

University of Montana

ScholarWorks at University of Montana

Graduate Student Theses, Dissertations, &
Professional Papers

Graduate School

2013

A Longitudinal Exploration of Factors Impacting Outcomes for Native American Students Participating in CBITS: Looking Beyond Quantitative Analysis

Kathrine Irene Butler Hepler
The University of Montana

Follow this and additional works at: <https://scholarworks.umt.edu/etd>

Let us know how access to this document benefits you.

Recommended Citation

Butler Hepler, Kathrine Irene, "A Longitudinal Exploration of Factors Impacting Outcomes for Native American Students Participating in CBITS: Looking Beyond Quantitative Analysis" (2013). *Graduate Student Theses, Dissertations, & Professional Papers*. 4131.
<https://scholarworks.umt.edu/etd/4131>

This Dissertation is brought to you for free and open access by the Graduate School at ScholarWorks at University of Montana. It has been accepted for inclusion in Graduate Student Theses, Dissertations, & Professional Papers by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.

UNDERSTANDING OUTCOMES FOR NATIVE AMERICAN YOUTH

A LONGITUDINAL EXPLORATION OF FACTORS IMPACTING OUTCOMES FOR
NATIVE AMERICAN STUDENTS PARTICIPATING IN CBITS: LOOKING BEYOND
QUANTITATIVE ANALYSIS

By

KATHRINE IRENE BUTLER HEPLER

MS, Bemidji State University, Bemidji MN 2008
BS, University of Minnesota, Minneapolis MN 2007
BS, Bemidji State University, Bemidji MN 2005

Dissertation

presented in partial fulfillment of the requirements
for the degree of

Doctor of Philosophy
in Clinical Psychology

The University of Montana
Missoula, MT

August, 2013

Approved by:

Sandy Ross, Dean of The Graduate School
Graduate School

David Schuldberg, PhD, Committee Chair
Department of Psychology

Cameo Borntrager, PhD
Department of Psychology

Gyda Swaney, PhD
Department of Psychology

James Caringi, PhD
Department of Social Work

Richard van den Pol, PhD
Institute for Educational Research and Service

Table of Contents

Table of Contents..... ii

Abstract..... iv

Acknowledgements..... vi

List of Tables..... vii

List of Figures..... viii

Chapter 1: Introduction 1

 1.1 Background..... 1

 1.2 The Current Study..... 3

 1.3 Quantitative Hypotheses..... 5

 1.4 Qualitative Research Questions..... 5

Chapter 2: Literature Review..... 8

 2.1 Diagnostic Criteria for PTSD..... 8

 2.2 Trauma, PTSD, and Childhood Traumatic Stress..... 10

 2.3 Treatment of Post Traumatic Stress Symptoms in Youth..... 12

 2.4 Domains Affecting Outcome..... 14

 2.5 PTSD and Intervention for Native American Children..... 16

Chapter 3: Methodology..... 20

 3.1 Mixed Methods Approach..... 20

 3.2 Child Participants..... 20

 3.3 CBITS Group Facilitator Participants..... 22

 3.4 Quantitative Measures..... 24

 3.4.1 Child PTSD Symptom Scale (CPSS)..... 24

3.4.2 Child Depression Inventory (CDI).....	24
3.5 Qualitative Measures.....	26
3.5.1 Facilitator Interviews.....	26
3.5.2 Facilitator Surveys.....	27
3.5.3 Qualitative Analyses.....	27
Chapter 4: Results and Findings.....	37
4.1 Quantitative Results.....	37
4.2 Qualitative Findings.....	43
4.2.1 Trauma-Specific Domain.....	47
4.2.2 Child and Family Domain.....	52
4.2.3 Group and Facilitator Relationship Domain.....	61
4.2.4 Institutional Domain.....	65
Chapter 5: Discussion.....	71
5.1 Summary and Implications.....	71
5.2 Recommendations for Future Research.....	77
5.3 Limitations of the Study.....	78
References.....	82
Appendices.....	91

Abstract

Very few studies have addressed treatment outcomes for Native American youth, and none have qualitatively explored factors that may differentiate children in this population who benefit from intervention and children whose symptoms appear to remain unchanged or worsen. One area of particular interest is the treatment of PTSD, as epidemiological studies demonstrate a markedly elevated lifetime risk for trauma exposure and the development of PTSD in Native Americans. Interventions that utilize exposure and response prevention as a primary component have the best empirical evidence for alleviating symptoms of PTSD. One such intervention is Cognitive Behavioral Intervention for Trauma in Schools (CBITS).

This mixed methods study explored treatment outcomes for participants from two rural Reservation schools including examining possible influences from children's experiences that differentiate outcome groups and facets of implementation that relate to CBITS in general and delivered to Native American children specifically. While the overall sample experienced significant reductions in symptoms from pre-group to post-group, there were several children who did not benefit or who experienced worsening symptoms of depression and/or traumatic stress. In all there were 9 distinct outcome groups. By using a mixed methods explanatory sequential design it was possible to gather qualitative data regarding a purposive sample to facilitate an exploration of factors that differ by outcome category.

Through its design this study expanded the quantitative results from participating children by interviewing teachers and counselors who served as CBITS facilitators and qualitatively identifying and exploring factors that appeared to help or hinder child participants in benefiting from treatment. These factors fell into three main domains, each of which included several unique items that clustered into identifiable themes. There were some notable

differences between groups. Some of these results supported current literature, including highlighting salient risk and protective factors in children's lives that varied by outcome group. In addition there were several institutional factors identified that supported the success of a CBITS program within the school.

Acknowledgements

Funding for this research was provided in part by grant number 2 U79 SM058145 from SAMHSA. The views expressed in this dissertation do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

In addition, partial funding for this research was provided by the Department of Psychology's Graduate Student Research Fund at The University of Montana.

I would like to extend my sincere gratitude to the community and the school staff. A special thank you goes out to the facilitators for taking time to participate in the interviews and to acknowledge the care and commitment they give to helping children each and every day.

List of Tables

Table 1. Visual Model for this Explanatory Sequential Mixed Methods Study.....	21
Table 2. Outcome Groups and Related Demographic Information for the Qualitative Analyses.....	23
Table 3. Final Matrix of Facilitator Identified Domains, Themes, Categories, and Factors for the Qualitative Analyses.....	35
Table 4. Means for Outcome Groups on all Measures. Negative numbers indicate increased symptoms.....	42
Table 5. Rank Ordering of Outcome Groups by Desirability of Treatment Outcome.....	42

List of Figures

Figure 1. An example of the first phase of visual modeling: Group H.....	31
Figure 2. An example of the second phase of visual modeling: Group H.....	33
Figure 3. An example of the third phase of visual modeling: Group H.....	34
Figure 4. Trauma symptoms at screening, pre group, and post group.....	37
Figure 5. Pre and post group CDI scores.....	38
Figure 6. Change in Traumatic Stress Symptoms from pre group to post group.....	39
Figure 7. Change in depressive symptoms.....	40
Figure 8. Correlation of symptom change for CDI and CPSS.....	41
Figure 9. Final models of factors and categories for each outcome group.....	46
Figure 10. Sexual trauma for each outcome group.....	48
Figure 11. Direct trauma for each outcome group.....	49
Figure 12. Witnessing as trauma for each outcome group.....	50
Figure 13. Attachment loss as trauma for each outcome group.....	51
Figure 14. Substance Abuse in the home for each outcome group.....	53
Figure 15. Violence in the home for each outcome group.....	54
Figure 16. Other risk factors in the home for each outcome group.....	56
Figure 17. Protective relationships for each outcome group.....	57
Figure 18. Child behavioral concerns for each outcome group.....	59
Figure 19. Risk factors at school for each outcome group.....	60
Figure 20. Protective factors at school for each outcome group.....	62
Figure 21. Low engagement in CBITS for each outcome group.....	63
Figure 22. High engagement with CBITS for each outcome group.....	65

Figure 23. Final model of institutional factors and categories..... 70

UNDERSTANDING OUTCOMES FOR NATIVE AMERICAN YOUTH I

Introduction

This dissertation is an examination of a school based group therapy treatment for trauma in Native American children and an exploration of factors differentiating treatment outcome groups using an explanatory sequential mixed methods research design. First I provide a background for this study which includes a brief explanation of the problem and the rationale for the current study. This is followed by a literature review which includes an overview of the construct of Post Traumatic Stress Disorder, including specific discussions of PTSD in children, Native American communities, and treatment outcome research. Next there is a detailed description of the methodology used. Quantitative results are described next, followed by Qualitative results. I end with a discussion of implications, limitations, and recommendations for future research.

Background

Traumatic events occur in most individuals' lives at some point, with estimates of lifetime exposure reaching 80% or higher in general population surveys using DSM-IV-TR criteria (Breslau, 2009). Approximately 2/3 of individuals will spontaneously recover from these events (Breslau, 2009). Post traumatic stress disorder, or PTSD, describes a set of symptoms that continue to cause impairment to approximately 8% of trauma exposed individuals.

Current literature suggests that several factors impact both the likelihood of developing PTSD after a traumatic experience and an individual's response to treatment. There is some evidence suggesting that cumulative traumatic experiences increase the risk that an individual will develop PTSD (Cloitre et al., 2009; Fletcher, 2003; Kolassa, Ertl, Eckart, Kolassa, Onyut, & Elbert, 2010; Neuner, Schauer, Karunakara, Klaschik, Robert, & Elbert, 2004; Samuels-Dennis, Ford-Gilboe, Wilk, Avison, & Ray 2010). In addition, trauma type (Keane et al., 2006; Kessler,

Sonnega, Bromet, Hughes, & Nelson, 1995), low social support, low socio-economic status (Johnson, Maxwell, & Galea, 2009; Samuels-Dennis, Ford-Gilboe, Wilk, Avison, & Ray, 2010), a history of individual or family psychopathology (Christiansen & Elklit, 2008; Keane et al, 2006; Kleim, Ehlers, & Glucksman, 2008; Yehuda, Halligan, & Grossman, 2001), being female (Breslau, 2009), younger age at the time of the traumatic event (Shannon, Lonigan, Finch, & Taylor, 1994), and being a member of an ethnic or racial minority group (Johnson et al, 2009; Pole, Gone, & Kulkarni, 2008) are all associated with an increased risk of developing PTSD. Beyond life experiences and current environmental impacts on trauma recovery, research points to the importance of the therapeutic relationship in influencing outcome (Hilsensroth & Cromer, 2007; Thomas, Werner-Wilson, & Murphy, 2005). Several institutional factors are also identified, not in light of individual treatment responses, but as important environmental components or potential hurdles to the successful implementation of school based intervention programs (Langley, Nadeem, Kataoka, Stein, & Jaycox, 2010).

It appears that Native Americans are at an increased risk for traumatic experiences over their lifespan when compared both to the majority culture and to other racial and ethnic minorities (Brave Heart & DeBruyn, 1998; DeBruyn, Chino, Serna, & Fullerton-Gleason, 2001; Goodkind, LaNoue, & Milford, 2010; Jones et al, 1997; Manson, Beals, Klein, Croy, & the AI-SUPERPFP Team, 2005; Morsette, Swaney, Stolle, Schuldberg, van den Pol, & Young, 2009; Morsette, van den Pol, Schuldberg, Swaney, & Stolle, 2012; Pole et al, 2008). One epidemiological study found that Native Americans living on reservations demonstrated markedly higher life time prevalence rates of PTSD (Beals et al, 2005). Other researchers have identified rates of PTSD in Native American populations to be approximately twice the national rate (Jones et al, 1997; Pole et al, 2008).

Fortunately, PTSD tends to be responsive to a variety of treatments, with the best empirical support being for cognitive behavioral interventions for trauma (Chorpita & Southam-Gerow, 2006; Keane, Marshall, & Taft, 2006). Unfortunately there is very little research examining PTSD treatments for Native Americans or Native American youth (Gone & Alcantara, 2007; Morsette et al, 2009; Morsette et al, 2012; Ngo et al, 2008), despite evidence that Native Americans are more likely to experience traumatic events than any other racial or ethnic group.

The Current Study

Although there are several empirically supported treatments for traumatic stress in youth identified in the current literature (Silverman, Ortiz, Viswesvaran, Burns, Kolko, Putnam, & Amaya-Jackson, 2008), little attention has been given to children from ethnic minorities in general, and even less to Native American youth (Huey & Polo, 2008). There is no available research qualitatively exploring factors that may be contributing to differences in treatment outcomes for trauma exposed youth of any ethnicity. Given the current holes in treatment research it seems critical to strengthen the research base with a focus on increasing our capacity to deliver effective treatments for Native American youth experiencing psychological distress. The prevalence of trauma in the experience of Native Americans makes this area particularly important, for both current and future generations. Engaging in this work requires consideration and collaboration to avoid perpetuating an attitude of colonization which is often conveyed when an “expert” enters to show the “right” way; this can recapitulate the experience of US policies that denied and punished any non-majority behavior or attitude and forced assimilation (Gone, 2009).

The current study examines a school-based group intervention known as Cognitive Behavioral Intervention for Trauma in Schools (CBITS) using a mixed methods, explanatory sequential design. CBITS has been demonstrated to be promising in previous studies (Goodkind et al., 2010; Morsette et al., 2009; Morsette et al., 2012; Nadeem et al., 2014; Ngo et al., 2009; Rolfsness & Idsoe, 2011; Stein, Jaycox, Kataoka, Wong, Tu, Elliot et al., 2003), with an existing body of literature supporting its use for children from a variety of racial and ethnic backgrounds, including Latino/a (Kataoka, Stein, Jaycox, Wong, Escudero, Tu, Zaragoza, & Fink, 2003; Stein et al., 2003) and African American children (Ngo, Langley, Kataoka, Nadeem, Escudero, & Stein, 2008), as well as other groups of recent immigrants to the US. For Native American children, there is some evidence suggesting its effectiveness (Goodkind et al., 2010; Morsette et al., 2009; Morsette et al., 2012; Ngo et al., 2008).

The National Native Child Trauma Center (NNCTC) at The University of Montana has provided CBITS training to a number of school based providers who have been implementing this intervention as far back as 2003 and up to the present. Prior analyses have found generally positive yet mixed results, with some children experiencing greater levels of symptom reduction and others maintaining current symptom levels or experiencing increased symptoms (Morsette et al., 2009; Morsette et al., 2012). This research extends the Morsette et al. (2012) study and examines potential factors relevant to different responses to treatment.

A variety of factors may be relevant to the outcome for each child, but they have not been explored systematically. The present study seeks to expand our understanding of factors impacting treatment outcome in Native American youth with symptoms of PTSD and/or depression following exposure to trauma by looking at changes in symptoms of post traumatic stress and depression before and after treatment and qualitatively exploring factors that may be

related to these differential outcomes. In addition, this study expands the literature on CBITS in public school settings and the effectiveness of CBITS with Native American children attending rural reservation schools.

Quantitative Hypotheses

For the initial hypotheses (H1 – H2), only archival data were used. These data came from all children who participated in a CBITS group at one of two public schools on one reservation in a Western state from 2003 through 2010 and who had screening, pre-group, and post-group data available for the measures being used ($n=59$). Children were identified by a participant number only, and the schools and community are not named in any document used to disseminate research findings publicly.

H1: Participants will have experienced a reduction in post-traumatic stress symptoms associated with group completion.

H2: Participants will have experienced a reduction in symptoms of depression associated with group completion.

Qualitative Research Questions

While it has been reflected in the literature that children who participate in CBITS experience an overall reduction in traumatic stress and depressive symptoms (Goodkind et al., 2010; Jaycox et al., 2009; Morsette et al., 2009; Morsette et al., 2012), some children experience no change in symptoms or show increased symptoms (Morsette et al., 2009; Morsette et al., 2012). The quantitative analyses cannot provide insight as to why there are sometimes vast outcome differences for participants. In order to begin to explore and create understanding about the differing outcomes for participants, it is necessary to use a mixed methods design which allows for the follow up of quantitative results via qualitative inquiry. I specifically chose an

explanatory sequential design, which employs quantitative data analysis and a subsequent qualitative approach, to gain understanding or insight into what we find quantitatively (Carr, 2008; Creswell & Plano Clark, 2011; Ivankova, Creswell, & Stick, 2006). The explanatory sequential design was ideal for my study because we had a reasonable size sample collected over many years, previous analysis had revealed mixed results for children (Morsette et al., 2009; Morsette et al., 2012), and providers were interested in learning more about what went into these outcomes which were sometimes not as robust as originally expected (Morse, 1991).

To facilitate the exploration of these issues, it was necessary to create a way to categorize treatment outcome for the participants (Creswell & Plano Clark, 2011). The presence of three groups (reduced symptom, no change, and increased symptom) was evident for each of two measures (traumatic stress symptoms and depressive symptoms). This led to 9 possible outcome configurations overall. It is these different outcome possibilities that are of particular interest for gathering rich qualitative data to begin developing an understanding of outcome differences for children who participate in CBITS.

Nine groups were formed based on the magnitude and direction of children's symptom changes (see Table 2, p. 23). These groups were used to guide participant selection and yield a purposive sample for the second phase of data collection in order to facilitate the attempt to explain differing quantitative results via the follow-up qualitative interviews (Creswell & Plano Clark, 2011). To reduce the factors of interest to numerical representations would undermine the study's purpose of developing a more complete and descriptive understanding of why children who participate in CBITS are experiencing mixed outcomes.

For the qualitative research questions, children were divided into groups, with all nine outcome categories represented. There was unequal distribution of cases among groups, with

total group membership ranging from 1-14. From these groups, cases were selected for gathering qualitative data regarding possible factors impacting outcome for each case, in keeping with the structure of an explanatory sequential design (Creswell & Plano Clark, 2011). Due to a clerical error in the initial score calculations, some participant groups shifted after the focus groups had been conducted, which led to 2 outcome groups being greatly underrepresented in the purposive sample, and one being greatly overrepresented. Focus groups were conducted with facilitators from each school about selected cases (Freeman, 2006). At no point did researchers have contact with children who participated in groups. The focus groups with facilitators attempted to address the following qualitative research questions:

Q1: What are the differences in trauma factors for child cases that are related to the direction and magnitude of symptom change?

Q2: What are the differences in child and family factors across cases that are related to the direction and magnitude of symptom change?

Q3: What are the differences in facilitator and group factors related to direction and magnitude of symptom change?

In addition, facilitators completed a short survey to address the following qualitative research question:

Q4: What institutional factors affect the implementation of CBITS?

Prior to the actual focus groups, there was some mention that implementing CBITS also has an impact on the schools (School Personnel, personal communication, May 24, 2010). This led to the inclusion of an additional qualitative research question.

Q5: What impact does the implementation of CBITS have on the institution?

CHAPTER II

Literature Review

Diagnostic Criteria for PTSD

Post Traumatic Stress Disorder is unique among the DSM-IV-TR disorders in that the diagnosis requires that an individual experience an event and have a specific phenomenological and emotional response to the event both in the moment and in the months that follow. Although the DSM-IV-TR does not specify which events qualify as “traumatic,” there is a set of guidelines to differentiate traumatic events from other potentially distressing events. A traumatic event

“involves direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one’s physical integrity; or witnessing an event that involves death, injury, or threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate,” (APA, 2000, p. 463).

The DSM-IV-TR criteria required that an individual’s response in the moment include extreme fear, helplessness, or horror. In children these feelings may present as disorganized or agitated behavior. This criterion has been removed from DSM-V.

Following exposure to a traumatic event there are several possible trajectories related to personal wellbeing. In general, people will have some level of disruption in their daily functioning. Many will recover spontaneously; symptoms lasting less than one month can be diagnosed as Acute Stress Disorder (APA, 2000). Others may experience post traumatic growth, or an improvement in overall functioning and wellbeing compared to their pre-trauma baseline (Tedeschi, Calhoun, Cann, 2007). In contrast, PTSD refers specifically to the presence of

symptoms that persist longer than one month following a traumatic event and which continue to cause functional impairment.

The three symptom clusters associated with PTSD are reexperiencing, avoidance and numbing, and increased arousal. To reach diagnostic threshold, symptoms must be present in all three clusters with at least one symptom from reexperiencing, three symptoms from avoidance and numbing, and two symptoms from increased arousal.

Reexperiencing refers to intrusive, unwanted episodes of experiences where the individual is reminded of the trauma. This may occur in the form of upsetting dreams, memories, images, thoughts, or perceptions that are related to the event. Some individuals may have experiences where they feel as though the event is relived. Internal and external cues that remind a person of the traumatic event may trigger psychological and physiological distress. An increased frequency and severity of nightmares following trauma and persisting beyond one month is potentially indicative of reexperiencing in children; dreams are not necessarily specifically related to the traumatic event. Children are also more likely to re-enact the trauma as repetitive themes in play (APA, 2000).

Avoidance and numbing represent the second symptom cluster required for a diagnosis of PTSD. Avoidance may include an individual's attempts to evade thoughts, feelings, or discussions which remind him or her of the event. Some behavioral indicators of avoidance include minimizing exposure to people and places that trigger memories of the trauma. Amnesic responses are possible, in which individuals have difficulty recalling the event or portions of the event. In addition to the avoidance-related symptoms, individuals may have a response of numbing. In general, this term describes a withdrawal from activities that were pleasant prior to the trauma, a dulling of emotional experience, and a feeling of distance from other people. Some

individuals describe a limited sense of their future following the trauma, which may include a lack of expectations for career, family, and other important life activities (APA, 2000).

Symptoms of increased arousal include problems falling asleep and/or staying asleep, impaired ability to concentrate, and difficulty with mood regulation manifested as irritability or angry outbursts. Exaggeration of the startle response and hypervigilance are often part of the constellation of symptoms in this category as well (APA, 2000).

The DSM-IV-TR symptoms of PTSD are predominately descriptive of adult responses to trauma, with only brief mention of differing presentations for children; all of these differences are in the reexperiencing category. Children have a tendency to respond to distress differently from adults, yet current DSM criteria are based on adult models of response (Fletcher, 2003; van der Kolk, 2005). A child's emotional and behavioral repertoire lacks the sophistication of an adult's. A child is more likely to exhibit diffuse signs of distress and general disorganization, but not to have the capacity to tie these to the traumatic event itself. As with many disorders, this results in a less specific or "complete" post-trauma symptom picture and makes the diagnosis of PTSD more challenging when looking at a juvenile population (Fletcher, 2003; Ronen, 2002).

Trauma, PTSD, and Childhood Traumatic Stress

Trauma can occur at any age, and the response a person has is determined in part by his or her developmental level (Fletcher, 2003; Ronen, 2002; van der Kolk, 2005). Early or repetitive traumatic experiences, also known as "complex trauma" or "developmental trauma," can lead to pervasive challenges throughout maturation including depression, anxiety, substance use, medical problems, academic difficulties, social problems, and high risk behaviors (Fletcher, 2003; Lonigan, Phillips, & Ritchey, 2003; van der Kolk, 2005). Children often lack awareness regarding the impact of the traumatic event(s) in their lives and how their behavior, emotions,

and thought processes have changed (Pynoos, Steinberg, Layne, Briggs, Ostrowski, & Fairbank, 2009). Children may also have difficulty identifying or endorsing questions related to symptoms, presumably due in part to a lack of insight or developmental capacity to connect their experiences and behavior in this way (Fletcher, 2003; Pynoos et al., 2009). This appears to be related to differences in cognitive and emotional maturity (Pynoos et al., 2009; Ronen, 2002).

Several changes are included to address these challenges in DSM-V (APA, 2010; Pynoos et al., 2009). To address definitional shortcomings, there are now age appropriate considerations of what may constitute trauma with an increased focus on the potential for witnessing violence and the recognition of loss as trauma. Post Traumatic Stress Disorder in Preschool Children is being recognized as a separate diagnostic category, with developmentally appropriate symptoms and behaviors as criteria (APA, 2010). For children over the age of six, the adult diagnostic criteria will still be used; however, DSM-V changes include requiring identification of fewer symptoms for children and the inclusion of some behavioral symptoms that may be easier to identify in children (APA, 2010; Pynoos et al., 2009).

The changes for DSM-V come from a movement in the field towards characterizing traumatic experiences and responses for children as Childhood Traumatic Stress or developmental trauma (Pynoos et al., 2009; van der Kolk, 2005). The basic premise of addressing childhood trauma in a developmental context is predicated on extensive research illustrating multiple pervasive difficulties and lifetime risks for children who experience trauma (Cloitre, Stolbach, Herman, van der Kolk, Pynoos, Wang, & Petkova, 2009; Fletcher, 2003; Pynoos, Steinberg, & Piacentini, 1999; van der Kolk, 2005).

There is some evidence suggesting a dose/response relationship between exposure to traumatic events and the development of PTSD, such that cumulative traumatic experiences

appear to increase the risk that an individual will develop PTSD (Cloitre et al., 2009; Fletcher, 2003; Kolassa, Ertl, Eckart, Kolassa, Onyut, & Elbert, 2010; Neuner, Schauer, Karunakara, Klaschik, Robert, & Elbert, 2004; Samuels-Dennis, Ford-Gilboe, Wilk, Avison, & Ray 2010). Cumulative or “complex” trauma in childhood is predictive of greater incidents of psychological distress and increased complexity in psychological symptoms during adulthood (Cloitre et al., 2009; Jones, Dauphinaus, Sack, & Sommervell, 1997; Lonigan, Phillips, & Richey, 2003; Pynoos et al., 1999). These difficulties are thought to arise in part because the experience of trauma interrupts mastery over normal developmental tasks, influences engagement with future tasks, and impacts intrapersonal resources for coping and seeking mastery (Fletcher, 2003; Pearlman & Courtois, 2005; van der Kolk, 2005).

Treatment of Post Traumatic Stress Symptoms in Youth

Fortunately, PTSD tends to be responsive to a variety of treatments, with the best empirical support being for treatments that include anxiety management, exposure, and cognitive restructuring (Chorpita & Southam-Gerow, 2006; Keane, Marshall, and Taft, 2006, Silverman et al., 2008). Cognitive Behavioral Therapy (CBT) interventions, such as Trauma Focused Cognitive Behavioral Therapy (TF-CBT; Cohen et al., 2004) offer a structured approach to this by providing psychoeducation and teaching of coping skills progressing to a discussion of the trauma. This narrative of the trauma, in which the client tells their story and is thus exposed to memories of the traumatic event, is the exposure portion. The telling of the trauma narrative involves a form of imagery referred to as imaginal exposure. Specifically, exposure refers to being confronted with a feared stimulus, either in the room or through imagery (Chorpita & Southam-Gerow, 2006).

PTSD is classified as an anxiety disorder, and thus the experience of anxiety is a central feature. One of the core features of anxiety and its maintenance is avoidance. When an individual is afraid of something and thinks about the feared stimulus, they experience distress. By avoiding the stimulus the distress is alleviated, thus reinforcing avoidance as a coping mechanism. Engaging in exposure involves choosing or being required not to avoid the feared stimulus, but instead moving into it and experiencing the anxiety and discomfort. By combining the exposure with relaxation, thus preventing the full experience of anxiety and eliciting a quieting response, a child feels reduced levels of anxiety when faced with reminders of the trauma over time. This is thought to occur in part because anxiety and relaxation are incompatible internal states. Through repeated exposure a child becomes habituated to the feared stimulus and thus learns mastery over their response, in this case thoughts, feelings, and environmental cues that remind them of a traumatic event (Chorpita & Southam-Gerow, 2006).

A treatment avenue that has been receiving increasing attention is school based service. Although approximately two in three children needing mental health services go untreated (Mash, 2006), approximately 75% of the treatment that does occur is provided through school based mental health services (Langley, Nadeem, Kataoka, Stein, & Jaycox, 2010). There is some evidence to suggest that even when treatments are provided at no charge, children are more likely to complete a school based intervention than a clinic based intervention (Rolfness et al., 2011), likely due to ease of access. In light of this it is important to attend to factors that affect successful implementation of mental health services in schools. Glisson (2002) points to the culture and climate of an organization as being centrally important to success or failure of implementing programs. The climate refers to the combined impressions or interpretations of the staff about the work environment and its impact on their wellbeing. Organizational culture refers

to the norms, behaviors, expectations, and values within the workplace. It is important for the culture and climate of an organization to align with the work it is trying to accomplish. If providing mental health services to children a school is a goal, the school culture needs to value and support the provision of these services, not just in word, but in action as well.

Domains Affecting Outcome

There are several factors have been identified in the literature as increasing the likelihood that a child will develop PTSD following a traumatic experience. Research has highlighted the salience of trauma type (Keane et al., 2006; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995), previous trauma history (Kolassa et al., 2010; Neuner et al., 2004; Ozer, Best, Lipsey, & Weiss, 2003), low social support, low socio-economic status (Johnson, Maxwell, & Galea, 2009; Samuels-Dennis, Ford-Gilboe, Wilk, Avison, & Ray, 2010), a history of individual or family psychopathology (Christiansen & Elklit, 2008; Keane et al., 2006; Kleim, Ehlers, & Glucksman, 2008; Yehuda, Halligan, & Grossman, 2001), being female (Breslau, 2009), younger age at the time of the traumatic event (Shannon, Lonigan, Finch, & Taylor, 1994), and being a member of an ethnic or racial minority group (Johnson et al., 2009; Pole, Gone, & Kulkarmi, 2008).

Beyond life experiences and current environmental impacts on trauma recovery, research points to the importance of the therapeutic relationship in influencing outcome (Hilsensroth & Cromer, 2007; Thomas, Werner-Wilson, & Murphy, 2005). Some researchers have found that the relationship between the client and the therapist accounts for 30% or more of the variance in therapeutic outcome (Thomas, 2006), but this can be influenced by methodological and conceptual specifics such as how the therapeutic alliance is defined and measured and by whose perception of the alliance is measured. In a meta-analysis of 38 alliance-outcome studies in child

therapy, McLeod (2011) found a smaller effect size ($r = 0.14$) when combining parent alliance and child alliance measures and relating them to outcome.

Trauma work in particular requires a great deal of trust between therapist and client (Pearlman & Courtois, 2005). Following interpersonal trauma, the therapeutic relationship provides a framework for revising negative patterns and beliefs learned through traumatic experiences (Pearlman & Courtois, 2005). Shattell, Starr, & Thomas (2007) conducted a series of interviews with clients about what is therapeutic within an alliance. Many responses were focused on basic relationship characteristics such as “relate to me,” “know me as a person,” and “get to the solution”. These characteristics are reflected in common themes from other research as well, using more typical terms such as empathy, warmth, and focus on treatment related topics (Hilsenroth & Cromer, 2007).

In a study of trained service providers several barriers were identified as interfering with successful implementation of therapeutic services in schools (Langley et al., 2010). These barriers included lack of parental engagement, competing demands for service providers, logistical problems such as scheduling difficulties, and low levels of support or buy-in from administrative and teaching staff. In addition to identifying barriers, Langley and colleagues identified supports that increased the likelihood of successfully implementing mental health services. These included having a network of other professionals using the same program with whom practitioners could engage in problem solving and having specific funding for implementation of the target program.

These identified areas generally cluster into four major domains of concern: trauma specific; child and family characteristics; relationships; and institutional factors. These domains

served as the theoretical anchors for the qualitative research questions and subsequent analyses (see Table 3, pp. 35-36).

PTSD and Intervention for Native American Children

As with most psychological treatment research, there is a marked paucity of research related to treatment of PTSD in youth, racial and ethnic minorities, or the intersection of these two factors (Gone & Alcantara, 2007; Huey & Polo, 2008; Morsette et al., 2009; Morsette et al., 2012; Ngo, Langley, Kataoka, Nadeem, Escudero, & Stein, 2008; Pole et al., 2008). In an epidemiological study, Beals and colleagues (2005) found that Native Americans living on reservations experienced markedly higher life time prevalence rates for substance dependence and PTSD. Other researchers have identified rates of PTSD in Native American populations to be approximately twice the national rate, and described increased rates of mood disorders and suicide as well (Jones et al., 1997; Pole et al., 2008).

In light of the known risk for PTSD in Native Americans and the movement towards Evidence Based Practice and use of Empirically Supported Treatments, this lack of research is problematic. Increasingly, clinicians are to engage in Evidence Based Practice, which involves considering therapist capacities, client personality, culture, diagnosis or symptoms, and needs, as well as what the empirical evidence supports as efficacious or effective with the client population for a given disorder or constellation of symptoms. With the literature being very sparse in relation to treatment for Native Americans, there is little foundation from which to build a plan for interventions, yet there is clearly significant need for services.

It is important to consider some additional factors when looking at trauma and treatment response for children, particularly if the children's context includes membership in a racial or ethnic minority group, or when they are at risk to experience elevated levels of community

violence or violence exposure in general, which appears to be true for Native American children (Brave Heart & DeBruyn, 1998). These differences may alter the prevalence of trauma exposure and specific risk factors for developing PTSD as compared to children of the majority culture, who are most well represented in the literature.

Research suggests that Native Americans are at an increased risk for traumatic experiences over their lifespan when compared to both the majority culture and other racial and ethnic minorities (Brave Heart & DeBruyn, 1998; DeBruyn, Chino, Serna, & Fullerton-Gleason, 2001; Jones et al., 1997; Manson, Beals, Klein, Croy, & the AI-SUPERPPF Team, 2005; Pole et al., 2008). Native Americans are over-represented in statistics reflecting poverty, which is a known risk factor for child abuse and neglect as well as general risk for trauma (Azar & Wolfe, 2006; DeBruyn et al., 2001). Native American children have also been identified as being at higher risk for witnessing domestic violence, having unstable housing, and having a parent or caregiver who is abusing or dependent on substances (DeBruyn et al., 2001; Manson et al., 2005).

These environmental factors in the lives of Native American children do not exist in isolation. The trauma context extends beyond the single experience, and recovery may be impacted by some aspects of historical trauma (Brave Heart & DeBruyn, 1998; DeBruyn et al., 2001; Stamm, Stamm, Hudnall, & Higson-Smith, 2004). The concept of historical trauma refers to the ongoing impact resulting from the manner in which Native American culture and community were impacted by the process of colonization. The effects are still visible today. When one considers the gravity of the cumulative loss experience through loss of place, war, spread of disease, forced participation in boarding school programs, loss of language and tradition via enforced policy, disrupted parenting traditions, and the denial of resolution or

responsibility from the majority culture, the degree of multigenerational disempowerment and grief is striking (Brave Heart & DeBruyn, 1998; DeBruyn et al., 2001; Gone, 2009; Stamm et al., 2004). Many of the social challenges identified in indigenous communities are reflective of this history, including increased rates of community violence, domestic violence, substance abuse, child abuse, suicide and homicide (Brave Heart & DeBruyn, 1998) noted above.

An exploration of the psychological literature supports the notion that marginalization is still occurring today, given that the vast majority of articles are focused on treating substance abuse and delinquent or violent behavior (Gone & Alcantara, 2007), which represent common majority culture stereotypes of Native Americans. Mental health professionals continue to address surface symptoms of a greater underlying distress and fail to recognize the ways in which healing may be hindered by avoiding the deeper and more pervasive issue of multigenerational historical trauma and loss (Stamm et al., 2004).

Despite an established awareness of the heightened incidence of psychological distress, particularly traumatic stress, in Native American populations there are few studies aimed at establishing an evidence base for effective interventions. In a recent literature review, Gone and Alcantara (2007) found only 56 articles specifically addressing prevention, intervention, and/or treatment of psychological distress (excluding substance abuse and dependence) for Native Americans and Alaska Natives, of which only nine were outcome studies, and only three met the criteria for randomized controlled trials. Two of the nine outcome studies focused on children; both were specific to behavioral problems. All of the more rigorous studies have very small sample sizes, which limits the extent to which one can generalize the results. Huey and Polo (2008) conducted a literature search for empirically supported treatments focused on minority youth, and found only one methodologically robust study specifically assessing empirically

supported treatment for Native American children. More research is needed to create an adequate evidence base illustrating effective treatments for Native American and Alaska Native clients, especially children.

More recently, Goodkind et al. (2010), Morsette et al. (2009) and Morsette et al. (2012) explored CBITS for the treatment of traumatic stress and depressive symptoms in Native American youth. These studies found mixed results which were less robust than when CBITS was used for trauma treatment with inner city children (Stein 2003). For Goodkind and colleagues (2010) the immediate results were comparable; however, by the 6 month follow up period, trauma symptoms improvement was no longer evident. In addition, it appears that attrition was a challenge for the children participating in CBITS during the Morsette et al. (2012) study. These authors speculated that ongoing trauma exposure (Goodkind et al., 2010) and the prevalence of childhood traumatic grief (Morsette et al., 2012) which is not addressed in the CBITS protocol may have played a role in the less robust results. Morsette et al. (2012) also observed variations in treatment outcome among group participants. To date no one has systematically explored factors related to outcomes for children in CBITS groups.

CHAPTER III

Methodology

Mixed Methods Approach

For this study an explanatory sequential design (Creswell & Plano Clark, 2011) was employed to describe domains impacting children's diverse outcomes following participation in CBITS (see Table 1, p. 21). This particular model is ideal, as I began with an existing quantitative data set, but had questions that could not be adequately answered via numerical means (Creswell & Plano Clark, 2011; Ivankova et al., 2006). Primary importance was given to the qualitative analysis, as the goal of the study is to explain the differences in participant outcomes discovered during the quantitative analysis (Carr, 2008; Creswell & Plano Clark, 2011; Ivankova & Stick, 2007). Table 1 illustrates the procedure and products for each phase of this study (Ivankova & Stick, 2007). It is followed by a description of the participants, measures, quantitative analyses, and a more detailed description of the qualitative analyses with accompanying figures to illustrate the process of visual modeling.

Child Participants

The initial phase of data analysis included all children who completed CBITS at two public schools on a reservation in a Western state from fall of 2003 through spring of 2011 and had screening, pre-group and post-group scores for traumatic stress symptoms as well as pre and post group scores for depressive symptoms. There were a total of 59 children who met these criteria. Of the children, 42 (71%) were female and 17 (29%) were male. Four children (7%) were in 5th grade, 35 (59%) in 6th grade, 14 (24%) in 7th grade, and 6 (10%) in 8th grade. Children's ages ranged from 11 – 14 (M = 11 years, 11 months) at the time of their screening with 23 (39%) being age 11, 23 (39%) age 12, 8 (14%) age 13, and 5 (9%) age 14. The vast

Table 1. *Visual model for this explanatory sequential mixed methods study*

Phase	Procedure	Product
Quantitative Data Collection	<ul style="list-style-type: none"> • School based screenings, pre-group, and post-group CPSS and CDI measures ($n=59$) 	<ul style="list-style-type: none"> • Numerical Data
Quantitative Data Analysis	<ul style="list-style-type: none"> • Data Screening • Frequencies • ANOVA • <i>t</i>-tests • SPSS quantitative software v20 	<ul style="list-style-type: none"> • Data cleaning • Descriptive Statistics • Identification of 9 distinct outcome groups
Case Selection, Interview Protocol Development	<ul style="list-style-type: none"> • Purposely selecting cases from each outcome group • Literature review • Developing interview questions 	<ul style="list-style-type: none"> • Cases for each group (see Table 2, pg. 23) • Interview Protocol • Facilitator Surveys • Initial domains for matrix
Qualitative Data Collection	<ul style="list-style-type: none"> • Focus group interviews with CBITS facilitators • Facilitator surveys 	<ul style="list-style-type: none"> • Text data (interview transcripts, responses to open ended survey questions)
Qualitative Data Analysis	<ul style="list-style-type: none"> • Line by line coding to identify factors that correspond to the pre-identified domains • Create initial visual models • Identify categories of related factors • Combine redundant factors • Modify visual models • Identify themes that exist across all domains • Modify visual models • NVivo 9 software 	<ul style="list-style-type: none"> • Factors and categories with each domain • Themes across domains • Visual models for each outcome group • Factor by outcome group matrix comparisons for each category
Integration of Quantitative and Qualitative Results	<ul style="list-style-type: none"> • Interpretation and explanation of the quantitative and qualitative results 	<ul style="list-style-type: none"> • Discussion & implications • Future research suggestions

majority of the children identified themselves as Native American/Alaska Native (95%). Other racial/ethnic identities endorsed were African America (3%), White (10%), Hispanic (3%), and “other” (2%). Some of these children’s data were used in previous research (Morsette et al., 2009; Morsette et al., 2012).

For the second phase of data collection these children were divided into 9 groups based on the direction and magnitude of symptom change for each measure (CPSS for traumatic stress symptoms, CDI for depressive symptoms): decreased symptoms, no change, and increased symptoms. This provided groupings that allowed for the exploration of the qualitative research questions and provided a complete representation for all 9 possible outcomes based on 2 measures and 3 outcomes for each. The following table illustrates the distribution of outcome categories and some demographics for each group.

A subset of 33 children was chosen to serve as a purposive sample of cases for the qualitative interview focus groups. Cases were selected to include representatives from all outcome groups and allow for adequate explorations of similarities and differences among the outcome groups. Due to a clerical error some children’s group designation shifted after interviews were conducted, resulting in two groups (F T↓, D= & G, T↑, D↓) being minimally represented in the qualitative interviews.

CBITS Group Facilitator Participants

CBITS group facilitators were selected as interviewees based on having facilitated a group from which a child case was selected. Informed consent was obtained from facilitators prior to any interviews being conducted. Facilitator demographic information was collected.

Table 2. Outcome Groups and Related Demographic Information for the Qualitative Analyses

	Increased Sx CPSS	No Change CPSS	Decreased Sx CPSS
Increased Sx CDI	<p>Group A (T↑, D↑)* n= 1 (1 interview) M= 0 F=1 Age =12 range 12 Grade 5 (0%) 6 (0%) 7 (100%) 8 (0%) NA/AN 100%</p>	<p>Group B (=T, ↑D) n= 6 (5 interviews) M= 4 F=2 Age (M)=12 , range 11-13 Grade 5 (0%) 6 (67%) 7 (33%) 8 (0%) NA/AN (100%) AfrAmer (17%)</p>	<p>Group C (↓T, ↑D) n= 2 (2 interviews) M= 1 F=1 Age (M)= 11 range 11 Grade 5 (0%) 6 (100%) 7 (0%) 8 (0%) NA/AN 100%</p>
No Change CDI	<p>Group D (↑T, =D) n= 4 (4 interviews) M= 0 F=4 Age (M)= 12 range 11-14 Grade 5 (0%) 6 (75%) 7 (0%) 8 (25%) NA/AN (100%) Hispanic (25%)</p>	<p>Group E (=T, =D) n= 12 (5 interviews) M= 5 F=7 Age (M)= 12 yrs, 3 mos range 11-14 Grade 5 (17%) 6 (42%) 7 (25%) 8 (17%) NA/AN (100%) Hispanic (8%)</p>	<p>Group F (↓T, =D) n= 8 (1 interview) M= 2 F=6 Age (M)= 11yrs, 4 mos Range 11-12 Grade 5 (13%) 6 (75%) 7 (13%) 8 (0%) NA/AN (75%) White (25%) AfrAmer (13%)</p>
Decreased Sx CDI	<p>Group G (↑T, ↓D) n= 3 (1 interview) M= 2 F=1 Age (M)= 11yrs, 4 mos range 11-12 Grade 5 (0%) 6 (67%) 7 (33%) 8 (0%) NA/AN (100%) White (67%)</p>	<p>Group H (=T, ↓D) n= 9 (5 interviews) M= 2 F=7 Age (M)= 12 yrs 1 mos, range 11-14 Grade 5 (11%) 6 (44%) 7 (22%) 8 (22%) NA/AN (89%) White (22%) Other (11%)</p>	<p>Group I (↓T, ↓D) n= 14 (9 interviews) M= 3 F=11 Age(M)= 12 yrs range 11-4 Grade 5 (0%) 6 (64%) 7 (29%) 8 (7%) NA/AN (100%)</p>

*T refers to Traumatic Stress symptoms, D refers to Depressive symptoms. (= means stays the same; ↑ means increase; ↓ is decrease.

Five facilitators participated in the focus group interviews. One facilitator was male and four were females; one identified as Native American while the others identified as White. Two were teachers, one of whom had a minor in psychology. The other three were Masters-level clinicians, two of whom identified having specific targeted training in providing group therapy. All facilitators had gone through the CBITS training provided by the National Native Child Trauma Center. They had run an average of 7 CBITS groups by the time of the interviews (range 4-10). These facilitators had an average of 13.5 years of experience providing school-based services (range 7-24), with an average of 10.8 years at their current school (range 7-14).

Quantitative Measures

Child PTSD Symptom Scale (CPSS).

This abbreviated measure was designed to screen for PTSD in children ages 8-18 who have been exposed to trauma, as well as assess symptom intensity (Goodkind, LaNoue, & Milford, 2010; Morsette et al., 2009, Stein et al., 2003). It was derived from the Posttraumatic Diagnostic Scale (Foa, Johnson, Feeny, & Treadwell, 2001). Stein and colleagues (2003) created the 7 item, Likert scale measure that yields a total score ranging from 0-21. Child participants select the response to each item that best fits their experience. Possible responses are 0 (not at all), 1 (once in a while), 2 (half the time), and 3 (almost always). A screening cutoff of 4 was used to identify potential participants for CBITS. A change of 2 or more points between pre-group testing and post-group testing was used here to estimate meaningful change based on the distribution of outcomes and a discussion with facilitators and NNCTC staff.

Childhood Depression Inventory (CDI).

The CDI (Kovacs, 2003) is a 27 item, self-report measure used to assess symptoms of depression in children ages 7-17. It requires a third grade reading level, with alternative

administration involving the assessor reading the instructions and items aloud. Responses to questions are coded as 0 (no symptom present), 1 (mild symptom), or 2 (definite presence of symptom), with a total score range of 0-54. An example of selection options is “bad things are my fault” (2), “many bad things are my fault” (1), or “bad things are not usually my fault” (0). Higher scores indicate greater symptom severity.

For children ages 7-12, raw scores over 17 for females and 19 for males are thought to be of clinical significance. For children 13-17, raw scores over 16 for females and 20 for males are considered to be in the clinical range. Although there are subscales for Negative Mood, Interpersonal Problems, Ineffectiveness, Anhedonia, and Negative Self-Esteem on this measure, only the total score was evaluated in the present study. For the purposes of this study, all scores were converted to T scores. A T score over 65 is considered to be clinically significant and a T score change of 5 points or greater is considered to be clinically meaningful (Kovacs, 2003).

The CDI has been used widely in studies assessing depressive symptomatology in children. The measure was designed and normed predominately with members of the majority culture (Kovacs, 2003) and utilizes a framework for understanding and expressing depressive symptoms that is consistent with membership in the majority culture (Thrane et al., 2004). It has been used in some research on mental health outcomes related to PTSD in children (Morsette et al., 2009; Stein et al., 2003). Although cultural differences are an important consideration (see Hoyt & Swaney, 2009), the CDI has been used to assess depressive symptoms in Native American youth, and has been shown to have good psychometric properties when used to measure depression in this population (Goodkind et al., 2010; Hammill, Scott, Dearing, & Pepper, 2009; Morsette et al., 2009; Rieckmann, Wadsworth, & Deyhle, 2004; Scott & Dearing, 2012).

Qualitative Measures

There are four primary domains of interest identified in the literature that served as a base for the qualitative questions in the interviews (see page 21-22 and Appendices A and B); Child and Family, Group and Facilitator Relationship, Trauma-Specific, and Institutional. Copies of the qualitative interview guides are in Appendices A (focus group questions) and B (facilitator survey). These domains served as the theoretical anchors for the qualitative questions and subsequent analyses.

The domains provided the over-arching categories for a matrix (Elo & Kingaas, 2007; Mayring, 2000) created through literature review (Bringer, Johnston, & Brackenridge, 2006). While the ongoing analysis did not specifically represent grounded theory work, it was an inductive process that led to the creation of factors, categories, and themes. It was driven by what was present in the interviews, even though prior literature review drove the initial framework of the analyses (Bringer et al., 2006). The process required openness to the content despite prior knowledge, such that the data were not forced to fit within a prescribed framework; instead, the framework was permitted to evolve as the analysis progressed (Bringer et al., 2006; Creswell & Plano Clark, 2011; Ivankova et al., 2006)

Facilitator Interviews.

A semi-structured interview (Carr, 2008; Hsieh & Shannon, 2005) consisting of a series of open-ended questions (see Appendix A) and clarifying probes was conducted with facilitators regarding cases selected from each treatment outcome group (see Table 2, p. 23). By identifying cases solely by their unique participant numbers and having open ended questions for the facilitators, child participant privacy was protected while still allowing me to gather rich

qualitative information and affording the opportunity to encourage a bottom-up conceptualization of factors, categories, and themes within each domain.

Facilitator Surveys.

Facilitators also completed a survey (see Appendix B) of open-ended questions about their education and experience. In addition they responded to other open-ended questions regarding their experience with and thoughts about CBITS. They also responded to three open-ended questions related to institutional factors impacting the implementation of CBITS and changes within their school over the time that CBITS was implemented. The response rate was 100% for all questions.

Qualitative Analyses.

The present study used an explanatory sequential analysis (Creswell & Plano Clark, 2011) to describe domains impacting children's diverse outcomes following participation in CBITS. This particular model is ideal, as I began with an existing quantitative data set but had questions that could not be adequately answered via strictly numerical means (Creswell & Plano Clark, 2011; Ivankova et al., 2006). To do this, qualitative content analysis was conducted on the manifest content of the transcripts from the focus groups (Elo & Kingaas, 2007; Mayring, 2000) using NVivo 9 software (QSR, 2010). The domains that were the focus of the qualitative questions were ones that have been identified in previous literature as being important; thus they served as overarching categories in an unconstrained matrix (see Table 3, pp. 35-36; Elo & Kingaas, 2007; Hsieh & Shannon, 2005) for initial deductive analysis of the data (Elo & Kingaas, 2007; Mayring, 2000). Throughout this process inductive content analysis was used to identify factors, categories, and themes within the content which were initially placed in the over-arching domains of the matrix (Elo & Kingaas, 2007; Mayring, 2000) that corresponded to

the question the facilitator was responding to. Although no macro level modifications were made to the matrix as a result of the inductive content analysis, factors and categories were moved to domains which better represented the content at a later stage of analysis (Hseih & Shannon, 2005).

Interviews were transcribed by one research assistant and me, with each of us completing the transcription for one site. After the transcripts were complete, a second research assistant conducted an accuracy check. All changes were then verified by me. I began the analyses by grouping transcripts of interview segments together into the nine outcome groups (Bringer et al., 2006), and entered them into NVivo 9 (QSR, 2010), a software program used to assist with the process of organizing and managing qualitative data, as well as for separating the differing levels of coding that emerged. This included several factors within the larger categories which included themes, all of which were encompassed within the previously identified domains (see Table 3, pp. 35-36; Bringer et al., 2006, Ivankova et al., 2006; Ivankova & Stick, 2007). In addition this program assisted with visual modeling (Bringer et al., 2006) of the different factors, categories, and themes in each domain for the nine outcome groups.

After transcribed interviews were entered into NVivo 9, I initially employed deductive processes, using the research derived domains to guide the framework for exploring the text and to help identify textual material that was relevant (Elo & Kyngas, 2008; Mayring, 2000). Next I created folders for each domain (Trauma-Specific, Group and Facilitator Relationship, and Child and Family) in order to store linked information in concise groupings once actual coding began (Bringer et al., 2006). I then went through the transcripts line by line (Elo & Kyngas, 2008) to read the content and begin to get an idea of what items were reported that related to each domain identified in the literature (Mayring, 2000). This was followed by a second pass through the

transcribed interviews where I began open coding, an inductive exploration of the transcripts (Creswell & Plano Clark, 2011; Elo & Kyngas, 2007). In this process, I again went through the transcripts line by line and created factors as I went (Elo & Kyngas, 2008). These factors were pieces of information within each interview that contained meaningful information related to one of the domains. These factors were initially placed in folders corresponding to the question the facilitators were responding to when they shared the information. This form of structuring was for organizational purposes only; the later stages of analysis allowed for the merging and movement of identified factors (Elo & Kyngas, 2008). The initial coding yielded 30 factors in the Trauma-Specific domain, 38 factors in Child and Family domain, and 14 in Group and Facilitator Relationship domain.

I then created separate visual models for each outcome group which displayed all of the factors associated with that particular group (Bringer et al., 2006) to facilitate the abstraction process (Elo & Kyngas, 2007). In these initial models all identified factors for each group were spread randomly around the central group identifier (Group A, Group B, etc.). This allowed me to re-explore groupings and see how the different factors related to one another (Bringer et al., 2006; Creswell & Plano Clark, 2011; Ivankova et al., 2006; Mayring, 2000). Initially I used distinct shapes to categorize factors in a general way, using ellipses for protective factors and squares for risk factors. After some consideration, I began to cluster the factors into groupings (Bringer et al., 2006; Creswell & Plano Clark 2011; Elo & Kyngas, 2007), with group and facilitator relationship factors on top, positive family and child factors on the right, child and family risk factors on the left, and traumatic experiences on the bottom (see Figures 1,2, & 3). The purpose of this visual re-examination was to accomplish the task of revising the identified factors, reducing or combining them as appropriate, and then identifying main categories that

described sets of factors which were conceptually related (Bringer et al., 2006; Creswell & Plano Clark, 2011; Elo & Kyngaas, 2007; Ivankova et al., 2006; Mayring, 2000).

It became clear that several factors were duplicated in the Child and Family domain and the Trauma-Specific domain, depending on whether the facilitators had listed the item as a trauma or as a part of the child's general life experience. One example is parental loss, which showed up in both domains, including separate factors for both maternal and paternal loss by death, removal from care, abandonment, and incarceration. In an effort to eliminate redundancy (Creswell & Plano Clark, 2011; Elo & Kyngaas, 2007), the factors from the Child and Family domain were merged into the corresponding factors in the Trauma-Specific domain. In addition, there was no discernible difference in the patterning of maternal vs. paternal losses, so they were combined into "parental loss" for each of the different loss categories. Other notable shifts included re-assigning factors to a different domain, as I did with "good student" and "struggled in school," which were originally in the Group and Facilitator Relationship domain because of the place during the interview where they were most frequently mentioned. Conceptually they fit with and were thus moved to the Child and Family domain (Elo & Kyngas, 2007).

Figure 1. An example of the first phase of visual modeling: Group H (T=, ↓D).

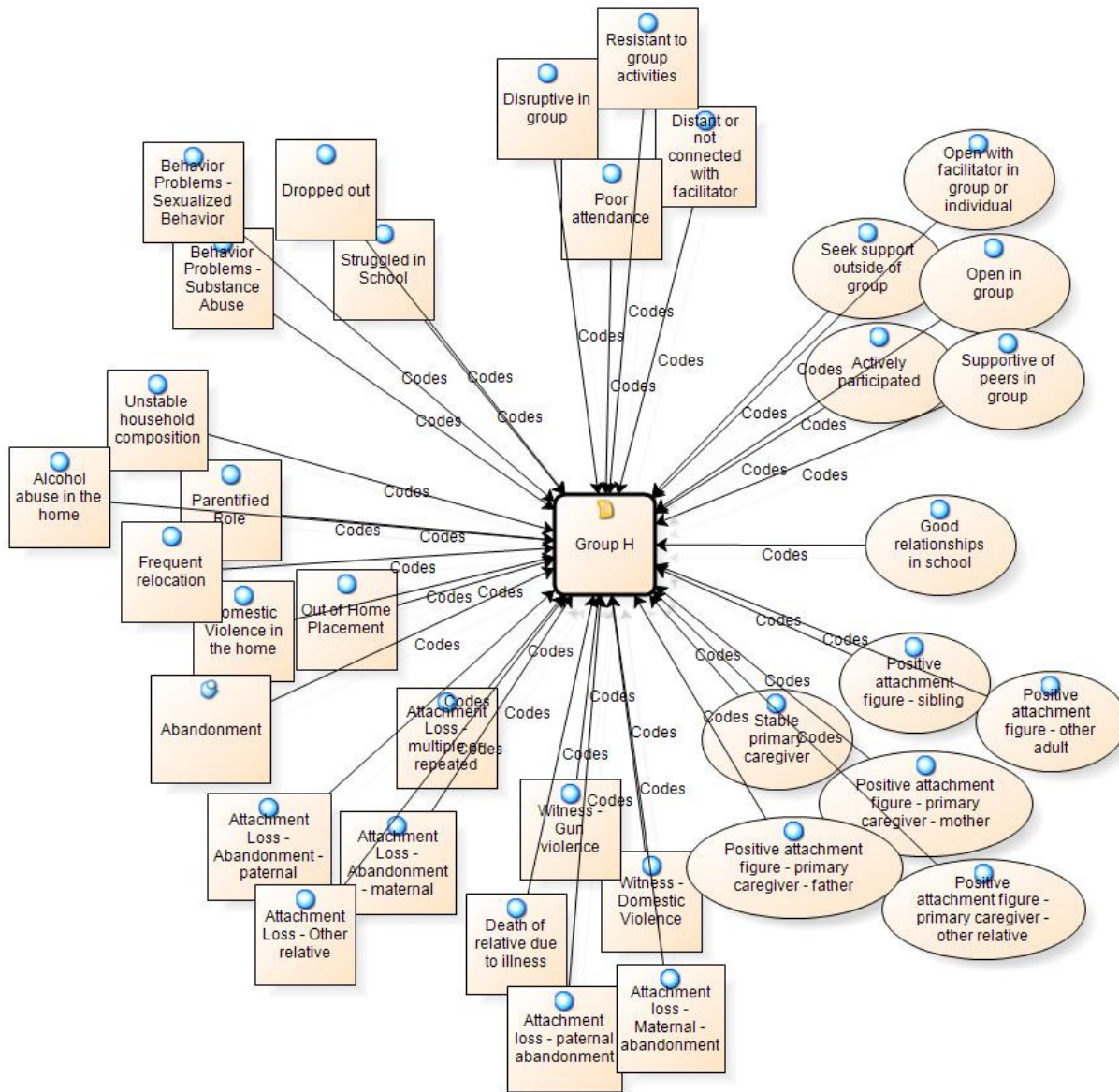


Figure 1. In the first phase of visual modeling factors were identified very generally by using ellipses for items that were conceptualized as protective factors and squares for items that were conceptualized as risk factors. Factors were also moved into groupings based on what question the facilitators were answering.

After two rounds of revision of the factors for coding there were 28 specific factors in the Child and Family domain, 11 in the Group and Facilitator Relationship domain, and 22 in the Trauma-Specific domain (see Table 3, pp35-36). I again created visual models (Bringer et al., 2006) and followed the same process, beginning with random and non-specific placement and moving to organized and related items being clustered together. This time I moved from the general domain headings and began to divide domains into categories within each domain (Elo & Kyngas, 2008; see Figure 3, p. 34).

Finally I identified categories (represented by octagons in Figure 3) that were descriptive of the groupings of factors within each domain and added these to the model. The categories were chosen because they contained related information that conceptually fit together (Elo & Kyngaas, 2008). This resulted in seven identifiable categories in the Child and Family domain, two in the Group and Facilitator Relationship domain, and four in the Trauma-Specific domain (see Figure 3, p. 34 and Table 3, pp. 35-36). Colors were added for easy visual differentiation or related groupings, and have no independent meaning.

Figure 2. An example of the second phase of visual modeling: Group H (T=, ↓D).

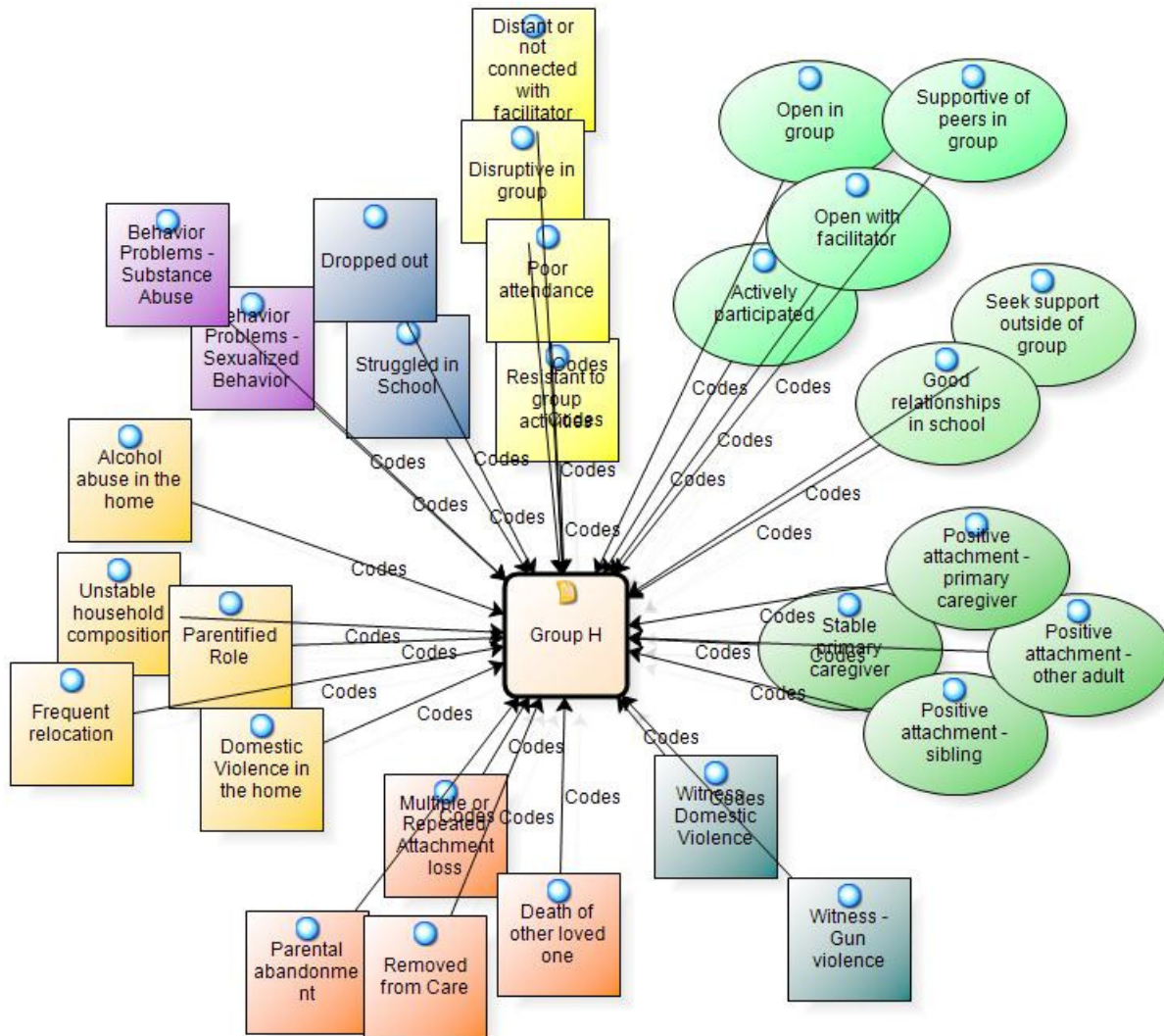


Figure 2. This example of the second phase in visual modeling illustrates the factors in group H after the revised coding. The figure is less cluttered and conceptually related factors are now grouped together. The ellipses still represent protective factors and the squares continue to represent risk factors. Colors were used to separate conceptually similar factors, such as blue for witnessing violence and orange for attachment related loss or trauma.

Figure 3. An example of the third phase of visual modeling: Group H (T=, ↓D).

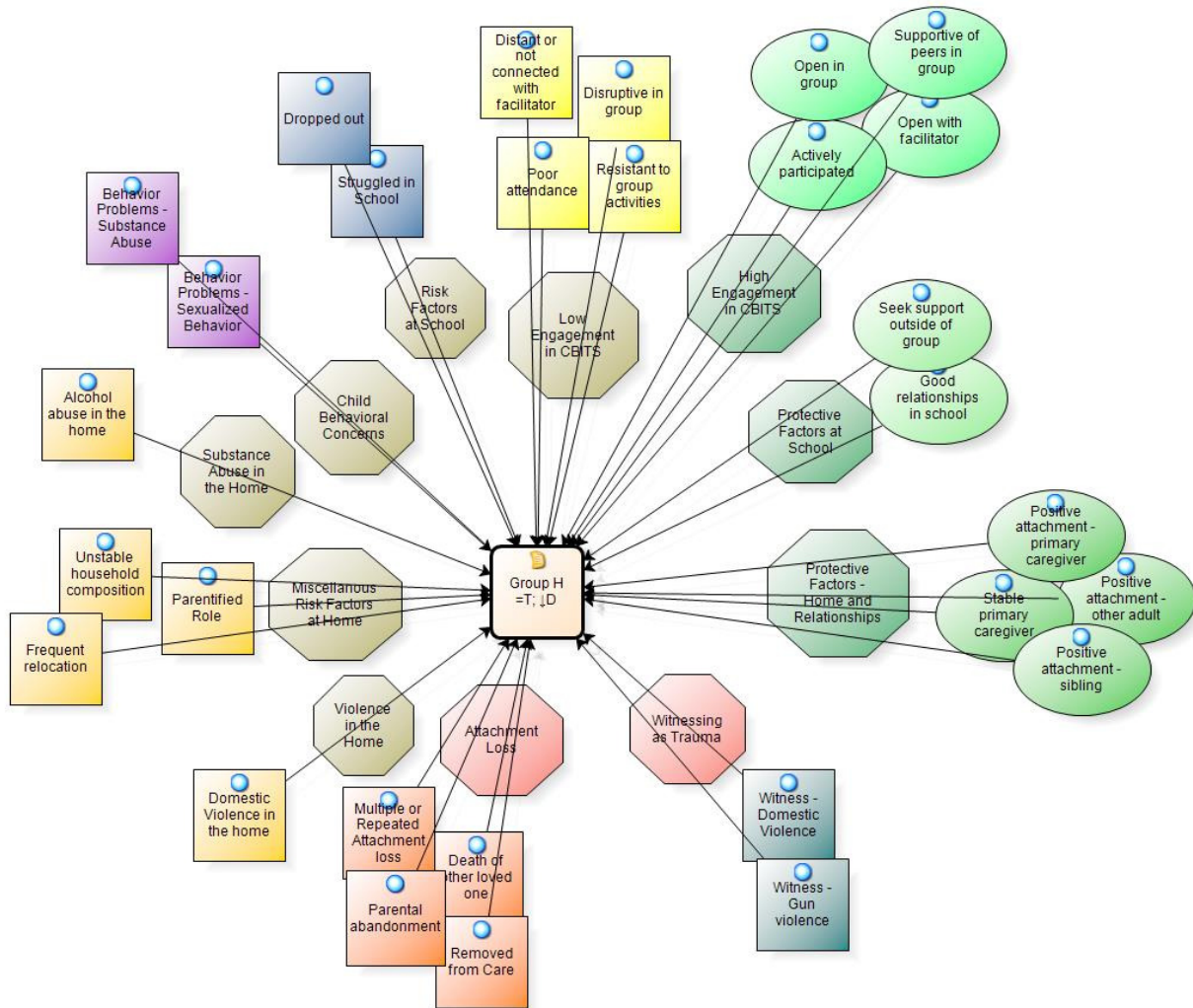


Figure 3. This example of the final phase of visual modeling illustrates the inclusion of identified categories for Group H; the factors remain the same, but have been divided into specific conceptually related categories which have now been named and are represented by octagons. Ellipses and squares continue to have the same meaning (protective and risk factors respectively) and the colors remain unchanged from the previous example in Figure 3.

Table 3.

Factors Identified from Interviews with Facilitator Participants and the Final Matrix of

Domains, Themes, Categories for the Qualitative Analyses

Domains	Themes	Categories	Factors
Child & Family	Protective	Home and Relationships	Positive attachment – other adult
			Positive attachment – primary caregiver
			Positive attachment – sibling
			Stable primary caregiver
		School	Good relationships in school
			Good student
			Seeks support outside of group
	Risk	School	Bullied at school
			Dropped out
			Struggled in school
Child behavioral concerns		Fighting	
		Other acting out	
		Sexualized behavior	
	Stealing		
	Substance abuse		
	Substance abuse in the home	Alcohol abuse in the home	
		<i>In utero</i> drug exposure	
		Other drugs in the home	
		Unspecified substance abuse in the home	
	Miscellaneous risk factors at home	Extreme poverty	
		Frequent relocation	
		Parentified role	
		Unstable household composition	
	Violence in the home	Child abuse in the home	
		Domestic violence in the home	
		Other violence in the home	
	Uncategorized factors	Suicidal ideation	
		Suicide attempt	

Group & Facilitator Relationship	Protective	High engagement in CBITS	Actively participated Open in group Open with facilitator Supportive of peers in group
	Risk	Low engagement in CBITS	Closed or quiet in group Disruptive in group Distant or not connected with facilitator Poor attendance Resistant to group activities Superficial in group
	Non-specific	Uncategorized factor	Cultural activity
Trauma-Specific	Risk	Attachment loss	Death of grandparent Death of other loved one Death of parent Death of sibling Multiple or repeated attachment loss Parental abandonment Parental incarceration Removed from care
		Direct trauma	Involved in MVA Victim – gun violence Victim – physical violence at home Victim – physical violence by peers
		Sexual trauma	Sexual abuse in the home Sexual abuse by unspecified family member Sexual abuse/assault by other perpetrator
		Witnessing as trauma	Witness - death – not violence Witness - death by violence Witness - domestic violence Witness –gun violence Witness – MVA Witness – Physical violence Witness – weapon violence – not gun

CHAPTER IV

Results and Findings

Quantitative Results

A one way ANOVA revealed that children who participated in CBITS experienced a reduction in trauma symptoms ($F[2]=22.60, p<.001$; sphericity assumed, Greenhouse-Geisser $\epsilon>.70$; see Figure 4) over the three measurement occasions. The mean CPSS scored for each measurement time (screening, pre-group, and post-group) were compared using paired samples t -tests. Screening scores on the CPSS ($M=9.59$) were significantly higher than pre-group scores ($M=7.69$), $t(58) = 3.61, p<.001$. Screening scores ($M=9.59$) were shown to be significantly higher than post-group scores ($M=5.93$), $t(58) = 6.68, p<.0001$. Post-group CPSS scores ($M=5.93$) were significantly lower than pre-group scores ($M=7.69$), $t(58) = 3.15, p<.005$.

Figure 4. Trauma symptoms at screening, pre group, and post group.

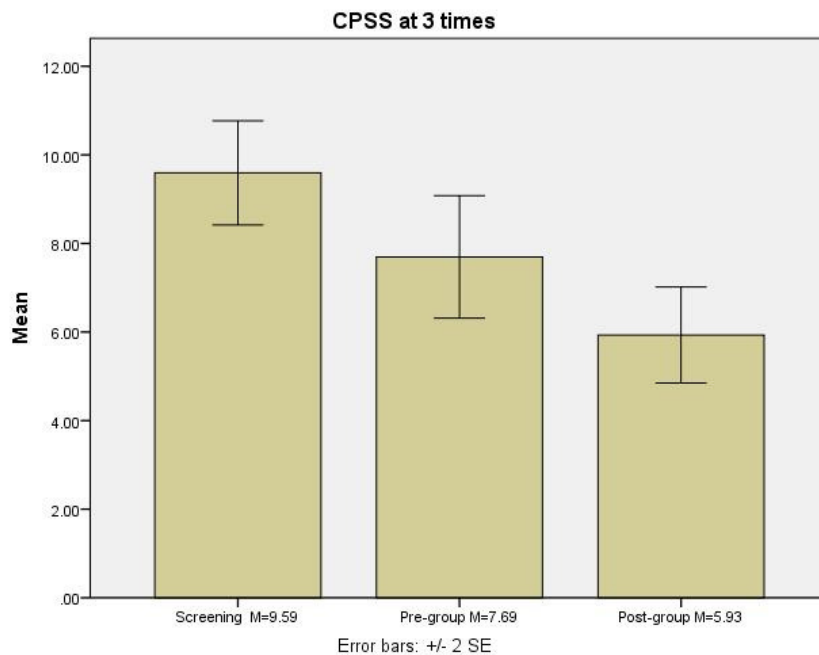


Figure 4. Bar graph illustrating the downward trend in mean trauma symptoms for the entire sample as indicated by CPSS scores at screening, pre-group, and post-group.

A paired samples *t*-test was conducted to explore the change in depressive symptoms as measured by *T*-scores on the CDI from pre group to post-group. Overall, scores at pre-group ($M=54.81$) were significantly higher than post-group scores ($M=51.07$, $t [58] =3.12$, $p<.005$; see Figure 5). While the change is statistically significant, only changes of 5 or more *T* score points are considered to be meaningful clinically and the average score change for this group did not meet this criteria. It is notable that only *T*-scores of 65 and above are indicative of clinically significant depressive symptoms; the mean scores for this group of children were not within the clinical range before or after participating in CBITS.

Figure 5. Pre and post group CDI scores

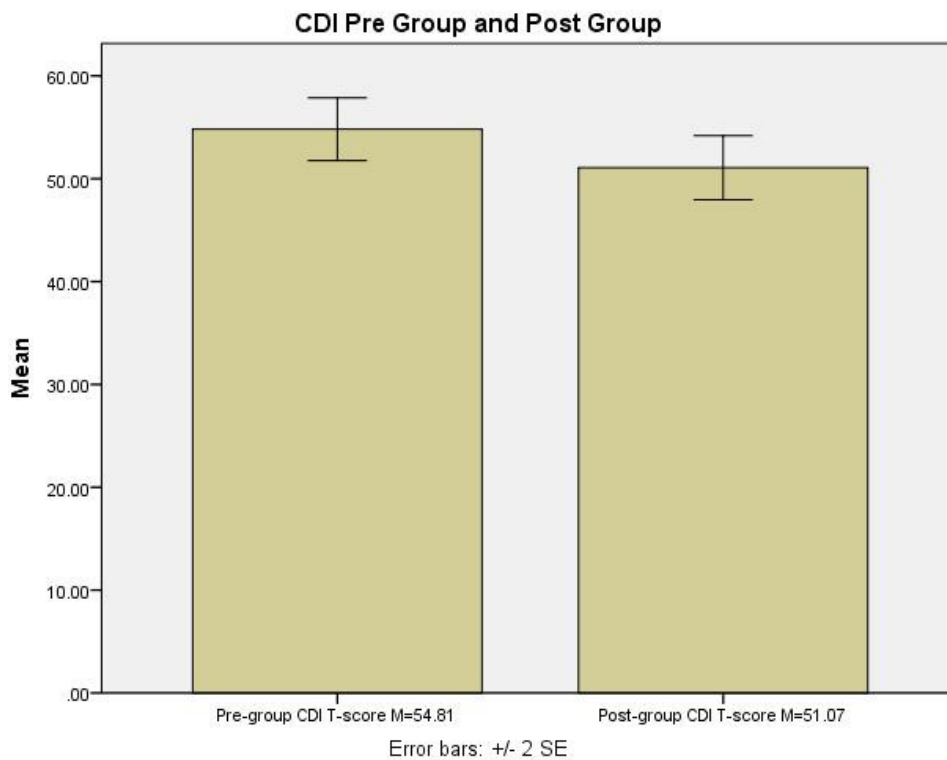


Figure 5. Bar graph illustrating the downward trend in mean depressive symptoms for the entire sample as indicated by CDI scores at pre-group and post-group.

When exploring magnitude and direction of change in trauma symptoms, only the pre and post group scores were used. This provided for the most conservative approach when examining the results. Trauma symptom change scores were calculated by subtracting pre-group CPSS scores from post-group CPSS scores. Overall, children experienced a decrease in trauma symptoms from pre-group to post group ($M=3.74$), but there was considerable variability in outcome (range: -9 to +13; $SD=9.21$; note that negative numbers represent increased symptoms, (see Figure 6).

Figure 6. Change in Traumatic Stress Symptoms from pre group to post group

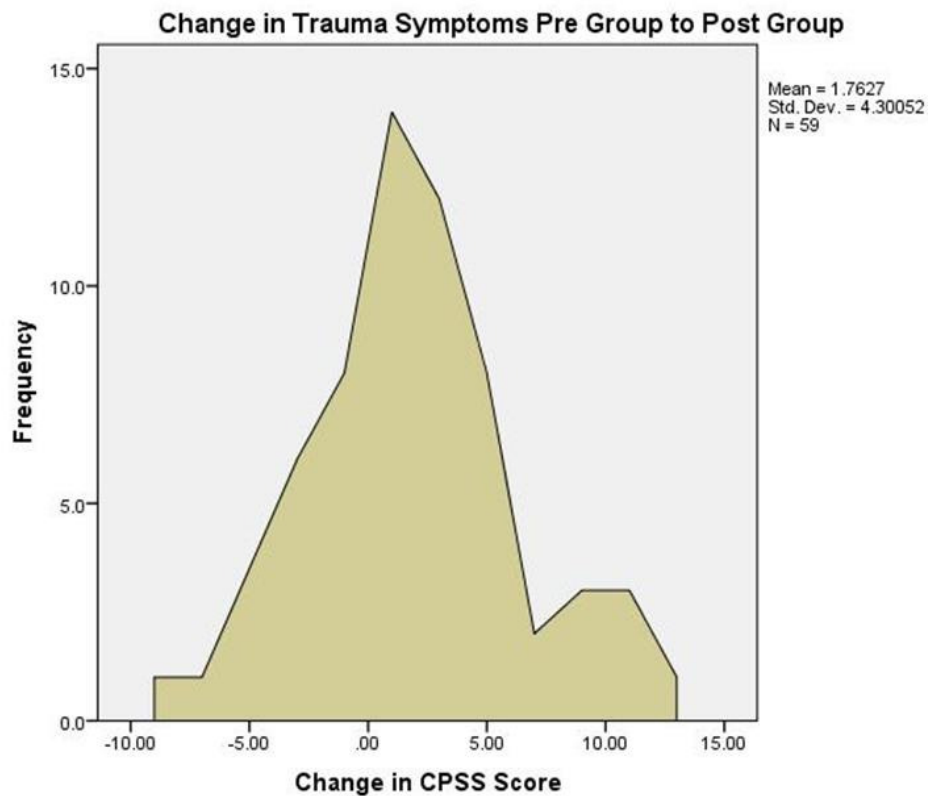


Figure 6. Histogram illustrating the distribution of change in trauma symptoms as measured by CPSS scores; note that negative numbers represent increased symptoms.

Depressive symptom change scores were calculated by subtracting pre-group CDI T-scores from post-group CDI T-scores. Children experienced an overall reduction in depressive symptoms ($M=1.76$, range -22 to +21; $SD=4.30$; note that negative numbers represent increased symptoms, see Figure 7).

Figure 7. Change in depressive symptoms

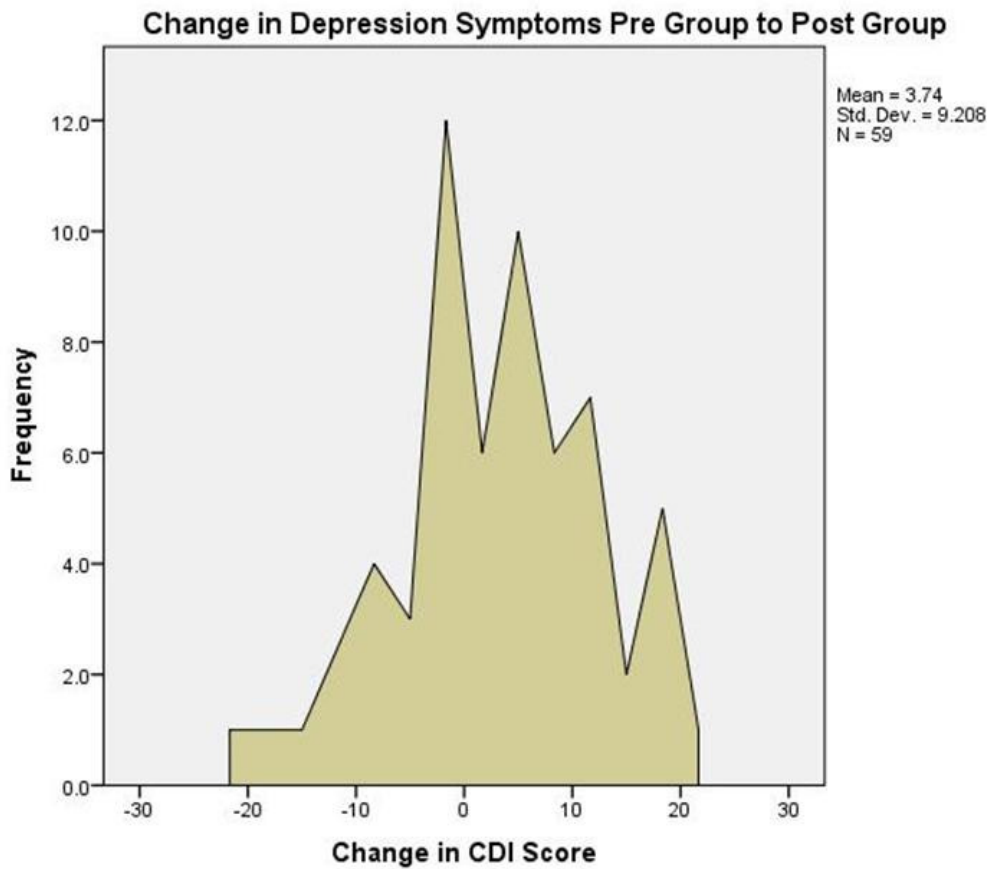


Figure 7. Histogram illustrating the distribution of change in depressive symptoms as measured by CDI T-scores; note that negative numbers represent increased symptoms.

Change in depressive symptoms and change in traumatic stress symptoms tended to vary together and in the same direction ($r [57]= 0.41$, $p<.001$). Thus, children whose self-reported

symptoms improved on one measure tended to report symptom improvement on the other measure as well (see Figure 8).

Figure 8. Correlation of symptom change for CDI and CPSS.

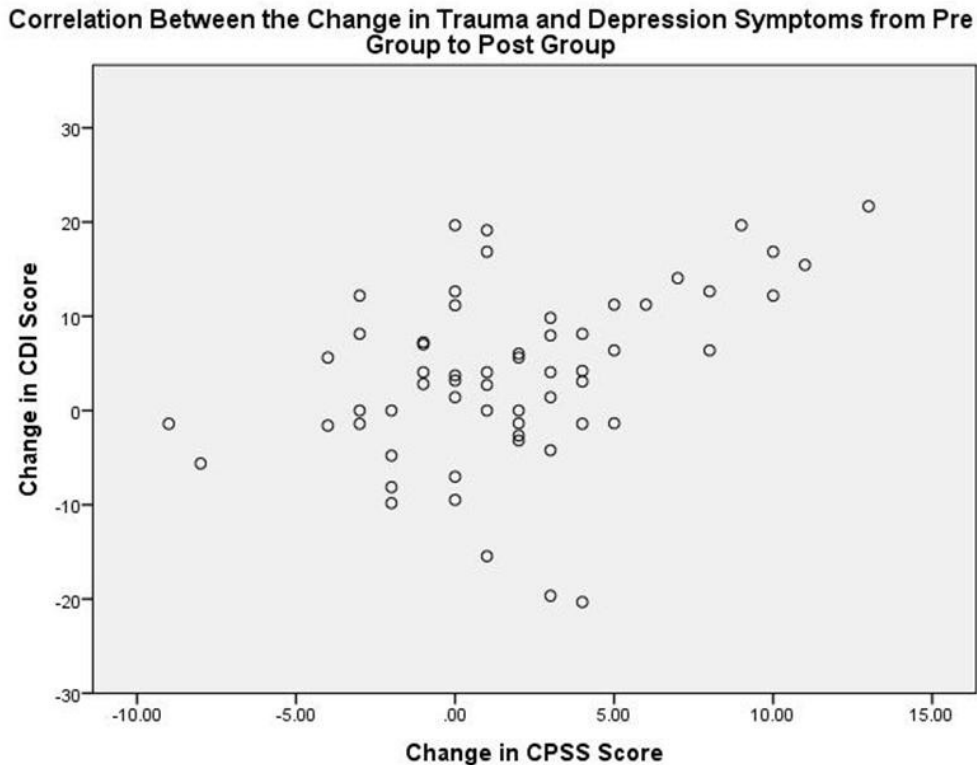


Figure 8. Scatterplot illustrating the correlation of overall change (post- group – pre-group) in self-reported scores on the CPSS and CDI.

The different outcome groups have extreme variability in size (range 1-14), and there was not enough statistical power given the total number of participants to compare all groups statistically. In addition there were not enough participants in each outcome cell to explore distribution using the *chi-square* statistic to detect group differences. Despite these limitations, the differences between groups are interesting and suggest a value in further exploration for future studies (see Table 4).

Table 4.

Means for Outcome Groups on all Measures. Negative numbers indicate increased symptoms.

Outcome Group (n)	Mean Screening CPSS	Mean Pre-Group CPSS	Mean Post-Group CPSS	Mean Δ CPSS	Mean Pre-Group CDI	Mean Post-group CDI	Mean Δ CDI
A T \uparrow , D \uparrow (1)	6.00	6.00	14.00	-8.00	58.43	64.04	- 5.62
B T=, D \uparrow (6)	9.67	6.83	7.67	-.083	51.36	60.48	- 9.10
C T \downarrow , D \uparrow (2)	13.50	11.00	7.50	3.50	48.81	68.80	-19.99
D T \uparrow , D= (4)	10.00	6.25	11.00	-4.75	53.25	54.35	- 1.10
E T=, D= (12)	8.33	4.25	3.83	0.42	47.98	46.53	1.45
F T \downarrow , D= (8)	10.63	9.25	5.75	3.50	51.12	50.72	0.39
G T \uparrow , D \downarrow (3)	5.33	2.00	5.33	-3.33	55.32	46.67	8.65
H T=, D \downarrow (9)	7.67	4.89	4.44	0.44	57.84	46.13	11.71
I T \downarrow , D \downarrow (14)	11.79	13.21	5.93	7.29	63.27	50.86	12.41

Table 5.

*Rank ordering of outcome groups by hypothesized desirability of treatment outcome**

Outcome	Group	n (%total)
T (Trauma symptoms)		
D (Depressive Symptoms)		
T \downarrow , D \downarrow	I	14 (24%)
T \downarrow , D=	F	8 (14%)
T=, D \downarrow	H	9 (15%)
T \downarrow , D \uparrow	C	2 (3%)
T=, D=	E	12 (20%)
T=, D \uparrow	B	6 (10%)
T \uparrow , D \downarrow	G	3 (5%)
T \uparrow , D=	D	4 (7%)
T \uparrow , D \uparrow	A	1 (2%)

**Assumes that a decrease in traumatic stress symptoms is more clinically valuable than a decrease in depressive symptoms*

Qualitative Findings

While the quantitative analyses demonstrated overall improvement in symptoms of traumatic stress and depression for the group as a whole, they also highlighted considerable variation in the response of individuals. The purpose of the qualitative portion of this study was to attempt to explain differences in outcome groups that might account for this variability. Thus as noted above, a subset of child participants was selected from each group to serve as a purposive sample of cases for facilitator interviews. Cases were selected from each group, with particular interest being paid to outliers. Facilitators at each site were interviewed for each case regarding Trauma-Specific, Group and Facilitator relationship, and Child and Family domains, with the goal of identifying factors that differentiate children in the various outcome groups. These interviews were of paramount concern as facilitators had described changes in child behavior and coping that are not reflected in the symptom scores (School Personnel, personal communication, May 24, 2011). In addition there was some discussion that as children became more knowledgeable about what trauma symptoms were, they may have chosen to either endorse or not endorse symptoms, possibly resulting in some members being assigned to groups on the basis of scores which do not truly reflect their experience. This is another factor to consider when investigating possible negative treatment effects.

There was considerable variation in the amount of information provided for each child and the certainty with which facilitators discussed each case. In addition there were differences in the number of children who were selected from each outcome group. There were also marked differences between the focus group sessions themselves. One school had four facilitators who were able to participate together and help each other when recalling specific children, whereas the other school only had one facilitator who had run the groups several years previously. This

second “focus group” was really more of an interview, but was the only means of gathering data regarding these participants.

The marked variation in information by participant impacted the density, or general amount of coded information per group given the number of cases (QSR, 2010) within each outcome group. This lack of information is most notable in Group F ($\downarrow T$; $=D$), where the only representative interview was about a child who had been seen 6 years previously and only one facilitator had any information regarding that child. This also impacted the interview about Group A ($\uparrow T$; $\uparrow D$); there was only one child in this outcome category within the entire sample and the facilitators knew a significant amount about the child, but did not have a strong recollection of the child as a group member. While this was a challenge, there were still notable differences between outcome groups in general (see Figure 9, p. 46 for a side by side view and Appendix C for larger images of each model).

At first glance, it appears that the overall density differs for each outcome group such that groups whose symptoms worsened on either measure tended to have more factors represented in trauma and risk categories given the number of interviews per group, with the possible exception of Group I (see Figure 9).

The models (Figure 9) visually illustrate some group differences. To explore these further on a more targeted level, matrices (Figures 10 - 22) were created to illustrate factor frequencies reported for each outcome group. The matrices are presented by category better to explore the model. This provided an additional means of exploring differences between outcome groups in relation to the factors and categories of the overall model. These frequencies represent the number of times different factors were identified by facilitator participants for CBITS participants. These do not correspond to the number or percentage of children experiencing each

factor, as some children had several experiences of a given factor, while others had none. This was most notable when exploring attachment related loss as trauma, substance abuse in the home, protective relationships, protective factors at school, and indicators of facilitator identified CBITS engagement. The matrices assisted in interpreting the qualitative data and answering the qualitative questions specifically regarding identification of group differences related to the magnitude and direction of symptom change.

Q1: What are the differences in trauma factors for child cases that are related to the direction and magnitude of symptom change?

Q2: What are the differences in child and family factors across cases that are related to the direction and magnitude of symptom change?

Q3: What are the differences in facilitator and group factors related to direction and magnitude of symptom change?

The interpretation of this is presented by domain and category for consistency with the model that developed through the deductive and inductive processes of the qualitative analysis. Risk and protective factors are generally presented in separate matrices as well.

Figure 9. Final models of factors and categories for each outcome group.

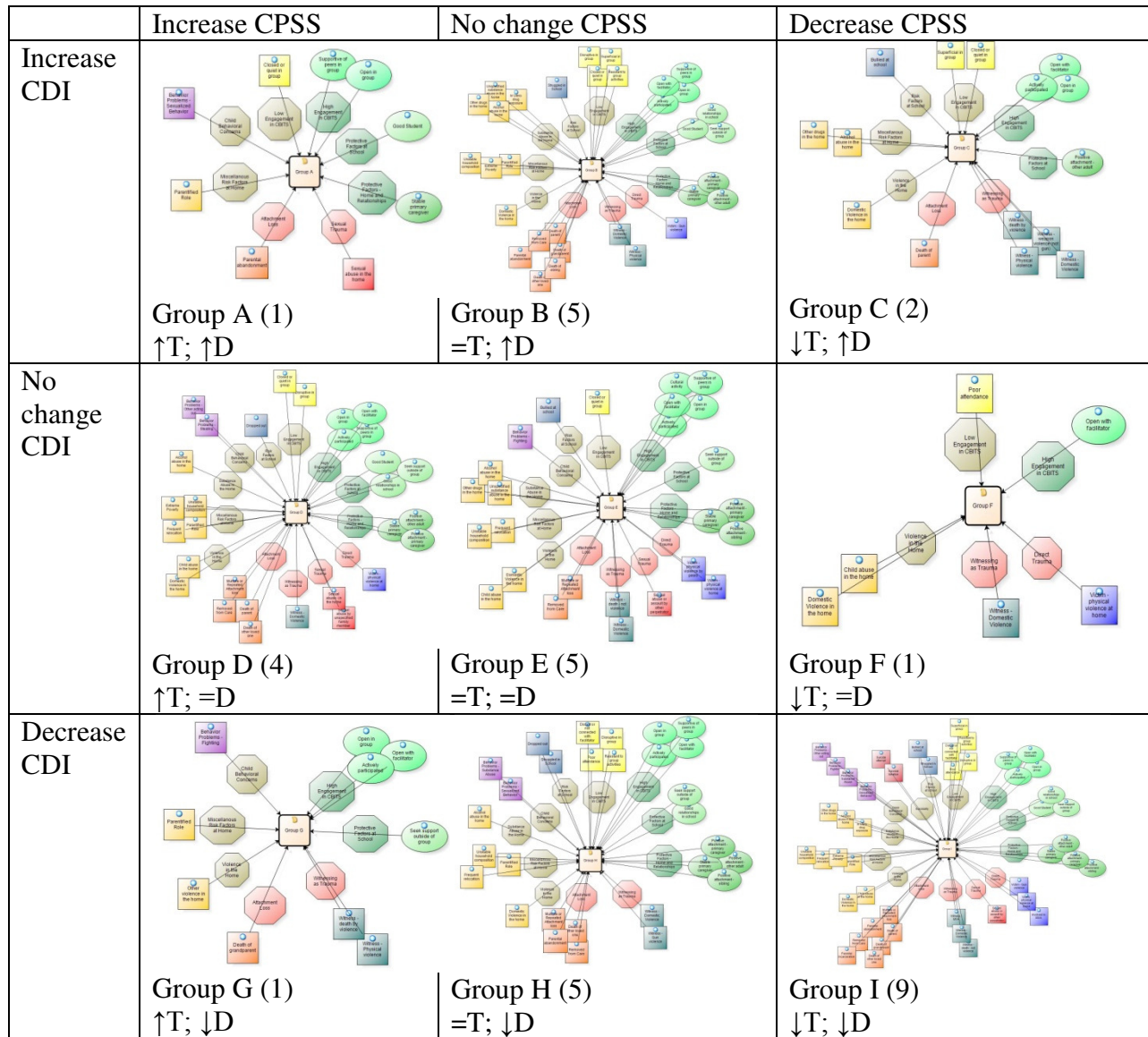


Figure 9 illustrates the final visual models for each outcome group. Density is reflected in the comparable “busy-ness” of the graphs which varies considerably by outcome category, especially when considering the number of interview cases within each group (listed parenthetically below each model). For example, groups whose trauma symptoms increased (Groups A, D, and G) have more identified “risk” themed factors than other groups with similar interview numbers (Groups B, F, and H as comparisons for group D; Group F as a comparison for Groups A and G).

Trauma-Specific Domain.

Figure 10 (p. 48) illustrates the factors identified related to facilitator-reported sexual trauma. Sexual abuse in the home was only reported for outcome Groups A ($\uparrow T$; $\uparrow D$) and D ($\uparrow T$; $=D$), which both represent cases reporting an increase in trauma symptoms. One child in Group D ($\uparrow T$; $=D$) reportedly had experienced sexual abuse by an unspecified family member. It seems possible that for this sample sexual abuse in the home or by a family member was associated with an increase in trauma symptoms, and either an increase or no change in depressive symptoms. Sexual abuse or assault by a non-familial perpetrator was only identified by facilitator participants in cases where there was improvement in trauma symptoms and either no change or improvement in depressive symptoms (see Figure 10 p. 48, Groups E $=T$; $=D$ and I $\downarrow T$; $\downarrow D$).

Most of the children with reported direct victimization did not experience a reduction in depressive symptoms (see Figure 11 p. 49, Groups B $=T$; $\uparrow D$, D $\uparrow T$; $=D$, E $=T$; $=D$, and F $\downarrow T$; $=D$), with the exception of 2 children in Group I who experienced decreased depressive symptoms. Children who were victims of violence generally experienced unchanged (Groups B $=T$; $\uparrow D$ and E $=T$; $=D$) or increased (Group D $\uparrow T$; $=D$) trauma symptoms. The exception to this was Group F ($\downarrow T$; $=D$), in which the child experienced violence at home but had a reduction in trauma symptoms following group participation. The child who was in a motor vehicle accident experienced decreased depressive and traumatic stress symptoms. While this is a direct experience of trauma, it is not an interpersonal trauma.

Figure 10. Sexual trauma identified for each outcome group

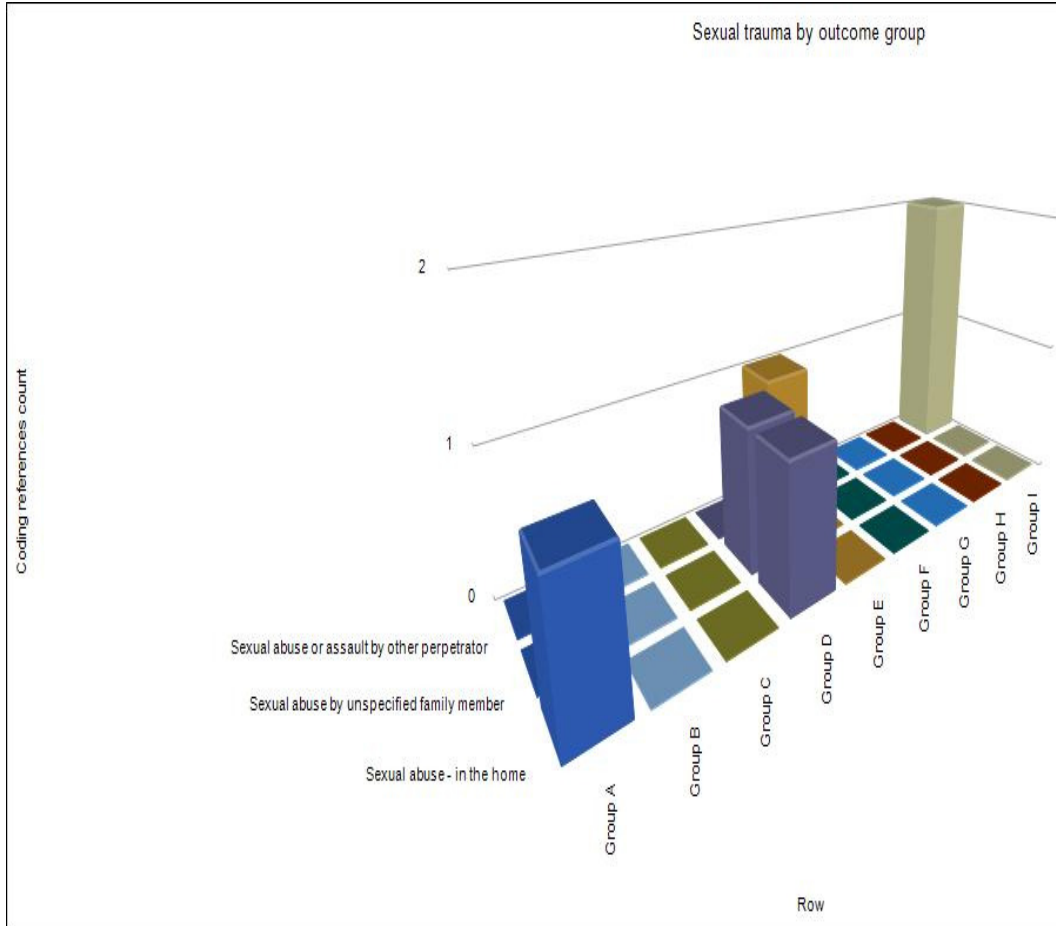
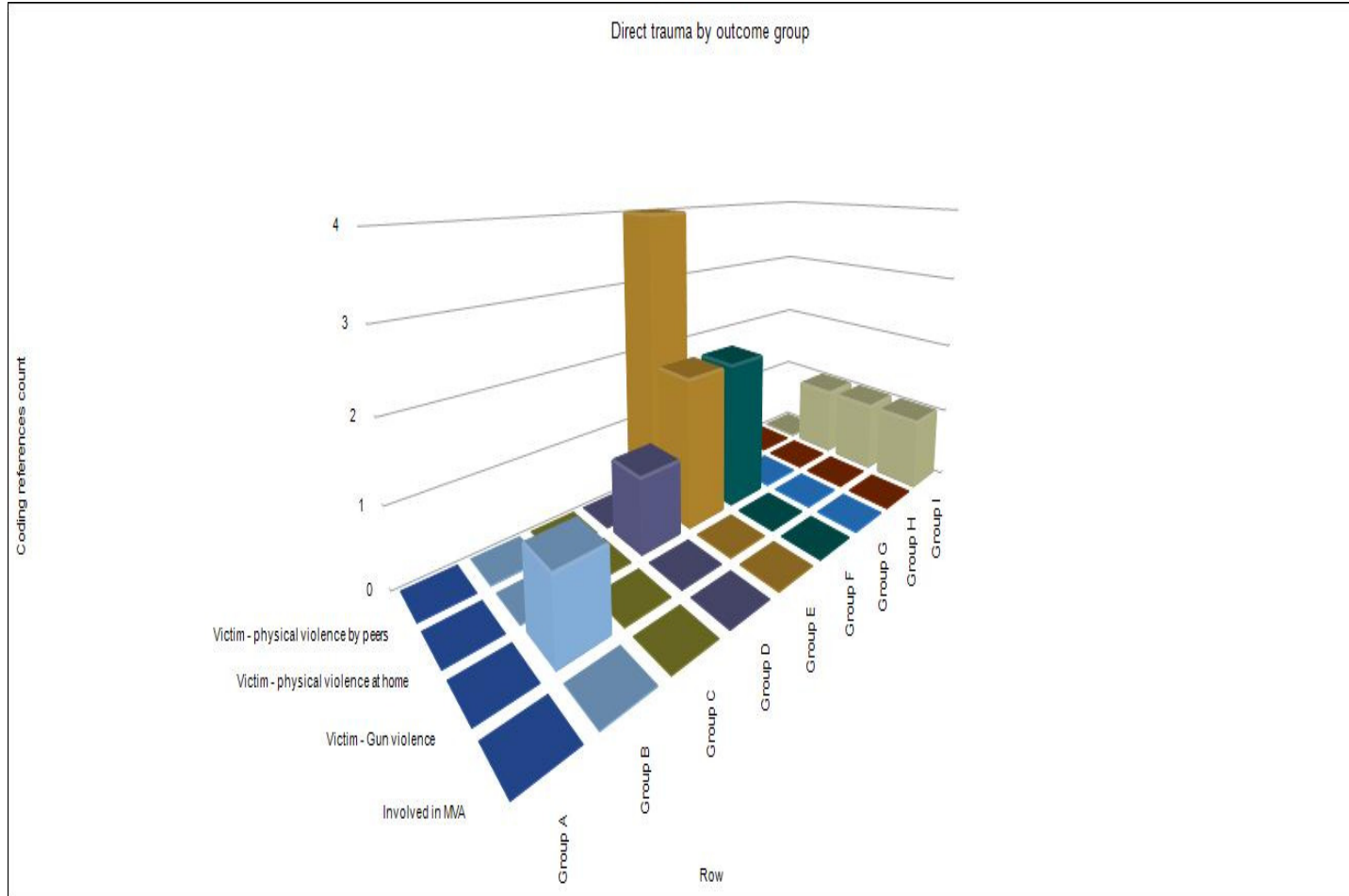


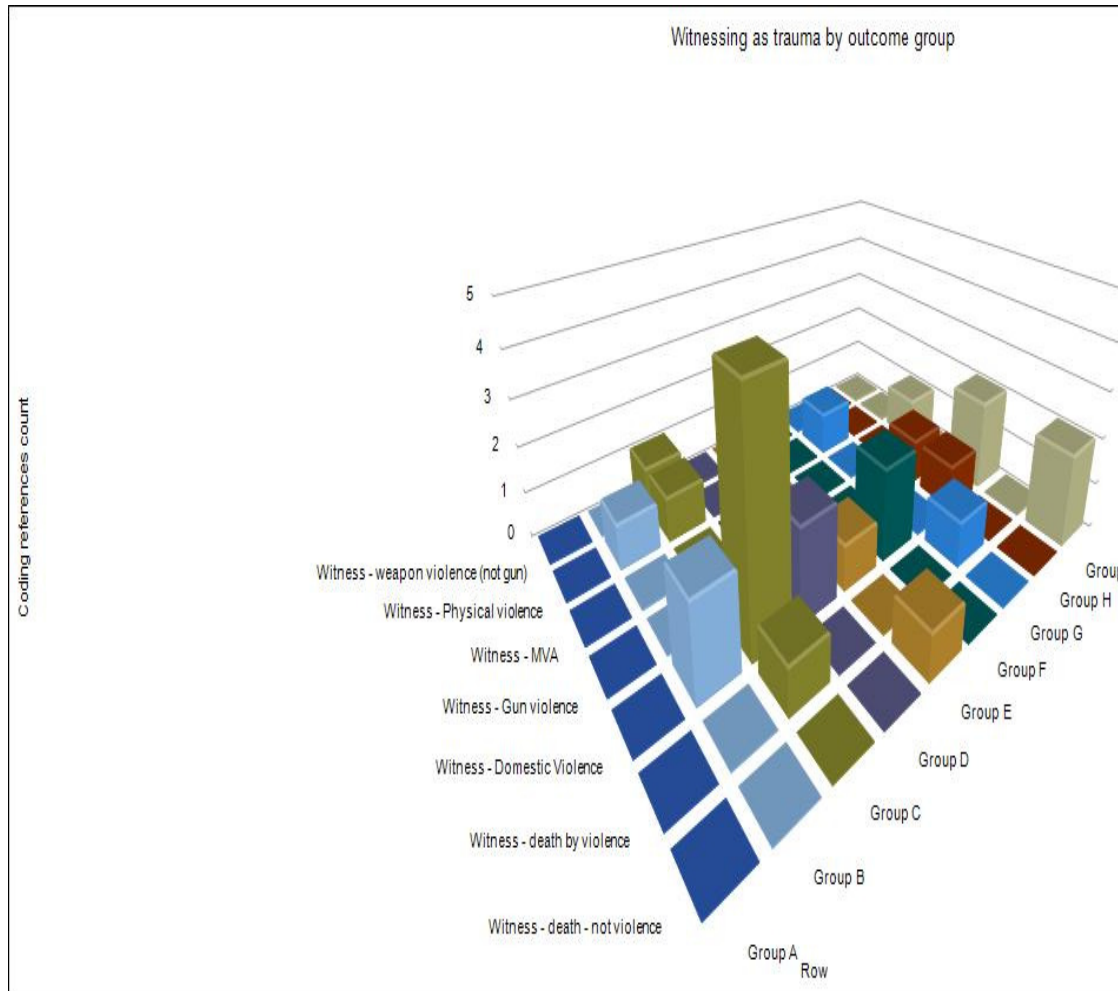
Figure 11. Direct reported trauma for each outcome group



Facilitators reported that children in this study witnessed violence in several different categories, with domestic violence being the most commonly identified factor. Some children were identified by facilitators as having witnessed multiple things that could be considered traumatic but were not violent (for example finding a relative who had died from natural causes). Two children in the group were reported to have been present when another person died by violence (Figure 12 p. 50, Groups C ↓T; ↑D and G ↑T; ↓D). There was not consistency in these children’s responses to CBITS treatment; one child had reduced traumatic stress symptoms and

increased depressive symptoms (Group C ↓T; ↑D) and the other child had increased traumatic stress symptoms and decreased depressive symptoms (Group G ↑T; ↓D).

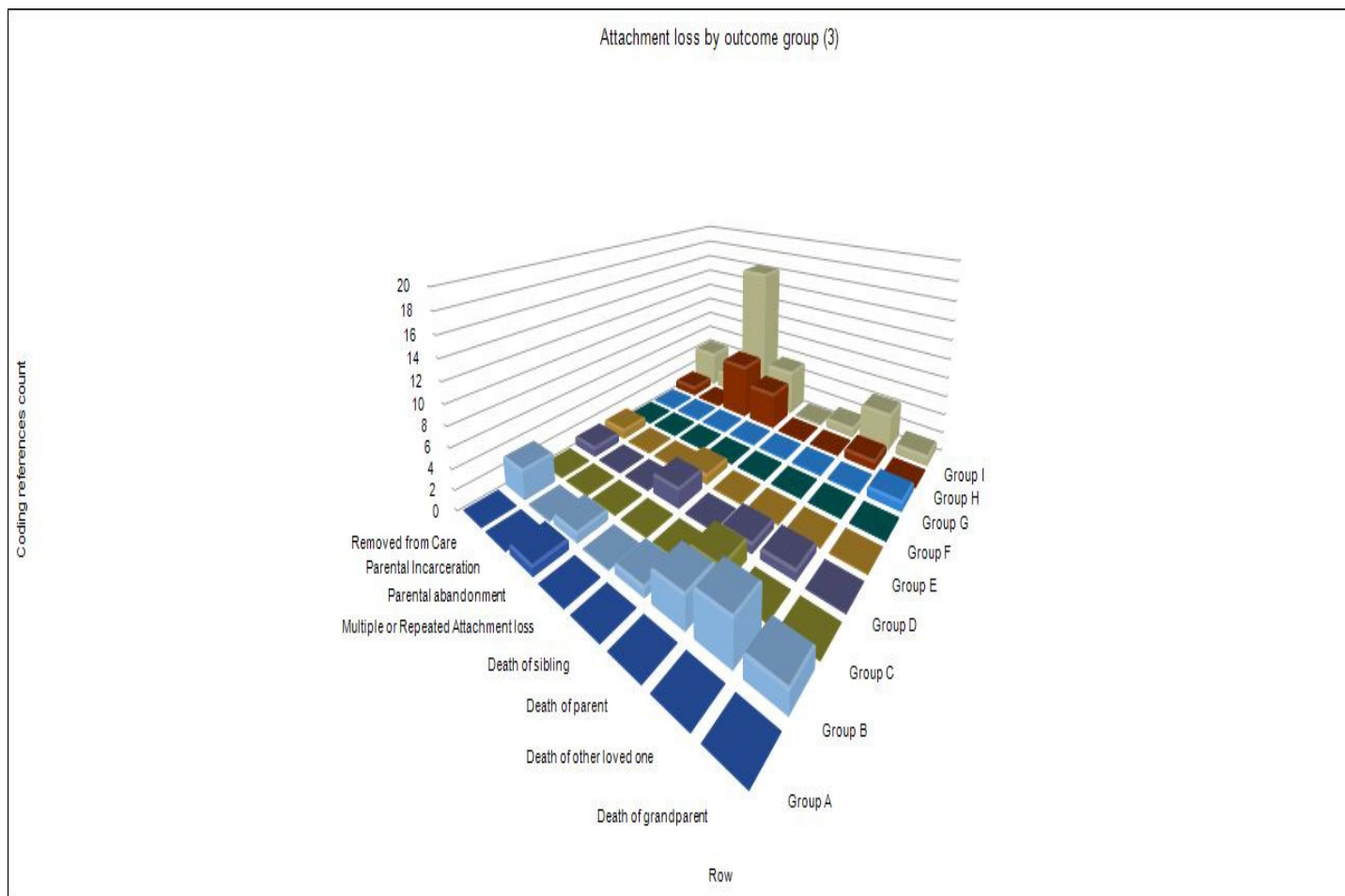
Figure 12. Facilitator- reported witnessing as trauma for each outcome group



Three children (one in Group E =T; =D, two in Group I ↓T; ↓D) reportedly found a deceased relative, but the deaths were not connected to violence. These children did not experience worsening of symptoms, and two experienced improvement in both traumatic stress and depressive symptoms (Group I ↓T; ↓D). In general, children whose symptoms of depression worsened (Groups A ↑T; ↑D, B =T; ↑D, and C ↓T; ↑D) were more likely to be identified as witnessing weapon violence, physical violence, and domestic violence. One child was identified

by facilitator participants as having witnessed another individual die by violence. Children whose trauma symptoms increased (Groups D ↑T; =D and G ↑T; ↓D) had reportedly witnessed domestic violence and death by domestic violence. Children whose symptoms of traumatic stress and depression improved (Group I ↓T; ↓D) were believed to have witnessed upsetting but not violent events, with the exception of one child who facilitators identified as witnessing domestic violence.

Figure 13. Reported attachment loss trauma for each outcome group



The group as a whole was reported as having experienced attachment related trauma. Reported loss in the form of death was most often associated with increased symptoms of depression (see Figure 13, Groups B =T; ↑D and C ↓T; ↑D) and traumatic stress (Groups D ↑T;

=D and G ↑T; ↓D), but not both. Other children were identified as having had this experience as well, but tended to improve on at least one measure. Multiple or repeated attachment loss (as reported by facilitators) was most associated with children whose symptoms worsened or remained unchanged on one or both measures (see Figure 13 p. 51, Groups D ↑T; =D, E =T; =D, H =T; ↓D, and I ↓T; ↓D). The child who experienced increased symptoms on both measures (Group A, ↑T; ↑D) reportedly experienced parental abandonment, coupled with several other risk factors within the home environment. Further work remains to be done to understand possible negative treatment effects for some children, and the relevance and potential adaptation of CBITS with grief and loss (Morsette et al., 2012).

Child and Family Domain.

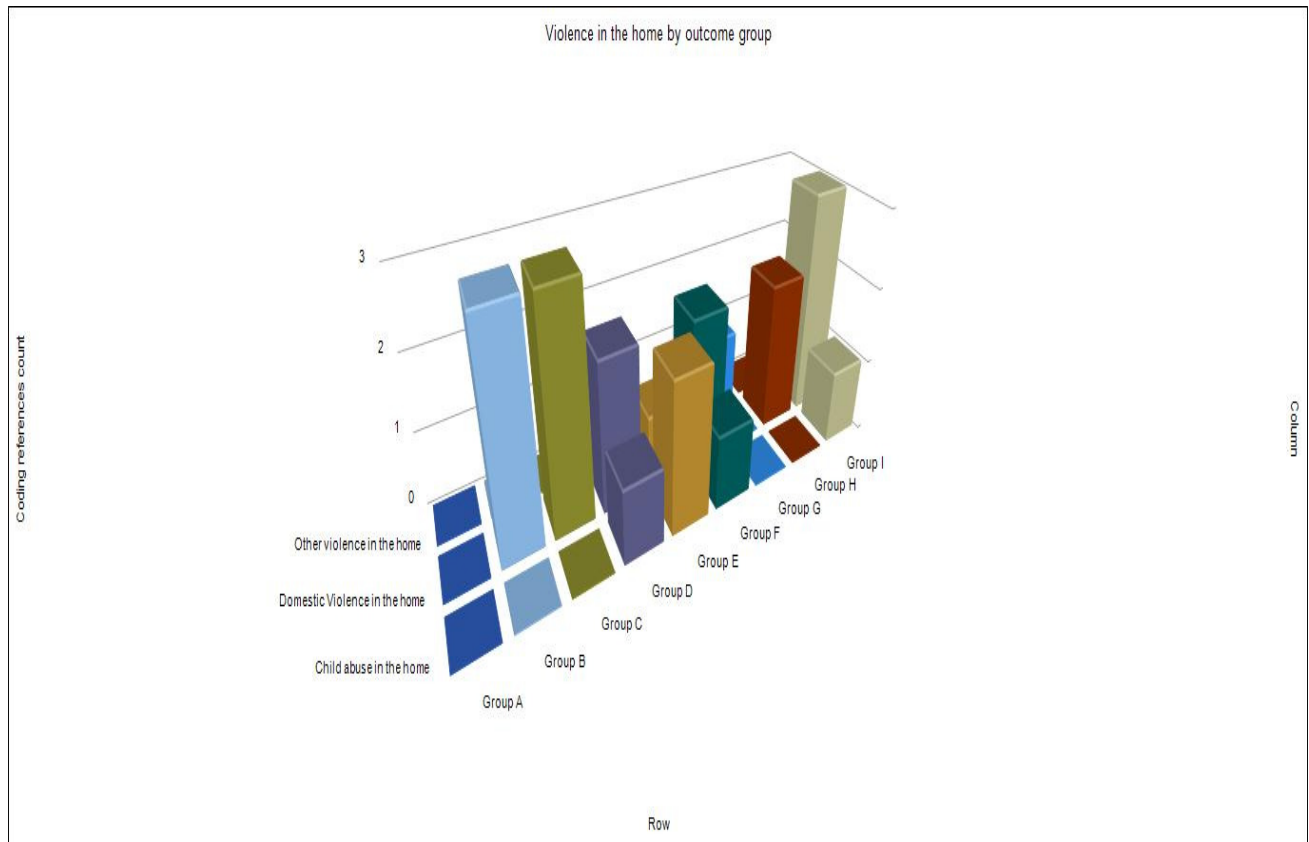
Reported substance abuse in the home.

The interviews with facilitators suggested exposure to substance abuse in the homes of many of the children who participated in CBITS at these schools (see Figure 14 p. 53). During the focus group facilitators identified more factors per participant for groups where depression symptoms increased (see figure 14, Groups B =T; ↑D and C ↓T; ↑D) or remained unchanged (Groups D ↑T; =D and E =T, =D), with the exception of Group I (↓T; ↓D). There were fewer facilitator mentions of substance abuse in the homes for participants whose trauma symptoms worsened (Figure 14, Groups A ↑T; ↑D and G ↑T; ↓D) with the exception of alcohol abuse reported in Group D (↑T; =D).

Reported violence in the home.

As a whole, children from the purposive sample were reportedly exposed to violence in their home environments (see Figure 15 p. 54), in particular domestic violence. One other child (in Group G ↑T; ↓D) lived in a home where physically violent altercations with neighbors or

Figure 15. Reported violence in the home for each outcome group.



Child abuse was identified as a factor for Groups D ↑T; =D, E =T; =D, and F ↓T; =D, where depression symptoms remained unchanged. There did not appear to be a relationship between reported domestic violence or child abuse in the home and change in trauma symptoms.

Other risk factors identified in the home.

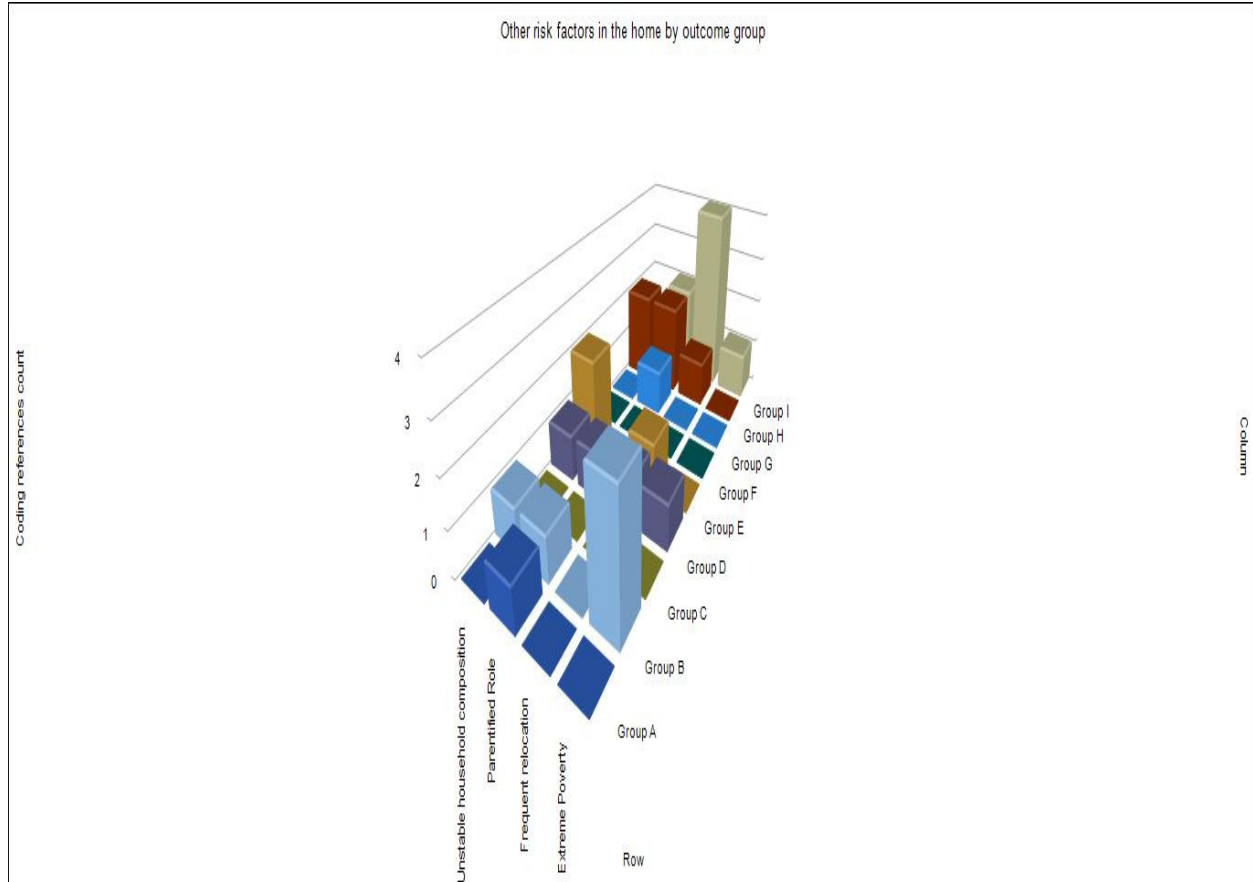
Several additional risk factors were identified within children’s home environments (see Figure 9, p. 46 and Figure 16, p. 56). The lowest frequency of coded risk from the facilitators’ interviews occurred in the groups where trauma symptoms decreased (see Figure 16 p. 56, Groups C ↓T; ↑D, F ↓T; =D, and I ↓T; ↓D), with risk factors only being reported for children in Group I (↓T; ↓D). Identification of a parentified role of the child was associated with increased or unchanged traumatic stress and depressive symptoms (see Figure 16, Groups A ↑T; ↑D, B =T;

↑D, D ↑T; =D, and E =T; =D), with the exception of 1 interviewed subject in Group H (=T; ↓D) and 2 in Group I (↓T; ↓D) whose symptoms of depression and traumatic stress decreased.

Extreme poverty was noted in groups where either depressive symptoms (Group B, =T; ↑D) or traumatic stress symptoms (Group D, ↑T; =D) worsened, with the exception of one interview subject in Group I (↓T; ↓D) who was reported to live in extreme poverty.

No children who reportedly experienced unstable household composition had improvement in their traumatic stress symptoms. Frequent relocation was not identified for any groups whose symptoms of depression worsened (Groups A ↑T; ↑D, B =T; ↑D, and C ↓T; ↑D). There does not appear to be a relationship between reports of frequent relocation and symptoms of traumatic stress.

Figure 16. Other risk factors identified in the home for each outcome group.

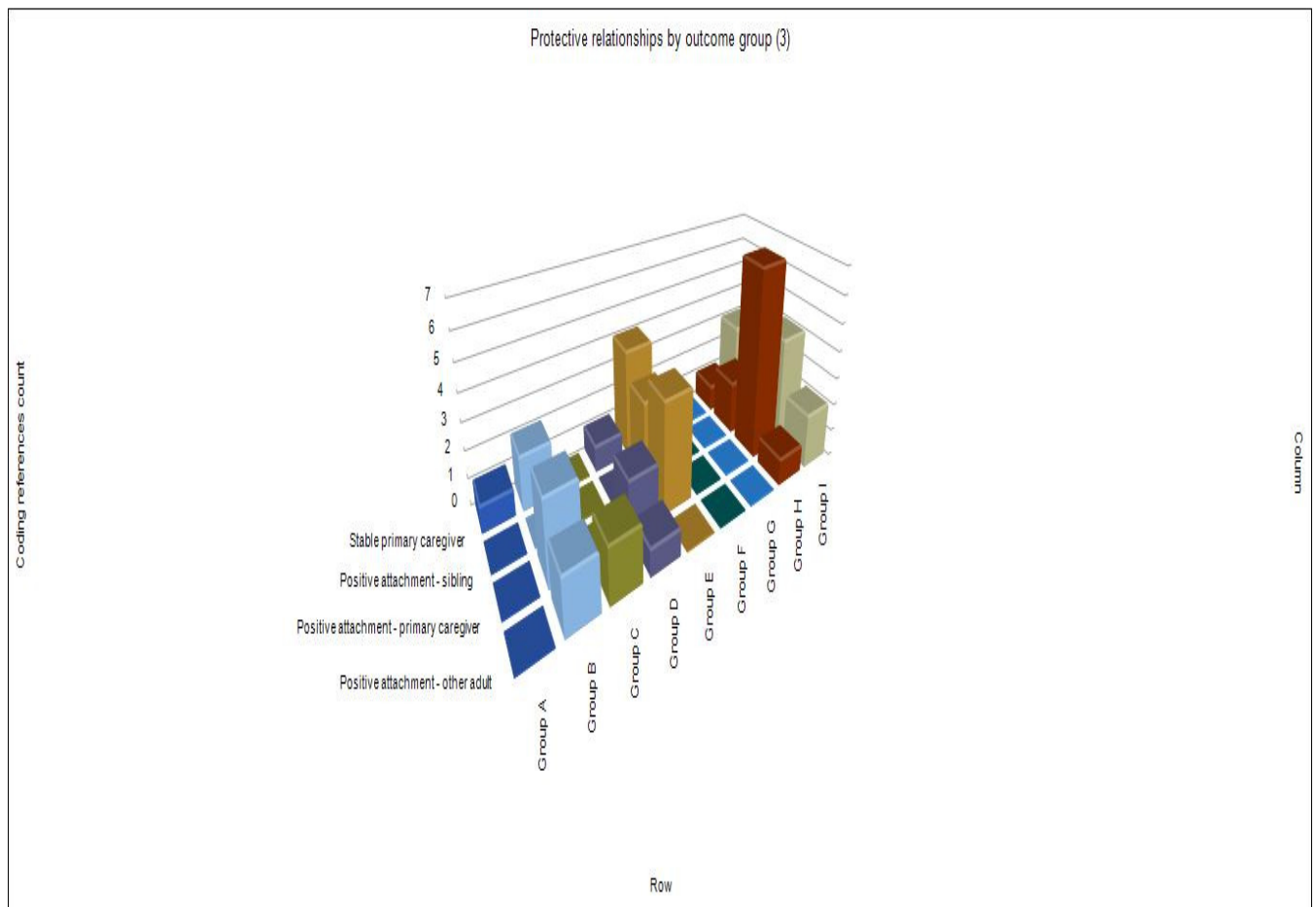


Protective relationships reported in the home.

There were several protective relationships reported for interview subjects in most groups with the exception of Groups F (↓T; =D) and G (↑T; ↓D), which each only had one facilitator’s perspective on which to base the findings for the outcome configuration and no reports of protective relationships for either child (see Figure 17, p. 57). Positive attachment relationship with a sibling was reported more for children who had stable or reduced symptoms of traumatic stress and depression (Figure 17, Groups E =T; =D, H =T; ↓D, and I ↓T; ↓D). Reported positive attachment relationship with a primary caregiver appeared to be related to stable or improving trauma symptoms (with the exception of 2 children in Group D, ↑T; =D, whose symptoms

worsened) and depressive symptoms (with the exception of 3 children in Group B, =T; ↑D, whose symptoms worsened). Facilitator identification of a stable primary caregiver (with no indication of positive attachment) was more associated with stable or *increased* trauma symptoms (with the exception of Group I ↓T; ↓D, where this factor was identified for 3 children and they experienced a reduction in both depressive and traumatic stress symptoms). A positive attachment with another adult (not a primary caregiver) did not emerge as a protective factor in relation to depressive symptoms, but was reported more in the groups with stable or improved trauma symptoms.

Figure 17. Protective relationships identified for each outcome group.



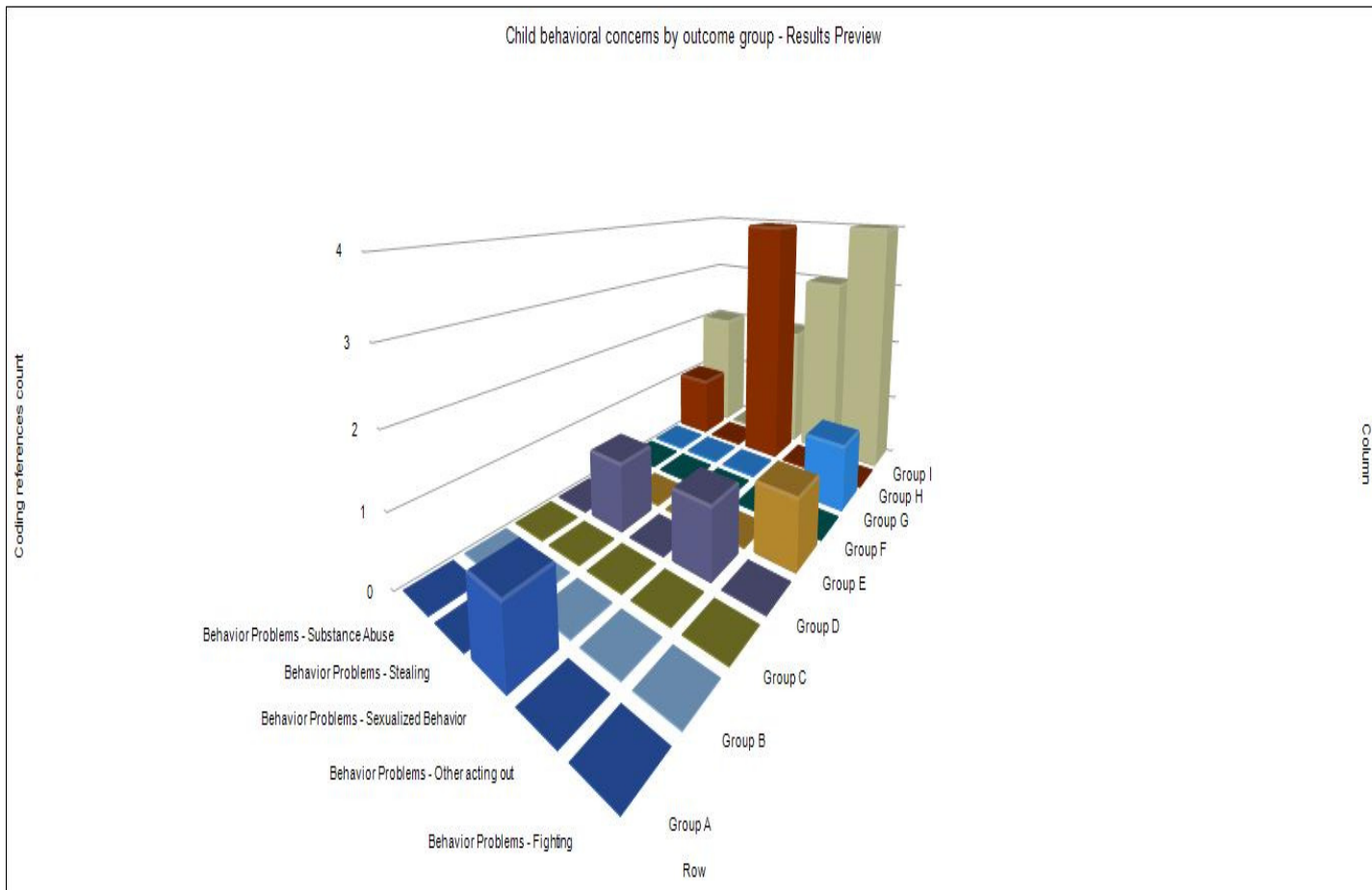
Child behavioral concerns.

Possibly counter-intuitive findings related to child behavioral concerns appeared, in that increased reporting of behavioral concerns was most prevalent in groups where symptom improvement was noted. Perhaps surprisingly, the most frequent identification of factors per child related to child behavioral concerns was located within Group I ($\downarrow T$; $\downarrow D$) which is comprised of students who reported improvement in both traumatic stress and depressive symptoms, followed by Groups A ($\uparrow T$; $\uparrow D$, $D \uparrow T$; $=D$), and G ($\uparrow T$; $\downarrow D$), who reported increased traumatic stress symptoms (see Figure 18, p. 59). This may reflect some resolution of internalizing symptoms. There does not appear to be a relationship between behavioral concerns and increased depressive symptoms; however, more behavioral concerns were listed for groups experiencing no change or improvement in depressive symptoms. Stealing was only identified as a behavioral concern for one child in the sample (Figure 18, Group D, $\uparrow T$; $=D$), who reported increased symptoms of traumatic stress. Sexualized behavior was reported in 3 groups (Groups A ($\uparrow T$; $\uparrow D$, $H =T$; $\downarrow D$, and I ($\downarrow T$; $\downarrow D$)); this did not appear to be tied directly to symptom outcome, but rather to a history of sexual abuse or assault, with only one of these cases not having reportedly experienced sexual violence. There were other cases where sexual violence was reported, but students did not exhibit sexualized behavior.

Substance abuse by the child was identified as a factor for only two groups (Figure 18, Groups H ($=T$; $\downarrow D$) and I ($\downarrow T$; $\downarrow D$)), both of whom reported decreased depressive symptoms and stable or decreased traumatic stress symptoms. Fighting was not associated with increased depressive symptoms in any group (Groups E ($=T$; $=D$), G ($\uparrow T$; $\downarrow D$), and I ($\downarrow T$; $\downarrow D$)), but was associated with one student reporting increased symptoms of traumatic stress (Group G ($\uparrow T$; $\downarrow D$)). “Other acting out” is a category that encompasses non-specific items, such as age inappropriate

temper-tantrums and general misbehavior that might get a student in trouble, but not falling into one of the other categories. This did not appear to be strongly associated with any pattern of symptom outcome.

Figure 18. Child behavioral concerns for each outcome group.

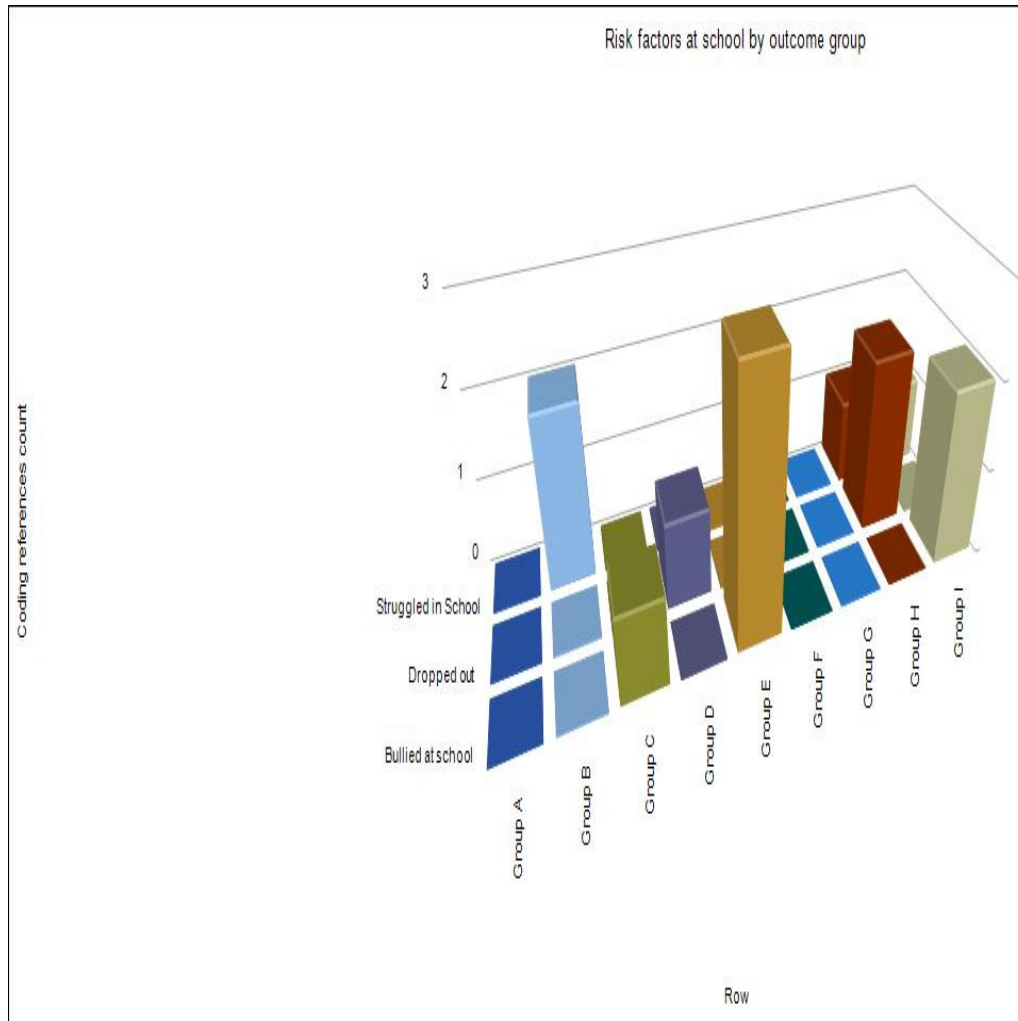


Risk factors at school.

There were only a few factors identified for children’s negative experiences at school (see Figure 19, p. 60). Nothing appeared to be identifiably meaningful, with the exception of bullying. Children who mentioned being bullied as their primary trauma during CBITS reported unchanged traumatic stress symptoms following group participation, while children who

reportedly experienced bullying but had a different identified trauma in group reported improved symptoms of traumatic stress.

Figure 19. Risk factors at school for each outcome group.



Protective factors at school.

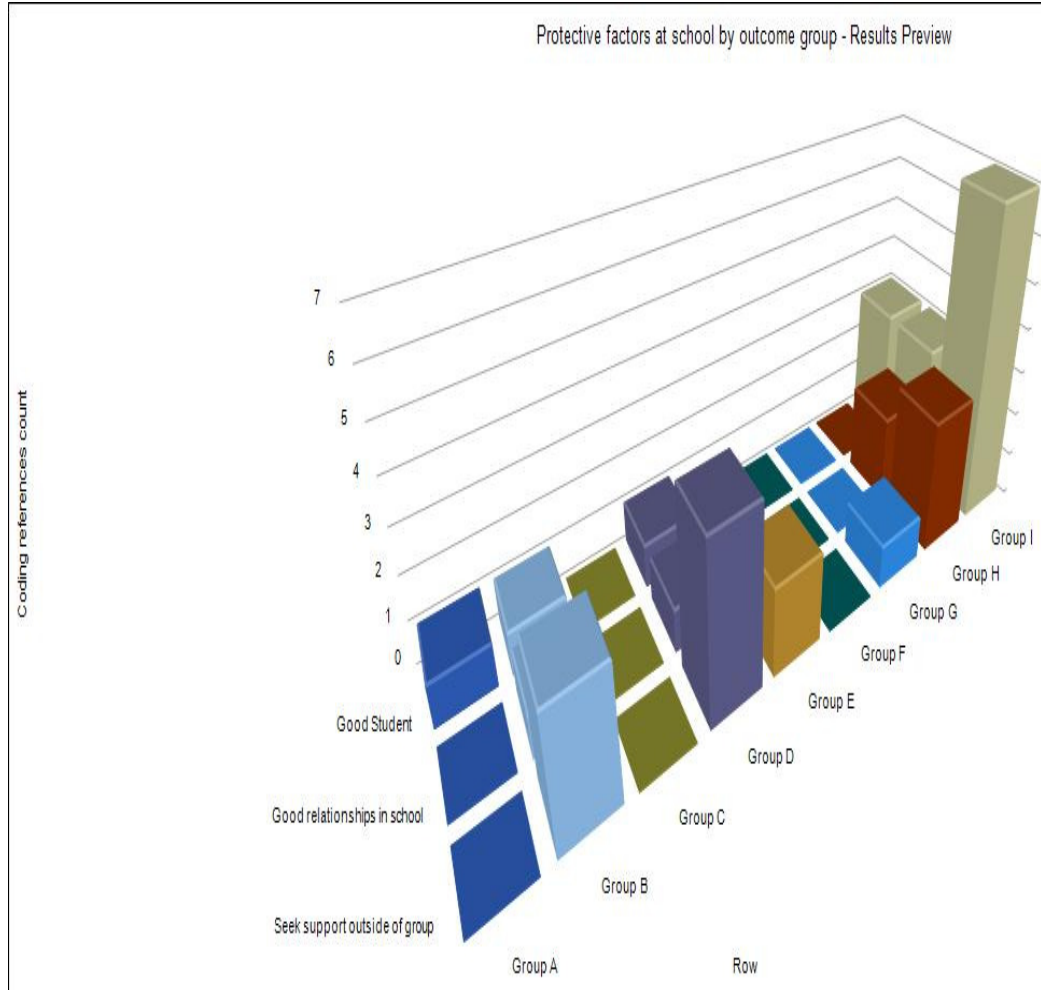
There were several items identified as protective factors in most children’s school environments, although no reports of school based protective factors were reported for 2 groups (C ↓T; ↑D and F↓T; =D) who reported decreased traumatic stress symptoms (see Figure 20, p. 62). Seeking support outside of the CBITS group appeared to be more closely connected to stable (Figure 20, Groups B =T; ↑D, E =T; =D, and H =T; ↓D) or increased (Figure 20, Groups

D ↑T; =D and G ↑T; ↓D) symptoms of traumatic stress, and was more common with reports of decreased (Groups G ↑T; ↓D, H =T; ↓D, and I ↓T; ↓D) or stable (Groups D ↑T; =D and E =T; =D) depression symptoms. It is notable that the outcome groups where students were identified as good students and having good relationships at school also tended to engage in more support seeking outside of group (Groups B =T; ↑D, D ↑T; =D, H =T; ↓D, and I ↓T; ↓D). Having good relationships identified in school was associated exclusively with reported stability or improvement in depressive symptoms, and most frequently with stable or improved traumatic stress symptoms as well, the exception being Group D (↑T; =D) where traumatic stress symptoms increased but depressive symptoms remained stable. Being seen as a “good student” was seen more consistently with students reporting increased or stable traumatic stress or depressive symptoms, with the exception of Group I (↓T; ↓D), where “good students” was seen more frequently but students reported improvements on both measures.

Group and facilitator relationship domain.

Several items were discussed in relation to facilitators’ perceptions of children’s experiences as members of a CBITS group, and the facilitators’ experiences of these children. The goal was to answer the question “Are there differences in facilitator and group factors related to direction and magnitude of symptom change?” Ultimately several unique codes were created, but these generally appeared to cluster into 2 main categories reflecting a child’s overall level of engagement with CBITS.

Figure 20. Protective factors at school for each outcome group

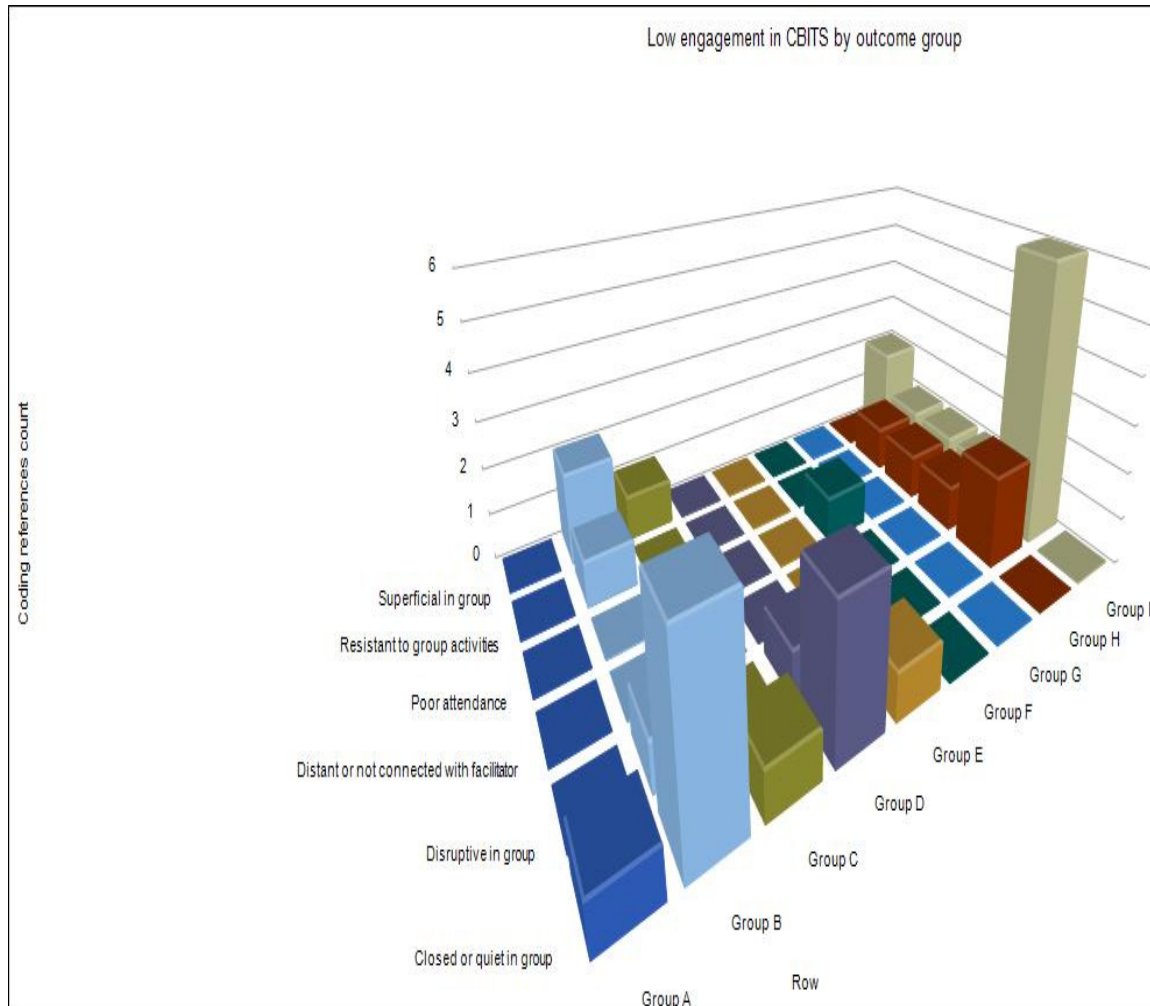


Low engagement with CBITS.

In general the greatest frequency of factors identified per case for low engagement overall was in Group B where participants reported increased depressive symptoms and no change in trauma symptoms. There was notably higher identification of this factor in the three groups reporting increased depressive symptoms (Groups A ↑T; ↑D, B =T; ↑D, and C ↓T; ↑D; see Figure 21, p. 63). There were several indicators of low engagement reported for Group I (↓T; ↓D) as well, including the highest level of disruptive behavior during group, which seems counter-intuitive given that this group reported decreased symptoms of both depressive and

traumatic stress symptoms. (Note earlier discussion of a possible role for decreasing internalizing symptoms.)

Figure 21. Low engagement in CBITS for each outcome group



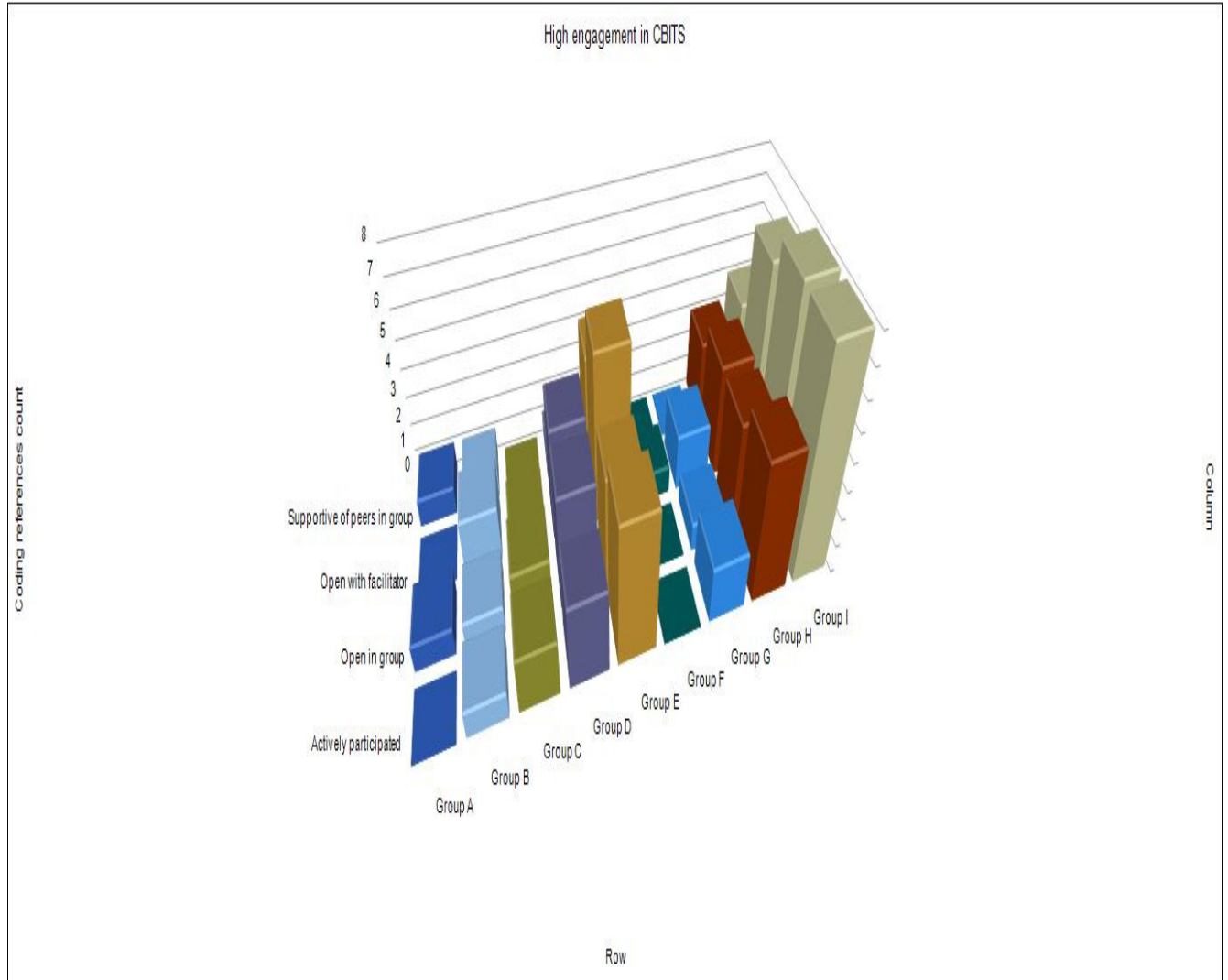
Being closed or quiet in group was never associated with decreased depressive symptoms, while being distant or disconnected from the facilitator and poor attendance were exclusively associated with decreased depressive symptoms (Figure 21, Groups H =T; ↓D and I ↓T; ↓D), which is also somewhat counter-intuitive. Increased or stable trauma symptoms were more frequently associated with being closed or quiet in group, with the exception of one child from Group C (↓T; ↑D). Superficiality, or not talking about what facilitators perceived as the

most salient trauma, was most often associated with increased symptoms of depression (Figure 21, Groups B =T; ↑D and C ↓T; ↑D), but did not appear to impact reported trauma symptoms negatively. Interestingly, resistance to group activities was more connected to decreased depressive symptoms (Figure 21 p. 63, Groups H =T; ↓D and I ↓T; ↓D), with the exception of Group B (=T; ↑D).

High engagement with CBITS.

There were many details provided that seemed to illustrate high engagement in CBITS, and they appear most frequently in Groups E (=T; =D), (H =T; ↓D), and I (↓T; ↓D; see Figure 22, p. 65). The interviewed subjects whose symptoms of depression increased appear to have had the lowest frequency of factors reported by the facilitators suggesting high engagement with CBITS (see Figure 22), and in fact had been noted as being more closed and quiet or superficial in group (see Figure 21 p. 63, Groups A ↑T; ↑D, B =T; ↑D, and C ↓T; ↑D). While being supportive of peers does not appear to be associated with any particular outcome, openness with facilitators and during group was more frequently perceived by facilitators for children whose depressive symptoms either maintained (Groups D ↑T; =D, E =T; =D, and F ↓T; =D) or improved (Groups G ↑T; ↓D, H =T; ↓D, and I ↓T; ↓D), and for children whose traumatic stress symptoms increased (Groups D ↑T; =D, and G ↑T; ↓D).

Figure 22. High engagement with CBITS for each outcome group.



This may be related to the observation of increased traumatic stress symptoms in outcome groups noted for seeking support outside of CBITS. Active participation in group was most frequently associated with decreased depressive symptoms (Groups G ↑T; ↓D, H =T; ↓D, and I ↓T; ↓D).

Institutional Domain.

This study also attempted to gain information about institutional factors that impact the successful implementation of CBITS. Facilitators were invited to complete a short survey about their thoughts regarding conducting exposure, experience with group facilitation, experience

with CBITS, and type of training. Finally, they were asked about organizational factors that may have influenced implementation of CBITS.

All five facilitators endorsed an appreciation for the exposure portion of CBITS. They identified various reasons which all expressed general support and understanding regarding the purpose for exposure. Some example responses to the survey prompt “Please describe your thoughts on the exposure portion of CBITS.” include:

“The exposure portion of CBITS allowed students differentiated ways in which they could express themselves.”

“I believe that through the telling and re-telling of their stories students begin to heal. Students become more relaxed and comfortable in sessions.”

“I found it to be effective in decreasing the power the trauma story had over the student. The imagined exposure pieces in group session 6 and 7 were often a pivot piece of treatment for many students and what I believe to be the most effective component of CBITS.”

When asked “What factors at your school were supportive and helpful in successfully implementing CBITS,” facilitators provided varying responses. The most common were about building relationships:

“Relationships! I had to maintain good relationships with both principals and the superintendent as well as the teachers in grades 6, 7, & 8 where we get our group members.”

“The trust from administrators and educators in allowing me to implement a new program was helpful. This was mostly due to the previous relationship I had with the school.”

“The tribal council and administrators have been very supportive with implementing CBITS.”

In addition there were other factors identified regarding the institution and ways it supported the CBITS programs:

“Also the teachers have supported the group by allowing me to see the students during the school day to provide the services.”

“Having more than 1 facilitator trained helps with the facilitators support of each other.”

“Also trainings from the NNCTC were helpful in providing buy in from staff.”

Facilitators were also asked “What factors at your school made the implementation of CBITS more difficult?” Several system level challenges were identified. Two common concerns were low attendance rates in general, which in turn impacted group attendance. In addition there were stated difficulties with obtaining permission from parents or guardians regarding CBITS participation. One facilitator identified scheduling the group meetings as a challenge.

“Attendance of students is a huge issue at our school.”

“We have attendance problems.”

“Scheduling a group intervention during the school day or after school was always a challenge.”

“In addition it was difficult to locate and obtain parental permission for both screening and participation in CBITS groups.”

“Parent consent can be difficult to obtain.”

“I don't feel the school has given me any difficulty with facilitating the group. However it has been more of the parental aspect such as some parents thinking that their child does not need to receive group services.”

Some student-level challenges were also identified, including not having a way to address the needs of students who were inappropriate for group, and students' distrust of the maintenance of confidentiality by other group members.

“Some of the groups have contained students that do not work in a group setting appropriately. Therefore the groups have been adjusted to compensate.”

“Small community, some members did not quite feel comfortable and/or confident in confidentiality.”

When asked what changes they had seen at their schools since CBITS began, there were several reports of positive impact for both the students and for the system in general.

“We have won [a national school award] for 3 consecutive years.”

“School climate seems to be healthier.”

” Increased focus on student trauma. Increased focus on why some students aren't academically successful. Increase in in-house counseling.”

“...teachers are more willing to have students receive counseling services.”

“Skills learned in/from CBITS are transferred to other counseling work.”

“Students have tools to handle life stressors.”

“Many students have been able to benefit from the work that they have done with CBITS.

(This) “benefit is reflected in their relationships and their academics.”

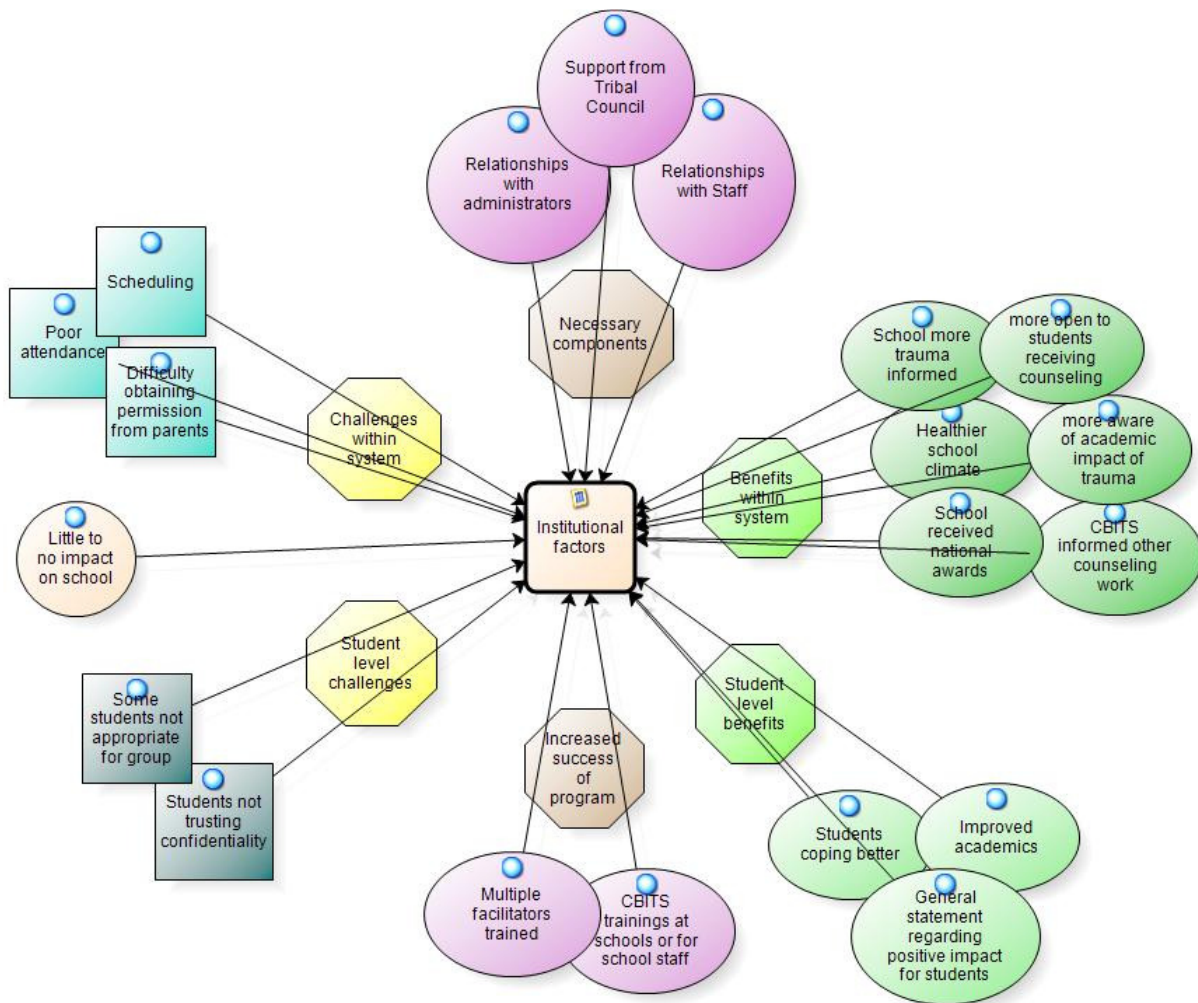
“I think the impact of CBITS lied much more within individual students. The impact on the school system was minimal.”

The final comment is striking to me because it was made by a facilitator who worked alone and did not have the same level of institutional or in-school professional support that the other facilitators had. While this individual received and endorses benefitting from a close relationship with NNCTC throughout the time CBITS was being implemented, the perceived impact of CBITS on the system was minimal, which is markedly different than in the system where there with several trained facilitators and a more involved and informed school administration and staff.

The Institutional Domain was analyzed further using inductive content analysis (Elo & Kyngas, 2008; Mayring, 2000). Open coding was conducted in the same manner as was described for the transcribed interviews; factors were identified in a line by line examination of the data. A visual model of the findings was created where all factors for institutional data were randomly displayed. I again generally differentiated factors using shapes (ellipses for what facilitators identifies as helpful/supportive factors, squares for challenges, circles for general components) to begin the organizing processes (Elo & Kyngas, 2008). After visualizing the

data, some clear groupings emerged as larger categories which generally described several related factors (Bringer et al., 2006; Elo & Kyngas, 2008; Mayring, 2000). These categories are depicted as octagons in this model as well. One lone factor remained outside of other groupings: seeing little to no impact on the school following implementation of CBITS. I left this as an uncolored circle.

Figure 23. Final model of institutional factors and categories.



CHAPTER V

DISCUSSION

Summary and Implications

The quantitative analyses strengthen the evidence base for the use of CBITS with Native American children. In the overall sample children's traumatic stress symptoms decreased from screening to pre-group and from pre-group to post-group. The outcome categories with the highest pre-group scores also experienced the largest symptom reductions, as measured by CPSS responses. This seems to suggest that CBITS is effective as a school based treatment for Native American children endorsing higher levels of trauma symptoms, and perhaps that the children experiencing the greatest distress also benefit most from the intervention. It is also possible that these larger reports of symptom changes are explained by regression to the mean. It is also interesting that groups with the largest reduction in reported score from screening to pre-group had the largest reported symptom increases from pre-group to post-group. While it is not clear what led to this, it is possible that children had reactions to disclosing distress and being chosen for group, underreported at pre-test, and then reported more genuinely again at post-test. This may also be partially accounted for by ongoing trauma or difficult life experiences.

In general children reported decreased symptoms of depression from pre-group to post-group as well. This suggests that CBITS is an effective intervention for addressing Native American children's symptoms of depression associated with trauma as well. Again, children reporting the highest initial scores experiences the greatest improvement, while children reporting the lowest initial scores reported the greatest symptom increase. This may suggest that children endorsing symptoms at a clinical level are most likely to benefit from CBITS, or could again be due to regression artifacts.

In addition, gathering qualitative information helped to provide a depth that was not available via quantitative means alone (Creswell & Plano Clark, 2011; Ivankova et al., 2006; Ivankova & Stick, 2007; Mayring, 2000). While the qualitative findings do not yield definitive conclusions regarding group differences, there were some trends that were identifiable. One example was that reported familial sexual abuse was only associated with *increased* symptoms of traumatic stress. This finding was not true for participant who experienced extra-familial sexual abuse or assault. While it is unclear if this finding is meaningful given that there were only 2 children in each category, it merits further investigation. Sexual trauma has been identified as more likely to lead to the development of PTSD, and molestation in childhood is connected to more chronic patterns of PTSD over the lifetime (Keane et al., 2006; Rosenman, 2002). While CBITS is very specific about not addressing sexual trauma, these findings may suggest that children with a history of familial sexual abuse are better suited to services other than CBITS, even if they have a different trauma that can be used as the focus for their work in group (Jaycox, 2004).

In addition it appeared that symptom improvement was more associated with witnessing a trauma and less with direct victimization. This seems to support the assertion that early and more severe trauma is associated with chronicity of PTSD (Keane et al., 2006). Previous literature suggests that interpersonal trauma is predictive of PTSD, which appeared to be supported in this study as well (Johnson et al., 2009; Keane et al., 2006). Children in the present study who experienced direct trauma of an interpersonal nature (physical violence, sexual trauma, weapon violence) had mixed results, with depressive symptoms in particular worsening or remaining unchanged, and trauma symptoms moving in all three potential directions. The child who experienced direct trauma that was not interpersonal in nature (a motor vehicle

accident) experienced reduced traumatic stress and depressive symptoms. While it is not appropriate to draw definitive conclusions based on this one case, it may add some support to what is reflected within current literature.

Attachment loss was identified as a common thread for all outcome groups, but multiple losses were more commonly reported for groups whose traumatic stress symptoms increased or remained relatively stable. Children whose parent or sibling died tended to have increased depressive symptoms; their trauma symptoms tended to remain stable or improve. This finding may suggest the importance of identifying children receiving CBITS for different forms of attachment loss. In general, these children appear to need more or different support or intervention around their ongoing depressive and/or grief symptoms (see Morsette et al., 2012).

Reported substance abuse in the home was primarily associated with increased or stable symptoms of depression for this sample. Facilitator identified history of child abuse in the home was typically associated with stable depressive and traumatic stress symptoms. Extreme poverty and parentified roles were more commonly reported for children whose symptoms of traumatic stress and depression increased, and no children who reportedly had unstable household composition had decreased symptoms of traumatic stress. All of these findings support the current literature regarding risk factors for depression and anxiety in children (Azar & Wolfe, 2006; Chorpita & Southam-Gerow, 2006; Fletcher, 2003; Keane et al., 2006). In an environment where there is general instability or unpredictability, whether it is caused by parental insufficiencies due to substance abuse, inappropriate parenting behaviors, the problems of poverty, or constant change, children's mental health is likely to be impacted negatively (Azar & Wolfe, 2006). When these are known to be factors impacting a child participant it may be useful to explore what the balance of risk and protective factors are in the participant's life. While

service providers cannot necessarily directly impact the presence of these risk factors, they can facilitate the increase of protective factors in some ways, particularly those that occur within the school environment.

These distributions of facilitator reported factors seem to suggest that the absence of stable and safe home environments, and lack of security in having basic needs met reduces the likelihood of beneficial therapeutic outcomes for CBITS participants. While these things should not disqualify children from CBITS, as the children in group are generally gaining tools for managing the stressful lives they live, it may be that additional supports or services can be provided as adjunct to CBITS, in particular those that support positive relationships and some degree of continuity in the lives of children. The findings in the current study suggest that a stable caregiver alone is not enough, but any *positive* attachment figure in a child's life is associated with stable or improved symptoms of both depression and traumatic stress. Positive attachment figures, no matter who they were, appeared to be connected to stable or decreased symptoms of depression and traumatic stress.

Facilitators identified many factors for CBITS participants that fall within the bounds of mandatory reporting. These matters were handled appropriately by the respective school personnel at the time that personnel became aware of or suspected risk to the children they served. Many of the incidents facilitators recalled during the interviews with me were shared by children during group and individual sessions or came to light as a result of changes in a child's circumstances (children in out-of-home placement due to reported violence in the home, etc.). No additional reporting was necessitated as a result of this study; no previously unknown incidents were discussed among school staff during the facilitator interviews.

Interestingly behavioral concerns (other than sexualized behavior) were reported most frequently in the group that reported decreased symptoms of depression and traumatic stress. Sexualized behavior was typically identified in children with a history of sexual trauma, which is consistent with existing literature. There are several possible reasons for these findings. Some of the group members may have received significant benefit from group despite their challenging behaviors. It is also possible that some of these children were not accurate in reporting symptoms at some or all of the measurement occasions. Facilitators were blind to group membership, but noted several children with behavioral concerns who were actually in Group I (decreased symptoms on CDI and CPSS) that they believe did not buy into or benefit greatly from CBITS, in contradiction to the quantitative data.

Risk at school was not easily identifiable to any specific outcome group, with one exception. Children who came to group identifying bullying as their primary trauma were more likely to report unchanged traumatic stress symptoms following CBITS participation, while children who experienced bullying but identified other trauma in group reported improvement in their symptoms of traumatic stress. It is unclear why this is the case, but it is possible that children who have current trauma as a result of bullying are still involved the traumatic situation rather than removed from it. It may be that these children who are reporting bullying as their primary trauma continue to experience bullying trauma during group.

At school support seeking was more related to having good relationships at school and being seen as a “good student” than it was to the child’s outcome group membership, and in fact appeared to be more common in children whose traumatic stress symptoms increased. It is possible that these children were experiencing higher ongoing distress, or that there was less

effectiveness in their help-seeking. For several children facilitators suggested that some of the help seeking was a mechanism to get out of class.

Facilitators identified several factors that fell into categories of low and high group engagement. Indicators of low engagement yielded some mixed findings. Low engagement was generally associated with increased symptoms of depression. Indicators of low connection to the facilitator were mixed, with some disconnection and disruptivity being more common in children who reported improved symptoms on both measures. Being closed or quiet was not associated with decreased symptoms of depression. Superficiality in group was associated with increased depression. Children who had few indicators of high engagement and were simultaneously identified as closed or quiet in group were more likely to report increased symptoms of depression, while openness with facilitators was more common for children whose depressive symptoms remained stable or decreased.

The current study supported what has been suggested by previous research regarding successful implementation of school based mental health services (Glisson, 2002; Langley et al., 2010). Specifically having support of administration and staff (and in this case the Tribal Council) was an important part of the program's success at one school. Barriers from teaching staff contributed to the difficulty at another school. Being connected to the NNCTC and having ongoing support was identified as important and helpful at both sites. The site with several facilitators identified feelings of additional support from each other, which has been suggested to be an important support in previous literature as well (Langley et al., 2010; Manassis et al., 2009). The school with the long-term program was noticing benefits for children and changes within the institution as a result of the training, support, and increased sensitivity to the experiences of community children outside of the classroom.

Recommendations for Future Research

This study is not able to identify any factors as causal or determine the degree to which they impact the lives of children who participate in CBITS. However, future research exploring factors over time would be beneficial, particularly in identifying what is happening at the time of group, which was not assessed but is likely to be related to group outcome. Given the findings suggesting negative impact for children who reportedly have a history of familial sexual abuse, more research is needed in this area. While it has been established that sexual trauma is not an appropriate trauma type for the work in a CBITS group, it appears that for children with familial sexual trauma, CBITS may be a less helpful modality generally. In addition it would be helpful to expand information in some of the areas that have surprising results, such as help seeking behavior and child behavioral concerns. What was different between children who sought support effectively and those who facilitators felt were ineffective in support seeking? How did that look different and how did facilitators or children experience the interactions?

In addition future research would benefit from gathering the perspectives of important stakeholders, such as administrators, teaching staff, and the Tribal Council. While the perspectives of service providers are important, they represent only one part of the picture. This would potentially have been particularly useful in looking at differences between the school where CBITS is still active and has had a widespread impact, and the school where CBITS is no longer active.

There may also be greater understanding to be found if it were possible to gather information directly from children, even just about their experience of group and their relationship with the facilitator. This may clarify some of the surprising findings, including

those related to facilitator perceived level of engagement, behavioral concerns, and symptom decreases.

Limitations of the Study

There are some notable limitations to this study that were unavoidable given the retrospective nature of the interviews. First, children have been participating in groups as far back as 2003, and asking facilitators to reflect on students they worked with up to 8 years ago introduces challenges to the accuracy of information based on significant time lapse. Also, only facilitators were interviewed; there was no contact with child participants. This may have resulted in an incorrect understanding of information regarding a child's experience both in life and as a member of the group. Information used in this study is second or third hand regarding some familial and historical data. Finally, when asking facilitators about the therapeutic relationship, I only had access to one perception of the relationship. There is often a discrepancy between therapists' ratings of relationship and clients' ratings of relationship (Langhoff, Baer, Zubaegle, & Linden, 2008; Ogrodniczuk, Piper, Joyce, & McCallum, 2000; Tryon, Blackwell, & Hammell, 2007). Although the limitations to the information are less than ideal, they are unavoidable at this time due to a desire to protect children's confidentiality, and should not be significant enough to hinder the goals of the study. Finally there are three groups where information was more limited; one (Group A, ↑T; ↑D) because only one student in the study was in that outcome category, and 2 others (Groups F ↓T; =D and G ↑T; ↓D) because of a clerical error that resulted in the mis-assignment of outcome category which was not discovered until after the interviews were conducted.

It is also important to address the imperfect nature of the measurement tools used. Both the CDI and CPSS were designed by and originally used with members of the majority culture.

They assume a common language for understanding and describing depressive and traumatic stress symptoms, equivalent views on what is “problematic” for a given behavior or experience, and equal willingness to disclose distress (Thrane et al., 2004).

While the short version of the CPSS was created and initially used with children from diverse racial and ethnic backgrounds (Stein et al., 2003), the original from which it was devised was based on Foa’s (2001) measure. The original measure was tested with a population of children that was 89% White and 11% “other” racial or ethnic identities. The original CPSS utilizes the 17 DSM-IV criteria, and the 7 item one simply pared down the list. The diagnostic criteria are based on a majority culture conceptualization of PTSD which may not reflect the construct or culturally nuanced ways of responding to trauma. The descriptions of symptoms may not have been clearly understood, as suggested by some of the facilitators who reported children becoming more aware of what a symptom looked like in them as opposed to a general description on a piece of paper as a function of participating in CBITS. Some symptoms may not be acceptable to admit to as well.

In particular, the measurement of depressive symptoms in Native American youth has been problematic (Thrane et al., 2004). First, we cannot assume a homogenous culture so it is difficult to make generalizations about the usefulness of the measure from one group to the next. While there is some research which utilized the CDI to measure depression in Native American youth (Goodkind et al., 2010; Hammill et al., 2009; Morsette et al., 2009; Rieckmann et al., 2004; Scott & Dearing, 2012), it is not necessarily appropriate to say the measure is or is not well suited for use with children from the community in this study (Hoyt & Swaney, 2009). One specific example is a question on the CDI about suicide, which may be culturally inappropriate in this community (Marilynn Bruguier Zimmerman, personal communication, November 2010).

Regression to the mean is also a concern when we are exploring change in scores over time. This is one possible explanation for the finding that those with the highest symptom scores experienced the greatest improvement. In addition, these measures were highly face valid, and there may have been under or over reporting of symptoms for some children. Given greater knowledge or experience with understanding what symptoms are, there also are likely children who endorsed or failed to endorse symptoms before group simply due to not having clarity about what the description meant. One additional limitation is related to the interpretation of the qualitative data. A qualitative research audit was not completed on these findings due to distance concerns and personnel availability. I was the only coder and interpreter, and thus there was no opportunity for comparison coding and discussion of any differing opinions that arose during coding. While an audit is important in general, it is even more salient here due to potential cultural differences. While this was unavoidable, it is important to note that I am not a member of the community in which the interventions were provided. I cannot ignore the fact that I have a majority culture lens, as do four of the five facilitators, and therefore there are likely to be some differences in what was asked, what was reported as relevant, and to my understanding and meaning making. These would likely look different if this project were undertaken by a community member.

Ultimately, despite the limitations, this study does expand the evidence supporting the use of CBITS for Native American youth. Most of the participating children did experience some benefit in the form of traumatic stress and/or depression symptom reductions. The study expands current literature illuminating risk and protective factors that are related to treatment outcome for children who have experienced trauma. Through an inductive analysis of qualitative data factors were identified that clustered into categories which reflect existing understandings of

outcomes, including those related to risk and protective factors in children's home lives (such as substance abuse, violence in the home, and positive attachment figures), at school (including being bullied, struggling in school, having positive relationships, or being seen as a good student), and in their experiences in group (for example being superficial, distant, or closed versus being an active participant and being open with the facilitator). Trauma specific factors that related to risk were also reflective of current literature. Direct victimization through interpersonal violence was associated with less positive outcomes, while non-interpersonal traumas (such as being in a car accident or witnessing an accident) were associated with symptom reductions. The finding that trauma symptoms worsened for children with a history of familial sexual trauma was interesting and merits further investigation before any conclusions are drawn.

In addition, this study did highlight some factors that are relevant to implementation of CBITS in reservation schools, including the importance of support from the Tribal Council, school administrators, and teaching staff. For the school where the CBITS program was most successful, facilitators described a trauma-informed system in which referrals were made for CBITS and other counseling more frequently, there was greater attention to children's experiences outside of school, and more awareness of how those experiences impacted children's abilities to engage in the classroom environment. Parent and community level engagement were difficult for both schools and the challenges of confidentiality within small tight knit school and community were salient in both environments as well.

References

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders – text revision* (4th ed.). Washington, DC: Author.
- American Psychiatric Association, (2010). *Post Traumatic Stress Disorder: Proposed Revisions*. Retrieved from <http://www.dsm5.org/ProposedRevision/Pages/proposedrevision.aspx?rid=165> on 9/20/2011.
- Azar, S. T., & Wolfe, D. A. (2006). Child physical abuse and neglect. In E. J. Mash & R. A. Barkley (Eds.), *Treatment of Childhood Disorders* (3rd ed pp 595-646). New York, NY, US: Guilford Press.
- Beals, J., Novins, D. K., Whitesell, N. R., Spicer, P., Mitchell, C. M., & Manson, S. M. (2005). Prevalence of mental disorders and utilization of mental health services in two American Indian reservation populations: Mental health disparities in a national context. *American Journal of Psychiatry*, 162, 1723-1732.
- Brave Heart, M. & DeBruyn, L.(1998). The American Indian holocaust: Healing historical unresolved grief. *American Indian and Alaska Native Mental Health Research*, 8(2), 60-82.
- Breslau, N. (2009). The epidemiology of trauma, PTSD, and other posttrauma disorders. *Trauma, Violence, & Abuse*. 10(3), 198-210.
- Chorpita, B. A., & Southam-Gerow, M. A.(2006). Fears and Anxieties in Treatment of Childhood Disorders, Third Edition (Eds. Mash, E. J. & Barklay, R. A. pp. 271 – 335, New York, The Guilford Press.

- Christiansen, D. M. & Elklit, A.(2008). Risk factors predict posttraumatic stress disorder differently in men and women. *Annals of General Psychiatry*, 7, 1-12.
- Cloitre, M., Stolbach, B. C., Herman, J. L., van der Kolk, B. A., Pynoos, R. S., Wang, J., & Petkova, E.(2009). A developmental approach to complex PTSD: Childhood and adult cumulative trauma as predictors of symptom complexity. *Journal of Traumatic Stress*, 22(5), 399-408.
- Cohen, J.A., Deblinger, E., Mannarino, A.P., & Steer, R.A. (2004). A multisite, randomized controlled trial for children with sexual abuse related PTSD symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43(4), 393-402.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and Conducting Mixed Methods Research*. Los Angeles, CA: Sage.
- DeBruyn, L., Chino, M., Serna, P., & Fullerton-Gleason, L. (2001). Child maltreatment in American Indian and Alaska Native communities: Integrating culture, history, and public health for intervention and prevention. *Child Maltreatment*, 6(2), 89-102.
- Fletcher, K. (2003). Childhood posttraumatic stress disorder, in Mash, E.J., and Barklay, R. A. (Eds.) *Child Psychopathology*; New York, NY, The Guilford Press.
- Foa, E., Johnson, K., Feeny, N., & Treadwell, K. (2001). The child PTSD symptoms scale: A preliminary examination of its psychometric properties. *Journal of Clinical Child Psychology*, 30, 376–384.
- Gone, J. P.(2009). A community based treatment for Native American historical trauma: Prospects for evidence based practice. *Journal of Consulting and Clinical Psychology*, 7(4), 751-762.

- Gone, J. P. & Alcantara, C.(2007).Identifying effective mental health interventions for American Indians and Alaska Natives: A review of the literature. *Cultural Diversity and Ethnic Minority Psychology, 13*(4), 356-363.
- Goodkind, J. R., LaNoue, M.D., & Milford, J. (2010).Adaptation and implementation of Cognitive Behavioral Intervention for Trauma in Schools with American Indian youth. *Journal of Clinical Child and Adolescent Psychology, 39* (6), 858-872.
- Hamill, S.K., Scott, W.D., Dearing, E., & Pepper, C.M. (2009). Affective style and depressive symptoms in youth of a North American Plains tribe: The moderating roles of cultural identity, grade level, and behavioral inhibition. *Personality and Individual Differences, 47, 110-115.*
- Hilsensroth, M. J., & Cromer, T. D.(2007) Clinical interventions related to alliance during the initial interview and psychological assessment. *Psychotherapy: Theory, Research, Practice, & Training, 44*(2), 205-218.
- Hoyt, T. & Swaney, G. (2009). The Child Depression Inventory and its use with American Indian Youth. Poster presented at The University of Montana Undergraduate Research Conference, Missoula, Montana.
- Huey, S. J.& Polo, A. J.(2008). Evidence based psychosocial treatments for ethnic minority youth. *Journal of Clinical Child and Adolescent Psychology, 37*(1), 262-301.
- Jaycox, L. (2004). *CBITS: Cognitive behavioral intervention for trauma in schools*. Longmount, CO: Sopris West Educational Services.
- Johnson, J., Maxwell, A., & Galea, S. (2009). The epidemiology of posttraumatic stress disorder. *Psychiatric Annals, 39*(6), 326-334.

- Jones, M. C., Dauphinaus, P., Sack, W. H., & Sommervell, P. D. (1997). Trauma related symptomatology among American Indian adolescents. *Journal of Traumatic Stress, 10*(2), 163-173.
- Kataoka, S. H., Stein, B. D., Jaycox, L. H., Wong, M., Escudero, P., Tu, W., Zaragoza, C., & Fink, A. (2003). A school-based mental health program for traumatized Latino immigrant children. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*, 311–318.
- Keane, T. M, Marshall, A. D, and Taft, C. T. (2006). Posttraumatic stress disorder: Etiology, epidemiology, and treatment outcome. *Annual Review of Clinical Psychology, 2*, 161-197.
- Kessler R.C., Sonnega A., Bromet, E., Hughes M., Nelson C.B. (1995). Posttraumatic stress disorder in the National Comorbidity Study, *Archives of General Psychiatry, 52*, 121
- Kleim, B., Ehlers, A., & Glucksman, E., (2008). Early predictors of chronic post-traumatic stress disorder in assault survivors. *Psychological Medicine, 37*, 1457-1467.
- Kolassa, I., Ertl, V., Ekart, C., Kolassa, S., Onyut, L. P., & Elbert T. (2010). Spontaneous remission from PTSD depends on the number of traumatic event types experienced. *Psychological Trauma: Theory, Research, Practice, and Policy, 2*(3), 169-174.
- Kovacs, M. (2003). *Children's Depression Inventory: Technical Manual*. North Tonawanda, NY: Multi-health Systems.
- Langhoff, C., Baer, T., Zubaegle, D., & Linden, M. (2008). Therapist-patient alliance, patient-therapist alliance, mutual therapeutic alliance, therapist-patient concordance, and outcome of CBT in GAD. *The Journal of Cognitive Psychotherapy: An International Quarterly, 22*(1), 68-79.

- Langley, A.K., Nadeem, E., Kataoka, S.H., Stein, B.D., Jaycox, L.H. (2010). Evidence based mental health services in schools: Barriers and facilitators of successful implementation. *School Mental Health, 2*, 105-113.
- Lonigan, C. J., Phillips, B. M., & Richey, J. A. (2003). Post traumatic stress disorder in children: Diagnosis, assessment, and associated features. *Child and Adolescent Psychiatric Clinics of North America, 12*, 171-194.
- Manassis, K., Ickowicz, A., Picard, E., Antle, B., McNiell, T., Chahauver, A., Mendlowitz, S., Monga, S., & Adler-Nevo, G. (2009). An innovative child CBT training model for community mental health practitioners in Ontario. *Academic Psychiatry 33* (5)394-399.
- Manson, S. M., Beals, J., Klein, S. A., Croy, C. D., & the AI-SUPERPPF Team.(2005). Social epidemiology of trauma among 2 American Indian reservation populations. *American Journal of Public Health, 95*, 851-859.
- Mash, E.J. (2006). Treatment of child and family disturbance, in Mash, E.J. & Barkley, R.A. (Eds.) *Treatment of Childhood Disorders* (third edition); New York, NY, The Guilford Press.
- McLeod, B. D.(2011). Relation of the alliance with outcomes in youth psychotherapy: A meta-analysis. *Clinical Psychology Review, 31*, 603-616.
- Morse, J. M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research, 40*, 120–23.
- Morsette, A., Swaney, G., Stolle, D., Schulberg, D., van den Pol, R., & Young, M. (2009). Cognitive Behavioral Intervention for Trauma in Schools (CBITS): School based treatment on a rural American Indian reservation. *Journal of Behavior Therapy and Experimental Psychiatry, 40*, 169-178.

Nadeem, E., Jaycox, L. H., Langley, A. K., Wong, M., Kataoka, S. H., & Stein, B. D. (2014).

Effects of Trauma on Students: Early Intervention Through the Cognitive Behavioral Intervention for Trauma in Schools. In M. D. Weist & et. al. (Eds.), *Handbook of School Mental Health: Research, Training, Practice, and Policy: Issues in Clinical Child Psychology* (Vol. 145, pp. 145-157). NY: Springer Science+Business Media.

Morsette, A., van den Pol, R., Schuldberg, D., Swaney, G., & Stolle, D. (2012). Cognitive behavioral treatment for trauma symptoms in American Indian youth; Preliminary findings and issues in evidence-based practice and reservation culture. *Advances in School Mental Health Promotion*, 5 (1), 51-62.

Neuner, F., Schauer, M., Karunakara, U., Klaschik, C., Robert, C., & Elbert, T.

(2004). Psychological trauma and evidence for enhanced vulnerability for posttraumatic stress disorder through previous trauma among West Nile refugees. *BMC Psychiatry*, 34(4), 1471-1478.

Ngo, V., Langley, A., Kataoka, S. H., Nadeem, E., Escudero, P., & Stein, B. D. (2008).

Providing evidence based practice to ethnically diverse youths: Examples from the Cognitive Behavioral Intervention for Trauma in Schools (CBITS) program. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47(8), 858-862.

Ogrodniczuk, J. S., Piper, W. E., Joyce, A. S., & McCallum, M. (2000). Different perspectives of the therapeutic alliance and therapist techniques in 2 forms of dynamically oriented psychotherapy. *Canadian Journal of Psychiatry*, 45, 452-458.

Ozer E.J., Best S.R., Lipsey T.L., Weiss D.S. (2003). Predictors of posttraumatic stress disorder and symptoms in adults: a meta-analysis. *Psychological Bulletin* 129(1), 52-71.

- Pearlman, L. A. & Courtois, C. A. (2005). Clinical applications of the attachment framework: Relational treatment of complex trauma. *Journal of Traumatic Stress, 18*(5), 449-459.
- Pole, N. G., J. P. & Kulkarni, M.(2008).Posttraumatic stress disorder among ethnoracial minorities in the United States. *Clinical Psychology: Science and Practice, 15*(1), 35-61.
- Pynoos, R. S., Steinberg, A. M., Layne, C. M., Briggs, E. C., Ostrowski, S. A., & Fairbank, J. A. (2009). DSM-V PTSD diagnostic criteria for children and adolescents: A developmental perspective and recommendations. *Journal of Traumatic Stress, 22*(5), 391-398.
- Pynoos, R. S., Steinberg, A. M., & Piacentini, J. C. (1999).A developmental psychopathology model of childhood traumatic stress and intersection with anxiety disorders. *Biological Psychiatry, 46*, 1542-1554.
- Rieckmann, T.R., Wadsworth, M.E., & Deyhle, D. (2004).Cultural identity, explanatory style, and depression in Navajo adolescents. *Cultural Diversity and Ethnic Minority Psychology, 10* (4), 365-382.
- Rolfesnes, E.S. & Idsoe, T. (2011). School-based intervention programs for PTSD symptoms: A review and meta-analysis. *Journal of Traumatic Stress, 24* (2), 155-165.
- Ronen, T. (2002).Difficulties in assessing traumatic reactions in children. *Journal of Loss and Trauma, 7*, 87-106.
- Rosenman, S. (2002).*Trauma and posttraumatic stress disorder in Australia: Findings in the population sample of the Australian National Survey of Mental Health and Wellbeing. Australia and New Zealand Journal of Psychiatry, 36*, 515-520.
- Samuels-Dennis, J. A., Ford-Gilboe, M., Wilk, P., Avison, W. R., & Ray, S.(2010). Cumulative trauma, personal and social resources, and post traumatic stress symptoms among income-assisted single mothers. *Journal of Family Violence, 25*, 603-617.

- Shannon, M.P., Lonigan C.J., Finch A.J., & Taylor C.M. (1994). Children exposed to disaster: I. Epidemiology of post-traumatic symptoms and symptom profiles. *Journal of the American Academy of Child and Adolescent Psychiatry*, 33, 80-93.
- Shattell, M. M, Starr, S. S., & Thomas, S. P. (2007). 'Take my hand, help me out': Mental health service recipients experience of the therapeutic relationship. *International Journal of Mental Health Nursing*, 16, 274-284.
- Stamm, B. H., Stamm, H. E., Hudnall, A. C., & Higson-Smith, C. (2004). Considering a theory of cultural trauma and loss. *Journal of Loss and Trauma*, 9, 89-111.
- Stein, B. D., Jaycox, L. H., Kataoka, S. H., Wong, M., Tu, W., Elliott, M. N., et al. (2003). A mental health intervention for school children exposed to violence: A randomized controlled trial. *Journal of the American Medical Association*, 290, 603-611.
- Tedeschi, R.G., Calhoun, L.G., & Cann, A. (2007). Evaluating resource gain: Understanding and misunderstanding post traumatic growth. *Applied Psychology: An International Review* 56(3), 396-406.
- Thomas, M. L. (2006). The contributing factors of change in a therapeutic process. *Contemporary Family Therapy*, 28, 201-210.
- Thomas, S. E. G., Werner-Wilson, R. J., & Murphy, M. J., (2005). Influence of therapist and client behaviors on therapeutic alliance. *Contemporary Family Therapy*, 27(1), 19-35.
- Thrane, L.E., Whitbeck, L.B., Hoyt, D.R., & Shelly, M.C. (2004). Comparing three measures of depressive symptoms among American Indian adolescents. *American Indian & Alaska Native Mental Health Research: The Journal of the National Center*, 11 (3), 20-42.
- Tryon, G. S., Blackwell, S. C., & Hammel, E. F. (2007). A meta-analytic examination of client-therapist perspectives of the working alliance. *Psychotherapy Research*, 17 (6), 629-642.

van der Kolk, B. A. (2005). Developmental trauma disorder: Toward a more rational diagnosis for children with complex trauma histories. *Psychiatric Annals*, 35(5), 401-408.

Yehuda, R., Halligan, S. L., & Grossman, R. (2001). Childhood trauma and risk for PTSD: Relationship to intergenerational effects of trauma, parental PTSD, and cortisol excretion. *Development and Psychopathology*, 13, 733-753.

Appendix A

Qualitative Interview Questions for Focus Groups:

1. What can you tell me about the trauma experiences of these children?
2. What can you tell me about these children and their family lives?
3. What can you tell me about these children and their relationship with you and other group members?

Appendix B

Facilitator and Institutional questionnaire

1. What type of training do you have (i.e. social work, counseling, teacher, etc.) Did this training include specific training on group therapy?
2. How many CBITS groups have you facilitated?
3. How many years of experience do you have providing services in schools?
4. How long have you been at this particular school?
5. Please describe your thoughts on the exposure portion of CBITS.
6. What factors at your institution were supportive and helpful in successfully implementing CBITS?
7. What factors at your institution made the implementation of CBITS more difficult?
8. What changes have you seen in your institution since you began running CBITS?

Appendix C.

Matrices of factors and categories for each outcome group

