

4-2013

# Trauma and Post-traumatic Stress Disorder in Therapeutic Day School Students: Prevalence in this Population and Effective Treatment Programs

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Trauma and Post-traumatic Stress Disorder in Therapeutic Day School Students:  
Prevalence in this Population, Comparison to Regular Education Students, and Effective  
Treatment Programs

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Submitted in partial fulfillment  
of the requirements of  
Doctor of Education  
in the Educational Psychology Department

National College of Education

National-Louis University

Approved April 10<sup>th</sup>, 2013

## **Abstract**

### *Trauma and Post-traumatic Stress Disorder in Therapeutic Day School Students: Prevalence in this Population, Comparison to Regular Education Students and Effective Treatment Programs*

*Monica Roberts, Ed.D, LCPC  
Educational Psychology: Human Learning and Development at National-Louis University*

This survey-based, comparative study investigated the percentage of students at a suburban Chicago therapeutic day school who meet criteria for clinically significant levels of PTSD as compared to students in a general education setting. The directional hypothesis was that students placed at therapeutic day schools have a higher prevalence of PTSD than a general population of students. The method used was a survey assessment called the Child PTSD Symptom Scale (CPSS) given to 16 students at a suburban Chicago therapeutic day school. These CPSS scores were analyzed and statistically compared to CPSS scores of an already published study with students in a regular education private school who had experienced a community-wide traumatic event. Data was compared using tables, bar graphs, and the Wilcoxon Signed Rank Test. This study's results showed that the CPSS scores of therapeutic day school students were significantly higher than those of the students in a regular education school who had recently experienced a community-wide traumatic event. Individual student data for all of the participants was also depicted using line graphs to show the variability in student data and their total CPSS scores. The principal conclusion was that the therapeutic day school students who participated in this study had significantly higher levels of PTSD than students in a regular education school who had experienced a community-wide earthquake. There is a need for more studies on therapeutic day school populations to focus on PTSD interventions and programs that could be implemented in therapeutic day schools. Two suggested interventions/programs in this study are the CBITS program and EMDR.

## Acknowledgements

I am dedicating my dissertation first and foremost to my biggest supporter, best friend and soulmate- my husband Zach Roberts, and to the light of our lives, our amazing little boy Charlie. I love you both forever. I would like to acknowledge and thank the many people who supported, helped, and guided me thorough my entire doctoral program and dissertation process, including my family, friends, and colleagues who have supported me through this incredible journey. A special thank you to William Roberts, former Vice President of Operations at National-Louis University. I would like to thank my dissertation committee: Dr. Mary Frances Schneider, Dr. Diane Salmon, Dr. Elizabeth Grace, and Dr. Marjorie Leon, my dissertation consultant, Dr. Ruth Ravid, and all the professors who helped me throughout my doctoral program. I would also like to thank Arlene Messner-Peters for lending literature for this dissertation and Dr. John Schuler for his consultative guidance throughout my dissertation process. Thank you to Dr. Audra Langley, Dr. Edan Foa, and Amber Piatt from the Center for Health Services and Society for helping me with their study information. Thank you to all of the therapists who helped me conduct my study by giving the surveys to the students. Finally, I would like to thank all of the students who participated in this study and the parents who gave them permission to do so. Their participation was invaluable to me. Thank you all. Your support is incredibly meaningful to me, and I cannot begin to express my gratitude.

## Table of Contents

Ch. 1 Introduction.....	7
Theoretical Underpinnings of PTSD Interventions.....	7
Variety of PTSD Interventions.....	11
Importance of Recognizing and Treating PTSD in Schools.....	13
Focus of the Present Study.....	13
Ch. 2 Literature Review.....	15
Childhood Psychological Trauma.....	15
Trauma Symptoms.....	19
Post-traumatic Stress Disorder (PTSD).....	21
Complex PTSD/DESNOS in Children.....	23
PTSD among Therapeutic Day School Students.....	30
Therapeutic Holds/Restraints in Therapeutic Day Schools .....	32
Trauma Programs in the Education System.....	34
The CBITS Program.....	36
EMDR.....	39
Conclusion.....	43
Ch.3 Methodology.....	46
Research Design.....	46
Research Questions.....	46
Participants.....	46
Instruments .....	47
Scoring.....	49
Procedure.....	49
Data Analysis.....	49
Ethical Considerations for Study Participants.....	50
Ch.4 Results.....	52
Means and Standard Deviations .....	52
Wilcoxon Signed Rank Test.....	55
Individual Student Data.....	57
Conclusion.....	69
Ch.5 Conclusion.....	70
Appendix A .....	74
Appendix B .....	76
Appendix C.....	77
References .....	78

## **CHAPTER ONE**

### **Introduction**

#### **Theoretical Underpinnings of PTSD Interventions**

Human beings create their subjective worlds from their lived experiences. The external experiences that they encounter are only pieces of the complex puzzle of human psychological processes. The phenomenological interpretations of external experiences are the significant pieces that must be examined and researched. Hermeneutics describes a method of interpreting a piece of “text” to “understand the whole of which it is a part,” (Green, Camilli, & Elmore, 2006, p. 15). The parts and the whole are interchangeable and circular. One cannot be understood without the other when examining human psychological processes. There are similarities in hermeneutics to Adlerian psychological theory, in which a person's unique, private beliefs and strategies (or life style) is understood. The cognitive schema and life style function as the individual's reference for his or her private view of self, others, and the world. Researchers using this epistemology need to have a strong ability to empathize and project themselves into the world of the subjects they are studying.

To add to this epistemology is a psychological therapeutic approach from which a portion of the literature review in this paper is based. Cognitive-behavioral therapy (or CBT, as it is commonly referred) is a theoretical and practical model of psychotherapy that presupposes that emotions and behaviors are the result of the connection between a given situation, a person's belief system which is the lens through which he or she interprets the situation, and the person's thoughts about the event, whether they are positive or negative. There is a circular process in cognitive-behavioral theory among cognitive, affective, and behavioral components, which is akin to the circular and dynamic process in hermeneutics. CBT therapy, particularly when utilized with the child/adolescent population, “represents two interacting perspectives (cognitive and behavioral), which are combined to understand

the child or adolescent and to develop interventions to address presenting problems,” (Mennuti, Freeman, & Christner, 2006, p. 7).

CBT has been used in school-based counseling and social work due to its easy accessibility, structure and framework that parallels other educational services, and its time-limited, present-oriented, and solution-focused nature (Mennuti, et al., 2006). Students' behavioral and emotional needs can be met with school-based CBT delivered by trained mental health professionals. The theory behind CBT can also help offer explanations and guidance to the complex problems of students' behavior. No longer are students' dysfunctional behaviors merely behavioral disorders or problems to be extinguished due to their discrepancy with the values of society. These dysfunctional and problematic behaviors serve a much more significant and underlying purpose and stem from damage to the student's core identity and belief system, which, in turn, creates dysfunctional thought processes. It is crucial to be aware of any traumatic life circumstances that have contributed to a student's disruptive and dysfunctional behavior.

When combining hermeneutics, Adlerian theory, and Cognitive-Behavioral theory within child/adolescent psychology, the overall philosophy is based on recognizing and understanding a child or adolescent's unique experiences, phenomenological perspective, and how the child/adolescent views any significant events in his/her life through a subjective lens. The child/adolescent then begins to restructure his or her thoughts, emotions and behaviors based on his or her view of important events experienced, positive and negative. This study delves into those significant and life-altering negative experiences children and adolescents have endured, resulting in what is known as trauma. The proposed analysis seeks to illuminate the level of trauma that a specialized, unique population of children and adolescents may have as compared to the general population of children and adolescents. Combining all three of these philosophies (hermeneutics, Adlerian theory, and CBT) led to this writer's conclusions regarding the need for systematic changes within the educational system of that particular, unique

population of students and specific trauma interventions that can be individualized as well as used in a systemic way.

Children and adolescents who have suffered traumatic experiences may not have received the necessary psychological treatment after the events occurred. These experiences often linger with them, haunt them, and recur in their minds during their daily lives. Types of trauma that children and adolescents can experience include physical, sexual or emotional abuse, domestic violence, gang-related violence, natural disasters, serious accidents, the diagnosis of a life-threatening illness, terrorist attacks, mass shootings, or war (depending on their countries of origin). Some children who have experienced these traumatic and stressful events are resilient and can recover within a short period of time. Oftentimes, though, children and adolescents who have experienced traumatic events in their lives often develop a psychological disorder known as Post- Traumatic Stress Disorder, or PTSD. According to Seligman in *Selecting Effective Treatments* (1998), Post -Traumatic Stress Disorder occurs when people who have endured traumatic events develop:

Great fear and helplessness in response to the traumatic event, persistent re-experiencing of the event (for example, through dreams, distressing recollections, or intense distress on exposure to reminders of the event), loss of general responsiveness, and at least three indications of avoiding reminders of the trauma, and at least two persistent symptoms of arousal and anxiety(such as sleep disturbances, anger or irritability, severe startle responses, and difficulty concentrating) that are apparently due to the stressor and are severe enough to cause significant distress or impairment (p. 221).

These symptoms can be present in children and adolescents as well and cause marked distress and impairment in academic and social functioning. Following a trauma, behaviors that may be present in children include agitation and confusion. Children also may exhibit intense fear, helplessness, anger,



sadness, horror or denial. “Children who experience repeated trauma may develop a kind of emotional numbing to deaden or block the pain and trauma. This is called *dissociation*. Children with PTSD avoid situations or places that remind them of the trauma. They may also become less responsive emotionally, depressed, withdrawn, and more detached from their feelings,” (American Academy of Child and Adolescent Psychiatry, 2011, para. 2).

Childhood trauma and PTSD are, unfortunately, very prevalent in our culture. Children who have experienced traumatic events in their lives, ranging from domestic violence, abuse, natural catastrophes, illness, accidents, war, etc., have high rates of developing PTSD during childhood as well as other co-occurring psychological disorders and behavioral problems. Childhood trauma and PTSD are serious societal problems that require critical attention, research, and application of research to the population. Much research has been done on the issues, and much knowledge has been gained from the research. What is missing, however, is the overall practical application of the research that has been compiled on childhood trauma and PTSD.

Many children and adolescents who have been traumatized in whatever form either go unnoticed due to internalizing behaviors or are misdiagnosed and misunderstood as simply “behavioral problems” that need behavioral interventions. Traumatized students in school, especially, are misunderstood and labeled as “behaviorally challenged”, “behaviorally disordered”, “juvenile delinquents” or “attention-seekers”. These labels are not only misrepresentations of these youth; they are damaging to their already fragile and victimized senses of self.

Children and adolescents placed in special education therapeutic day school settings manifest severe emotional and behavioral issues which have hindered them in regular educational settings. Their classroom behaviors are often highly dysfunctional, disruptive, or even harmful. These students are particularly affected by PTSD symptoms, as many of them have been exposed to various forms of trauma (i.e., physical, sexual or emotional abuse, witnessing domestic violence, gang violence, rape,

molestation, loss of a loved one, etc.) Their classroom behaviors can become negatively impacted due to trauma-related reactions and PTSD symptoms that may be mistaken for simple behavioral problems or oppositional-defiant disorders.

It is often that these PTSD symptoms are overlooked and discounted among this population of students. When a student is labeled as “Emotionally Disabled” or “Behaviorally Disabled” in special education, the externalized behaviors that create academic and social problems for them in school are the focus. Internalized PTSD symptoms or externalized manifestations of PTSD symptoms often are not given attention or are relegated to psychological reports and social histories in the students' files but are rarely taken into account when the educational team is discussing IEPs, interventions or classroom behavioral plans. Unfortunately, the team may be missing highly significant pieces of information as to *the cause* of the student's maladaptive behaviors and the purposes that they serve for the student. These causes or triggers can help to explain and illuminate why the students are having academic, social, or behavioral problems in the classroom. Childhood trauma and PTSD become these giant “pink elephants” in the room that are not talked about due to ignorance, misinformation or discrediting of the disorder. Yet, if this disorder is not given proper psychological and educational interventions, the behavioral issues are not likely to decrease at a significant rate or may just be masked by standard behavioral interventions.

### **Variety of PTSD Interventions**

Obviously, preventing the trauma would be the most preferred course of action. Unfortunately, that is not realistic for many youth. The next best alternative is early intervention. The earlier the intervention is introduced to the child, the better the outcome of treatment and decreasing of PTSD symptoms. An evidence-based, concrete, easily adaptable, useful and accessible trauma-based intervention or program is needed to make a positive impact. Support from parents, peers, and schools is extremely valuable during this healing process. Because of the length of time that children are in

schools and the easy access to services they have at their disposal within their education settings, school-based interventions are becoming increasingly more implemented. Trauma programs are being created and pioneered within schools to give those students who have experienced trauma help, support, guidance, and research-based tools for coping after trauma.

One such school-based trauma program is called Cognitive Behavioral Interventions for Trauma in Schools (or CBITS). CBITS is “a school-based group and individual intervention designed to reduce symptoms of post-traumatic stress disorder (PTSD), depression, and behavioral problems; improve peer and parent support; and enhance coping skills among students exposed to traumatic life events, such as community and school violence, physical abuse, domestic violence, accidents, and natural disasters,” (National Registry of Evidenced-based Programs and Practices [NREPP], 2010, para.1). In this study, CBITS will also be explored further in the literature review as a highly effective program for therapeutic day school students who have been traumatized and experience PTSD.

Another trauma-focused therapy that is implemented more in outpatient and inpatient settings than in schools is called Eye Movement Desensitization and Reprocessing or EMDR. EMDR is a method created by Dr. Francine Shapiro in 1987 that has been empirically shown to reduce and even eliminate symptoms of PTSD in traumatized clients. It uses eye movements and/or bilateral stimulation of the brain while the client focuses on a traumatic event and all of the sensations, thoughts and feelings of the event. The client then desensitizes himself or herself to the traumatic event by processing the traumatic memory using the eye movements and/or bilateral stimulation until the memory becomes less disturbing. The traumatic memory then becomes associated with positive thoughts and beliefs so as to retrain the brain to make positive connections to the traumatic memory as opposed to only distressing connections. EMDR will also be explored further in the literature review of this study as an empirically effective treatment modality that can be considered for use in therapeutic day schools with traumatized students.

## **Importance of Recognizing and Treating PTSD in Schools**

This writer is particularly interested in this topic after having experience working with many traumatized youth in educational and outpatient settings. These children and adolescents are often misdiagnosed, or if the diagnosis of PTSD is given it is not paid as much attention to as other co-occurring diagnoses. The trauma that these children and adolescents experienced was relegated to their files and social histories without much regard for how the traumas continue to affect these youth's daily lives and functioning. Even in therapeutic day schools, where the focus is on the students' social-emotional and psychological health, past traumas that the students experienced often are not given the proper psychological and classroom interventions. Therapeutic holds or restraints are oftentimes used as interventions when therapeutic day students are unsafe towards themselves or others. However, these therapeutic holds are often not therapeutic at all for traumatized students and can re-traumatize them, lead them to dissociate, and cause their PTSD symptoms to become intensified. This writer's goal for this study is to further educate those working with traumatized youth in therapeutic educational settings on the effects of trauma on children and adolescents, the symptoms and signs of PTSD in youth, and research-based trauma interventions that can be implemented in educational settings with traumatized children.

## **Focus of the Present Study**

This survey-based, comparative study attempted to identify the percentage of students at a Midwestern therapeutic day school who meet criteria for clinically significant levels of PTSD using a survey assessment called the Child PTSD Symptom Scale (CPSS), as compared to students in general education programs. The directional hypothesis was that students labeled as ED or BD and placed at therapeutic day schools have a higher prevalence of trauma histories and PTSD than the general population of children and adolescents who are not in therapeutic day schools but are in regular education public or private schools.

This writer's specific research questions are:

1. What is the prevalence of trauma and Post-traumatic Stress Disorder at one selected therapeutic day school?
2. How does the prevalence of PTSD at this particular day school compare to the prevalence of general education students who have all endured a community-wide traumatic experience (i.e., an earthquake)?

## CHAPTER TWO

### Literature Review

#### Childhood Psychological Trauma

The word *trauma* was originally used in medicine to describe shock that the body endures. In general, it means “a violent shock that is capable of producing an impact that the individual cannot resist,” (Braga, Fiks, Mari, & Mello, 2008, p. 3). The term has an Indo-European root with two meanings: to perforate and to overcome. Therefore, the term describes the psychological process that occurs when a shocking event impacts a person: the possibility of Post-Traumatic Stress Disorder or resilience. Only after Jean-Martin Charcot (1882) studied patients whose psychological symptoms appeared after physical traumas and Sigmund Freud's work in the 1890's, which used the term trauma to explain the etiologies of neuroses, did the term come to be known in psychological and psychiatric research (Braga, et.al, 2008).

According to the scholarly website the National Child Traumatic Stress Network [NCTSN], “From a psychological perspective, trauma occurs when a [person] experiences an intense event that threatens or causes harm to his or her emotional and physical well-being,” (NCTSN, 2003, para. 2). Trauma can result from exposure to natural disasters such as hurricanes or earthquakes, major national catastrophic events such as war or terrorism, or more localized events in the child's life such as a car accident, witnessing or being a victim of violence, sexual, physical, verbal or emotional abuse, witnessing family violence or drug use, a death or loss, abandonment by primary people in the child's life, and other personal tragedies and distressing events. Trauma reactions can be both physiological and psychological with multiple symptoms, including increased heart rate, sweating, agitation, hyper-vigilance, nervous stomach, and hyper-emotionality. These reactions are actually very normal and constitute the primal “fight or flight” instinct that humans have when there is perceived danger. The

reactions serve as a protective mechanism. Children who have experienced traumatic events may have used their primary fight or flight instincts when those traumatic experiences occurred or they may have “frozen” in shock and not reacted at all. The problem lies in the child holding onto those primitive reactions even after the traumatic event is long over and they are in a safe environment. These reactions affect the child's daily life, academically, socially, and behaviorally. Traumatic reactions can include intense and continuous emotional dysregulation, depressive symptoms, anxiety, behavioral changes, attention and focus problems, academic struggles, nightmares, difficulty sleeping and eating, psychosomatic complaints, and many others (NCTSN, 2003).

Joy Osofsky wrote in her 2005 review of literature that the long-term effects of violence exposure to young children are not well-known. “Many people assume that very young children are not affected at all, erroneously believing that they are too young to know or remember what has happened,” (p. 78). Although she stated the long-term effects are not well-known, [this contrasts with the bountiful research available on the long-term psychological effects of violence and trauma exposure on children]

In fact, the research has shown that in the earliest phases of infant and toddlers' developments, there are connections between the level of exposure to violence in their settings and emotional and behavioral problems in the infant. A compilation of studies (Bell,1995; Drell et. al,1993; Jaffe et. al, 1990; Osofsky, 2004; Osofsky and Fenichel,1996; Pynoos in 1993, and Pynoos et. al, 1997) showed that “infants and toddlers who witnessed violence showed increased irritability, immature behavior, sleep disturbances, emotional distress, fears of being alone, and regression in toileting and language,” (cited in Osofsky, 2005, p. 78). Exposure to trauma interferes with the infant's normal development of trust in others. This will later negatively impact the toddler's initiative to build on his or her curiosity and explore his or her surroundings in a healthy, developmentally appropriate way (Osofsky & Fenichel, 1994). Both of these outcomes are foreshadowed by Erikson’s theory of psychosocial development.

A review of studies by Drell et. al in 1993, Osofsky in 2004, and Osofsky and Fenichel in 1994 illustrated that “consistent reports have even noted the presence of symptoms in these young children very similar to post-traumatic stress disorder in adults, including repeated re-experiencing of the traumatic event, avoidance, numbing of responsiveness, and increased arousal,” (cited in Osofsky, 2005, p. 78). Because these children cannot depend on their caregivers as children their age should, they have difficulty with trust and may become withdrawn, frightened, hypervigilant, or disorganized. Their base sense of security and trust is fragmented and broken, which makes it very problematic to form relationships with other caregivers, friends, or trusted adults.

According to Pynoos (1993), older children often experience increased anxiety, sleep disturbances, intrusive thoughts, and attention problems in the classroom after violence exposure. Because their cognitive development is more advanced, they can often understand more of the situations that surrounded the violence and experience anxiety and guilt about what they could have done to prevent the violence. Clear DSM-IV symptoms of PTSD can be seen in children at this age. Children this age who have been exposed to violence show much more hesitation in exploring their environment and playing freely, without worry and can isolate, withdraw or become hypervigilant of their surroundings, constantly on edge about what dangers could threaten them. It has been shown in studies that many parents of these children are not aware of the connection between their child's attention and focus problems in school and the effects of the traumatic experience(s) (Osofsky, 2005). “Some studies (Bell, 1995; Bell & Jenkins, 1997) have reported that school-aged children who witness domestic violence often show a greater frequency of externalizing (aggressive, delinquent) and internalizing (withdrawn, anxious) behavior problems in comparison to children from nonviolent families,”(Osofsky, 2005, p. 78). Many aspects of a child's life are impacted by exposure to violence and traumatic experiences, including attitude, social skills, academic performance, and overall functioning.



Statistically, traumatic events are prevalent among United States' youth. One empirical study by Kilpatrick and Saunders conducted in 1997 showed that 8 percent of children and adolescents nationwide reported a lifetime prevalence of sexual assault, 17 percent reported physical assault, and 39 percent reported witnessing violence. In a longitudinal study of general population children and adolescents in western North Carolina (ages 9-16), one quarter were found to have experienced at least one potentially traumatic event in their lives, 6 percent within the past three months. A continuation of this study by Copeland et. al in 2007 showed that by the age of 16, more than 68 percent of children and adolescents had experienced a potentially traumatic event. "Full-blown PTSD was rare, occurring in less than one half of one percent of children studied. Other impairments---including school problems, emotional difficulties, and physical problems---occurred in more than 20% of children who had been traumatized," (The National Child Traumatic Stress Network [NCTSN], 2002, Facts and Figures: Rates of Exposure to Traumatic Events section, para. 3). The rate was more than doubled to 50 percent for those children and adolescents who had experienced more than one traumatic event in their lives (NCTSN, 2002).

Five hundred and thirty six elementary and middle school students were surveyed in an inner city community by Bell and Jenkins in 1993. Thirty percent of them were found to have witnessed a stabbing and 26 percent had witnessed a shooting. Among 2248 urban middle school and junior high school students empirically studied by Schwab-Stone et. al in 1995, 41 percent reported witnessing a stabbing or shooting in the past year. High school students surveyed by Singer et. al in 1995 in six schools within two states (n=3735) reported relatively high rates of traumatic exposure in the past year. Three to thirty-three percent of males reported being shot or having experienced gunfire in their direction; 6 to 16 percent reported being attacked with a knife. Females reported lower incidences of these types of attacks but higher incidences of sexual assault and attacks (NCTSN, 2002).

## Trauma Symptoms

Dissociation is a very prevalent and serious symptom of psychological trauma. According to Weber in his multiple-subject case study, “Dissociated cognition is defined as thinking and feeling that have not become successfully integrated into the usual sense of self; this results in discontinuities in conscious awareness and disruptions in the ongoing “link-making” in the development of identity,” (2008, p. 205). In this study, Weber postulated that there is a strong correlation between traumatic events and dissociative symptoms, and often when a child presents with dissociative symptoms there will usually be disclosure of a trauma history. He also addressed several areas of functioning that may be impacted by traumas, including memory loss or “blackouts”, depersonalization, derealization, substance abuse, affect and behavior changes, sexually reactive or sexually offending behaviors, and self-injurious behavior (Weber, 2008).

With regard to memory loss, the severity varies from only episodic or periodic loss of memory related to the traumatic events or certain specific events to a wide-range long-term memory loss. Trance states or “blackouts”, momentary lapses in attention or focus, long unresponsive periods, excessive sleeping, fainting, and even comas have been reported. Works from Burgess, Hartman and Baker in 1995; Fivush, Pipe, Murachver, and Reese in 1997; and Stein and Waters in 1999 led to this conclusion: “An important point to remember in assessing children for trauma is that these patients may lack verbal memories for traumatic events but could display knowledge of events through sensori-motor modalities or somatic symptoms instead,” (Weber, 2008, p.208).

According to the practitioner text the Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> Edition, Text Revision (DSM IV-TR) the essential features of depersonalization are persistent or recurrent episodes characterized by a feeling of detachment or estrangement from one's self. The individual may feel like an automaton or as if he or she is living in a dream or movie. There may be a sensation of being an outside observer of one's mental processes, one's body, or parts of one's body

Derealization is an alteration in the perception of the outside world, so that it seems unreal. Both depersonalization and derealization have been shown to occur in adolescent patients who have trauma histories. These psychological symptoms can also be a result of substance abuse. It is important to differentiate between the two when treating patients, and if substance abuse is found to be the cause, substance abuse treatment is necessary (American Psychiatric Association, 2000).

Children and adolescents who have experienced traumatic events may have shifts in mood or behavior that appear sudden and abnormal. Weber cautions that many of these drastic shifts occur in the presence of stimuli which remind the child of the traumatic event or an associated thought about the traumatic event that children may not be able to verbally express in the moment. Their drastic mood and behavior changes will be their way of expressing that some stimulus or intrusive thought is creating a flashback or triggering emotion connected to the trauma (Weber, 2008).

“Sexually reactive or sexually offending behaviors may occur in traumatized children and adolescents, and may co-occur with dissociative symptomatology,” (Weber, 2008, p. 210). The goal for therapists working with these children is to try to distinguish between normative sexual behavior and those behaviors which fall outside of the typical range for that age group, are sexually reactive, or are sexually molesting behaviors in children and adolescents. It is also important for the therapist to evaluate any dissociation and how this may connect to the sexually inappropriate or aggressive behaviors, as these behaviors could be linked to each other (Weber, 2008).

During dissociative states, children and adolescents may engage in self-injurious behaviors such as cutting, head banging, biting, burning or scratching. These behaviors may be self-regulatory or provide emotional relief to the traumatized child/adolescent when in high levels of dissociation or affect dysregulation (Weber, 2008).

## **Post-Traumatic Stress Disorder (PTSD)**

According to the practitioner text, the DSM IV-TR (American Psychiatric Association, 2000),

Post-traumatic Stress Disorder is:

The development of characteristic symptoms following exposure to an extreme traumatic stressor involving 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 a 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 (p. 463).

The diagnostic criteria for PTSD include exposure to a traumatic event and a response involving intense fear, helplessness, and horror. However, it is noted in the DSM-IV TR that in children this reaction may be expressed as disorganized or agitated behavior as opposed to a normal fear reaction expressed by an adult. The following diagnostic criteria also need to be present for PTSD. One or more of the following: 1) recurrent and intrusive distressing recollections of the event, including images, thoughts or perceptions. It is noted that in young children, repetitive play in which themes or memories from the traumatic event are oftentimes acted out. 2) Recurrent or distressing dreams of the event. It is noted that in children, there may be frightening dreams without recognizable content. 3) Acting or feeling as if the traumatic event were recurring (reliving the experience, delusions, hallucinations, dissociative flashbacks. In young children, trauma-specific reenactment is noted. 4) Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event and 5) Physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event (American Psychiatric Association, 2000).

The next portion of diagnostic criteria centers around persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness that was not present before the trauma, as

indicated by three (or more) of the following:

- 1) Efforts to avoid thoughts, feelings, or conversations associated with the trauma
- 2) Efforts to avoid activities, places, or people that arouse recollections of the trauma
- 3) Inability to recall an important aspect of the trauma
- 4) Markedly diminished interest or participation in significant activities
- 5) Feeling of detachment or estrangement from others
- 6) Restricted range of affect (unable to have loving feelings)
- 7) Sense of a foreshortened future (does not expect to have a career, marriage, children, or a normal life span) (American Psychiatric Association, 2000).

The next category of diagnostic criteria is comprised of symptoms of increased arousal that were not present before the trauma, as indicated by two (or more) of the following:

- 1) Difficulty falling or staying asleep
- 2) Irritability or outbursts of anger
- 3) Difficulty concentrating
- 4) Hypervigilance
- 5) Exaggerated startle response

The duration of the symptoms must be present for more than 1 month, and cause clinically significant distress or impairment in social, occupational, or other important areas of functioning. PTSD is considered to be “acute” if the duration of the symptoms is less than three months and is considered to be “chronic” if the duration of symptoms is three months or more. There also is a category of “delayed onset” if the onset of symptoms is at least six months after the traumatic event or stressor (American Psychiatric Association, 2000).

According to statistics gathered from an empirical study by Giaconia et. al in 1995, among a sample of older adolescents, 14.5% of those who had experienced a serious traumatic event developed

PTSD. In 2004, a study was conducted by Gabbay et. al on children exposed to specific traumas. A wide range in rates of PTSD was found. [According to the study, extremely large ranges of 20-63% of survivors of child maltreatment, 12-53% of medically ill children and 5-95% of disaster survivors were found to be diagnosed with PTSD (as cited in NCTSN, 2002, Facts and Figures: Prevalence of PTSD section)]. These statistics, however, are rendered virtually meaningless since the percentage ranges vary so widely.

### **Complex PTSD/DESNOS in Children**

When children are not adequately cared for during their early years of dependency and vulnerability and their safety and survival needs are compromised, they may experience a series of painful or horrific events (referred to as “traumatic experiences”) either directly at the hands of their adult caregivers or indirectly due to their negligence. As a result, these children fail to learn the cluster of behaviors referred to as “attachment” and learn an entirely different set of behaviors in their interactions with adults. The empirical research that has been conducted on childhood trauma indicates that chronic, long-lasting exposure to child abuse, family violence, and other types of interpersonal trauma can result in dysregulation and can negatively impact functioning in several areas of daily life (Van der kolk, 2001).

According to Wang & Daro in 1997, each year over 3,000,000 children in the United States are reported to have been abused or neglected (cited in Van der kolk, 2001). Van der kolk adds, however, “Only about 1/3 of these children in clinical settings meet diagnostic criteria for PTSD. For example, in one study of 364 abused and neglected children (Ackerman et.al, 1998) the most common diagnoses in order of frequency were separation anxiety disorder, oppositional defiant disorder, phobic disorders, PTSD, and ADHD,” (2001, p. 5). Many abused and neglected children receive a variety of psychological diagnoses. However, none of the current DSM-IV diagnoses at this time truly represent the unique, pervasive, and inclusive symptomatology that is experienced by children and adolescents

who have experienced long-term abuse or neglect. The pervasive problems these children and adolescents tend to exhibit range from deficits in attachment, attention, emotional control and managing physiological arousal. According to Van der kolk (2001):

Many children and adults with abuse and neglect histories tend to suffer from 1) a lack of a predictable sense of self, with a poor sense of separateness and a disturbed body image, 2) poorly modulated affect and impulse control, including aggression against self and others, 3) and uncertainty about the reliability and predictability of others. This accounts for the distrust, suspiciousness, problems with intimacy and social isolation seen in many individuals with these histories (p. 7).

The first order of therapeutic business for these individuals is establishment of affect regulation so they can learn to regulate their internal states in response to stress, hence helping to build the foundation for a core sense of self (Van der kolk, 2001).

In diagnosing PTSD, it is highly significant to address the deficits in the current DSM-IV diagnostic criteria with regards to those who have experienced prolonged, repeated traumas as opposed to a single traumatic event. While the current PTSD diagnosis as it stands accurately describes symptoms experienced from a short-term, single episodic traumatic event, such as a car accident, natural disaster, rape, or terrorist attack, it does not encompass the symptoms manifested in those who have experienced long-term, prolonged trauma that have continued for months or years. The severity of the psychological damage done to victims of prolonged, repeated trauma is not captured in the current PTSD diagnosis. Even psychologically healthy people with no previous mental health diagnoses can often experience drastic changes in their self-concept and ability to cope with life stressors after they have endured chronic, long-standing traumas.

Dr. Judith Herman of Harvard University notes that “During long-term traumas, the victim is generally held in a state of captivity, physically or emotionally,” (cited in Whealin & Sloan, 2007,

Professional Section: Complex PTSD, para. 4). There is a control that the perpetrator has on the victim. The types of traumas that would be considered long-term and prolonged include long-term domestic violence, long-term child abuse (physical, sexual and emotional), concentration camps, prostitution brothels, prisoner of war camps, and organized child exploitation rings.

Dr. Herman suggests, “A new diagnosis, Complex PTSD, is needed to describe the symptoms of long-term trauma. Another name sometimes used to describe this cluster of symptoms is: Disorders of Extreme Stress Not Otherwise Specified (DESNOS),” (as cited in Whealin and Sloan, 2007, Professional Section: Complex PTSD, para. 2) However, Complex PTSD/DESNOS was not added as a separate diagnosis in the DSM-IV since results from DSM-IV field trials yielded that 92% of those determined to have Complex PTSD/DESNOS also met the criteria for standard PTSD. This does mean, though, that future editions of the DSM should and will likely be considering the need for the addition of Complex PTSD/DESNOS as a separate diagnostic criteria (Whealin & Sloan, 2007).

To be diagnosed with Complex PTSD/DESNOS the individual needs to have experienced a prolonged period, months or years, of control by another and have the symptoms that result from chronic victimization, such as alterations in emotional regulation, alterations in consciousness, changes in self-perception, alterations in how the perpetrator is perceived, alterations in relations with others, and changes in one's system of meanings. Examples of all of these symptoms include persistent sadness, suicidal thoughts, explosive anger, inhibited anger, forgetting or reliving traumatic events, having episodes in which one feels detached from one's mental processes or body, helplessness, shame, guilt, stigma, a sense of being completely different from other human beings, attributing total power to the perpetrator, becoming preoccupied with the relationship to the perpetrator, or becoming preoccupied with revenge (Whealin & Sloan, 2007).

“A developmental psychopathology conceptualization of youth violence exposure incorporates



multifaceted and interacting variables that contribute to adaptive or maladaptive trajectories,” (Margolin & Vickerman, 2007, p. 615). One of the factors to consider is the child's vulnerability versus resilience to traumatic events, which relates to an array of complex factors such as associated and secondary stress (or other losses and changes in the child's life), external or internal cues that remind the child of the traumatic event, and how the child perceives prolonged and long-standing danger. When combining these factors with the child's individual personality traits and temperament, developmental level, physiological response tendencies and the family context and social environment in which the child has been raised, the propensity towards adaptive or maladaptive behavioral paths can be determined (as cited in Van der kolk, 2001). The Complex Trauma Taskforce of the National Child Traumatic Stress Network emphasizes that “multiple traumas are likely to result in complex disturbances in multiple domains, potentially leading to wide-ranging developmental delays or fluctuating presentations of symptoms,” (Van der kolk, 2005, as cited in Margolin & Vickerman, 2007, p. 615). Cognitive, emotional, behavioral and psychobiological domains in a child are all affected by trauma and PTSD. All of these domains, in turn, affect each other and, like a ripple effect, can trigger symptoms from one domain to others. Normal development is disrupted in a child or adolescent who has endured prolonged trauma. (Cicchetti & Toth, 1995; Silvern et.al., 1995; Van der Kolk, 2005, as cited in Margolin & Vickerman, 2007).

Emotional symptoms in children and adolescents who have experienced prolonged traumas are often intense, severe, and manifest in various domains in the child's life. Recurring intrusive thoughts of the traumatic events plague the victim, bombarding him/her with negative emotions and fear. Emotional reactions vary and can often fluctuate on a daily, even hourly basis, between anxious, hyperactive, and restricted or flat affect. Affect becomes dysregulated which results in a combination of detachment from others and overreactive emotions, including difficulty managing and containing emotions, inappropriate affect, and withdrawal from situations in which the child feels a heightened

sense of emotional arousal. There becomes an increased risk of poor impulse control as well as interpersonal relationship problems (Cicchetti & Toth, 1995; Van der Kolk, 2005, as cited in Margolin & Vickerman, 2007).

The cognitive symptoms these children and adolescents experience include “overestimations about danger, preoccupied worry, and intrusive thoughts about the safety of oneself and other family members,” (Briere, 1992, as cited in Margolin & Vickerman, 2007, p.615). Oftentimes these children cope with these symptoms by attempting to minimize or maximize the effect of new information, which unfortunately can result in slower processing speeds, hypervigilance or a fluctuation between the two. These can lead to deficits in concentration and decision-making which can hinder academic progress. (Rossman et. al, 2000, as cited in Margolin & Vickerman, 2007).

Youth who have been exposed to violence over prolonged periods of time have a higher risk of engaging in aggressive behaviors. The cognitive distortions and elevated emotional arousal lead to aggressive responses to perceived threats or danger, even when there is no actual threat. The child may react on primitive cognitive schemas from his or her violence-exposed past to dictate how he or she should react in a situation, as opposed to being aware of the cues in a situation to help him or her perceive the current experience correctly and not as a reenactment of the past. This misperception of a situation leaves them overinterpreting cues from others as aggressive, and they respond with primitive fight responses. It is a preemptive response based on faulty logic in processing the social cues and social information around them (Crick & Dodge, 1994; Dodge, Pettit, & Bates, 1994; Rossman & Ho, 2000, as cited in Margolin & Vickerman, 2007). Other factors are the sensory experiences that the child has associated with the long-term trauma which guide physiological responses and alter the biological stress systems over time (De Bellis et al., 1999; Van der Kolk, 1996, as cited in Margolin & Vickerman, 2007). The quality and quantity of neurotransmitter release can be impaired from repeated trauma exposure (Mohr & Fantuzzo, 2000, as cited in Margolin & Vickerman, 2007), and chemical changes in

the brain, such as higher levels of norepinephrine, dopamine, epinephrine, and cortisol, have been linked to repeated violence of sexual abuse in families (De Bellis et al., 1999, as cited in Margolin & Vickerman, 2007). When the body has higher than normal levels of adrenaline and noradrenaline, it is prepared for quick action by increasing the heart rate and blood flow. This can increase agitation and may also decrease attention. (Rossman et. al, 2000, as cited in Margolin & Vickerman, 2007). The body learns to automatically regulate arousal by decreasing the number of arousal receptors, and elevated levels of glucocorticoids damage the hippocampus, which negatively affects memory. Because children's brains are not yet fully developed, "they are particularly vulnerable to negative effects of periods of overactivation or underactivation in their neurodevelopment," (Schwartz & Perry, 1994, as cited in Margolin & Vickerman, 2007, pp. 615-616).

Significant challenges exist in the diagnosing of children and adolescents with PTSD. Continuous reconsideration and reevaluation is occurring in the DSM and will be further redefined in its upcoming fifth version. Currently, the diagnostic criteria for PTSD in the DSM-IV is more appropriate for adults than children. However, it is now recognized that PTSD is manifested differently in children than adults. The requirements for diagnosing children and adolescents with PTSD require that they exhibit at least one re-experiencing, three avoidance and numbing and two arousal criteria. Children, however, may exhibit re-experiencing the traumatic event through repetitive or reenacting play or nightmares. Sheeringa, Zeanah, Drell and Larrieu (1995) created developmentally sensitive PTSD criteria for preschool children that are more concrete, rely less on verbal skill and abstract thought, and include symptoms of aggression, new fears, and loss of previously acquired developmental skills (Margolin & Vickerman, 2007).

School-age children and adolescents have their own age-specific ways of manifesting post-traumatic stress but generally share very similar responses and symptoms. In Kerig, Fedorowicz, Brown, and Warren's 2000 study, symptoms for preschool children, school-age children and adolescents

were differentiated. School-age children had arousal symptoms such as difficulty falling asleep, oppositional or acting-out behavior, academic difficulties, and preoccupation with the details of the traumatic event itself. Similarly, adolescent symptoms included insomnia, withdrawal into heavy sleep, angry and aggressive behavior, and academic difficulties in addition to the standard hypervigilance and exaggerated startle response symptoms in adults (Margolin & Vickerman, 2007).

PTSD symptoms are divided into clusters to distinguish between their unique properties: re-experiencing, arousal and avoidance. However, the three clusters are more representative of an adult population with PTSD than a youth population. In Rossman and Ho's 2000 study, they contended that arousal and avoidance symptoms should be combined into one category since they are all efforts for the children to cope with negative emotions. Children withdraw physically and psychologically from the perceived threatening situation as a protective measure (Margolin and Vickerman, 2007).

The Complex Trauma Taskforce of the National Child Traumatic Stress Network (e.g., Van der Kolk, 2005) has redeveloped the diagnostic criteria for PTSD in cases of prolonged, long-term trauma and has proposed a new diagnostic category based on the unique aspects of long-term trauma.

Developmental trauma disorder (DTD) is the new diagnostic category that has been conceptualized.

“The criteria for DTD include (a) repeated exposure to developmentally adverse interpersonal trauma; (b) triggered pattern of repeated dysregulation in response to trauma cues, including dysregulation in multiple domains; (c) persistently altered attributions and expectancies about self, relationships, and others; and (d) evidence of functional impairment,” (Van der kolk, 2005, as cited in Margolin &

Vickerman, 2007, p. 616). DTD is being considered for inclusion in the American Psychiatric Association's DSM-V, not yet published (DeAngelis, 2007, as cited in Margolin & Vickerman, 2007).

This new diagnostic category would address the wide range of symptoms that children and adolescents exposed to interpersonal traumas often face. Introducing this new diagnostic category of DTD would help clinicians to more accurately identify children/adolescents who have encountered complex trauma

as opposed to single-event trauma thereby, helping those children/adolescents to receive more beneficial trauma interventions that address the complexities of their PTSD (Margolin & Vickerman, 2007).

### **PTSD among Therapeutic Day School Students**

The 1975 federal law PL 94-142 or Education for All Handicapped Children Act requires that all students, regardless of any type of disability, be allowed to receive a free, appropriate public education in the least restrictive environment (LRE) possible, as appropriate for each student. This means that education should be as close to students' homes and in as normal and typical an environment as possible. According to the book *Special Education: What Is It and Why We Need It*, “In determining the LRE for a particular student, the law requires that a full 'continuum of alternative placements' (CAP) be considered,” (Kauffman & Hallahan, 2005, p. 6). The CAP includes the full range of placement options, from least restrictive (inclusion in regular classes and neighborhood schools, special classes in general education schools) to more restrictive (separate special schools, therapeutic day schools) to most restrictive (residential or hospital placements) (Kauffman & Hallahan, 2005).

Therapeutic day schools are “an extension of the special education schools domain, but with a primary focus on emotional and behavioral supports,” (Goldberg Center for Educational Planning, 2012, Therapeutic Day Schools section, para. 1 ). These programs are designed to provide “wraparound” services for children and adolescents with emotional and behavioral disorders and link supports from school to home. They are separate schools from the students' district public schools. These programs range widely and consist of Department of Education listed private schools, collaboratives with a mainstream public school curriculum, alternative methods schools, and psychiatric hospital day schools within the hospital settings. The students' length of stay, funding, and theoretical and educational approaches within these schools varies greatly (Goldberg Center for Educational Planning, 2012).

Children and adolescents placed in therapeutic day school settings manifest severe emotional and behavioral issues which have hindered them in their educational lives, behaviorally, academically, and/or socially. Their behaviors are often highly dysfunctional, disruptive, or even harmful. These students may be particularly prone to PTSD symptoms as many of them have been exposed to various forms of trauma, most often physical, sexual or emotional abuse, witnessing domestic violence, gang violence, rape, molestation, and loss of loved ones. Their behaviors can become negatively impacted due to trauma-related reactions and PTSD symptoms, which may be mistaken for simple behavioral problems or oppositional-defiant disorders. This writer is basing this knowledge of therapeutic day school students trauma histories on first-hand experience working in the field with these students at several different therapeutic day schools. This writer was unable to find any published research on the prevalence of trauma histories and PTSD at therapeutic day schools; thus, the basis for this study.

Students at therapeutic day schools tend to exhibit both internalized and externalized defense mechanisms for coping with the traumatic events that have occurred in their lives and their resulting PTSD. The term *internalized defense mechanisms* describes psychological processes that children and adolescents deal with when faced with trauma. Internalized defense mechanisms are thought processes within the brain that serve to protect the psychological ego from the painful, negative emotions associated with trauma and abuse. These defense mechanisms are those that are not really visible to others and are more an internal process that does not become clearly expressed. They can include withdrawal, denial, repression, intellectualization, and identification with the abuser. All defense mechanisms occur in the brain initially, but some are then acted out externally. *Externalized defense mechanisms* are those that are expressed outwardly and can be seen clearly by others. Those include aggression, acting out, oppositional-defiant behavior, violence, self-injury, and suicidal behavior. These are, of course, more apparent to others than internalized defense mechanisms. According to Maschi, Morgen, Bradley and Hatcher in their longitudinal comparison group design study, the difference

between males and females regarding internalizing and externalizing defense mechanisms can be significant, as research has shown that traumatized girls tend to exhibit more internalizing behaviors and traumatized boys tend to exhibit more externalizing behaviors (2008). However, both girls and boys experience the damaging effects of trauma, whether they express these symptoms as more internal or external manifestations.

Unfortunately, this writer could not find any research that has been conducted on trauma and PTSD rates and prevalence among students placed at therapeutic day schools. The need for research of this kind to be conducted on this population is the very essence of this dissertation. It can be hypothesized that many of these highly emotionally and behaviorally disordered students have trauma histories, possibly long-term and severe trauma histories, and a high prevalence of PTSD or Complex PTSD. The lack of research on this marginalized population justifies a need for this study.

### **Therapeutic Holds/Restraints in Therapeutic Day Schools**

Physical restraint within therapeutic day schools is a common method of emergency crisis intervention when a student is out of control and being unsafe towards self and/or others. “Therapeutic restraints are defined by the Maine Department of Education as the physical restraint of a student for the purpose of preventing that student from injuring himself or others. The methods range from prone restraints, where a staff member holds a child face-down on the floor and prevents the child's arms and legs from moving to seated basket holds, where a staff member wraps his or her arms around a child's arms from behind” (Parkhurst, 2010, “Prone, basket holds” section). There are many therapeutic restraint techniques and programs that are used to teach therapeutic restraints within a system of crisis prevention techniques, such as Crisis Prevention Intervention (CPI), Therapeutic Crisis Intervention (TCI), Nonviolent Crisis Intervention (NCI), Crisis Intervention Team (CIT), etc.

Therapeutic restraints are intended to be the “last resort” intervention in an emergency crisis situation in which a student is being unsafe to himself or others. However, that is often not the case in

therapeutic day schools where therapeutic restraints can often be overused. A Freedom of Access Act request by Maine's "The Forecaster" found that many therapeutic schools in Maine ranged from 22-63 therapeutic restraints in a year, far exceeding the average of other schools, which was 1 or 2 a year. The U.S. Government Accountability Office issued a report in March of 2010 detailing 10 cases in that previous year where children died or were seriously injured from the use of therapeutic restraints (Parkhurst, 2010). A well-publicized investigative report by the Hartford Courant estimated 142 deaths from physical restraints between 1988 and 1998, with 37 of those being children in psychiatric facilities. That was actually an underestimate as only 15 states at that time had procedures in place for tracking those type of incidents (Fogt, George, Kern, White & George, 2008).

A 2008 study using a 32-item Likert scale was conducted by Fogt, George, Kern, White, and George and assessed school administrators' attitudes about the use of therapeutic restraints in their schools. Administrators of day treatment and residential programs for elementary school students in Mid-Atlantic states were surveyed. "Results showed that the use of physical restraint varied widely, ranging from 0 to more than 3 instances per day. About 1/3 of the sample reported between 1 to 3 physical restraints per week" (Fogt, George, Kern, White & George, 2008, p.4). Administrators were found to be divided in their attitudes on physical therapeutic restraints with 40% indicating therapeutic restraints are, in fact, therapeutic and 41% indicating they are not therapeutic.

In an article in *Psychology Today*, titled "Students Traumatized in Special Education Across America, Seclusion, Restraint, and Aversives", author Kymberly Grosso wrote that restraints and other aversive techniques in special education have been proven to be ineffective in modifying negative behavior. "In fact, it actually increases behavior in many children, and has the potential to cause physical and long-lasting trauma to a child (Jones & Timbers, 2002, Magee & Ellis, 2001, Natta, Holmbeck, Kupst, Pines & Schulman, 1990)" (Grosso, 2012, para. 2). She states that SAMSHA, the United States Health and Human Services Department's Substance Abuse and Mental Health Services



Administration, has recognized for over a decade that therapeutic restraints are “traumatic NOT therapeutic” (Grosso, 2012, para. 3).

In SAMSHA's 2010 Issue Brief #1 titled “Promoting Alternatives to the Use of Seclusion and Restraint”, research was cited that refuted the “therapeutic” effects of so-called therapeutic restraints and illuminated the re-traumatizing factor of them. SAMSHA reported:

Increasing research has identified the role of trauma in mental and addiction disorders.

Research into trauma and trauma-informed care identify common themes about the impact of trauma and how traumatic life experiences can impede an individual's ability to manage his or her own behaviors in the community (Fallot & Harris, 2002; Hodas, 2004; van der kolk, 2007).

Subsequently, trauma-informed care has emerged as an approach to care that prevents the re-traumatizing of these individuals. Studies suggest that restraints and seclusion can be harmful and is often re-traumatizing for an individual who has suffered previous trauma (NASMHPD, 2009) (2010, p.2).

SAMSHA encourages the use of trauma-informed care and trauma-focused interventions and programs for students with trauma histories.

### **Trauma Programs in the Education System**

Schools are an ideal setting for children and adolescents to have the most convenient and free access to mental health services. Many school mental health services are adequate and beneficial for students. However, one very important missing component in mental health care in schools is the systemic lack of school-wide screening, assessment, and referrals for in-school counseling for those students suffering from traumatic stress. Schools face the dilemma of how to balance the primary goal of educating their students with the increasing research-based evidence that many students have been through traumatic events and are suffering from post-traumatic stress, which hinders academic and learning progress.

In one 2003 study, Stein, Jaycox, Kataoka, Rhodes, and Vestal found that out of 769 students sampled in the Los Angeles Unified School District, an average of 2.8 violent events and 5.9 witnessed events had been experienced by students in the previous year. An astounding 76% of these students had experienced or witnessed violence involving a gun or knife. Another study conducted in 2004 by Flannery, Wester and Singer, reported that between 56% and 87% of adolescents had witnessed physical violence at school in the past year. (Ko, Kassam-Adams, Wilson, Ford, Berkowitz, Wong, Brymer, & Layne, 2008). “Violence exposure is associated with decreased IQ and reading ability (Delaney-Black et.al., 2002), lower grade point average, increased days of school absence (Hurt, Malmud, Brodsky, & Giannetta, 2001), and decreased rates of high school graduation (Grogger, 1997),” (Ko, et.al, 2008, p. 397). Students who are particularly vulnerable to negative effects of trauma are those from low-income and ethnic minority backgrounds, who are exposed to violence and academic failure at higher rates than higher-income students in the ethnic majority. These students also have lower access to mental health care (Ko, et.al, 2008).

Though the statistics show an increased need for trauma education and interventions for students; teachers, school counselors, school social workers and school psychologists typically receive little if any formal training or continuing education on trauma's effects on students and methods or interventions to help traumatized students in school. The programs schools have historically implemented for trauma usually revolve around a traumatic event or crisis that has occurred in the school or community. School-wide crisis plans and resources for students are usually offered in the aftermath of tragic events. Students who are experiencing more than just short-term traumatic stress reactions from a recent school or community-wide crisis or students who experience long-term traumatic stress from traumas that occur in their home or personal lives need crisis responses and early intervention programs to help them learn coping skills and gain positive peer and parent support. (Jaycox, Kataoka, Stein, Wong, & Langley, 2005, as cited in Ko, et.al, 2008). Current education laws

and federal legislation have provided opportunities for schools to increase their trauma-related programs. For example, in 2003 the President's New Freedom Commission on Mental Health recommended an expansion and enhancement of school mental health programs throughout the United States. With this recommendation, the Office of Safe and Drug Free Schools in the U.S. Department of Education sponsors initiatives and grants that support program development of school-based trauma services. Project SERV, Emergency Response and Crisis Management Initiative, elementary and secondary school counseling discretionary grants, grants for the integration of schools and mental health systems, and Safe Schools/Healthy Students Grants are just some examples of school-based trauma initiatives with federal funding. Also, the Individuals with Disabilities Education Improvement Act underwent some important changes in 2004 that encouraged special education educators to partner in the development of school-based trauma assessments and interventions (Ko, et.al, 2008).

### **The CBITS Program**

One highly effective trauma program that has been conducted in various schools throughout the country is called Cognitive-Behavioral Interventions for Trauma in Schools (or CBITS). According to Stein, Jaycox, Kataoka, Wong, et al., in 2003, CBITS has been shown to reduce post-traumatic stress symptoms, decrease depression symptoms, and increase the grade point average of traumatized students (as cited in Ko, et.al, 2008).

CBITS is a systematic, research-based program that uses cognitive-behavioral techniques such as psycho-education, relaxation, social problem solving, cognitive restructuring, imaginal exposure, exposure to trauma reminders, and development of a trauma narrative. The program includes 10 group sessions and 1-3 individual sessions for students, two parent psycho-educational sessions, and a teacher educational session. CBITS has been designed to be delivered to students within school settings, as many children and adolescents have difficulty accessing services in the community due to various factors.

CBITS has three main goals: “To reduce symptoms of posttraumatic stress disorder (PTSD), depression and behavioral problems; improve peer and parent support; and enhance coping skills among students exposed to traumatic life events,” (National Registry of Evidence-Based Programs and Practices [NREPP], 2010, Cognitive Behavioral Intervention for Trauma in Schools (CBITS) section, para. 1). The theoretical underpinnings of CBITS are based on cognitive-behavioral theory regarding anxiety and trauma. In short, traumatic life events lead to impairment (including psychological reactions, behavioral problems, and functional impairment), and these lead to long-term adjustment problems such as PTSD, depression, violent behavior, and substance abuse. Vulnerability to future traumatic events is increased, creating a disturbing trauma cycle (Jaycox, n.d.).

CBITS was developed to reduce symptoms of distress and to build skills to improve students' abilities to handle stress and trauma in the future. Following traumatic experiences, risk-factors can include poor coping skills, cognitive disturbances, and lack of social support. These symptoms can be reduced by cognitive-behavioral interventions, which can decrease maladaptive thinking and depression, reduce anxiety through relaxation training and behavior therapy, and encourage healthy grief through processing the traumatic experience (Jaycox, n.d.).

Research on CBITS has been conducted mainly on children in 3<sup>rd</sup> through 8<sup>th</sup> grades, although it also has been implemented with high school students. Before students are given the CBITS treatment, they are evaluated and screened for trauma histories and PTSD symptoms by using the Child PTSD Symptom Scale (CPSS). If they meet the criteria for trauma symptoms and PTSD diagnoses, they are eligible to receive the CBITS school-based treatment (NREPP, 2010).

The CBITS program was designed to be used with children ages 10–14 who have been exposed to trauma and who have clinical symptoms of PTSD. The format is 10 group sessions, one to three individual student sessions, two parent education sessions, and a teacher informational meeting. The CBITS program incorporates cognitive-behavioral therapy skills to groups of 5-8 students to aid in

reducing PTSD, depression and anxiety symptoms (Jaycox, n.d.). “Symptom reduction is accomplished through cognitive techniques and trauma-focused work in imagination, writing, and narratives. In each session, a new set of skills is taught to the child, using didactic presentation, age-appropriate examples, and games. The child then uses these skills to address his or her problems through homework assignments collaboratively developed between the child and the CBITS clinician,” (Jaycox, n.d, Intervention section, para. 4). The evidence-based research on CBITS has been conducted mostly with urban, inner city youth and minority populations.

When examining CBITS in relation to traumatized students who have PTSD, it is clear from the research that is available that CBITS has been shown to decrease PTSD symptoms in these youth. Jaycox wrote in the Foreword of her 2004 book, Cognitive Behavioral Interventions for Trauma in Schools:

Despite what we know about the disruptive and distressing symptoms of post-traumatic stress, PTSD, depression, and anxiety, we are not meeting the needs of children who suffer from the negative consequences of exposure to violence. There is so much we need to learn in order to bring more science to practice, especially in the practice of mental health in schools. CBITS fills that vacuum (p. ix).

During the 2001-2002 school year, 6<sup>th</sup> grade students at 2 large middle schools in Los Angeles who reported exposure to violence and had clinically significant levels of PTSD were randomly assigned to a 10-session standardized CBITS early intervention group (n=61) or to a wait-list delayed intervention comparison group (n=65). They were assessed before the intervention and 3 months after the intervention using the Child PTSD Symptom Scale (CPSS), the Child Depression Inventory, the parent-report Pediatric Symptom Checklist, and the Teacher-Child Rating Scale. The results showed that compared to the wait-listed delayed intervention group, after 3 months of intervention students who were randomly assigned to the early intervention group had significantly lower PTSD scores (8.9 vs.

15.5, adjusted mean difference, ? 7.0; 95% confidence interval [CI], ? 10.8 to ? 3.2), depression (9.4 vs 12.7, adjusted mean difference, ? 3.4; 95% CI, ? 6.5 to ? 0.4), and psychosocial dysfunction (12.5 vs 16.5, adjusted mean difference, ? 6.4; 95% CI, -10.4 to -2.3) (Stein, Jaycox, Kataoka, Wong, Tu, Elliot & Fink. 2003). In conclusion, CBITS was shown to have significantly decreased PTSD symptoms in traumatized youth; and therefore, is an evidence-based intervention for trauma that therapeutic day schools could greatly benefit from implementing in their programs.

## **EMDR**

Eye Movement Desensitization and Reprocessing (EMDR) is a method of psychotherapy that uses eye movements and bilateral stimulation to help the brain reprocess traumatic events and alleviate symptoms of PTSD. It was developed in 1987 by Dr. Francine Shapiro, Ph.D from the Mental Research Institute in Palo Alto. It was used with Vietnam Veterans in 1989. Since then, EMDR has been studied scientifically and has been shown to be reliable and valid, no longer an experimental technique (Drozd, 1994).

EMDR is designed to be used within psychotherapy sessions by a clinician who is EMDR trained and certified. It has been used with children, adolescents, and adults with a multitude of symptoms, issues, and disorders, not limited to depression, generalized anxiety, specific phobias, panic attacks, resolving negative feelings that cause distress in daily life, ego state disorders, dissociative disorders, chronic pain, HIV/AIDS, personality disorders, and, most notably, PTSD (Drozd, 1994).

Within PTSD, EMDR has been used for single-event traumas, such as car accidents, victims of Hurricane Andrew, Florida in 1992, the Laguna fires in October 1993, the L.A. Earthquake in January, 1994, rapes, sexual assaults, etc. EMDR has also been used for victims of long-term traumas that might fall into the diagnostic category of C-PTSD or DESNOS, such as children of divorce and victims of childhood emotional, physical, and sexual abuse and generalized parental neglect or rejection (Drozd, 1994).

The EMDR therapy process with traumatized clients can vary greatly from client to client depending on particular needs, but usually follows these 8 phases:

1. History Taking: The therapist identifies traumatic events in the client's life and the associated memories that have not been processed.
2. Preparation: The client and therapist build a therapeutic alliance and focus on the client's readiness for EMDR treatment.
3. Assessment: The client is asked to come up with a picture or image that represents the issue. The client states his or her negative beliefs and thoughts about themselves within the traumatic event. The client imagines what he or she would like to believe about themselves instead of the negative belief, and they rate how believable the positive belief is in their life at that moment. As the client pictures the original image of the traumatic event, they are asked to connect to their emotions and to the physiological responses in their bodies and then rate how strong those feelings are at that moment (Farrell, Dworkin, Keenan & Spierings, 2010). The client uses a Subjective Units of Disturbance (SUD) scale of 0 (no disturbance) to 10 (most distressing) to measure their thoughts and feelings.
4. Desensitization: The therapist and client then begin EMDR sets, which consist of the therapist using his or her finger to guide the client's eye movements in a soothing, rhythmic cadence back and forth, the client tapping on his or her legs in the same soothing cadence, headphones with short beeps alternating on each earphone, or clickers that alternate vibrations. While these sets are happening, the client's thoughts, feelings or bodily sensations may change. Feelings associated with the traumatic event may be experienced but the client does not need to re-live the trauma. It will feel to the client as if they are in a train passing by the trauma. The client, not the therapist, remains in complete control of the EMDR session (Drozd, 1994). The SUD scale is used again to measure that the thoughts and feelings are now rating lower.
5. Installation: The client chooses a positive self-statement to counter the negative self-statements he or

she had originally believed after the traumatic event. The goal of the installation phase is for this positive self-statement to be strengthened and installed into the client's cognition. The client should be able to eventually accept the validity of this new positive self-statement at a level 7 on the Validity of Cognition (VOC) scale.

6. Body Scan: Any residual tension in the client's body after the Installation phase is noticed and targeted in another EMDR eye movement or bilateral stimulation session.

7. Closure: Self-calming techniques are taught for use outside of the session, and the client is informed about what to expect in between sessions, how the client can journal these experiences, and self-calming techniques the client can use.

8. Reevaluation: At the beginning of any subsequent EMDR sessions, the therapist checks to make sure that the positive results have been maintained, identifies any new targeted areas of treatment, and begins reprocessing those additional targets (EMDR Network, A Brief Description of EMDR Therapy section, n.d.).]

Experts are still unclear as to the precise neurological processes that make EMDR efficacious. . However, “it is believed that EMDR prompts a physiological change on a neurological level” (Drozd, 1994, p.2). When a person has been traumatized, whether that be single-event or long-term, information processing in the brain stops. An “over-excitation of a cortical locus and a resulting pathological change of neural elements” (Drozd, 1994, p.2) occurs and the brain produces extra norepinephrine, decreasing REM sleep. This neurological blockage causes the traumatic event to remain stuck in its anxiety-producing form, with the original pictures, emotions, sensations and negative beliefs about self. All of the information about the traumatic event is not completely and thoroughly processed, integrated, and stored in one place in the memory, but instead stored in separate areas of the brain which can get triggered by other non-related events and can be experienced as intense flashbacks, nightmares, intrusive thoughts, and other disturbing symptoms. Therefore, the neurological



block needs to be undone so that the brain can process the information in a balanced and calm manner (Drozd, 1994).

Shapiro theorizes that EMDR increases REM sleep, which can improve information processing and compartmentalize traumatic memories. EMDR allows the brain to process the unfinished information and “restores the brain's excitatory-inhibitory balance” (Drozd, 1994, p. 2). The result is that all memories similar to the traumatic one(s) are desensitized equally. EMDR allows the traumatized person to work through the positive as well as negative feelings and thoughts around the traumatic event so as to leave the client feeling empowered and a resilient survivor instead of a victim (Drozd, 1994). Shapiro wrote in her book Eye Movement Desensitization and Reprocessing: Basic Principles, Protocols, and Procedures:

Often when something traumatic happens, it seems to get locked in the nervous system with the original picture, sounds, thoughts, feelings and so on. Since the experience is locked there, it continues to be triggered whenever a reminder comes up. It can be the basis for a lot of discomfort and sometimes a lot of negative emotions, such as fear and helplessness, that we can't seem to control. These are really the emotions connected with the old experience that are being triggered. The eye movements we use in EMDR seem to unlock the nervous system and allow your brain to process the experience. That may be what is happening in REM, or dream sleep. The eye movements may be involved in processing the unconscious material. The important thing to remember is that it is your own brain that will be doing the healing, and that you are the one in control (Shapiro, 1995, p. 120-121).

Extensive research has been conducted on EMDR as a treatment for PTSD. According to the “Journal of EMDR Practice and Research “, 16 randomized controlled studies documenting its successful treatment of PTSD have been published. These studies compared EMDR to antidepressant medication (van der kolk et al., 2007), exposure therapy (e.g., Ironson, Freund, Strauss, & Williams,

2002; Rothbaum, Astin, & Marsteller, 2005; Taylor et.al, 2003; Vaughan et al., 1994), cognitive behavioral therapies (e.g., Jaberghaderi, Greenwald, 2002; Power et al., 2002), and other psychotherapies (e.g., Carlson, Chemtob, Rounsak, Hedlund, & Muraoka, 1998; Edmond, Rubin & Wambach, 1999; Marcus, Marquis, & Sakai, 1997, 2004). These studies yielded results that EMDR was more efficacious than any of these treatments (Maxfield, 2007).

EMDR is currently rated in the highest category of effectiveness and evidenced-based treatment in the PTSD practice guidelines of the American Psychiatric Association (2004) and the U.S. Department of Veterans Affairs and Department of Defense (2004). Internationally, the Dutch National Steering Committee, 2003 and the National Institute for Clinical Excellence, 2005 recognized EMDR as the recommended intervention for PTSD. It has been concluded through several meta-analyses of PTSD treatment, that EMDR achieves the same level of outcome, without homework, as other research-based treatments, such as exposure therapy (Bradley, Greene, Russ, Dutra, & Western, 2005; Davidson & Parker, 2001; Seidler & Wagner, 2006; van Etten & Taylor, 1998). Empirically, EMDR is a highly effective and recommended treatment for PTSD (Maxfield, 2007). EMDR has been used with children and adolescents as well, with successful results. When looking at the research on EMDR and PTSD, it is clear that therapeutic day schools would benefit greatly from implementing EMDR as a treatment technique for traumatized students within these schools.

## **Conclusion**

A review of the literature concludes that psychological trauma can occur when one suffers an intense shock to the psyche, which causes multiple psychological and physiological trauma reactions, including dissociation. These reactions can result in Post-traumatic Stress Disorder or PTSD, a serious mental health disorder that negatively affects a person in three categories of arousal, avoidance, and re-experiencing symptoms. PTSD in children and adolescents can look different than it manifests in adults, with different symptoms and characteristics. PTSD as a diagnostic category currently does not

accurately describe the complex trauma that many children and adolescents have faced with long-term abuse, neglect, or violence in the homes and communities. A new diagnostic category, C-PTSD or DESNOS, has been proposed by researchers to be added into the DSM-V. This writer's clinical work experience has been that children and adolescents with severe emotional and behavioral disorders who are placed in special therapeutic day schools often have experienced single-event or long-term traumas and may have undiagnosed or untreated PTSD. Research on this data is unknown as this writer found none. However, it has been this writer's clinical experience that social histories, assessments, reports, court records, DCFS records, verbal accounts from students and parents, and various other data have shown that a large percentage of the students at therapeutic day schools at which this writer has been employed and/or this writer has contacted throughout her clinical work have experienced single-event or complex trauma events. Therapeutic day schools should be more aware and educated regarding the prevalence of trauma among their students and should utilize trauma-informed therapies and programs to help these students heal emotionally. Therapeutic restraints that are utilized in therapeutic day schools are found to not be therapeutic but actually re-traumatizing for many previously traumatized students. Research-based, trauma-focused interventions such as Cognitive-behavioral Intervention for Trauma in Schools (CBITS) and Eye Movement Desensitization and Reprocessing (EMDR) would be very beneficial to be implemented within therapeutic day schools for those students who have been traumatized.

In this study, it is this writer's intent to investigate prevalence of trauma and PTSD among therapeutic day schools students as compared to the normative, general population of children and adolescents. This writer's goal is to educate those professionals who work in therapeutic day schools about trauma, PTSD, and trauma-based interventions that have been shown through research to be highly effective for PTSD.

## **CHAPTER THREE**

### **Methodology**

#### **Research Design**

This survey-based, comparative study identified the percentage of students at a Midwestern therapeutic day school who meet criteria for clinically significant levels of PTSD using a survey assessment called the Child PTSD Symptom Scale (CPSS) as compared to students in the general education setting who have experienced a community wide traumatic event. The directional hypothesis was that students labeled as ED or BD and placed at therapeutic day schools have a higher prevalence of trauma histories and PTSD than the general population of children and adolescents, even those who have experienced a community-wide traumatic event.

#### **Research Questions**

As stated in the Introduction section, this writer's specific research questions are:

1. What is the prevalence of trauma and Post-traumatic Stress Disorder at one particular therapeutic day school?
2. How does the prevalence of PTSD at this particular day school compare to the prevalence of general education students who have all endured a community-wide traumatic experience (i.e., an earthquake)?

#### **Participants**

Sixteen students at a Midwestern suburban therapeutic day school participated in the study by completing the Child PTSD Symptom Scale. Since the surveys were anonymous and no identifying information was given, age and grade level ranges of the 16 students are unknown. The general student population at this particular therapeutic day school is approximately ninety students with ages ranging

from 6-18 and grade levels ranging from 1<sup>st</sup> through 12<sup>th</sup>. One hundred percent of students live in suburban locations. Because the surveys were anonymous with no identifying information, gender, race or socioeconomic status statistics could not be gathered from this sample. The student population constantly changes as students leave and enter the program throughout the year. At the time of this writing, the total population of students at the school was 92 students, 73% of which were male. Approximately 75% of the population was Caucasian, approximately 15% was African American, approximately 8% was Hispanic, and approximately 2% was Asian and Mixed Races. The economic mixture of the students also varies widely from upper middle class to low SES.

### **Instruments**

The Child PTSD Symptom Scale Measure (Appendix A) has a 17-item PTSD symptom scale and a seven-item scale assessing functional impairment. It assesses three cluster groups of symptoms that are based on the DSM-IV Diagnostic Manual for diagnosis of psychological disorders. The three cluster groups of symptoms are: Re-experiencing, Avoidance, and Arousal. The CPSS uses a 4-point Likert scale with 0=Not at all or only at one time; 1=Once in a week or less/once in a while; 3=2 to 4 times a week/half the time; 4=5 or more times a week/almost always. Questions 1 through 5 of the CPSS constitute the Re-experiencing group; 6 through 12 constitute the Avoidance group; and 13-17 is the Arousal group.

Prior to the Likert scale questions in the CPSS, a section at the top of the page required the child to state the distressing or traumatic event in his or her life that he/she was choosing from which to answer the following questions. This is an open question that the therapists asked the students and wrote down their response in the blank. If the student needed clarification about the definition of a traumatic or distressful event, the therapist offered education and explanations so the student fully understood the question he or she was being asked.

The CPSS was validated against a comparison self-report, the Child Post-Traumatic Stress

Disorder Reaction Index (CPTSD-RI). This measure is similar to the CPSS, but it has limitations, which the CPSS addresses in its assessment. The means and standard deviations of symptom severity for the total CPSS and its three symptom clusters were calculated separately for the entire sample, for those with “moderate” to “very severe” PTSD symptoms, and for those with “doubtful” to “mild” PTSD symptoms, according to the CPTSD-RI.

The CPSS was validated using a population of 75 parochial school students from a general education school ages 8-15. According to the validation and reliability statistics of the CPSS, the mean CPSS scores for the entire sample were 7.6 (SD=8.1) for the total CPSS score; 1.9 (SD=2.7) on the Re-experiencing subscale; 2.7 (SD=3.4) on the Avoidance subscale; and 2.7 (SD=2.7) on the Arousal subscale. The number of participants was 75 (N=75) and the p value was < .001. Only differences at  $p < .01$  were considered significant. Children with high scores on the CPTSD-RI endorsed 11 of the 17 symptoms of the CPSS significantly more frequently than did those with low CPTSD-RI scores ( $p < .01$ ). The frequency of four additional symptoms (emotional distance, restricted affect, trouble sleeping, and jumpiness) tended to be higher in the former group ( $p < .058$ ). The range of endorsement for individual items for the high CPTSD-RI group was 30% to 80%, and the range for the low group was 6%-45%.

Again, according to the validity and reliability statistics of the CPSS, the total symptom score and three symptom clusters demonstrated high internal consistency. Coefficient alphas were .89 for the total score, .80 for Re-experiencing, .73 for Avoidance, and .70 for Arousal. Intercorrelations among subscales and the total CPSS score were high: .89 for Re-experiencing, .91 for Avoidance, and .90 for Arousal. Test-retest reliability of PTSD diagnosis was moderate, with a kappa of .55 using the retest sample of 65 children. Percentage agreement between diagnoses at the two points in time was 84%, indicating a moderately high degree of reliability. The test-retest reliability coefficients of the total scale score and the cluster scores were moderate to excellent: .84 for the total score, .85 for re-

experiencing, .63 for avoidance, and .76 for arousal.

The convergent validity of the total scale score was assessed by comparing it with the severity rating obtained from the CPTSD-RI. The Pearson product-moment correlation coefficient was .80 ( $p < .001$ ) (Foa, Johnson, Feeny, & Treadwell, 2001).

### **Scoring**

The Child PTSD Symptom Scale is scored as such: each of the 17 items corresponding to the DSM-IV criteria for PTSD is rated on a scale of 0 to 3; thus, the total score ranges from 0 to 51. A clinical cutoff score of 15 determines clinically significant levels of PTSD (Appendix B).

### **Procedure**

The CPSS was administered to the students verbally by their individual school therapists in their private therapy sessions during the school day. This writer created an informed consent form for this study, which was sent home to the students and their parents and required to be signed before the survey was given. This writer informed them of the risks and benefits to this study and the purpose of this study in the letter. This writer also informed them that, should the students or parents have any questions or concerns, these could be further discussed with them by their individual school therapists. The number of surveys completed was 16, which was significantly less than this writer had expected given the total population of students was approximately 90. However, only 16 surveys were completed, despite repeated attempts at collecting more.

### **Data Analysis**

The data gathered in this study was compared to a comparison group of *general population* children and adolescents who were originally studied using the CPSS survey during the preliminary study of its psychometric properties. Seventy-five general population children and adolescents from a parochial school (ages 8-15) were surveyed using the CPSS two years after the 1994 Northridge, CA earthquake. The mean age of the children was 11.8 years, 59% of them were boys and 41% were girls.

Assessments were conducted in small groups with the questionnaires being administered by a single examiner. Results from that study of the CPSS yielded these results: The mean CPSS scores for the entire sample were 7.6 ( $SD = 8.1$ ) for the total CPSS score; 1.9 ( $SD = 2.7$ ) on the re-experiencing subscale; 2.7 ( $SD = 3.4$ ) on the avoidance subscale; and 2.7 ( $SD = 2.7$ ) on the arousal subscale. No significant differences between age groups were noted. However, gender differences were noted in that girls scored higher on the CPSS and its subscales than boys (Foa, et.al, 2001).

Data was compared using the means and standard deviations of both this writer's study and the comparison study and depicting the comparisons using tables and bar graphs. A nonparametric test, the Wilcoxon Signed Rank Test, was then used to statistically compare the means of the two studies. Finally, line graphs for each of the 16 students' individual data sets were shown with their total scores underneath the graphs. These showed the individual student variability in responses.

### **Ethical Considerations for Study Participants**

This writer recognized her own potential biases that could have affected the study. Considering that this writer is employed as a therapist at the therapeutic day school in which the study took place, this could have hindered the writer's objectivity. This writer has a professional relationship with all of the participants and knows their backgrounds, histories, educational information, family information, and therapeutic/behavioral information. In addition, a small percentage of the participants are on this writer's therapy caseload; therefore, this writer has even more knowledge of those particular participants.

To counteract this potential threat to validity, the study was anonymous and confidential. All surveys were completed voluntarily, and students were not penalized educationally if they chose to not participate. Students' individual school therapists individually administered the surveys to the students in private therapy sessions, did not put their names on the surveys or allow the students to put their



names on the surveys, and following completion of the surveys, dropped them into a sealed envelope in the clinical director's office. This ensured that the completed surveys were being dropped off in a more objective location, not this writer's office. If after the students completed the surveys, they felt inclined to talk more about the surveys and any emotions that had surfaced or resurfaced, the students' individual therapists were available and willing to answer any questions and help process any emotions. The four students on this writer's caseload who completed the surveys were the only students who this writer could not keep anonymous, as these were her therapy students on her caseload to whom she administered the surveys.

A parent letter and informed consent (Appendix C) were sent to the student's parents, attached to their daily home-school communication notes. This letter explained the purpose of the study, the general format of the survey, examples of the survey questions, considerations of confidentiality, anonymity, potential effects of the study (such as students having more questions, concerns, or emotions being brought out due to the nature of the surveys), and how those effects will be addressed (processing with the students' individual therapists). It also explained that should parents or students wish to know the general, overall results of this study upon completion, this writer would share this information with them through a copy of the summary of this study. However, the individual student data will be kept confidential and, therefore, would not be available to parents or students upon request. At the bottom of the letter was an informed consent for parents to sign consenting participation for their child in the study. Consistent with all legal documents at the school, students ages 12 and older also needed to read and sign the consent form in order to participate.

## **CHAPTER FOUR**

### **Results**

#### **Means and Standard Deviations**

Sixteen surveys were completed for this study. The means and Standard Deviations for the total scores were calculated and are shown in Table 1 and Bar Graph 1. The CPSS survey questions are also divided into three (3) subcategories of symptoms: Re-experiencing, Avoidance, and Arousal. Questions 1-5 are the Re-experiencing category, 6-12 are the Avoidance category, and 13-17 are the Arousal category. Means and Standard Deviations for all 3 subcategories were calculated for this study and are shown in Table 2 and Bar Graph 2.

The total mean for this writer's study was 18.31 and the total mean for the comparison study was 7.6. The mean for the Re-experiencing subcategory for this writer's study was 5.31, while the mean for Re-experiencing in the comparison study was 1.9. The mean for the Avoidance subcategory for this writer's study was 6.56, while the mean for Avoidance in the comparison study was 2.7. The mean for the Arousal subcategory for this writer's study was 6.44, while the mean for Arousal in the comparison study was 2.7. The Standard Deviation of the total score for this writer's CPSS surveys was 12.721, while the Standard Deviation for the comparison study's total score was 8.1. The Standard Deviation for the Re-experiencing category in this writer's study was 3.737, while the Standard Deviation for the Re-experiencing category in the comparison study was 2.7. For the Avoidance subcategory the Standard Deviation in this writer's study was 5.24, while the Standard Deviation for the Avoidance subcategory in the comparison study was 3.4. Finally, for the Arousal subcategory, the Standard Deviation in this writer's study was 5.164, while the Standard Deviation for the Arousal subcategory in the comparison study was 2.7.

Table 1

Mean Scores for Study #1 and Study #2 (Comparison Study)

Stubhead	Re-experiencing	Avoidance	Arousal	Total
Study #1	5.31	6.56	6.44	18.31
Study #2 (Comparison)	1.9	2.7	2.7	7.6

Table 1 Mean Scores for Study #1 and Study #2 (Comparison Study)

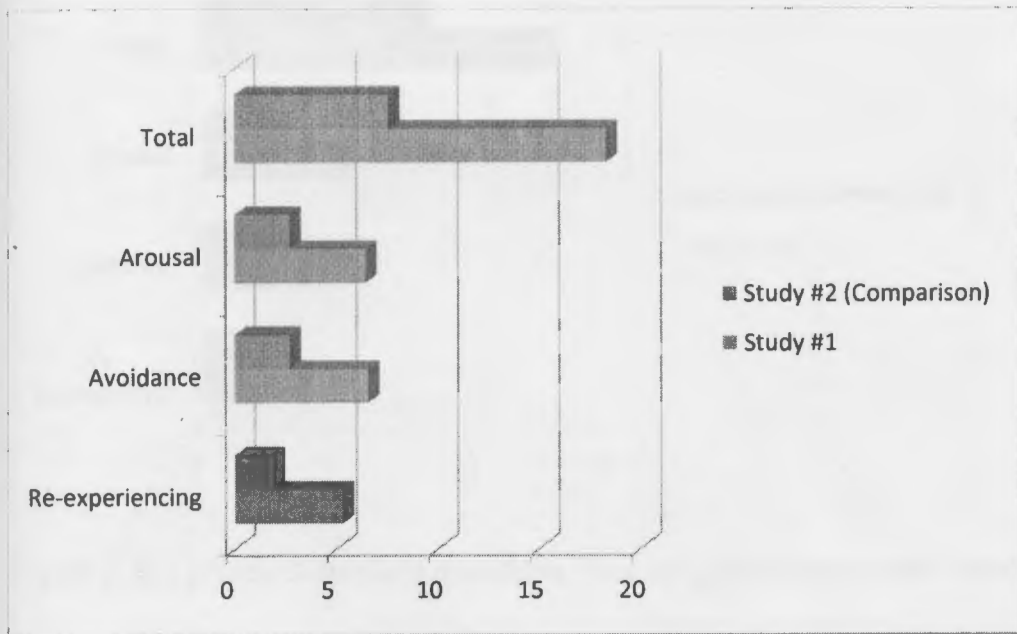


Figure 1. Bar graphs of means. This bar graph compares the means of study #1 and study #2 (comparison study).

Table 2

## Standard Deviation Scores for Study #1 and Study #2 (Comparison Study)

Stubhead	Re-experiencing	Avoidance	Arousal	Total
Study #1	3.737	5.24	5.164	12.721
Study #2 (Comparison)	2.7	3.4	2.7	8.1

Table 2 Standard Deviation Scores for Study #1 and Study #2 (Comparison Study)

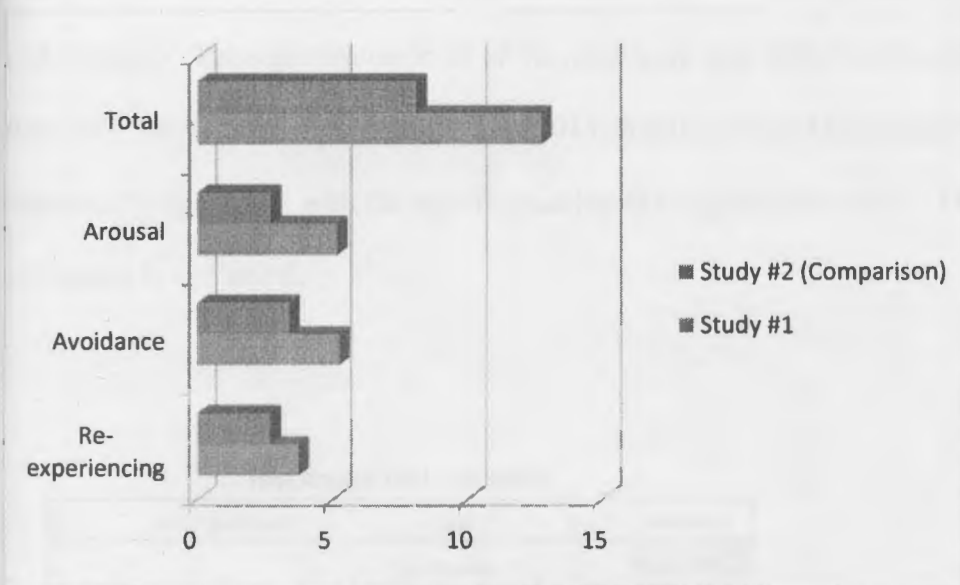


Figure 2. Bar graphs of standard deviations. This bar graph compares the standard deviations of study #1 and study #2 (comparison study).

### Wilcoxon Signed Rank Test

Since the sample size in this writer's study was so small, it was more appropriate to conduct a non-parametric statistical test using this data. The Wilcoxon Signed Rank Test was conducted comparing the means of this writer's study to the means of the comparison study. The Wilcoxon Signed Rank Test calls for the medians to be used in the comparison group. However, this writer did not have access to the medians in that comparison study, only the means and Standard Deviations. Therefore, means of this writer's study had to be compared to means of the comparison study. The total means were compared as well as the means of the 3 subcategories (Re-experiencing, Avoidance and Arousal). The significance level of the total score was .011; the Re-experiencing subcategory was .007; the Avoidance subcategory was .015; and the Arousal subcategory was .023. All results were statistically significant with the significance levels being less than .05. The results are shown below in Figures 3, 4, 5 and 6.

#### Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of Total equals 7.60	One-Sample Wilcoxon Signed Rank Test	.011	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

*Figure 3:* Wilcoxon Signed Rank Test score-total. This picture shows the result of the Wilcoxon Signed Rank Test comparing this writer's total score on the CPSS to the published study's total score.

**Hypothesis Test Summary**

	Null Hypothesis	Test	Sig.	Decision
1	The median of Reexperiencing equals 1.90.	One-Sample Wilcoxon Signed Rank Test	.007	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

*Figure 4: Wilcoxon Signed Rank Test score- Re-experiencing. This picture shows the result of the Wilcoxon Signed Rank Test comparing this writer’s Reexperiencing subgroup score on the CPSS to the published study’s Reexperiencing subgroup score.*

**Hypothesis Test Summary**

	Null Hypothesis	Test	Sig.	Decision
1	The median of Avoidance equals 2.70.	One-Sample Wilcoxon Signed Rank Test	.015	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

*Figure 5: Wilcoxon Signed Rank Test score- Avoidance. This picture shows the result of the Wilcoxon Signed Rank Test comparing this writer’s Avoidance subgroup score on the CPSS to the published study’s Avoidance subgroup score.*

### Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of Arousal equals 2.70	One-Sample Wilcoxon Signed Rank Test	.023	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

*Figure 6:* Wilcoxon Signed Rank Test score- Arousal. This picture shows the result of the Wilcoxon Signed Rank Test comparing this writer's Arousal subgroup score on the CPSS to the published study's Arousal subgroup score.

### Individual Student Data

To show the variability in student responses in a clear, visual way, each of the 16 student's survey responses is shown below using line graphs in Figures 7-22. All 17 questions of the survey are represented on the graphs as well as the Likert scale for each of the questions ranging from 0-3. As is shown certain students had wide ranges of variability while others had smaller ranges. Also keeping in mind that questions 1-5 made up the Re-experiencing symptom group, questions 6-12 made up the Avoidance group, and questions 13-17 were the Arousal group, the line graphs show in which symptom category each student had the highest levels on the Likert scale. Figures 7-22 below illustrate the variability in student responses. This writer also tabulated the total score for each student underneath the figures. Scores of 15 or above are considered statistical measures of PTSD. Any student with a total score of 15 or above would be considered to have clinically significant levels of PTSD.

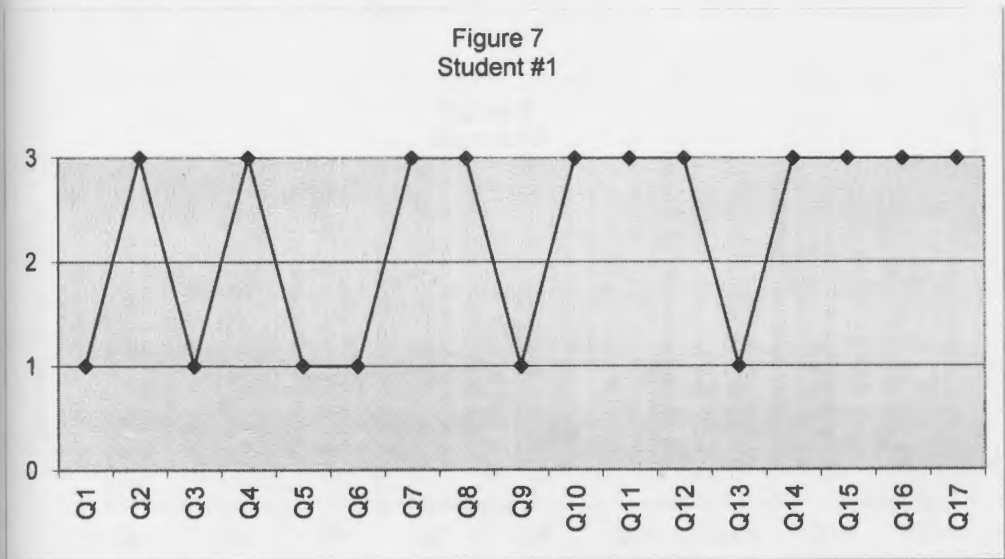


Figure 7: Line graph of student responses. This line graph shows Student #1's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 39

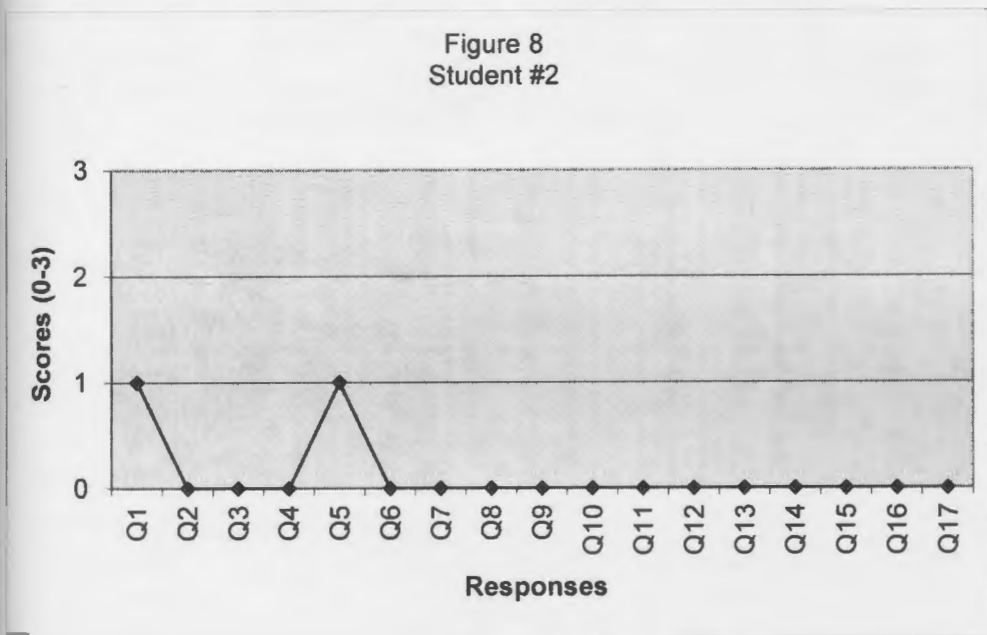


Figure 8: Line graph of student responses. This line graph shows Student #2's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 2



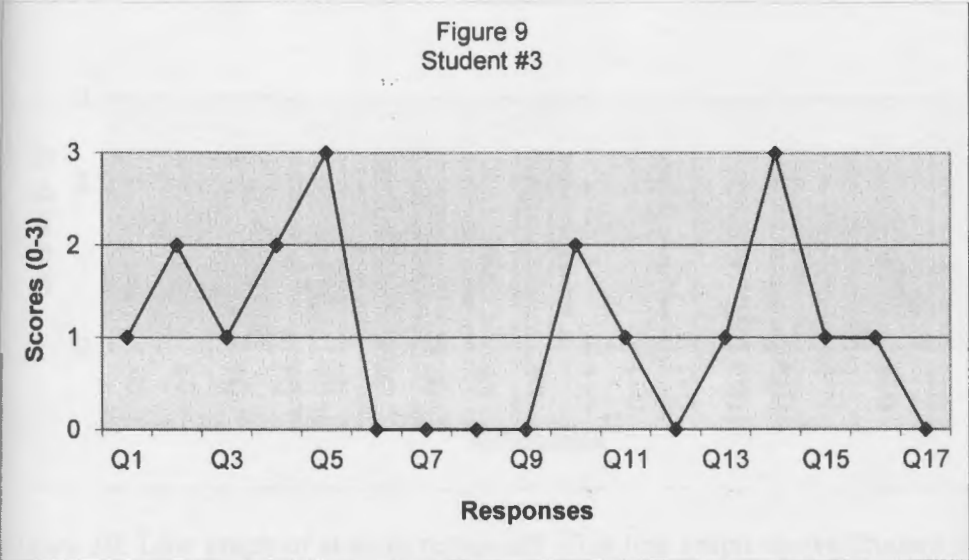
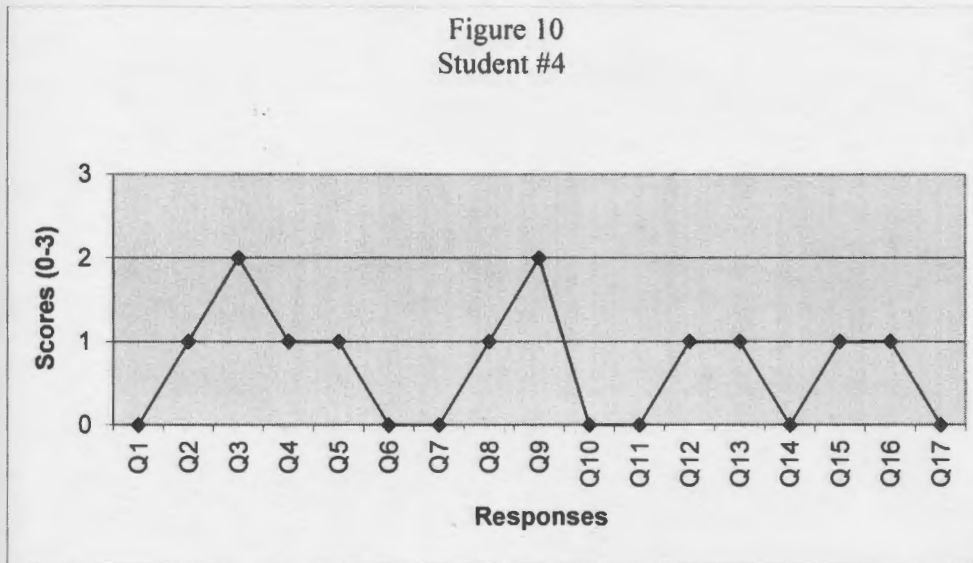


Figure 9: Line graph of student responses. This line graph shows Student #3's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 18



*Figure 10:* Line graph of student responses. This line graph shows Student #4's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 12

Figure 11  
Student #5

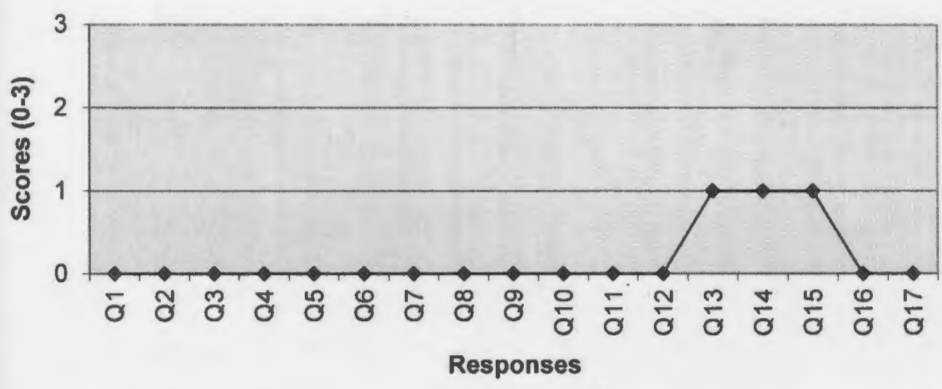


Figure 11: Line graph of student responses. This line graph shows Student #5's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 3

Figure 12  
Student #6

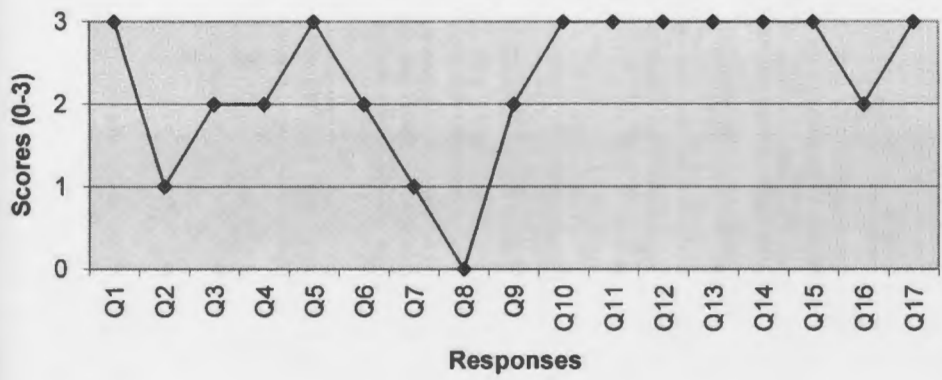


Figure 12: Line graph of student responses. This line graph shows Student #6's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 39

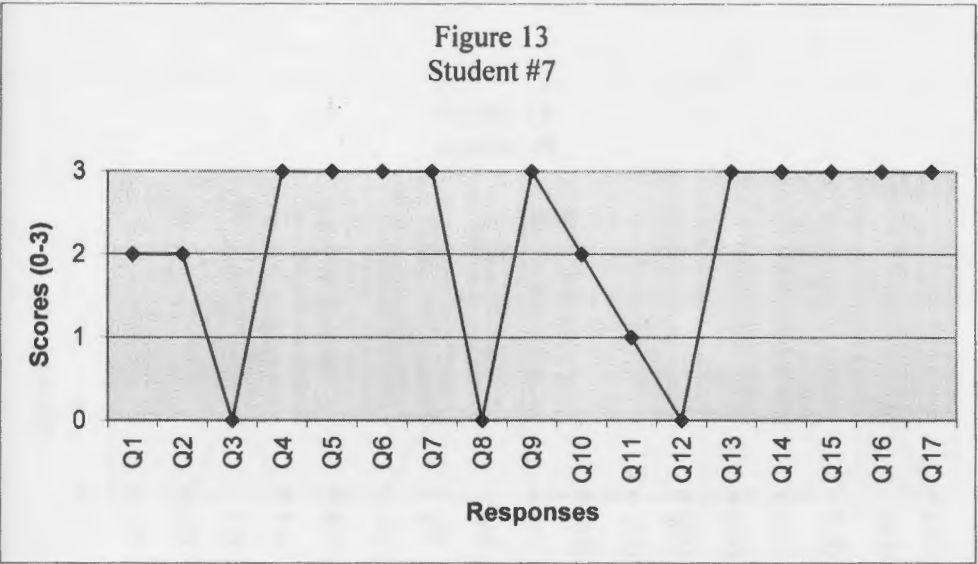


Figure 13: Line graph of student responses. This line graph shows Student #7's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 37

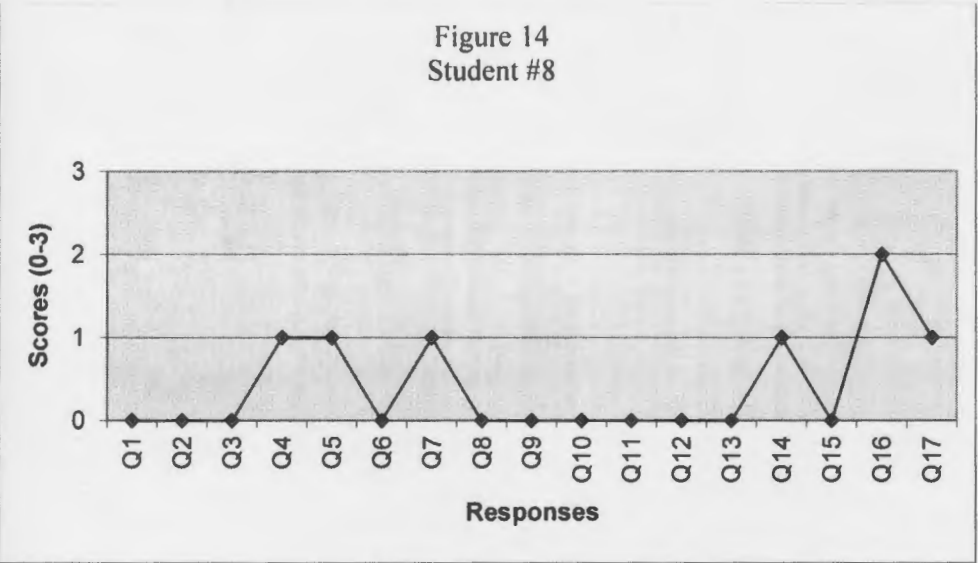


Figure 14: Line graph of student responses. This line graph shows Student #8's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 7

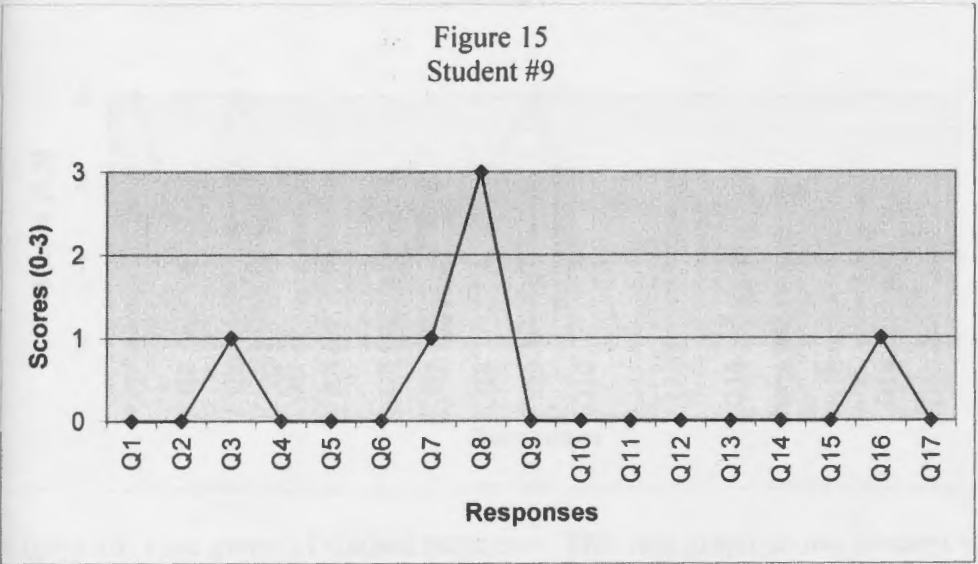
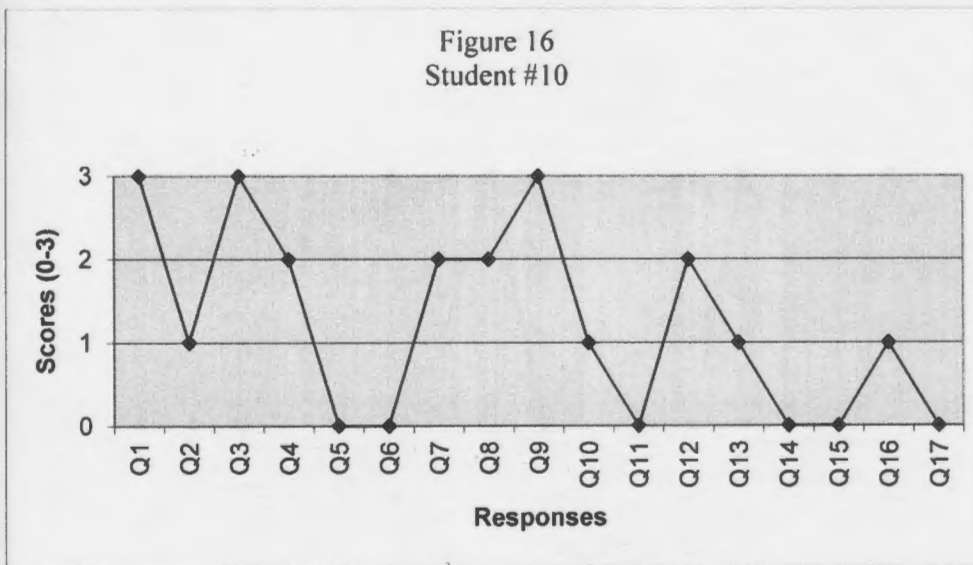


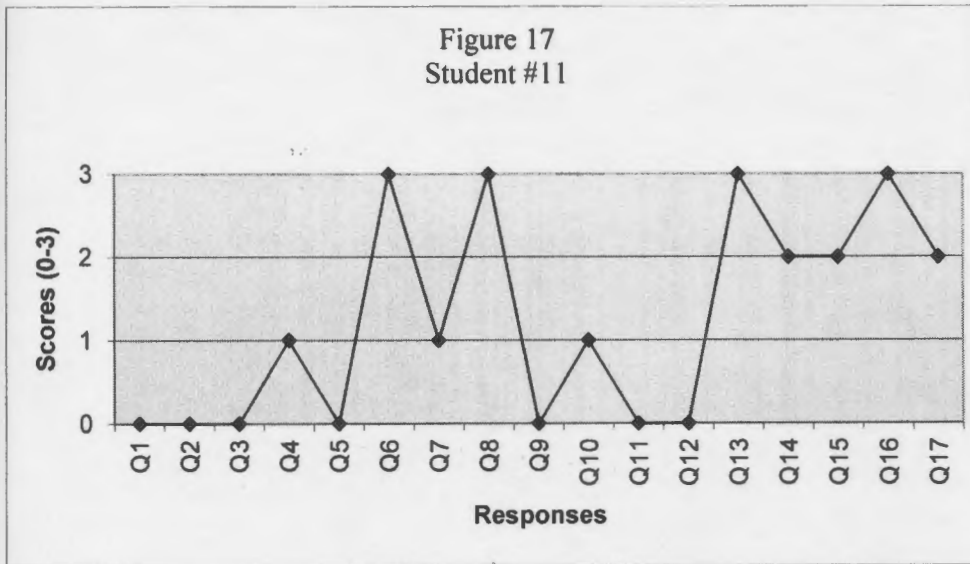
Figure 15: Line graph of student responses. This line graph shows Student #9's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 6



*Figure 16:* Line graph of student responses. This line graph shows Student #10's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 21



*Figure 17:* Line graph of student responses. This line graph shows Student #11's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 21

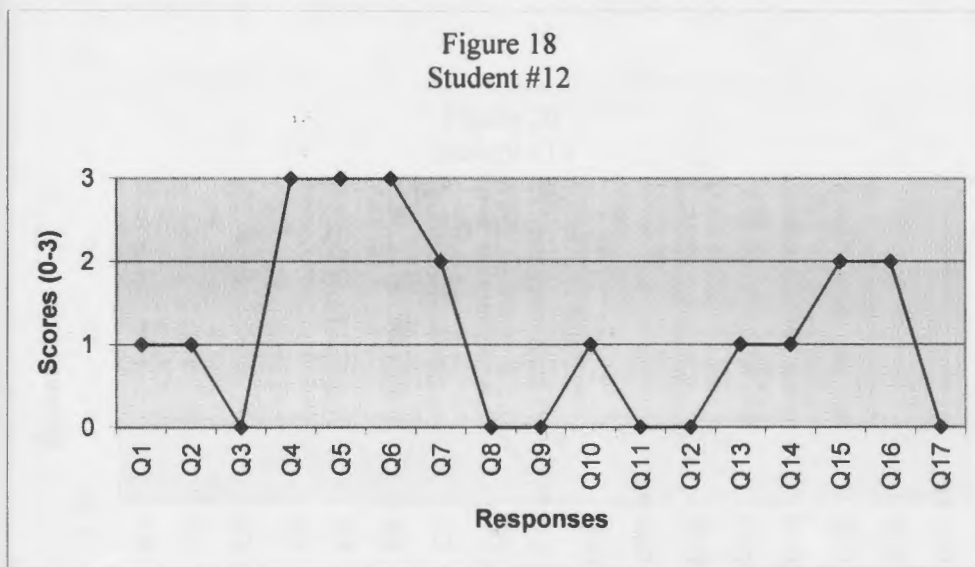


Figure 18: Line graph of student responses. This line graph shows Student #12's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 20

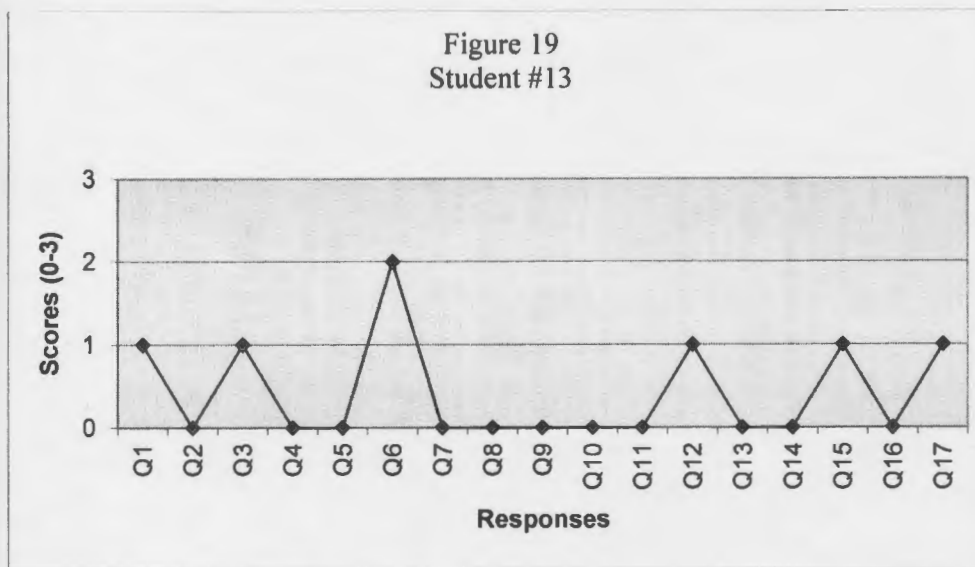
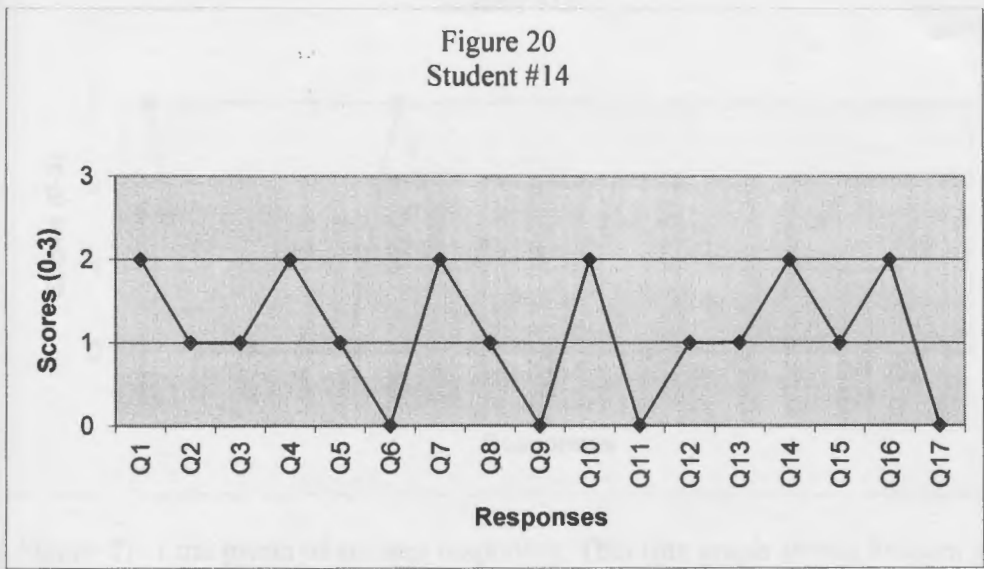


Figure 19: Line graph of student responses. This line graph shows Student #13's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 7





*Figure 20:* Line graph of student responses. This line graph shows Student #14's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 19

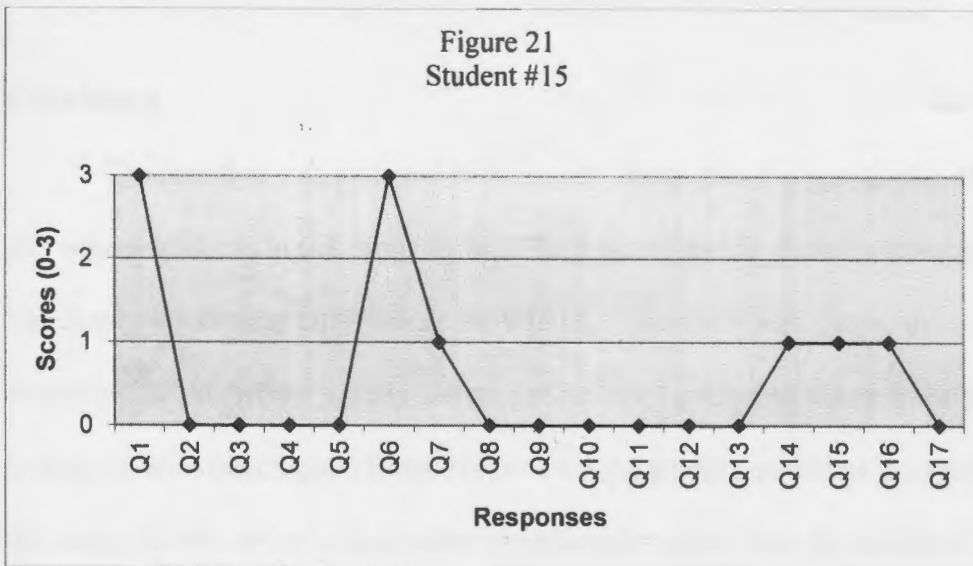


Figure 21: Line graph of student responses. This line graph shows Student #15's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 10

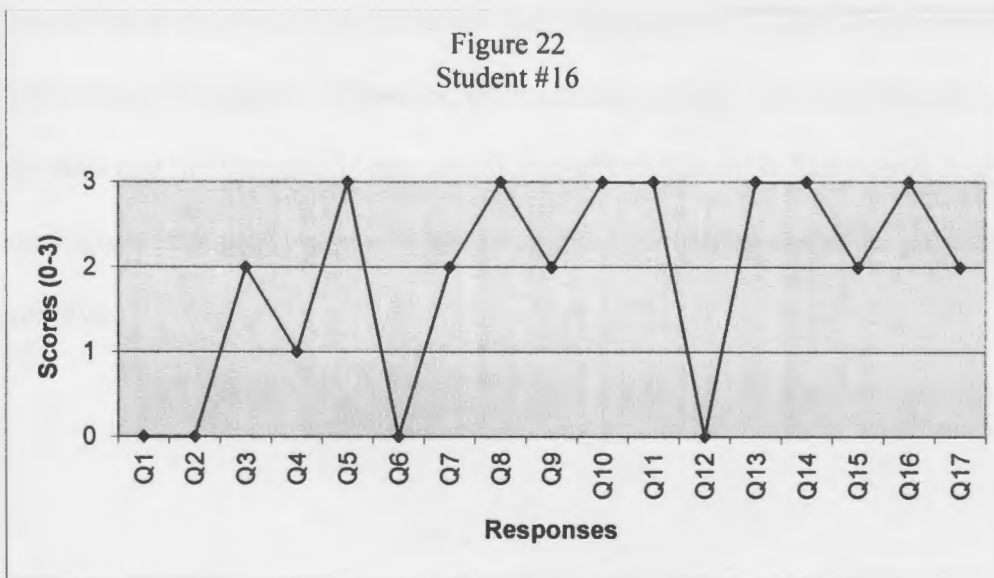


Figure 22: Line graph of student responses. This line graph shows Student #16's responses to the 17 questions of the CPSS on a 0-3 Likert scale.

Total Score: 32

## **Conclusion**

The data that was gathered in this study shows that the prevalence of PTSD among therapeutic day school students in this study is 56.25% (9 out of the 16 students scored 15 or higher on the survey, which was the clinical cutoff score for PTSD). This study also shows the means and standard deviations of this writer's study were significantly higher than those in the published comparison study. Using the Wilcoxon Signed Rank Test as a nonparametric statistical comparison, it was also shown that the means of this writer's study were significantly higher than the means of the published comparison study, with statistical significance in all of the comparisons. The variability in each student's responses on the CPSS survey depicts that some students experienced very few symptoms of PTSD while others experienced significantly high symptoms. There is also variability among the 3 subgroups of responses, showing that some students scored higher in one subcategory over the others while others scored fairly evenly among two or all three subcategories. There is no pattern of higher scores in one subcategory vs. another. However, when adding up all of the scores for each student, it is clear from the data that the therapeutic day school students in this study had overall higher levels of PTSD than the regular education students who had endured the earthquake in the published study, based on these surveys.

## **CHAPTER FIVE**

### **Conclusion**

The general conclusions that can be drawn from the quantitative data are that more than half of the therapeutic day school students who participated in this study had clinically significant levels of PTSD and significantly higher rates of PTSD than students in a general education private school who had experienced a community-wide traumatic event.

In response to the first research question, this study showed that, of the students who participated, the prevalence of PTSD was 56.25%. There is a need for further research to be conducted, more data to be gathered, and a larger sample size to be used in order to be able to generalize the data to this entire student population and other therapeutic day school populations.

Research question 2 found that mean CPSS scores were higher on a total scale and for each of the three subscales (Re-experiencing, Avoidance, and Arousal) for the students at the therapeutic day school than the students at the private regular education school who had all experienced the traumatic Northridge, CA earthquake two years prior. Comparing the means of the two studies using tables and bar graphs and a nonparametric test showed that PTSD rates of the therapeutic day school students were over twice as high as those in the comparison study, and comparisons between the two groups were statistically significant. This shows that even students who had all endured such a life-threatening,

widespread event as an earthquake had significantly lower amounts of PTSD two years after the event than students who attend a therapeutic day school with varying trauma histories.

It is clear from the present study that the clinical level of Post-traumatic Stress Disorder among the participating therapeutic day school students is significant. It is important that further research be conducted on national, community and school-wide administrative levels. This study's findings illuminate the need for increased attention and research on PTSD with this population of students. PTSD tends to be overlooked, misunderstood, misdiagnosed, and mistreated. If this disorder is not given proper psychological and educational interventions, the behavioral issues are not likely to decrease at a significant rate or may just be masked by standard behavioral interventions. This study can serve as a catalyst for PTSD research within therapeutic day schools nationwide. This study illustrates the need for universal trauma and PTSD screenings in therapeutic day schools and for effective PTSD interventions to be implemented in these types of schools should screenings indicate a high PTSD prevalence. There are research-based PTSD interventions that have been empirically demonstrated to reduce PTSD symptoms in traumatized clients, including CBITS and EMDR, which could be beneficially implemented in therapeutic day schools with students who exhibit PTSD symptoms. At present, no research has been located that studied the effectiveness of CBITS and EMDR (or any other trauma-informed intervention) within therapeutic day schools, suggesting a need for further research to be conducted in this arena. Additionally, behavioral assessments or questionnaires could be given to the teachers in therapeutic day schools as well as the CPSS surveys to the students and these two data sets correlated to gain more knowledge of how PTSD directly affects classroom behavior.

It is also important to compare PTSD prevalence in students to frequency of behavioral intervention referrals to see if there is a correlation with more high risk behaviors in students who showed clinically significant levels of PTSD as well as to compare students who have scored in the clinically significant range for PTSD and the number of restraints as a result of aggressive or self-

injurious behaviors. The findings would investigate the relationship between students who have higher rates of PTSD and high risk behaviors in therapeutic day schools.

Future research should also strive to obtain a larger sample size to increase the generalizability of the data. Possible incentives for parents to give permission for their students to participate and possible incentives for therapists to give the surveys could help with participation. Also having an outside researcher conducting the surveys on all of the students in a pull-out method may be better so therapists do not have to take time out of their sessions to give the surveys. In general, an outside researcher who is not affiliated with the school would be best for future research of this kind as it would be less likely that an outside researcher would be met with as much resistance from administration and staff.

Because therapeutic day schools exist throughout the country and there are an increasing number of students being placed there by their regular education schools, there is a great need for research to be conducted on the prevalence of PTSD in therapeutic day schools nation-wide and the effectiveness of PTSD interventions for therapeutic day school students nationwide. If national research on this population shows a great need for PTSD interventions as it did in this study, it is essential that system-wide changes take place in the therapeutic day school system throughout the country, whether that be through private or public therapeutic day schools with their different funding sources and administrative policies.

Childhood trauma is a very real and prevalent issue in today's society. Whether it is a single-event trauma or a complex trauma situation, children and adolescents who face psychological trauma can often develop Post-traumatic Stress Disorder in response to the trauma, just as adults can. Young people who are placed at therapeutic day schools, in particular, often have single-event or complex trauma histories. The students have a high rate of PTSD, even compared to their regular education school peers. We can no longer ignore their suffering and diminish their distress as being mere

behavioral disorders with no attention paid to the underlying trauma and PTSD that these students are suffering from. As psychologists and educators, we owe it to traumatized therapeutic day school students, and all traumatized students in general, to allow their silenced voices to be heard, their behaviors to be recognized as coping mechanisms in a world they find terrifying and dangerous, and to give them the help they truly need and are entitled to. This writer hopes that this study will be a wake-up call for psychologists, educators and administrators in therapeutic day schools and will be the catalyst for real system-wide change.



**Appendix A**  
**The Child PTSD Symptom Scale (CPSS) – Part I**

Below is a list of problems that kids sometimes have after experiencing an upsetting event. Read each one carefully and circle the number (0-3) that best describes how often that problem has bothered you IN THE LAST 2 WEEKS.

Please write down your most distressing event:

---

Length of time since the event:

---

	0		1		2		3	
	Not at all or only at one time		Once a week or less/ once in a while		2 to 4 times a week/ half the time		5 or more times a week/almost always	
1.	0	1	2	3	Having upsetting thoughts or images about the event that came into your head when you didn't want them to			
2.	0	1	2	3	Having bad dreams or nightmares			
3.	0	1	2	3	Acting or feeling as if the event was happening again (hearing something or seeing a picture about it and feeling as if I am there again)			
4.	0	1	2	3	Feeling upset when you think about it or hear about the event (for example, feeling scared, angry, sad, guilty, etc)			
5.	0	1	2	3	Having feelings in your body when you think about or hear about the event (for example, breaking out into a sweat, heart beating fast)			
6.	0	1	2	3	Trying not to think about, talk about, or have feelings about the event			
7.	0	1	2	3	Trying to avoid activities, people, or places that remind you of the traumatic event			
8.	0	1	2	3	Not being able to remember an important part of the upsetting event			
9.	0	1	2	3	Having much less interest or doing things you used to do			
10.	0	1	2	3	Not feeling close to people around you			



11.	0	1	2	3	Not being able to have strong feelings (for example, being unable to cry or unable to feel happy)
12.	0	1	2	3	Feeling as if your future plans or hopes will not come true (for example, you will not have a job or getting married or having kids)
	0		1	2	3
	Not at all or only at one time		Once a week or less/ once in a while	2 to 4 times a week/ half the time	5 or more times a week/almost always
13.	0	1	2	3	Having trouble falling or staying asleep
14.	0	1	2	3	Feeling irritable or having fits of anger
15.	0	1	2	3	Having trouble concentrating (for example, losing track of a story on the television, forgetting what you read, not paying attention in class)
16.	0	1	2	3	Being overly careful (for example, checking to see who is around you and what is around you)
17.	0	1	2	3	Being jumpy or easily startled (for example, when someone walks up behind you)

**The Child PTSD Symptom Scale (CPSS) – Part 2**

Indicate below if the problems you rated in Part 1 have gotten in the way with any of the following areas of your life DURING THE PAST 2 WEEKS.

	Yes	No	
18.	Y	N	Sleep
19.	Y	N	Chores and duties at home
20.	Y	N	Relationships with friends
21.	Y	N	Fun and hobby activities
22.	Y	N	Schoolwork
23.	Y	N	Relationships with your family
24.	Y	N	General happiness with your life

## **Appendix B**

CPSS Scoring instructions for the 17 Likert scale items:

The interviewer scores each of the 17 PTSD items. The total score is arrived at by simple addition of all 17 scores. 15 is the cutoff point for PTSD , although one study that is used as a comparison group for this study used 14 as the cutoff score. This is discussed in the Results section. There are no norms as to mapping the scores on PTSD severity.

## Appendix C

6-12-12

Dear Parents,

My name is Monica Roberts, and I am a licensed therapist at \_\_\_\_\_ and the private practice, \_\_\_\_\_. I would like to ask your permission to allow your child's individual therapist at \_\_\_\_\_ to give your child a survey on Post Traumatic Stress Disorder (PTSD). This survey has 17 questions on a scale of 0-3 and 7 Yes/No questions. Examples of questions are, "In the last 2 weeks, have you been having bad dreams or nightmares?", "not feeling close to people around you?", "feeling irritable and having fits of anger?" These questions will be used to help your child if he or she is dealing with PTSD after traumatic or distressing events in their lives.

Your child can benefit in many ways from participating in this survey. He or she can learn more about PTSD and better understand how it may be affecting your child's life. Answering surveys also helps your child practice advocating for him/herself and increases self-esteem. The survey is completely voluntary, and your child is free to stop participation at any time. Your child's identity will be confidential as these surveys will be anonymous. If after your child completes the survey, he or she would like to talk more about it, your child's individual therapist would be available to talk with your child. If you would like to find out the general, overall results of my study when it is complete, I would be happy to share this information with you. You may provide your email address or phone number, and I can provide you with a copy of the summary. However, the individual student data will be kept confidential; therefore, would not be available to you upon request.

If you would like your child to participate please sign the bottom of this form and ask your child to sign if he or she is 12 years or older. If you have any questions related to this survey please feel free to contact me at \_\_\_\_\_.

Thank you for your time.

Sincerely,

Monica Roberts, LCPC  
\_\_\_\_\_Therapist

Student Name: \_\_\_\_\_

\_\_\_ I give permission

\_\_\_ I do not give permission

Parent/guardian signature \_\_\_\_\_ Date \_\_\_\_\_  
Student Signature (if 12 years or older) \_\_\_\_\_ Date \_\_\_\_\_

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