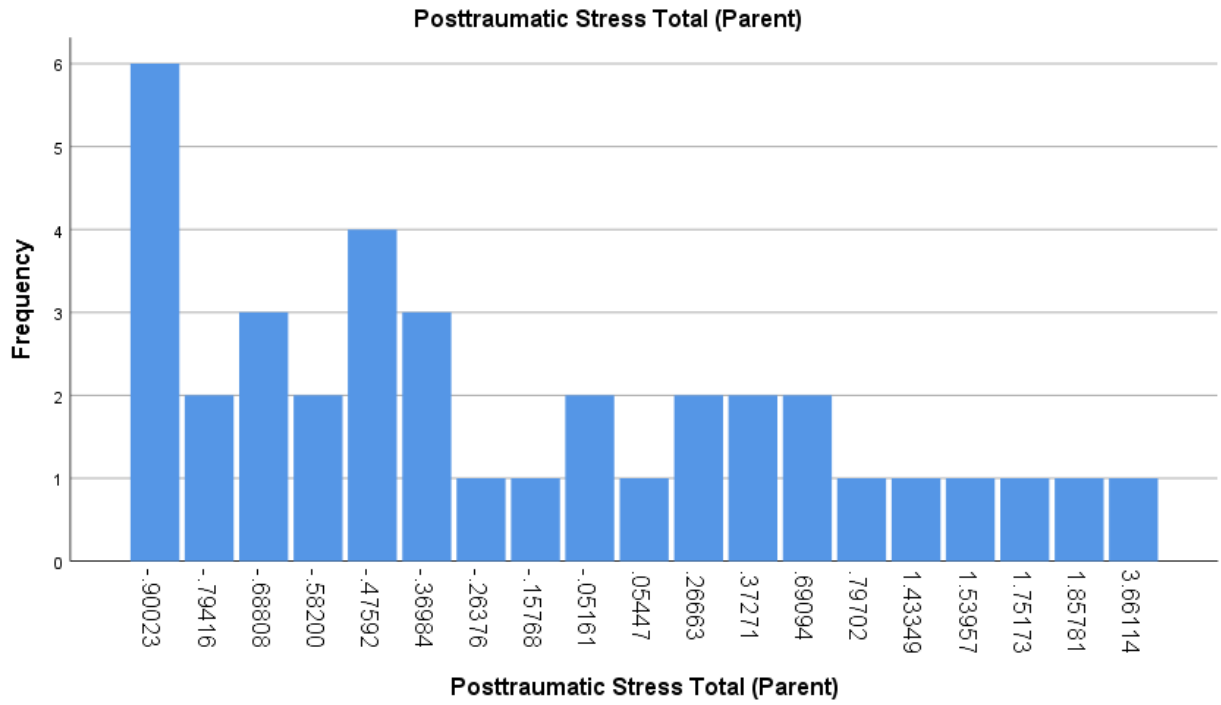
Figure E8. Caregiver Total Z-Scores

Appendix F: Power Analysis

Table F1

Posttraumatic Stress Intrusion Child Between Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	20.885[a]	2	10.442	1.680	.202	.090	3.359	.329
Intercept	347.031	1	347.031	55.818	.000	.621	55.818	1.000
AdultRatersGender	4.356	1	4.356	.701	.408	.020	.701	.129
ChildsGender	.006	1	.006	.001	.975	.000	.001	.050
AdultRatersGender * ChildsGender	.000	0	.	.	.	.000	.000	.
Error	211.386	34	6.217					
Total	762.000	37						
Corrected Total	232.270	36						

a. R Squared = .090 (Adjusted R Squared = .036)

b. Computed using alpha = .05

Table F2

Posttraumatic Stress Intrusion Parent Between Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	8.673[a]	2	4.337	.328	.723	.019	.655	.098
Intercept	3207.831	1	3207.831	242.354	.000	.877	242.354	1.000
AdultRatersGender	8.450	1	8.450	.638	.430	.018	.638	.121
ChildsGender	5.760	1	5.760	.435	.514	.013	.435	.098
AdultRatersGender * ChildsGender	.000	0	.	.	.	.000	.000	.
Error	450.029	34	13.236					
Total	5249.000	37						
Corrected Total	458.703	36						

a. R Squared = .019 (Adjusted R Squared = -.039)

b. Computed using alpha = .05

Table F3

Posttraumatic Stress Avoidance Child Between Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	22.547[a]	2	11.273	.726	.491	.041	1.452	.163
Intercept	1450.780	1	1450.780	93.442	.000	.733	93.442	1.000
AdultRatersGender	6.806	1	6.806	.438	.512	.013	.438	.099
ChildsGender	.348	1	.348	.022	.882	.001	.022	.052
AdultRatersGender * ChildsGender	.000	0	.	.	.	.000	.000	.
Error	527.886	34	15.526					
Total	2715.000	37						
Corrected Total	550.432	36						

a. R Squared = .041 (Adjusted R Squared = -.015)

b. Computed using alpha = .05

Table F4

Posttraumatic Stress Avoidance Parent Between Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	3.847[a]	2	1.924	.282	.756	.016	.564	.091
Intercept	3012.295	1	3012.295	441.681	.000	.929	441.681	1.000
AdultRatersGender	.000	1	.000	.000	1.000	.000	.000	.050
ChildsGender	.749	1	.749	.110	.742	.003	.110	.062
AdultRatersGender * ChildsGender	.000	0	.	.	.	.000	.000	.
Error	231.882	34	6.820					
Total	4474.000	37						
Corrected Total	235.730	36						

a. R Squared = .016 (Adjusted R Squared = -.042)

b. Computed using alpha = .05

Table F5

Posttraumatic Stress Arousal Child Between Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	72.938[a]	2	36.469	2.095	.139	.110	4.191	.400
Intercept	1526.802	1	1526.802	87.723	.000	.721	87.723	1.000
AdultRatersGender	1.800	1	1.800	.103	.750	.003	.103	.061
ChildsGender	6.341	1	6.341	.364	.550	.011	.364	.090
AdultRatersGender * ChildsGender	.000	0	.	.	.	.000	.000	.
Error	591.765	34	17.405					
Total	2814.000	37						
Corrected Total	664.703	36						

a. R Squared = .110 (Adjusted R Squared = .057)

b. Computed using alpha = .05

Table F6

Posttraumatic Stress Arousal Parent Between Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	24.200[a]	2	12.100	.502	.609	.029	1.005	.126
Intercept	5132.708	1	5132.708	213.153	.000	.862	213.153	1.000
AdultRatersGender	17.422	1	17.422	.724	.401	.021	.724	.131
ChildsGender	6.743	1	6.743	.280	.600	.008	.280	.081
AdultRatersGender * ChildsGender	.000	0	.	.	.	.000	.000	.
Error	818.719	34	24.080					
Total	8521.000	37						
Corrected Total	842.919	36						

a. R Squared = .029 (Adjusted R Squared = -.028)

b. Computed using alpha = .05

Table F7

Posttraumatic Stress Total Child Between Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	156.546[a]	2	78.273	.822	.448	.046	1.645	.179
Intercept	8535.118	1	8535.118	89.669	.000	.725	89.669	1.000
AdultRatersGender	14.450	1	14.450	.152	.699	.004	.152	.067
ChildsGender	3.420	1	3.420	.036	.851	.001	.036	.054
AdultRatersGender * ChildsGender	.000	0	.	.	.	.000	.000	.
Error	3236.265	34	95.184					
Total	15707.000	37						
Corrected Total	3392.811	36						

a. R Squared = .046 (Adjusted R Squared = -.010)
b. Computed using alpha = .05

Table F8

Posttraumatic Stress Total Parent Between Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	75.514[a]	2	37.757	.411	.666	.024	.822	.111
Intercept	33549.421	1	33549.421	365.166	.000	.915	365.166	1.000
AdultRatersGender	50.139	1	50.139	.546	.465	.016	.546	.111
ChildsGender	17.067	1	17.067	.186	.669	.005	.186	.070
AdultRatersGender * ChildsGender	.000	0	.	.	.	.000	.000	.
Error	3123.729	34	91.874					
Total	52456.000	37						
Corrected Total	3199.243	36						

a. R Squared = .024 (Adjusted R Squared = -.034)

b. Computed using alpha = .05