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Abstract

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By Dana Baker

This paper seeks to define trauma within the context of early childhood and describe in depth the interrelated neurobiological, behavioral, and psychopathological effects of experienced trauma. Through examples based on three students from my teaching and early intervention experience, ages four to six, it will raise awareness of the vulnerable nature of the young child, the prevalence of traumatic experiences in early childhood, and the vast adverse effects on the child's central nervous system as it relates to the educational context. Calling early childhood teachers to the art and necessity of therapeutic teaching in response to this knowledge, it will provide strategies for assessment and referral, the establishment of teacher-student relationships, the implementation of a social-emotional curriculum, and the construction of a conducive learning environment for the young child exhibiting post-traumatic symptomology.

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I. Introduction

On December 14, 2012, an administrator from my school came into my kindergarten classroom with a letter informing me that a fatal school shooting had occurred sixty miles away. The gunman was rumored to be living a few blocks from our building; no persons were to leave or enter the school until further notice. I typically would have taken my students outside for physical education that afternoon, as our school gym was housing a local preschool that had been displaced from the hurricane less than two months prior. We reconfigured of course; the class delighted in pushing the furniture against the walls to create a larger space for movement. Students were dismissed at the end of the day and returned safely home to their parents.

When these types of horrific events occur, children and adults alike envision how they might respond to such a tragedy. Noticing one of my students hadn't returned from hanging up her sweater, I found her standing in the closet, doors closed, gently resting between the coats with her feet atop the crate of lunch boxes. This calls to mind the image of students at Sandy Hook Elementary hiding in closets, tucked away in hopes of safety. After the bombings at the Boston marathon, I turned around to see what I thought had been a table of two boys drawing quietly. Instead, every marker and cap was splayed on the floor. The boys were gently dropping the caps and saying, "Here comes the bomb," personifying the markers as people "exploding" through the air. Following Hurricane Sandy, students regularly engaged in pretend play involving rescue workers and armed forces, enacting the work of the National Guard and other services that had

been present in our community. These behaviors directly mirrored the recent current events, displaying the young child's propensity towards processing unsettling news.

Hurricanes, mass shootings, and terrorist attacks undermine our inherent sense of safety. We as teachers were haunted by the prospect of having to protect our students from such a danger as occurred Sandy Hook; conversely, the challenge of continuing to provide education for a classroom of students enveloped by such violence seemed insurmountable. While all young children may not experience such communal, mass traumas, studies show 14% to 43% of children experience a traumatic event within their family context (Watts-English at al, 2006). Each early childhood classroom, therefore, statistically includes students who have experienced trauma. However, due to the nature of the traumatic experience and the vast array of effects, the exhibition of post-traumatic stress is often hidden or masked by other developmental variations. Through the stories of three young children from my own classrooms, this paper aims to define trauma within the context of early childhood, expound on the effects across neurobiological, behavioral, and psychopathological domains, and call teachers to the art and necessity of therapeutic teaching.

II. Trauma in Early Childhood

A. Three Stories

Consider the following examples*:

Nolan stands at the light table in his preschool class room, spinning a tile near his eyes. His classmates are engaged in small group play, with some building with blocks, others constructing train tracks, and others exploring the pages of story books. Three teachers sit amongst these groups, conversing with the students. A teacher rings a bell to signal that it is time to return to the rug for circle time. Nolan continues to observe the tiles, occasionally putting one down to retrieve another. His teacher calls to him to begin cleaning up. He does not look at her or give verbal acknowledgement, but he begins putting away the tiles, humming softly.

Sara sits at the table at lunch, looking down at her hands in her lap. Her three kindergarten classmates are making rhyming words about their lunches upon the discovering that "Yogurt" and "Gogurt" shared common sounds. Her teacher prompts Sara to begin eating, seeing she hasn't yet taken a bite of her sandwich. Sara says, "I don't like the tuna." A few moments later, she puts her head under the table and begins to weep softly. After several offers of encouragement, she still declines to eat or speak and is allowed to clean up and read a book.

Anthony sits in the meeting area of his classroom. His first grade teacher directs students one by one to line up to go to the park. When she calls his name, near the end of the group, he does not get up. She says his name again and he shouts, "No!" He lays on the ground and begins to kick the bench next to him. His teacher calls the remaining students to line up, and then she sits next to him. She says, "It seems you're feeling upset about something." Still laying down, Anthony rolls his eyes to the left, closes them, and kicks the bench again.

**Names and specific details have been altered to protect the confidentiality of the individuals and their families.*

These behaviors could be interpreted in a variety of ways, resulting in a varying degree of attention, evaluation, and diagnoses. Due to the diverse nature of the child's response to a traumatic event coupled with the unique developmental needs of each child, the behavior of a child who has experienced trauma is complex and highly diverse. Viewing these students' behaviors through the lens of trauma provides insight into the causes, the modes of presentation of the effects of trauma, and the interventions imperative for developmental success.

Before uncovering the history of each child, it is necessary to define trauma as it pertains to the early childhood experience. The following section will describe the categories of trauma in correlation with child development. In considering the vulnerable nature of the young child, the dependence on the primary caregiver, and the prevalence of

family and community violence, this definition will provide a framework for considering these children's experiences.

B. Defining Trauma

The young child inherently depends on the primary caregiver for protection. A traumatic event is one in which the child's sense of safety and trust in the primary caregiver's ability to protect is unraveled. Trauma induces extreme physical or psychological stress that overrides the child's coping skills based on his developmental abilities (Lieberman & Knorr, 2007). These events include acute, single-incidents, such as car accidents or burnings, and repeated traumas such as neglect, maltreatment, and witnessed violence. Trauma in early childhood involves the child's perception of the caregiver's failure to provide protection (Young, Kenardy & Cobham, 2011). Moreover, the young child's egocentric developmental state is likely to induce self-blame and guilt for the traumatic experience, assuming, "they are at the center of events in the lives of the adults that are closest to them and that their thoughts, feelings, and actions can cause events to occur" (Lieberman & Knorr, 2007, p. 420). Young children are at-risk for experiencing trauma from three main sources: external events, maltreatment, and witnessed violence.

External Events

External events include car accidents, natural disasters, burns, falls, and other accidental incidents from which the primary caregiver is unable to protect the child.

These acute, single-incident events are denoted as Type I traumas (De Young, Kenardy & Cobham, 2011). Dependent on the primary caregiver for safety, young children are highly susceptible to accidental trauma. "The majority of burns, falls, driveway runovers, dog attacks, and drownings occurring in children under the age of 5 years" (De Young, Kenardy & Cobham, 2011, p. 232). Surgeries and extended hospital stays also constitute traumatic experiences, as the young child is separated from a familiar, family setting and often is exposed to invasive, alarming procedures and recovery periods.

Nolan, the seemingly withdrawn preschooler described earlier, tipped over a pot of boiling water onto his upper body at approximately 18 months. His mother was reportedly nearby, unaware that he had wandered into the kitchen. He was hospitalized for several weeks and spent the following months with his arms and chest bandaged. This traumatic experience of sustaining severe burns and undergoing extensive medical treatment is crucial in understanding Nolan's development and observed behavior.

Child Maltreatment

Maltreatment in childhood constitutes acts of commission and acts of omission typically by the caregiver. Acts of commission include physical, sexual, emotional, and psychological abuse inflicted on the child. Acts of omission include physical and emotional neglect, failure to comply with medical treatment, and failure to protect a child from witnessed violence (De Young, Kenardy & Cobham, 2011). Most child maltreatment cases are Type II traumas, which involve multiple, repeated traumas. A single instance of maltreatment could occur which would evoke ongoing consequences

and thus would constitute a cross-over-type trauma. (De Young, Kenardy & Cobham, 2011). Maltreatment unsettles the foundational trust the young child has in the primary caregiver to protect. Due to dependance on primary caregivers and minimal self-protective skills, young children are greatly at risk for maltreatment related trauma.

Sara, described above, had recently been removed from her home by protective services due to unsafe living conditions. A wall in their home had collapsed six months prior and hadn't been repaired. Prior to this, she frequently missed school, had inadequate clothing and materials, and was observed at late hours on the street with her family, occasionally selling items. While she bears no signs of physical abuse, she lives in an continually high-stress setting with caregivers that struggle to provide for her physical and emotional needs. Sara's repeated neglect as a form of maltreatment within her family environment informs her classroom behavior.

Witnessed Violence

A common misconception argues that as long as violence is not physically experienced by the child, the child is conceivably safe. Witnessing violence, however, assigns itself as a traumatic experience as it serves to shake the necessary perception of safety for the young child. When a young child witnesses community or family violence, he is likely to feel at fault, assuming he has caused this violence in some way through negative thoughts or poor, unrelated behavior. The increasing rate of inter-parental violence places young children at high risk for this type of traumatic experience, as an estimated, "3 million couples per year engage in severe violence towards each

other" (Lieberman & Knorr, 2007, p. 416). Moreover, children who witness violence in their homes are nearly 15 times more likely to be abused themselves (Lieberman & Knorr, 2007). Children living in areas with frequent community violence risk experiencing multiple traumas. For the young child, the sensory witness of violence equates physical reception.

Anthony, the third child described above, represents a complex combination of traumatic factors. He reports seeing "scary men" with guns, has described his father "smacking" him and his mother "a long time ago," and has witnessed family members become violent with each other to the point of police involvement. In addition, he underwent 6 surgeries before the age of 3 to rectify hearing loss and oral-motor issues which were preventing language development. This intensified his interactions with his parents, as it was difficult for him to communicate his wants and needs. Anthony's experienced trauma including repeated witnessed violence, a history maltreatment, and external events involving his physical health markedly effect his development and behavior.

When an adult undergoes a traumatic event, she possesses a variety of developed coping skills involving language, cognition, and emotional regulation. The young child's limited ability to identify emotions, communicate wants and needs, utilize reason to discern truth, and physical protect herself makes her at increased risk for the negative effects of trauma. "Young children may also be particularly vulnerable to experiencing adverse outcomes [due to] the rapid period of emotional, physical, neurological, social, behavioral, and cognitive development that occurs during early childhood" (De Young,

Kenardy & Cobham, 2011, p. 247). Convinced of the risk and prevalence of traumatic experiences through external events, maltreatment, and witnessed violence, one must consider the effects of trauma in early childhood across developmental domains.

Bearing in mind the immense cognitive, physical, social, and emotional development that takes place in early childhood, a traumatic experience has the potential to radically hinder the young child's development. Addressing common misconceptions regarding children's experience of trauma, the following section will portray the neurobiological, behavioral, and psychopathological effects of trauma in early childhood. Reexamining the exhibited behaviors of Nolan, Sara, and Anthony, it will discuss factors that influence the young child's risk for adverse effects. Developing an understanding of the effects of trauma in early childhood will then necessarily inform intervention practice within the context of the classroom.

III. The Effects of Trauma in Early Childhood

A. Correcting Misconceptions

Early Memory

Common opinion states that young children, particularly infants, do not have the mental capacity to remember and therefore experience traumatic events. However, research has shown that young children have the memory, perceptual, affective, and relational capacities to experience trauma and therefore are at risk for its adverse effects.

The mind possesses two memory systems: implicit or nondeclarative memory and explicit or declarative memory. Implicit memory is composed of automatic memories outside conscious awareness and verbal recollection (De Young, Kenardy & Cobham, 2011). Early implicit memories can lead to fears and anxieties that are not consciously available and may be replaced by more recent memories. In considering the neurological basis for this memory system,

> "The implicit emotional memory system appears to be organized so as to give us the emotional valence of events without the details of the larger context. This is largely mediated by the amygdala, and it is tightly connected to the body's response systems to help individuals survive in the face of threat" (Kaplow et al., p. 369).

Explicit memory is conscious and can be expressed both verbally and behaviorally (De Young, Kenardy & Cobham, 2011, p. 240). Howe et al. (2006) determined that

autobiographical memory develops between 18 and 24 months; prior memories would not be able to be accessed verbally due to infantile amnesia (De Young, Kenardy & Cobham, 2011). While the two systems usually work cohesively, "when undergoing extreme stress or trauma, these systems become uncoupled, such that the sensory and affective elements become dissociated from any coherent semantic memory system" (Kaplow et al., 2006, p. 369; Van der Kolk & Fissler, 1995). Gaensbauer (2002) found that traumatized infants as early as 7 months were shown to spontaneously re-enact portions of the traumatic experience up to 7 years later. Scheeringa (2009) found that children between 30 and 36 months could retain and verbally recall traumatic experiences several years after the event. Howe et al. (2006) concluded that children over 18 months were able to remember the central aspects of traumatic events, though these memories were often reconstructive in nature. The significant aspect of the trauma appears to play a role in the longevity and retainment of the memory. These findings conclude that young children have the implicit and explicit memory capabilities to recall traumatic experiences.

In addition to memory, studies show that the young child possesses perceptual abilities, affective expression, and behavioral expression to experience a traumatic event. Scheeringa and Gaensbauer (2000) determined that infants are able to distinguish faces, have perception of depth, and have auditory and tactile sensory systems that function as well as adults. Infants begin showing emotions, including distress and joy, within the first weeks of life (Rosenblum et al 2009; De Young, Kenardy & Cobham, 2011, p. 240). Behaviorally, the ability to re-enact traumatic events in play and avoid distressing

scenarios typically develops between 7 and 18 months, and infants begin to express verbally their internal reactions to events by 18-29 months of age (Scheeringa and Gaensbauer, 2000; Young, Kenardy & Cobham, 2011, p. 240). The abilities to perceive external events and express individualized reactions develop in infancy, allowing infants to experience and respond to traumatic situations.

Finally, to experience the loss of safety due to the failure of the caregiver to protect, the infant needs to have developed relationships. Infants exhibit distress at the absence of a primary caregiver as they seek to self-comfort and regulate physiological and emotional states. Focused attachment, stranger anxiety, and separation anxiety emerge between 7 and 18 months, and between 18-36 months, infants develop relationships with siblings and peers (Rosenblum et al. 2009, De Young, Kenardy & Cobham, 2011, p. 240). Due to the inherent nature of the infant to attach, he is at risk for traumatic experiences when the caregiver fails to protect the child from external events, maltreatment, or witnessing violence.

Due to the rapid development of memory, perceptual abilities, affective and behavioral expression, and inclination towards attachment, infants as young as 7 months are shown to experience response to traumatic experiences. Thus, the argument that children will not be negatively effected by traumatic events due to their age and abilities is unsound.

Resiliency

A second misconstrued truth is that the young child is resilient. The brain maintains plasticity in early childhood that allows it to adapt under diverse and often adverse conditions. But does this adaptability translate to resiliency, making children immune to the negative effects of traumatic events?

Perry (1995) argues that it is the plasticity of the young child's brain that makes her increasingly vulnerable to the effects of trauma. During sensitive periods of development, "the traumatized child experiences developmental insults related to discrete patterns of overactivation of neurochemical cues (Perry, 1995, p. 277). Over time, as the brain adjusts to the heightened state of survival due to sensitization of these patterns, the brain develops affective maladaptive traits that impact its functional capacity. The brain's plasticity causes it to be increasingly susceptible to the negative effects of trauma, placing the child at risk for lasting alterations in neurological functioning. In considering the rapid rate of development across domains that occurs in early childhood, the brain is at its peak sensitivity. "Extreme, repetitive, or abnormal patterns of stress during critical or circumscribed periods of childhood brain development can impair, often permanently, the activity of major neuroregulatory systems, with profound and lasting neurobehavioral consequences" (Anda et al, 2006, p. 174). One can conclude, then, that children are not resilient, but rather, malleable (Perry, 1995).

While children's brains maintain plasticity and are able to adapt to adverse conditions, this oughtn't be confused with resilience. Children do not grow out of trauma. "Rather than assuming that these children are so young that there will be no lasting effect, we should assume their early age increases their risk for long-term post-traumatic

effects" (Kaplow et al., 2006, p. 370-71). Experiencing trauma in early childhood has a profound impact on neurobiological, developmental, and behavioral consequences that, left unaddressed, can impact the young child's progression far into adulthood. Considering the brain's plasticity, the next section seeks to describe the neurobiological systems and structures as they are affected by trauma in early childhood.

B. Neurobiological Effects of Trauma

With the understanding that even infants as young as 7 months are able to remember, receive, and respond to traumatic events, coupled with the sensitivity of the brain in its height of plasticity, trauma in early childhood produces negative effects on the neurobiological stress response systems, the maturation of the brain, and the neurodevelopmental growth, affecting cognition and academic success.

Stress Response Systems

The brain has three stress responses systems: the sympathetic nervous system (SNS), the serotonin system, and the limbic-hypothalamic-pituitary adrenal (LHPA) axis. These systems, as they relate to one another, "significantly influence arousal, stress reactions, physical and cognitive development, emotional regulation, and brain development" (Watts-English et al, 2006, p. 719). During experiences of stress or threat, these systems allow the body to respond and then return to a regulated state. Trauma experienced in early childhood effects the functioning and interaction of these systems, placing children at risk for dysregulation in the neurobiological stress response.

Sympathetic Nervous System (SNS)

The SNS regulates the catecholamine system, which includes norepinephrine, serotonin, and dopamine. Each of these catecholamines serve to regulate the body's arousal. The SNS is activated in anxiety-inducing situations during which there is perceived threat (Watts-English at al, 2006). The catecholamines initiate the fight-or-flight response described by Perry (1995) in order to prepare the body for physical activity. "During stressing situations, the locus coeruleus, a cluster of neurons in the brain that secrete NE [norepinephrine], is stimulated. The release of NE, in turn, activates the adrenal gland, which houses epinephrine and cortisol" (Watts-English at al, 2006, p. 720). When NE and epinephrine levels are elevated, heart rate and blood pressure increase, as does the level of alertness. The locus coeruleus stimulates the limbic-hypothalamic-pituitary adrenal (LHPA) axis, which prompts defensive stress reactions (Watts-English at al, 2006). When functioning properly, the SNS allows the body to react appropriately to non-reoccurring stressful situations.

For a child who has experienced trauma, the SNS response is altered. Reminders of the trauma can stimulate a neurobiological response, causing the SNS to over-respond as it is continually reactivated (Watts-English at al, 2006). De Bellis, Baum, et al (1999) found, "maltreated children with PTSD [that is, Post-Traumatic Stress Disorder] to have significantly higher levels of 24-urinary NE and dopamine and greater concentrations of 24-hour urinary free cortisol compared to overanxious children and healthy controls" (Watts-English at al, 2006, p. 720). This dysregulation in the stress response has

been found to be connected to the hyperarousal symptoms found in children with PTSD, described later (Watts-English at al, 2006). Evidencing increased arousal, "Early abuse and PTSD is associated with increased cortisol and norepinephrine levels in children" (Anda et al, 2006, p. 175). Dysregulation of these neurotransmitters within this stress response system can impact overall brain maturation and development (Watts-English at al, 2006, p. 720).

The Serotonin System

The serotonin system modulates emotional and physiological functioning as it operates within the central nervous system. Regulation in the serotonin system affects biological functions such as appetite, temperature, mood, cardiovascular function, muscle contraction, and memory (Watts-English et al., 2006). It also affects appetite, sleep and arousal, and emotional regulation. Functioning properly, the serotonin system aides the brain in regulating emotional states and their interdependence on physiological needs.

Initial exposure to a traumatic event causes an increase in the release of serotonin. This increase can be followed by a downregulation, or slowing, of serotonin production, causing the system to be less efficient (Watts-English et al., 2006). This dysregulation has also been connected to the manifestations of depression and suicidality in children with PTSD (Kaufman et al., 1998; Watts-English et al., 2006). This, in turn, may to lead to cognitive deficits, discussed in depth later, including learning and memory, as they interrelate with behavioral functioning involving aggression and mood (Watts-English at

al, 2006). Exposure to trauma in early childhood affects the regulation of the release of hormones that influence emotional and physiological states.

The Limbic-Hypothalamic-Pituitary Adrenal (LHPA) Axis

The LHPA axis operating within the interaction of the nervous and endocrine systems, responds at the same time as the SNS in a stressful circumstance. This system, "describes the brain's interaction with the peripheral body through neural (SNS) and hormonal (adrenal gland) tissues that regulate the body's response to perceived longer acting stressors" (Delima & Vimpani, 2011, p. 45). The LHPA axis stimulates the locus coeruleus which activates the amygdala, the part of the brain responsible for emotion regulation and anxiety (Watts-English et al., 2006). The amygdala in turn causes the hypothalamus to release corticotropin-releasing hormone (CRH). This activates the pituitary gland, promoting the release of adrenocorticotropic hormone (ACTH). Cortisol is then released from the adrenal gland, stimulated by the ACTH and reinforcing the stress response of the SNS (Watts-English et al., 2006). As the perceived threat of stress diminishes, the stress response becomes restricted, and the higher levels of cortisol prevent further release by providing negative input to the hypothalamus and amygdala (De Bellis, 2005; Watts-English et al., 2006). CRH has influence on the immune system, heart rate, blood pressure, and breath regulation. Neurons containing CRH directly interact with circuits using dopamine and serotonin, used to regulate emotion (Heit & Graham, 1999). The LHPA axis moderates release of key hormones that promote a physical stress response as defense in times of perceived threat.

Trauma maintains an influence of the regulation of the LHPA axis. Studies find that,

> "Early stressors cause long-term increases in glucocorticoid responses to stress as well as decreased genetic expression of cortisol receptors in the hippocampus and increased genetic expression of corticotrophin-releasing factor in the hypothalamus" (Anda et al., 2006, p. 175).

This over-response causes dysregulation in the brain's stress response. Kaufman et al. (1997) determined that children with a history of maltreatment who continued to live in adverse environments had significantly higher levels of ACTH (Watts-English et al., 2006, p. 722). Heim et al. (2000) found that woman with a history of maltreatment showed increased levels of ACTH when compared to control groups (Watts-English et al., 2006). In contrast, De Bellis et al. (1994) found that girls with a history of sexual abuse and depressive symptomology had lower levels of ACTH (Watts-English et al., 2006). This suggests a downregulation of production in cases of comorbid depression, conducive with studies of women currently suffering from depression with a history of maltreatment who exhibited decreased levels of ACTH (Heim et al., 2001). Overproduction of both CRH and ACTH have been connected to depression, anxiety and sleep difficulties (Van Gaalen et al., 2002; Watts-English et al., 2006). While the effects of trauma on the LHPA axis merit further research, it is clear that the response system becomes sensitized when exposed to traumatic experiences.

The SNS, serotonin system, and LHPA axis serve to regulate the body's response to stressful circumstances. When exposed to traumatic events, these interrelated response

systems are heightened and often reactivated, causing dysregulation. Considering the plasticity of the young child's brain, this puts the child at increased risk for developing maladaptive behaviors and traits in response to traumatic events.

Brain Maturation

In addition to impacting the brain's stress response system, exposure to trauma in early childhood affects the maturation of the brain during a season in which the brain is growing at its most rapid rate. "By the time a child is 2-year-old, the total brain weight is 75% of the adult brain weight, with linear increases occurring until the child is approximately 10-years-old" (Watts-English et al., 2006, p. 718). The brain in early stages of development is highly vulnerable to the negative impacts of stress (Delima & Vimpani, 2011). Specifically, trauma impacts growth of intracranial volume and the process of neurogenesis in early childhood.

Intracranial Volume

Research has shown that early trauma affects intracranial volume. Specifically, several studies have documented a decrease in size of the midsagittal area of the corpus callosum. Teicher et al. (1997), in a study of children with a history of maltreatment, found a reduction in the middle section of the corpus callosum (Watts-English et al., 2006). De Bellis, Keshavan, et al. (1999) similarly found that children with PTSD showed decreased midsagittal regions of the corpus callosum (Watts-English et al., 2006). Both studies found significantly smaller measurements of the corpus callosum in boys

than in girls (Teicher et al., 1997; De Bellis, Keshavan et al., 1999). Trauma negatively impacts the healthy progression of intracranial growth.

The effects of trauma on brain maturation appear to be dependent on the duration of the traumatic experience. For children enduring Type II traumas, such as abuse, the negative impact on brain maturation increases. De Bellis, Keshavan, et al. (1999) discovered a correlation between the onset and duration of abuse and smaller intracranial volume (Watts-English et al., 2006). For children with maltreatment related PTSD, as opposed to single-incident trauma, "the intracranial, cerebral cortex, prefrontal cortex, prefrontal cortical white matter, and right temporal lobe volumes were decreased in comparison to sociodemographically matched controls" (Watts-English et al., 2006, p. 724; De Bellis et al., 2002). As with the neuroendocrine stress response systems, repeated trauma coupled with the reactive, re-experiencing nature of trauma impacts early childhood brain maturation.

Neurogenesis

In the prenatal period, the brain is active in neurogenesis, the process of producing neurons. In infancy and early childhood, the processes of selective pruning and myelination begin (Watts-English et al., 2006). Pruning involves the purging of unnecessary neurons, while the process of myelination allows nerve cells to transmit information. Both functions are crucial to the health of the developing brain in early childhood.

Trauma in early childhood can inhibit the effective regulation of these processes. Research has shown that, “deprivation of developmentally appropriate experience may reduce neuronal activity, resulting in a generalized decrease in neurotrophin production, synaptic connectivity, and neuronal survival, resulting in profound abnormalities in brain organization and structure” (Anda et al., 2006, p. 175). Trauma has been found to accelerate the pruning process, increasing the metabolism of neurons specifically in the hippocampus (Watts-English et al., 2006). This acceleration negatively effects brain development, as, “abnormalities in developmentally appropriate synaptic pruning hinder the adaptability of the brain and decrease its efficiency” (Watts-English et al., 2006, p. 725). Dunlop et al. (1997) found that stress-induced delays in myelination inhibited development in cognitive, motor, and sensory domains (Watts-English et al., 2006). As these essential processes are highly susceptible to stress, the young child who has experienced trauma is at risk for increased loss of neurons and delay in transmission of information in complex brain processes.

Implications for Cognitive Functioning

In considering the dysregulation and impairments in essential neurological processes and brain development, trauma in early childhood has the potential to negatively impact cognitive functioning and academic success.

Studies have shown that children with a history of trauma experience difficulty with memory, learning, spatial reasoning, and language. Edwards et al. (1990) found that excessive pruning of neurons had a direct, negative effect on memory and overall

learning (Watts-English at al, 2006). Impaired neurogenesis has been found to be associated with deficits in memory, learning, and the processing of spatial information (Watts-English at al, 2006). Elevated levels of glucocorticoids, resulting from a dysregulated stress response system, were connected to difficulty with concentration and retention of information (Sapolsky et al., 1990; Watts-English et al., 2006). Beers and de Bellis (2002), in a study of children with maltreatment-related PTSD, found that children with a history of trauma performed poorly in attention, problem solving, executive functioning, memory, and spatial reasoning (Watts-English et al., 2006, p. 726). Children with a history of neglect displayed significant expressive and receptive language delays in relation to comprehension, articulation, and production (Watts-English et al., 2006, p. 727). The neurobiological impact of trauma in early childhood has the potential to extend into the child's cognitive ability to learn, retain information, process and produce language, perceive spatial tasks, and sustain attention.

Due to the sensitive nature of the young developing brain, early childhood trauma impacts regulation of neurobiological and neurodevelopmental processes that impact cognitive functioning. Having begun with the interior effects of trauma, the next section will expound upon the effects of trauma on social and emotional development as they are portrayed through internalized and externalized behavior.

C. Behavioral Response to Trauma

In considering Nolan, Sara, and Anthony, each child presented with vastly different behaviors in the classroom. Nolan had been highly social and interactive at

home until his accident, when he became increasingly anxious, withdrawn, and apprehensive in new circumstances. Sara spoke minimally with her teachers, generally complying with directions and revealing little of her internal emotional state. Anthony consistently used physical acts of aggression to communicate his wants and needs and engage with his peers in social interaction. Without considering their traumatic backgrounds, Nolan easily presents with a pervasive developmental delay and social anxiety, Sara appears a compliant, quiet child, and Anthony's "acting out" behavior had already procured him a suggested diagnosis of Oppositional Defiant Disorder and Attention Deficit-Hyperactivity Disorder at age 3. It is only through analyzing their behavior within their experiences, with the understanding of the negative neurological implications of trauma, that one can gain insight into the cause of the behavior as it relates to their unique developmental needs.

As the young child experiences trauma in his own unique way, in congruence with his developmental abilities, each child will present symptoms of trauma different. The behavioral response to trauma exhibited in young children consists of three main clusters: re-experiencing the trauma, avoidance, and hyperarousal.

Re-Experiencing

In children and adults who have experienced trauma, "re-experiencing is characterized by flashbacks, nightmares, or psychological reactivity" (Goodman, Miller & West-Olatunji, 2012, p. 253). For young children, these flashbacks typically are observed in play, as the child retells the story of the event repeatedly. This play may not

appear distressing; in fact, the reoccurrence of the event(s) in play may appear fun or enjoyable for the child. The child may have nightmares or night terrors, though the young child may have difficulty recalling the events of the dream (De Young, Kenardy & Cobham, 2011). Sensory input associated with the traumatic event, such as sights, sounds, and smells connected to implicit memories, may cause the child to respond in distress (Lieberman & Knorr, 2007).

In my play sessions with Nolan, his play scenarios frequently involved a child getting hurt, an ambulance coming to bring him to the hospital, and doctors providing care. His mother reports that he began having night terrors shortly after his accident. She shares that he was incredibly sensitive to loud sounds and crashes after the accident, refusing to be left alone and becoming agitated and visibly upset at a sudden noise. Currently in his classroom, Nolan will cease playing at the onset of sirens. These behaviors, viewed individually, could appear as developmentally appropriate. However, when considering his traumatic history, Nolan may be re-experiencing traumatic events from his past.

Avoidance

A second behavioral response is avoidance of the reminders of the trauma. The young child will avoid interaction with or exposure to situations or people that remind them of the traumatic event. “This may be subtle (e.g. a child averting their gaze or turning their head away from the reminder), or more obvious, such as marked distress and engagement in active attempts to be away from stimuli associated with the trauma” (De

Young, Kenardy & Cobham, 2011, p. 233). A child may avoid traumatic stimuli by losing interest in previously enjoyable activities. The child may appear withdrawn or emotionally detached (Lieberman & Knorr, 2007; Goodman, Miller & West-Olatunji, 2012). As children's interests wax and wane, this can be particularly difficult to observe. Therefore, this symptom of trauma can also be hidden in children, as the child who neglects to engage with her peers or who socially withdraws frequently does not merit the same teacher attention as the child overtly acting out.

Sara is hesitant to speak and share her ideas, and she frequently follows classroom directions without notice. She often choose to play alone, content to build with blocks or read a book. She shows little emotional variation, but she rarely appears happy. On a few marked occasions, she showed intense sadness on her face when her mother did not pick her up from school as promised. Sara's withdrawn tendency may be an aspect of her personality, but it also may reflect a post-traumatic response.

Nolan's present avoidance of being alone resonates with his traumatic experience, during which he was alone. His mother reports that he used to love being around new people and playing outside; after the accident he would throw extensive tantrums when brought to new settings. Commonly, "increased separation anxiety or excessive clinginess and new fears [may develop] without obvious links to the trauma" (De Young, Kenardy & Cobham, 2011, p. 233). His language, which was developing at an age appropriate level, regressed, and he resigned to grunting and pointing to communicate his needs. "Loss of previously acquired developmental skills, for example enuresis and encopresis or talking like a baby again, may appear" (De Young, Kenardy & Cobham, 2011, p. 233).

Nolan's distress at being left alone may be a sign of avoidance in response to a traumatic trigger.

Hyperarousal

The third and often most observable sign of experienced trauma in early childhood is hyperarousal. During a traumatic event, the young child is an aroused state, evoking a stress response. The continuation of this state is considered hyperarousal, during which the child may experience, "disturbed sleep, increased irritability, extreme fussiness and temper tantrums, a constant state of alertness to danger, exaggerated startle response, difficulty with concentration, and increased activity levels" (De Young, Kenardy & Cobham, 2011, p. 233). The child may have difficulty focusing attention, may be increasingly restless, and may present with aggression (Goodman, Miller & West-Olatunji, 2012). This is most often observed in cases that involve the child's parents as perpetrators, such as maltreatment and domestic violence, in which the trauma is reoccurring (Lieberman & Knorr, 2007). This state of hyperarousal directly corresponds to the dysregulation in the neurobiological stress response systems.

Anthony has extreme difficulty focusing on an activity for more than a moment, and he is highly distracted by external stimuli. He frequently runs from place to place in the classroom at seemingly inappropriate times, climbing onto furniture and hugging peers with great ferocity. When upset, he will lay on the ground, run from the room, or become physically aggressive with his peers and teachers. In addition to a hyperaroused state, "new onset of physical aggression towards family, peers, and animals or

oppositional defiance may be observed" (De Young, Kenardy & Cobham, 2011, p. 233). Anthony's hyperactivity, aggression, and weak attention in particular make participating in classroom activities difficult and potentially represent a post-traumatic response.

The Hyperarousal and Dissociative Continuum

Behaviors such as increased aggression, hyperactivity, and temper tantrums are easily observable to early childhood classroom teachers. These are known as external behaviors, as the child is projecting outward his emotions and state (Goodman, Miller & West-Olatunji, 2012). Anxiety, depression, and withdrawal symptoms are internal behaviors, including avoidance of thoughts that trigger traumatic memories (Goodman, Miller & West-Olatunji, 2012). These behaviors, as internal states, are more difficult to assess and require careful observation and knowledge of the child.

Perry (1995) ascertains that the "flight-or-flight" response to trauma for young children is ineffective, as they have minimal developmental abilities to successfully achieve either outcome. Instead, he proposes that children respond via hyperarousal or dissociation. Triggered by the increased release of norepinephrine, the child may operate in a hyperaroused state in response to trauma, exhibiting, "motor hyperactivity, anxiety, behavioral impulsivity, sleep problems, tachycardia, hypertension, and a variety of neuroendocrine abnormalities" (Perry, 1995, p. 278). This persistent state of fear develops into a trait, or rather, a pattern of neurological response. Conversely, a child may react with a dissociative response, utilizing a freezing mechanism. This dissociation involves, "disengaging from stimuli in the external world and attending to an "internal"

world" (Perry, 1995, p. 280). During a dissociative response, while norepinephrine is released, opioid systems are also activated which play a role in numbing sensation (Perry, 1995). Hyperaroused behavior can be categorized as externalized behavior, whereas dissociative behaviors tend to be reflect internal states.

As the young child is ill fit to protect himself during times of perceived threat, hyperarousal, dissociation, or a combinations of these responses serve as coping mechanisms in relationship to neurological functioning. Young children are more likely to use a dissociative response when compared with adults. However, research bears that girls have a higher instance of internalizing post-traumatic stress symptomology, while boys have a propensity towards externalizing behaviors (De Young, Kenardy & Cobham, 2011).

In the case of Sara, while I had known some of her hardships at home, she did not begin to receive attention until her pattern of refusing to eat continued for several weeks, culminating when she broke into tears under the table. Sara's internalized anxiety and depression explain her loss of appetite. Anthony, on the other hand, exhibited vast defiance and aggression, coupled with hyperactivity, which evoked much teacher and peer attention. On one occasion, when I approached him in the hall as he was taking something from the doorway of another classroom, he ran to the end of the hallway and hid behind a table. His instinct to flee implied a hyperaroused state and outweighed any knowledge he might have of me being a trusted adult. Both students presented vastly different responses to traumatic experiences within the same classroom.

Behaviors of re-experiencing, avoidance, and hyperarousal can all appear to be developmentally appropriate in the classroom. Moreover, these behaviors can mimic symptomology of other cognitive and behavioral disorders, placing young children who have experienced trauma at risk for receiving inappropriate services. As children respond to trauma differently, each child manifests a complexity of internalized and externalized behaviors that speak to psychological functioning.

In addition to neurobiological and behavior implications, experienced trauma bears effect on the child's psychological functioning and health. The following section will consider the definition and diagnosis of Post-Traumatic Stress Disorder as it pertains to early childhood, taking into account the risk for misdiagnosis and propensity towards comorbidity. This diagnostic understanding will inform observations and interventions for the early childhood teacher.

C. Psychopathological Effects of Trauma

Post-Traumatic Stress Disorder

When a young child presents with a chronic combination of re-experiencing, avoidance, and hyperarousal symptoms, he may receive a diagnosis of Post-Traumatic Stress Disorder. "The dysregulation of the neurobiological stress systems is thought to lead to the symptoms of PTSD" (Watts-English et al., 2006, p. 719). As symptomology in adults differs from the presentation of post-traumatic stress in children, it is important to carefully consider the internalized and externalized behavioral symptoms.

Diagnostic Considerations

Assessing young children for post-traumatic symptomology presents particular challenges, as diagnostic criteria for PTSD in psychiatric manuals do not capture many of the trauma-related symptoms expressed in younger children (Kaplow et al., 2006). Younger children have difficulty identifying and describing internal states and recounting traumatic dreams which may expose behaviors of avoidance and re-experiencing. Moreover, young children may not show distress at re-experiencing traumatic events in play. In considering the developmental effects of trauma across domains, "with the advances in our understanding of the genetics and neurobiology of psychiatric disorder it is increasingly clear that the psychiatric 'syndromes' specified in the DSM [Diagnostic and Statistical Manual] are phenotypes that reflect problems in multiple functional systems (Egger & Angold, 2005, p. 329). It has been suggested that the DSM-V revise the criteria pertaining to symptomology to reflect the developmental exhibition of trauma in early childhood (De Young, Kenardy, & Cobham, 2011) .

Misdiagnosis

Many of the symptoms of post-traumatic stress mirror behaviors of other neurological conditions as well as behavioral and emotional disabilities. "Symptoms of traumatic stress in children differ from those in adults, causing them to be overlooked, misinterpreted, or mistaken for other disorders" (Goodman, Miller & West-Olatunji,

2012, p. 253). Particularly for children who exhibit high emotionality and dysregulated behavior,

> "Many of the observable PTSD symptoms such as inattention, hyperactivity, temper tantrums, decreased interest, defiance, aggression, and impulsivity often resemble or mimic normative behavior changes, more serious disruptive behavior patterns such as ODD or ADHD, or emotional difficulties such as anxiety or depression" (Young, Kenardy & Cobham, 2011, p. 239).

For children who internalize PTSD symptoms, such as avoidance of thoughts, attention may only be given to external representations, resulting in missed diagnoses and ineffective treatment. Externalized symptoms may be perceived as poor conduct (Goodman, Miller & West-Olatunji, 2012). Moreover, studies have shown that, "students exhibiting symptoms of traumatic stress are at risk for being labeled with a learning disability or a behavior disorder" (Goodman, Miller & West-Olatunji, 2012, p. 256). Misinterpreting the behavior of a child who has experienced trauma can result in misdiagnosis and ineffective treatment plans.

Post-Traumatic Stress Disorder merits attention and careful consideration in early childhood. Scheeringa et al. (2003) found that children with PTSD had increased risk for anxiety and oppositional defiant disorder (Briggs-Gowan et al., 2010). The propensity for comorbidity in psychological illnesses underscores the importance of careful assessment and evaluations of internalized and externalized symptoms of trauma in early childhood.

E. Influencing Factors

A variety of factors mitigate the child's response to trauma, in addition to the nature of the traumatic experience and the temperament of the child. "The type of traumatic event, the child's unique characteristics, the availability of supports, and the meaning that the child ascribes to the event will influence the child's response" (Lieberman & Knorr, 2007, p. 419). While Perry (1995) speaks out against the assumption that children are simply resilient, it is true that some children experience fewer negative effects from trauma and exhibit effective coping skills. Genetic predisposition, duration of the traumatic experience, environmental conditions, and parental response all play key roles in the child's response to trauma, risk for developing post-traumatic symptoms, and ultimate recovery.

Genetics

Children with a genetic psychopathological history are more likely to develop maladaptive neurological states resulting in PTSD, depression, anxiety, and other mental illnesses (Briggs-Gowan et al., 2010). While heredity alone does not imply a child will develop PTSD, it can increase the likelihood in correlation with environmental factors. Family history of mental illness and genetic predisposition can influence a child's response to a traumatic experience.

Duration

A second factor shown to inform the child's response to trauma is the duration to the traumatic event. Children who are exposed to Type II traumas which are recurring,

such as maltreatment and witnessed violence, appear to be the most vulnerable to the negative effects of trauma. Increased exposure to traumatic events further initiates the development of neurological maladaptive traits (Perry, 1995; Delima & Vimpani, 2011).

> "The longer a child is in a state of hyperarousal or dissociation, the more likely they are to experience a dysregulation of key physiological, cognitive, emotional, and behavioral systems. Thus, also though these responses may be adaptive in the acute period...if they continue they are more likely to become maladaptive "traits" and will determine the posttraumatic symptoms that develop and the chronicity of symptomology" (De Young, Kenardy & Cobham, 2011, p. 241)

In addition to the prolonged nature of the trauma, the child often lacks a secure, trustworthy caregiver, as the caregiver may be perpetuating maltreatment or the victim and/or perpetrator of family violence. Children who experience repeated, multiple traumatic events, particularly in the form of maltreatment and witnessed violence, are highly susceptible to the negative effects of trauma.

Environment

Third, in correlation with the duration of trauma, the environment housing the child following the traumatic event impacts his response. If a child is living in a setting prone to community violence, the probability he will witness violence and therefore experience multiple traumas increases (Lieberman & Knorr, 2007). Children living in adverse conditions are more likely to experience a trauma and are more vulnerable to the negative effects of trauma. Risk of developing psychiatrist disorders increases when, "the

child is negatively affected by the compounded impact of additional risk factors, such as poverty, community violence, and lack of adequate resources such as safe neighborhoods, adequate housing, and educational opportunities" (Lieberman & Knorr, 2007, p. 421). Moreover, in considering the family's socioeconomic status (SES), "the rate of traumatic stress is significantly higher among lower SES students, suggesting that low-SES students experience trauma at a higher rate or have fewer resources with which to ameliorate the effects of trauma" (Goodman, Miller & West-Olatunji, 2012, p. 256). If a child continues to live in an unsafe environment, his opportunity to develop and utilize effective coping skills is drastically diminished.

Parental Response

Finally, studies have shown that the parental response to the traumatic event powerfully influences the child's post-traumatic response. Due to the dependent nature of the young child, it is impossible and impractical to consider trauma in early childhood sans the parent-child relationship. "During the first years of life, young children lack the coping capacities to regulate strong emotions and are therefore strongly reliant on their primary caregivers to assist with affect regulation during times of distress" (De Young, Kenardy & Cobham, 2011, p. 241). Carpenter and Stacks (2009) found that children with secure attachments to the primary caregiver are likely to seek protection during times of trauma, allowing them to receive necessary care (De Young, Kenardy & Cobham, 2011, p. 242). Conversely, children with insecure attachments are less likely to engage in emotionally supportive relationships that would help them cope with the traumatic

incident (Lieberman & Knorr, 2007; De Young, Kenardy & Cobham, 2011). The child's attachment to the primary caregiver prior to the trauma greatly influences his ability to seek and receive care following the event.

Parents are often exposed to the trauma themselves, either as victim or as witness to their child's experience. Thus, parents experience post-traumatic symptomology which can affect their ability to provide care and emotional support for their child. Scheeringa and Zeanah (2001) found that, "parents suffering from depressive, avoidance, or numbing symptomology may become emotionally withdrawn, unresponsive, or unavailable" (De Young, Kenardy & Cobham, 2011, p. 242). This implicitly impairs the caregiver's ability to provide for the high emotional needs of the young child who has experience trauma. The parent may respond with high anxiety, exhibiting distress or hyperarousal at the reminders of the traumatic event. "Children may use parental distress as a measure for the seriousness of the trauma and may model their parent's fear responses and maladaptive coping responses" (Young, Kenardy & Cobham, 2011, p. 242). Thus, a child's response to a traumatic event may mirror the parents' emotional states, increasing reactivity.

Relatedly, the child's response to the traumatic event can also cause distress for the parent. The parent may feel guilty or feel at fault for failing to protect the child (Scheeringa and Zeanah, 2008). To compensate, the parent may display over protective behavior, "allowing their child to avoid experiences and situations that provoke anxiety or distress, insisting that they are near their child at all times, spoiling their child, or giving the child more attention and reassurance" (De Young, Kenardy & Cobham, 2011,

p. 242). This dramatic change in parental attention can further exacerbate the child's emotional dysregulation in response to trauma.

The unique dependent nature of the young child, the variable parent-child attachment, and the parental response to the traumatic event influence the child's response. Viewing Nolan, Sara, and Anthony with these factors in mind provides insight into their traumatic responses.

Nolan

Nolan suffered extreme burns in his mother's absence, though she was only a room away. She shares that she feels incredible guilt and laments that if she had only been there, things might be different for her child. Her feelings of fault may influence her attachment with Nolan, as he had great difficulty separating from her for many years after the incident. She chose to keep him out of school after three weeks in a setting where she felt he was being bullied, resulting in him entering preschool nearly two years after his like-aged peers. Nolan's secure attachment with his mother likely served to aide his recovery. However, her propensity towards overprotection in response to her own guilt and post-traumatic stress may have influence on his present social anxiety symptomology. Nolan continues to live in a low-income neighborhood near a police station, placing him at risk for witnessed violence.

Sara

Sara expresses love and affection for both of her parents, and she becomes distressed when she is separated from them and her home for extended periods of time, displaying a developed attachment. It is important to be mindful that her parents are operating under difficult financial conditions, and they have not been able to maintain successful relationships with supporting community organizations. Thus, many of Sara's basic needs for shelter and resources are unmet, constituting a recurring, neglectful state. In this way, her parents are the perpetrators of as well as participants in the traumatic experience, which can cause confusion for Sara. Her continuation in an adverse environment and repeated experience of neglect can strongly influence her vulnerability to the negative effects of trauma.

Anthony

Anthony has witnessed violence in his home and experienced severe discipline from a young age. Through collaboration with his school and social services, his parents have reportedly refrained from physical violence in the home. Anthony's difficulty with hearing and verbal expression served as a traumatic experience for him as well, straining his relationship with his parents as they struggled to understand his needs. His behaviors became increasingly oppositional, and his mother reports they often "didn't know what to do with him." This may have impact on his attachment with both caregivers. As Anthony continues to live in an unsafe environment in which he continues to be at risk for witnessing community violence, coupled with potentially insecure parental attachment

and lack of parent education, he is at increased risk for the negative impacts of experienced trauma.

With a developed understanding of trauma and its prevalence, the early childhood classroom necessarily contains young children with traumatic experiences. Being mindful of the adverse effects of trauma across developmental domains, the early childhood teacher plays a highly influential role in the child's recovery. The following section will provide the early childhood teacher with a framework for observing, assessing, and providing for the needs of these children within the educational setting.

IV. The Therapeutic Teacher

Early childhood educators necessarily must be extremely attune to the developmental variations of the young child. It is in formal and informal and assessment in these earliest years that developmental delays, cognitive impairments, physical needs, and social and emotional difficulties are often first observed. Trauma, in many regards, remains a hidden disability, masking itself with internalized and externalized behaviors that resemble developmentally typical behaviors, emotional and behavioral disorders, and cognitive needs. "The detrimental effects of traumatic stress on developing neural networks and on the neuroendocrine systems that regulate them have until recently remained hidden even to the eyes of most scientists" (Anda et al., 2006, p. 180). Bearing in mind the vast neurological effects of trauma as they pertain to development across domains, it is the early childhood educator's calling to observe for warning signs of trauma, connect children and families to supportive services, and create a therapeutic classroom environment for the traumatized child.

A. Observation

The early childhood educator is in a prime position for observing the behavioral signs of trauma. Through regular communication with parents, careful consideration of the child's home environment as well as physical, and emotional health, and analysis of the child's exhibited behavior within the classroom context can provide insight into potential traumatic history.

Establishing contact with the primary caregiver at the start of the child's placement in the classroom allows the educator to hear about the child's history directly from the parent. Conducting home visits, hosting classroom visits before the start of the school year, and coordinating parent-teacher conferences all create space for parents to share about their child's history.

Early childhood educators must strive to be aware of the settings in which their students are living, being mindful that children living in adverse circumstances are prone to witnessing violence. Students in families with a history of maltreatment and domestic violence may be subject to future traumatic experiences. Students in high-risk and potentially unstable settings, such as foster care and shelters, have already experienced an upheaval in the safety of their world and will require specified attention. Early childhood educators are also responsible for reporting signs of neglect and abuse. Watts-English et al. (2006) contend,

> "Due to the educational needs of children with histories of maltreatment and significant trauma, school systems should be encouraged to act more aggressively to identify these children and to provide them with the appropriate neuropsychological assessments to determine if any specific deficits exist, as well as to develop a profile of individual strengths and weaknesses" (p. 729).

Understanding that the child is in an unsafe, traumatic environment, the early childhood educator is mandated to report abuse and neglect to state protective services. In these scenarios, early childhood educators can play a crucial role in preventing recurrence of traumatic incidents.

Finally, the early childhood educator needs to be mindful of the neurological effects and behavioral symptomology of trauma. As it is difficult to observe and interpret a child's internal state, educators often must rely on the child's external behaviors.

> "Awareness that children exhibiting certain behaviors, such as acting out or disengaging from activities, may actually be symptoms of traumatic stress can enable counselors and educators to make more accurate assessments of children's abilities and needs that do not mistakenly attribute all academic problems to low ability or behavior problems" (Goodman, Miller & West-Olatunji, 2012, p. 256).

Viewing student behavior through this lens, the early childhood educator is challenged to consider the underlying cause of the behavior before implementing a behavioral plan or determining an assessment or diagnostic route.

Educators need to add the neurological effects and behavioral implications of trauma to the schema of assessment, considering the child's history and environment. Early referral is instrumental in ensuring the child receives appropriate treatment and care following a traumatic incident.

B. Referral for Treatment

When a family reports a traumatic history, or when an educator suspects the child is exhibiting post-traumatic stress, the educator can seek evaluation through the school or community mental health services. "If left untreated, trauma during early childhood may follow a chronic and unremitting course [which can] derail children from their normal developmental trajectories at such a young age" (De Young, Kenardy & Cobham, 2011,

p. 240). Early evaluation provides the greatest chance of preventing the negative effects of trauma.

Treatment for children with PTSD can occur in the classroom, in a private setting, or within the home. Assessments for PTSD as well as treatment inherently must involve the caregiver (De Young, Kenardy & Cobham, 2011, p. 245). According to Lieberman & Knorr (2007),

> "Effective treatments universally emphasize involvement of the parents in the treatment, tailoring the treatment to the child's developmental stage and helping the child develop a narrative of the trauma in order to give it meaning and place it within the larger perspective of developmental interests and concerns" (p.421).

Moreover, treatments aim to relieve the child of perceived guilt, helping the child to trust in the parents' capacity to protect as he confronts fears and reengages in developmentally appropriate behavior (Lieberman & Knorr, 2007). Treatments also aim to provide parents with strategies for creating safe, predictable environments over harsh, punitive practices in regards to externalized behavior (Lieberman & Knorr, 2007). "Behavioral disturbances are an inevitable manifestation of trauma in young children. Helping parents to respond empathetically and to develop effective behavioral management techniques is an essential piece of the child's treatment" (Lieberman & Knorr, 2007, p. 421). For children diagnosed with PTSD, trauma-focused cognitive behavior therapy (TF-CBT) is the most recommended treatment (Silverman et al, 2008). TF-CBT conducted in schools "decreased symptoms and increased adaptive coping, [both] critical outcomes for students to be able to engage in the learning environment and succeed academically,

socially, and psychologically" (Goodman, Miller & West-Olatunji, 2012, p. 257). These collaborative therapeutic practices aim to reestablish the child's secure attachment and safe environment, provide a developmentally appropriate and accurate narrative for the traumatic experience, and offer strategies for parents in responding to their child's behavioral exhibitions.

Children with externalized post-traumatic behaviors tend to be referred for supportive services at a higher rate than students with primarily internalized post-traumatic behaviors, as externalized behaviors such as hyperactivity and aggression tend to be disruptive to classroom functioning (Goodman, Miller & West-Olatunji, 2012). "Students with traumatic stress who exhibit behaviors such as withdrawal or sadness may not be as likely to cause problems in a school setting (Goodman, Miller & West-Olatunji, 2012, p. 257). Educators and counselors alike are cautioned to be mindful of changes in student behavior that may reflect internalized symptoms of trauma, including withdrawal, loss of interest in activities, depression, or anxiety. As many post-traumatic behaviors often resemble other behavioral and learning difficulties and diagnoses, schools and educational settings need to provide professional development for staff members on the effects and signs of traumatic stress. With increased awareness, early childhood educators can partner with service providers in observing behavioral signs of post-traumatic stress in order to aide the implementation of developmentally appropriate intervention.

The role of the teacher is different from the parent, therapist, or social worker. In considering the internal and external traumatic environment with which the child has

become familiar, the early childhood educator faces the task of creating an environment of stability and peace. The following section, in considering the classroom experiences of Nolan, Sara, and Anthony, will provide strategies for creating a therapeutic learning environment.

C. The Therapeutic Classroom

While treatment for post-traumatic stress provides focused intervention, the young child spends much of his time in the educational setting. The early childhood teacher faces the task of facilitating a classroom environment that provides for the child's need for physical, emotional, and psychological safety; creates space for the child to process his traumatic experience(s); allows the child to develop secure relationships with both teachers and peers; and fosters the development of coping mechanisms and emotional regulation. The following, in consideration of the foundational needs of the child, will describe strategies for establishing relationships, developing social-emotional curriculum, organizing the classroom environment, and collaborating with supportive services and families in order to support the needs of the young child who has experienced trauma.

Maslow's Hierarchy of Needs

For many children, particularly in circumstances of maltreatment or adverse family circumstances, according to Maslow (1943) and his developed Hierarchy of Needs, physiological needs have not been met. The early childhood teacher must be aware of community and school resources that would provide food, clothing, and shelter

for the child. Collaborating with the school social worker can help ensure that families are connected to free-and-reduced lunch programs, food banks, shelters, and other community resources to provide for these basic needs. As stated earlier, in circumstances in which these basic needs are consistently not being met, or if the child continues to live in physically or psychologically unsafe environments, it is the responsibility of the early childhood educator to report neglect and/or abuse to the state's protective services. Ensuring that the physiological and safety needs of the child are met allow for the child to engage in learning experiences in the classroom.

For the child who has experienced trauma, the basic need of safety has not been met. The prior safety of the child's world has been disrupted by the traumatic experience, and the classroom provides an opportunity to reestablish a sense of security for the child.

Establishing the Teacher-Student Relationship

Bearing in in mind the complexity of the parent-child relationship and the influence of attachment on traumatic response, the early childhood educator is in a unique position to establish a meaningful relationship with the child. By maintaining a non-threatening tone, sustaining a consistent, low-anxiety response to post-traumatic triggered behavior, and attending to externalized and internalized behaviors, the teacher can establish a trusting relationship with the child.

Teacher's vary in their tone of voice, prosody, and volume. For children who have experienced trauma, sirens, raised voices, crashes, and other jarring sounds are frequently involved and connected to the child's nondeclarative memory. For children in a state of

hyperarousal, they may be prone to a fight-or-flight response. Loud, angered tonality in a teacher's voice may be perceived as threatening, evoking a traumatic reminder. In these circumstances, children may become hyperaroused or dissociative. Maintaining a calm tone, while ensuring safety, alleviates the likelihood of traumatic triggers.

When highly emotional, Anthony was prone to run from the classroom or group setting. If a teacher approached him with a display of anger, he would often run further or would close his eyes and pretend to be asleep. More effective approaches included maintaining a calm voice and presence while stating, "You're feeling very strongly. Please come back to the classroom." Counting from three to zero typically allowed him space to return willingly. Once back in the classroom, he responded best when asked, "What happened?" followed by an affirmation of his emotions and a restatement that to be safe he needs to remain with the group. Utilizing a calm tone of voice reduces risk for post-traumatic triggers and provides a consistent base for the teacher-student relationship.

Just as research shows the young child is influenced by the parent's response to post-traumatic triggers, the early childhood teacher's reaction to the child's distress impacts the child's trust in the teacher as caregiver as well. If the teacher responds with visible, extreme, distress at a child's recounting of an event through play or an emotional outburst, this may increase the child's anxiety. The teacher needs to provide stability for the child, ensuring for this child that his emotional state is not all-consuming.

When Nolan became frustrated in a play setting, his mother quickly became distressed and responded, "It's okay, baby, I'll fix it" solving the problem for him. She reported that it was very hard to watch him struggle; it was extremely upsetting for her to

see him upset. This reinforced his anxiety and sense of helplessness in times of high emotion. Through collaboration with his teachers, his mother began to allow him space in frustrating moments, providing him with encouragement such as, “Keep trying!” and “What could you do to solve this problem?” This helped Nolan to view himself as a capable agent in regulating his internal state and solving external problems. Maintaining a calm, consistent, empathetic reaction to post-traumatic responses provides a base from which the young child can processes his emotions.

Finally, in establishing relationships with young children who have experienced trauma, the early childhood educator needs to be attentive to the externalizing and internalizing behaviors common to the post-traumatic stress response. Young children exhibiting hyperarousal, symptomized often by aggression, hyperactivity, and difficulty concentrating, are likely to receive behavioral redirections from teachers due to the disruptive nature of their behavior. Teacher’s ever need to consider the underlying cause of such behavior, ensuring the child is receiving ample positive encouragement and praise in addition to appropriate redirection and behavioral replacement strategies. The young child who internalizes her post-traumatic response can be easily missed by the educator, and teachers must be particularly attune to symptoms of anxiety and depression. Providing appropriate attention to students exhibiting behavioral post-traumatic responses can aide is developing a safe, trustworthy student-teacher relationship.

Sara’s anxiety and sadness were often masked by the more visible behaviors of her classmates. While aware of her difficult circumstances, it wasn’t until she put her head under the table and refused to eat that I awoke to the high need for relationship and

attention that this child had. I began making space for intentional one-on-one conversations with her at lunch time, asking her about her morning, where she had stayed the night before, and which family members she had been able to see. While I kept the tone positive, she gradually began to share more specific details about missing her mom, how tired she gets from carrying her bags from the bus stop, and that she hopes she can go home soon. I allowed her time each day, if she chose, to write a letter to her mom. Sara typically chose to keep these letters private, creating her own envelopes and folding them carefully before putting them in her coat pockets. One Friday, as students were sharing their weekend plans, Sara raise her hand and shared, "I'm going to my Abuela's house and we're going to go in the woods and my mom's going to meet us there and I'm really excited and I'll probably catch a frog!" Through attention to her internalized emotions regarding her unstable home circumstances, Sara began to verbalize her feelings and experiences with the group. She also began to eat her lunch more consistently, possibly implying a decrease in anxiety. Attention to both externalized and internalized symptoms of trauma strengthen the teacher-student relationship.

Of primary focus for the early childhood teacher considering the needs of children who have experienced trauma is the establishment of meaningful teacher-student relationships. Early childhood educators can aide the development of these relationships through maintaining a calm voice, keeping a consistent affect that is not overly reactive, and providing attention to students internalizing and externalizing their traumatic response.

Social-Emotional Curriculum

The social-emotional curriculum in early childhood education merits equal if not more weight than the academic curriculum. In considering the needs of the young child who has experienced trauma, the early childhood teacher should foster a social-emotional curriculum that provides outlets for the child to process trauma, opportunities to develop coping mechanisms for stress, strategies for regulating emotions, and space to establish safe relationships.

The therapeutic classroom should provide ample materials and opportunities for the young child to process her traumatic experiences in a safe environment. Play, the developmental work of early childhood, is often the setting in which children with re-experience traumatic events, replaying scenarios. Providing intentional space and time for children to build, reenact, and retell stories from their experiences allows them to reveal understandings and misconceptions, make meaning of frightening events, and self-sooth by creating a more comforting ending. Teachers are not therapists, but they can make space for story.

> "The establishment of a verbal narrative has been shown to be a critical part of the therapeutic process in that it not only helps children to make sense of their traumatic experience, but also helps them handle ongoing effects as they emerge across the lifespan" (Kaplow et al., 2006, p. 372).

While wooden blocks representing people can be useful in imaginative play, more realistic people that represent family members and community helpers may aide this type of processing. Read-alouds that include narratives of frightening events, as appropriate,

can serve to provide language for the child's experience. Materials for drawing and writing should be readily available, as well as other art media, to allow for visual and tactile processing. The work and play of the early childhood classroom should provide opportunities for children to narrate their experiences in safe, developmentally appropriate ways.

For Sara, drawing served as an outlet for her as she sought to reconcile her separation from her parents. In one poignant drawing, she created a picture of her and her sister at one house on the far left on the page, adorned with large frowns. On the right, her parents stood by another house, with vast white space in between. Prior to this drawing, she had been tearful and resistant to joining the group activity. After completing the drawing and placing it carefully in her pocket, she joined the class and began singing with the music teacher. The therapeutic classroom provides materials and space for young children to process traumatic events.

A common neurological response to trauma results in the dysregulation of emotions. The social-emotional curriculum in the early childhood classroom should provide children with opportunities to experience and regulate their emotions in a supportive setting. "Toddlerhood to kindergarten is the developmental period when key mechanisms of emotional and behavioral control are established, including the capacity to regulate anger, manage frustration, and inhibit verbal or physical reactions to negative stimuli" (Egger & Angold, p.325). Providing a vocabulary for feelings can help children label their emotional states. "How Am I Feeling" charts with a picture of each child and an assortment of emotions to choose from can help the young child develop self-

awareness. Moreover, it allows the child to see that emotions change in a healthy way. Social stories, visual steps, and class conversations about what to do in times of sadness or anger provide children with the validation that negative emotions are acceptable while offering appropriate strategies for expressing their feelings and recovering. Mirrors displayed in the classroom can allow children to see their emotional state as it relates to others and the surrounding situation. Proving space for conversations and direct instruction regarding emotional literacy helps the child who has experienced trauma name and regulate his emotional state.

Connected to emotional regulation is the child's ability to cope with stressful circumstances.

> "The acquisition of coping skills is a necessary prerequisite for trauma processing, as these skills help to combat much of the child's physiological symptomology in response to traumatic reminders and, over time, allow for less hesitancy with regard to approaching the trauma" (Kaplow et al., 2006, p. 365).

Rather than buffering the child from frustration, the therapeutic classroom should allow for stressful circumstances to occur (two children wanting a turn with the same toy, a favorite book being put away, a student saying "I don't like you" to a peer, etc.) with a support teacher present to scaffold the child's developing problem solving skills. During class meetings, teachers can model managing frustration, verbally processing an event that has caused the teacher to be upset and then stating appropriate steps towards problem solving and recovery. Appropriate problem solving strategies can be visually displayed in the classroom, such as how to ask for a turn with a toy. Creating opportunities for

frustration in a safe environment allows the child to develop strategies for coping with stress.

Anthony experiences emotions with extreme intensity, and he often would show his excitement or anger by running across the classroom or hiding under a table. He exhibited particular difficulty when he didn't get a turn to lead a game or help with a job. In these instances, he would often lay on the floor and kick the furniture. As a precursor to selecting students to help with a job, I would model appropriate thinking aloud for the students. I would say, "If I don't get a turn, I might think this in my brain: I am disappointed that I didn't get a turn. We will do this again tomorrow. Maybe I could get a turn then." I would have the students practice, as group, echoing this language and repeating it in their minds. One day, after I had selected two students to help pass out materials, he tapped his temple with one finger and whispered, "I didn't get a turn. It will be okay. I can get a turn tomorrow." He then looked at me and said, "I did it!" Early childhood educators can model effective coping mechanisms for stress and frustration in the classroom.

Finally, an essential part of a the social-emotional curriculum involves the facilitation of respectful, compassionate peer relationships. Teachers can model and role play conflicts that may occur in the classroom, such as how to respond when a peer says they don't want to be your friend. Students should be encouraged to verbalize their emotions in problem solving conversations, emphasizing the action that has caused their distress. Visual displays of how to navigate a conflict using emotional language can be used. Play, both indoors and outdoors, provides the most natural opportunities for young

children to respond to the emotional states of their peers and establish healthy relationships, and thus should be a central component in early childhood classrooms. The role of the educator, in addition to modeling responsiveness and problem solving, includes scaffolding peer conversations to increase circles of communication in the midst of the young child's egocentric nature.

Nolan, following his accident, spent minimal time interacting with other children. His mother reported that he was afraid of parks, and his prior school experience was brief and socially unfruitful. Nolan engaged primarily in parallel play and exhibited extreme agitation when a peer would interrupt or attempt to engage in collaborative play. In our play sessions together, I worked to simulate scenarios that might occur with his peers. I would ask for a turn with a toy he was greatly enjoying, providing him with a script to use with acceptable outcomes. On several occasions, I took the toy he was using, which resulting in him becoming physically aggressive and immediately tearful. I provided modeling and prompts for using language to express his emotions while stating his needs. In observing in his classroom, his teachers noticed increased responsiveness to peer initiation in play. In addition, his teachers observed him seeking out classmates, asking to have a turn with the materials or equipment. Providing play-oriented opportunities for young children who have experienced trauma to develop relationships with peers further creates a safe and secure learning environment.

Young children who have experience trauma lack language and means for meaningful representation, have difficulty with emotional regulation, and possess decreased coping skills, which each can influence the child's functionality in establishing

mutual friendships. The therapeutic early childhood classroom provides foundational experiences for children to process traumatic events, express and regulate emotions, cope with frustration, and develop trusting peer relationships.

Classroom Environment

In considering the needs of young children who have experienced trauma and the negative effects of adverse settings, the environment in which learning occurs is crucial to helping the child feel psychologically secure. The early childhood educator's role, in considering the needs of the child who has experienced trauma, is to create a classroom environment that reduces overstimulation, allows space for exhibiting and processing of emotions, and reinforces the child's sense of identity as an agent of change.

A traumatic event induces chaos, both in the child's home environment and in the child's neurological state. In efforts to provide security and consistency, the therapeutic classroom should be free of sensory chaos. Extensive, bright displays and bulletin boards can be visually distracting to children with difficulty focusing. Clutter and materials stored improperly create a sense of disarray rather than calm. Instead, materials displayed on the walls should be intentional and aesthetically ordered, each item serving a purpose understood by the child. Materials available to the child should be easily accessible, whereas materials that are unnecessary should be stored out of sight. Furniture should be arranged that allows for clear walkways, with unused furniture removed from the classroom. The child should have a sense of shared ownership of the materials in the classroom. Fluorescent lighting that may overstimulate a child can be replaced with

softer, eco-friendly lights. While a classroom of young children merits a certain about of boisterous activity and noise, activity areas should be planned to allow for quieter spaces to be separated from louder working areas, such as blocks or dramatic play. Carefully considering the placement of materials as well as the auditory and visual stimuli in the early childhood classroom further serves to create a safe, calm learning environment.

Anthony displayed high distractibility which severely impacted his ability to complete an academic task. In his classroom, the year began with nearly bare walls and shelves, allowing for the gradual introduction of art work and materials. Anthony was highly observant of displays and was the first to notice when the classroom visual schedule had been removed. At Anthony's home, he has not been allowed to use scissors, crayons, glue, or other art materials. He consistently came to school without the necessary materials, including a backpack and lunchbox. Art materials were gradually introduced to the classroom one by one, with teachers spending time teaching intentional care and storage of materials. When upset, Anthony began to break crayons in half. Together with a teacher, he taped the crayons back together and returned them to their place on the shelf. This intentional care to maintain order provides calm for children who have experience and may continue to live in chaotic environments. The materials are valued and kept safe, just as each child is valued and kept safe.

Children who have experienced trauma may need physical space to withdraw, separate from the group, and process emotions. The therapeutic classroom should include a secluded area that provides respite for the young child. This area could include pillows, books, family pictures, fidget toys, and other calming materials. Social stories outlining

response to emotions as well as mirrors can be included in this space. It should not be located near noisy areas such as blocks or dramatic play. The classroom teacher should introduce this space and clearly outline its use. Children who have experienced trauma should have regular access to this space, and teachers should monitor its use in response to potential post-traumatic triggers.

During intense bouts of sadness, Sara made use of a large wooden crate in her classroom, tipped vertically and filled with pillows. Low books shelves allowed her to be hidden from sight from her peers, allowing for respite. Particularly in the afternoons, when Sara was tired and struggling to maintain stamina for the day possibly due to her unstable housing circumstances, she requested to spend time in this area rather than joining the group. This safe space in the early childhood classroom allowed for Sara to further develop the ability to regulate emotions as she grows in self-awareness.

Finally, the classroom environment should provide opportunities for the child to further develop a sense of identify and self-confidence within the community. As the young child is prone to self-blame in traumatic scenarios, particularly in incidences of witnessed violence, the classroom needs to alleviate guilt and support the child in developing a positive self-concept. Allowing the child to have control and power in the classroom environment provides for the psychological safety of the child, letting him know he is valued and seen. Early childhood teachers should display student work prominently, honoring each students' drawing, writing, and art work. Student names should appear on the work, as well as throughout the classroom to label materials. Honoring the child's name and work serves to empower the child who has been a victim.

Nolan entered preschool without using the pronoun “I.” He was unable to recognize his name in print, and he could not draw a circle in order to create a self-portrait. His teachers displayed his name in the classroom on the whiteboard, on his coat hook, and on other personal materials. They regularly called him by name, often referring to themselves and him in the third person. His teachers worked to provide him with ample opportunities to see himself in a mirror, scaffolding him as he developed the ability to draw circles and notice other details in his face. His work was displayed in the classroom, which he proudly dragged his mom to and spoke descriptively about his drawing. Providing children who have experienced trauma with opportunities to see themselves and their work as a valuable part of the classroom community serves to bolster a healthy developing self-concept.

The early childhood classroom’s impact on the child’s learning equate that of the teacher-student relationship. Early childhood teachers face the challenge of constructing classroom environments that are sensitive to the developmental needs of the young child who have experienced trauma. Therapeutic classroom environments consider the potentially chaotic history of the child, the need for tangible safety, and the value of empowerment.

Collaboration with Family and Supportive Services

Research is clear that programs that successfully support children who have experienced trauma involve the primary caregiver(s). Intervention programs should seek to reduce distance and anxiety between the child and caregiver, alleviate stress (De

Young, Kenardy & Cobham, 2011). Early childhood educators should view themselves as partners in helping the child to develop and/or reestablish a secure attachment with the primary caregiver. A purposeful system should be in place that allows parents to regularly volunteer in the classroom, assist with special events, and participate in class field trips. The teacher should hold regular conferences with the parent, sharing strategies related to the social-emotional curriculum of the program, common vocabulary being used with the child, and observations of the child's behavior and progression. Teachers should readily listen to changing circumstances in the home environment, behavioral developments the parent has noticed, and any questions the parent might have about their child's academic, social, and emotional needs. In situations in which the child is no longer with the primary caregiver, intentional conversations should be had with the temporary or permanent guardian, guided by the social worker or counselor, as to how to best support the developmental needs of the child.

As stated earlier, the early childhood educator is in a prime position for referring children and families to supportive services, including neuropsychological evaluations, counselors, and social workers. The teacher should be versed in community organizations that provide these services if the school district does not. She should also be in communication with therapists, social workers, and other evaluators to determine the best structures and strategies to aide the child in the learning process. Early childhood educators can invite district and school-related professionals into the classroom to conduct observations, provide feedback, host play groups, and conduct inclusive intervention sessions. Partnering with supportive services provides the early childhood

teacher with further support and effective techniques for facilitating a conducive learning environment for the young child who has experienced trauma.

I met with Nolan's mother monthly to discuss his observed progress both at school and at home. Frequently during these meetings, she listed behaviors and developments she had noticed, wondering if they were normal or cause for concern. During these sessions as well, I was able to provide her with strategies that his classroom teachers had found to be successful in helping him initiate and maintain social interaction. His mother remained present for many of our play sessions together, allowing her to observe techniques as well as engage in play with her son in innovative ways. In addition, Nolan's teachers requested a neuropsychological evaluation, and she and I met regularly to discuss the progress and outcomes. Nolan did receive a diagnosis of Post-Traumatic Stress Disorder along with Generalized Anxiety Disorder. The recommendations from the psychologist's provide helpful feedback for his classroom teachers both and in the future. His teachers will continue to collaborate with his psychologist to determine how to best support his learning needs. Creating a therapeutic learning environment necessitates collaboration with both parents and supportive services to aide the needs of the young child who has experienced trauma.

The therapeutic classroom holds as its primary cause the psychological safety of the child. The early childhood educator, in considering children having experiencing trauma, must strive to establish healthy teacher-student relationships, enact curriculum that fosters social and emotional develop, coordinate a classroom environment that promotes peace, and collaborate with families and supportive services. Elements of

exemplary teaching, these efforts will create a safe and secure classroom from which a child can learn.

V. Summary

Each classroom assuredly contains a child akin to Nolan, Sara, or Anthony. While risk of trauma, particularly in terms of exposure to community violence, may be increased in certain communities, the rates of accidental trauma, domestic violence, and maltreatment transcend geographic, gender, racial, ethnic, religious, and socio-economic boundaries. Understanding the definition of trauma in early childhood, the implications of trauma on neurological functioning and development, and the representation of post-traumatic symptomology in behavior allow early childhood educators to create a therapeutic, collaborative classroom that is sensitive to the needs of the young child.

Of veritable influence on the child's response to traumatic stress is the learning environment, and therefore, the early childhood educator. "Early intervention, which can ameliorate the intensity and severity of the response to trauma, will decrease the probability of developing, in a use-dependent fashion, sensitized neural systems resulting in either persisting hyperarousal or dissociative symptoms, or both" (Perry, 1995, p. 285). Intervention is time consuming, and results are rarely immediate. As the effects of trauma have the potential to impact children's development into adulthood, perseverance is crucial. Anthony, prone to high emotional states as described earlier, often shouted and fell to the ground when excited, disappointed, or angry. For months, each time this occurred, his teachers narrated, "You're excited," inserting the appropriate emotion in a calm tone of voice. One day, at the announcement of a new outdoor activity, a classmate fell backwards and exclaimed. Anthony turned to me, pointed at the student, and said in a calm, encouraging voice, "Look! He's excited." The collaborative efforts to aide children

in redeveloping a neurological and emotional sense of safety have the potential to combat the negative effects of trauma in early childhood.

In many ways, teachers choose the schools in which they teach. They decide amongst public, private, and charter schools. They consider passions for populations, perhaps for students with developmental variations or from low-income neighborhoods or who speak a language other than English at home. They decide upon grade levels and subject areas. The teacher can choose a setting which utilizes her gifts, abilities, and knowledge. If placed in a setting that is not suited to the teacher's training, the teacher can seek a different position. However, the child who has experienced trauma is not localized in one place nor is he a member of a population to seek or avoid. The child with a traumatic history is in every classroom in every school. Teaching this population of children is not a choice; it is an imperative. Educators thus are called to understand the sources of trauma and the adverse effects that traumatic experiences enact across developmental domains. To be an early childhood educator is to be a therapeutic teacher, advocating for the child hidden in internal and external chaos and creating a learning environment of safety and stability in order to reestablish for this child what was lost.

VI. Appendix

The following further resources are recommended for educators as they seek to create an intentional learning environment for children with traumatic experiences.

National Organizations

National center for children exposed to violence. (2006). Retrieved from http://www.nccev.org

National child traumatic stress network. (n.d.). Retrieved from http://www.nctsn.org

Further reading in creating a therapeutic classroom environment:

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Rice, K., & Groves, B. (2005). *Hope and healing: A caregiver's guide to helping young children affected by trauma (zero to three early care library)*. Zero to Three.

Early childhood literature with a focus on emotional literacy:

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Gray, C. (n.d.). *How to write social stories*. Retrieved from http://www.thegraycenter.org/social-stories/how-to-write-social-stories

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