2018

Childhood Trauma in Education: Addressing the Needs of Students Who Have Experienced Trauma Through Trauma Informed Practices

Claire R. Steffen
Bethel University

CHILDHOOD TRAUMA IN EDUCATION: ADDRESSING THE NEEDS OF STUDENTS WHO HAVE EXPERIENCED TRAUMA THROUGH TRAUMA INFORMED PRACTICES

A MASTER'S THESIS

SUBMITTED TO THE FACULTY

OF BETHEL UNIVERSITY

BY

CLAIRE R. STEFFEN

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

MASTER OF ARTS

AUGUST 2018

BETHEL UNIVERSITY

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Claire R. Steffen

August 2018

APPROVED

Advisor's Name:_____

Advisor's Signature:_____

Program Director's Signature:_____

Abstract

This literature review explores the background of trauma, the physiological effects of trauma on the developing child, and effective trauma informed strategies to assist educators in meeting the challenging needs of all students, especially those who have experienced trauma. Longitudinal research shows that trauma is prevalent and its effects are long lasting. Various effects of trauma contribute to dysfunction in brain processes, which results in academic and behavioral deficits. Trauma informed strategies such as Flexible Framework, Supportive Trauma Interventions for Educators (STRIVE), and Making SPACE for Learning are explained to assist educators in better meeting the needs of students who have experienced trauma.

Table of Contents

List of Tables

CHAPTER I: INTRODUCTION

"Trauma confronts schools with a serious dilemma: how to balance their primary mission of education with the reality that many students need help in dealing with traumatic stress to attend regularly and engage in the learning process." —

(Ko, S. J., Ford, J. D., Kassam-Adams, N., Berkowitz, S. J., Wilson, C., Wong, M., Layne, C. M., 2008, p. 398)

Over half of the student population in the United States is comprised of students who are experiencing or have experienced trauma, violence, or chronic stress (National Survey of Children's Health, 2011/2012). As a result, the educational system is and has been becoming increasingly diverse beyond academics. This poses a challenge for educators as they try to balance "the mission of education" as well as environments and relationships to help serve the whole child. In addition to the pressures that are placed upon teachers, students' needs and experiences are often becoming overlooked. Research has shown that students who have experienced three or more traumatic experiences in their lives are more likely to have academic failure. Students impacted by trauma are also more likely to have severe attendance problems, more likely to have school behavior problems, and more likely to have poor health compared with children with no known trauma (Stevens, 2012). The National Survey of Children's Health in 2011-2012 found that approximately 35 million children in the United States have experienced at least one type of childhood trauma. These students are in today's classrooms and the effects of trauma presents many challenges to educators.

As previously shared, research suggests that adverse childhood experiences are common and traumatic events have strong impact on human development. In fact,

"twenty-six percent of children in the United States will witness or experience a traumatic event before they turn four" (Steele, 2017 p. 4). As a result, the number one mental health problem facing students are anxiety symptoms and disorders. Adverse traumatic experiences affect all aspects of a child's life and are especially apparent in the classroom setting. Due to the prevalence of traumatic experiences, it is crucial for professionals working with children to understand the neuroscience as it pertains to the effects of trauma on a child's developing nervous system. The nervous system, the brain and related anatomy, is activated when a child experiences adversity. The nervous system is sensitive to stress and immediately prepares the body by triggering various chemicals and signals to the body. Understanding the neurological makeup will assist educators in rewiring student's brains to help meet the needs of their students who have experienced chronic adversity (Floyd & McKenna, 2003). In order to address those needs, it is essential for educators to become familiar with trauma informed strategies, so that the students are able to attend to and stay engaged in their learning experience.

When I first began my graduate studies, I was already in my fourth year of teaching. At that time, the importance of trauma awareness and trauma informed strategies had never really been communicated to me. I also had little to no direct experience with students who I believed to have had dealt with any major trauma. I did not know it at the time, but this was all about to change very quickly.

During that same year, I was given the responsibility by my administration of kick-starting a self-contained behavioral program with less than one-week notice. Having no experience with students in the emotional behavioral realm, I was very intimidated and began to ask questions. My administrators told me there were going to be five

students in the classroom I was to develop. They went on to tell me that these students were never to be left alone, were not allowed in the hallways during passing time, would bring weapons and drugs to school, needed to be escorted by two adults at all times, were physically and verbally abusive, and that there would be a police officer and crisis interventionist in the classroom as protective measures. As my administrator finished this never-ending list, the last thing she mentioned was that these students also have learning deficits. This information was extremely intimidating and did not help me whatsoever in terms of academic capability and understanding what these students could do successfully. I decided to reach out to other teachers who had these students in the past for help. Unfortunately, the negativity continued and as I investigated further and began to realize that my classroom was going to be made up of the "bad kids" as these students were referred throughout our building.

My mind began to fill with anxiety and doubt, but I knew that the only chance I had for success with these students was to find a way to build positive relationships in the classroom. As I started to develop safe and trusting relationships with each student, their comfort level in communicating with me increased. Each student began to open up and shared with me what had happened to them in the past, and things that were currently going on in their lives. To be honest, I could not believe some of the stories they shared, and repeatedly I found my self in shock. They were only kids, and many of the issues they were forced to worry about are things that nobody should have to worry about, no matter the age. The more I found out, the more I began to understand why my students learned and behaved in the ways that they did. However, I still did not know how to help these students, but deep down I believed that I could.

My students and my teacher efficacy drew me into better understanding the trauma informed world. As a result of this never-ending investigation, my literature review seeks to answer the question: How can schools implement trauma informed practices to address the needs of students who have experienced trauma? In answering this question through an analysis of literature, the background of trauma and its effects will first be examined. There will also be a discussion about specific characteristics of students who have experienced trauma and how those characteristics affect a child. The literature review then includes a discussion about specific trauma informed practices that can be applied within the school setting. Next, this review will focus on students who have experienced trauma and that display social and academic challenges that may hinder their learning experience. These challenges pose difficulties for educators because they create an atmosphere that is not conducive to learning. This literature review will hopefully be helpful for educators, as it will explain in-depth the effects of childhood trauma and provide strategies so that educators are able to help students cope with traumatic stress and positively engage in their school experience.

Moving forward, it is important to note that trauma and its effects are a very complex issue and contain various components. Professionals vary in how they define trauma because trauma depends on various factors that make each person's traumatic experience individualized (Civitas, 2002/ 2004). Some of those factors are dependent on are the actual event the child experiences, the child's closeness to the traumatic event, the number of risk factors that confront a child, and the child's age. For the purpose of this paper, the author will reference trauma as an "exposure to an overwhelming event outside of the realm of normal human experience, resulting in excessive stress to the body, mind

and psyche" (Civitas, 2002/2004, p. 7). In addition to the Civitas definition of trauma, the author will use Jim Sporleder's, definition of trauma informed as "referring to all of the ways in which a service system is influenced by having an understanding of trauma and the ways in which it is modified to be responsive to the impact of traumatic stress" (Sporleder, Forbes, & LCSW, 2016, p. 33).

Fortunately, every school can create an environment that ensures that every child is healthy, safe, engaged, supported, and challenged (Brown, 2008). By building an environment that addresses the needs of the whole child, students will be given the opportunity to then uncover and strengthen their individualities. By implementing a trauma informed approach, the school creates awareness about the impacts of trauma on a child and motivates educators to implement trauma sensitive strategies to meet the needs of all students. A school that is trauma sensitive offers children an environment that is nurturing, developmentally appropriate, and educationally rich (Garbarino, Dubrow, Kostelny, & Pardo, 1992).

CHAPTER II: LITERATURE REVIEW

Background of Adverse Childhood Experiences Studies (ACEs)

"No one is immune: trauma occurs everywhere, in all populations and circumstances, at every socioeconomic level, across ethnic and cultural lines, within all religions, and at all levels of education" (Souers & Hall, 2016, p.391; ChildHelp, 2013).

Center of Disease and Control Kaiser Permanente Study

The exploration of childhood trauma and its effects stems back to the 1990's when Kaiser Permanente conducted the first wave of the Adverse Childhood Experience (ACE) study from 1995 to 1997. This study concluded that there is a direct correlation between ACEs and health and social problems in adults (Felitti et al., 1998). The first phase of this study included a survey of 9,508 people, which after certain exclusionary measures, the final data that was compiled and analyzed based on 8,056 adults. Exploring the demographics of the first phase of the ACEs study, of the 8,056 participants, the average age of participants included in this analysis was 56 years. The gender breakdown of participants was 52.1% women and 47.9% male. The cultural backgrounds of the 8,056 people included in this study were as follows: 6,432 white, 385 African American, 431 Hispanic, 508 Asian, and 300 classified their cultural background as other. It was noted that all participants had livable wages, health insurance, and were middle class or affluent (Sporleder, Forbes, & LCSW, 2016).

The participants were sent an ACE Study questionnaire by mail. This questionnaire included 17 questions about participant's personal experiences with childhood abuse and exposure to forms of household dysfunction while they were growing up (Felitti et al., 1998). At this time, there were seven categories of adverse

childhood experiences that were studied. Those areas were psychological, physical, or sexual abuse; violence against mother; or living with household members who were substance abusers, mentally ill or suicidal, or ever imprisoned. The original ACEs questionnaire also explored questions regarding risk factors and disease based on leading causes of morbidity and mortality in the United States. The risk factors included in this original survey included smoking, severe obesity, physical inactivity, depressed mood, suicide attempts, alcoholism, drug abuse, parenteral drug abuse, a high lifetime number of sexual partners, and a history of having a sexually transmitted disease. Disease conditions were also assessed and questions were included regarding the participant's health history of heart disease, cancer, stroke, chronic bronchitis, or emphysema, diabetes, hepatitis or jaundice, and skeletal fractures.

Based on participant's responses, researchers analyzed the number of adverse childhood experiences and then compared these to participant's responses of adult risk behavior, health status, and disease. Exposure to a category was counted if the participant responded "yes" to one or more of the questions in that category. Overall, the findings of the first phase of the adverse childhood exposure study showed that the impact of adverse childhood experiences on adult health status is strong and collective (Felitti et al., 1998). From the compilation of the results, the most common of the seven categories of childhood exposure was substance abuse in the household and the least prevalent category was criminal behavior in the household. From the results, the breakdown of percentages regarding the prevalence of childhood exposure to abuse and household dysfunction are psychological 11%, physical 10.8%, sexual 22%, substance abuse 25.6%,

mental illness 18.8%, mother treated violently 12.5%, and criminal behavior in household 3.4%.

In the next phase of the study the investigators correlated the number of childhood experiences with risk factors and disease in adults. The authors concluded that the results from the data related to the relationship of childhood exposure and risk factors suggested that as the number of childhood exposures increased as did the prevalence and risk for smoking, severe obesity, physical inactivity, depressed mood, suicide attempts, alcoholism, use of illicit drugs, injection of illicit drugs, greater than or equal to 50 intercourse partners, and history of a sexually transmitted disease (Felitti et al., 1998). When the research was considered in terms of adverse childhood exposures and disease, the percentages for the presence of the considered disease conditions were 3.8% ischemic heart disease, any cancer 1.9%, stroke 2.6% chronic bronchitis or emphysema 4.0%, and diabetes 4.3%. Similarly, the prevalence percentages for skeletal fractures, hepatitis or jaundice, and poor self-rated health were 3.9%, 6.5%, and 18.2%, respectively.

National Survey of Children's Health (NSCH) Study

Since the first rounds of the ACE study stem back to the 1990's, it is crucial that there is examination of current data regarding ACEs. According to research scientists Vanessa Sacks and David Murphey, there has been little change in the prevalence of childhood abuse and maltreatment. The team at Child Trends Organization states that, "one of the most sobering findings regarding ACEs is preliminary evidence that their negative effects can be transmitted from one generation to the next" (Sacks & Murphey, 2018, p. 2). The National Survey of Children's Health (NSCH) conducted a more current ACEs study. This study examined adverse childhood experiences across the

United States in the years of 2003, 2007, 2011/12, and 2016. The survey included 50,212 participants in all states including the District of Columbia. The survey was mailed to randomly selected households with one or more children. A parent or guardian who was familiar with the child completed the survey.

Similar to the *Kaiser Permanente Study,* a list of ACEs was used for data collection measures, but the NSCH expanded their list so that it included physical and emotional neglect, parental separation and divorce, exposure to violence outside of the home, living in unsafe neighborhoods, homelessness, bullying, and experience of income insecurity to fit the current societal challenges of the United States (Sacks & Murphey, 2018). The NSCH includes eight ACEs in their survey. The eight included the following (Sacks & Murphey, 2018, p.3):

1. Lived with a parent or guardian who became divorced or separated
2. Lived with a parent or guardian who died
3. Lived with a parent or guardian who served time in jail or prison
4. Lived with anyone who was mentally ill or suicidal, or severely depressed for more than a couple of weeks
5. Lived with anyone who had a problem with alcohol or drugs
6. Witnessed a parent, guardian, or other adult in the household behaving violently toward another (e.g., slapping, hitting, kicking, punching, or beating each other up)
7. Been the victim of violence or witnessed any violence in his or her neighborhood
8. Experienced economic hardship “somewhat often” or “very often” (i.e., the family found it hard to cover costs of food and housing)

To bring attention to the specific exposure areas, the data was analyzed and listed with percentages for the specific areas. From the 50,212 participants, 25% found it hard to cover basics like food or housing somewhat often or very often, 25% of the children had a parent or guardian divorced or separated, 9% of children lived with someone who has a problem with alcohol or drugs, 8% lived with someone mentally ill, suicidal or severely depressed, 8% of participants had a parent or guardian that served time in jail, 6% of children saw or heard a parents or other adults slap, hit, kick in their home, 3% of children had a parent or guardian who died, and lastly 4% of children were a victim of or witness to violence in their neighborhood (Sacks & Murphey, 2018).

From this data, the compilation of results also was broken down into the numbers of adverse childhood exposures that participants experienced. The percentage breakdown of the number of adverse childhood exposures participants experienced were as follows: 55% of children experienced zero ACES, 24% of children experienced one ACE, 11% of children experienced two ACEs, and 10% of children experienced three to eight ACEs (Sacks & Murphey, 2018).

Dr. Christopher Blodgett's Spokane, Washington Study

There are numerous studies that suggest there is a direct link between adverse childhood experiences and the effects on one's health. However, research also suggests there is a direct link between adverse childhood experiences and the effects on a child's academic success. Dr. Christopher Blodgett and a team of researchers were motivated by the previous ACEs studies that showed the relationship between ACEs and one's health and they wanted to bring attention to how trauma was affecting children's' performance

in schools. With this study the research team wanted to demonstrate how ACEs and trauma are prevalent and how this impacts the educational system (Souers & Hall, 2016).

In 2010 one of the first studies was completed on this newly researched topic of trauma in the schools of Spokane, Washington. This study included 2,100 children randomly selected in 10 elementary schools (Stevens, 2012). These children ranged from kindergarten through sixth grade. Teachers and administrators were given a survey and were asked to identify the traumatic events they knew the specific child had been exposed to without a discussion with that child. Based on an examination of the data, teacher and administrator responses included traumatic events dealing with divorced or separated parents, homelessness or a risk of homelessness, witnessing family violence, involvement with child protective services, a jailed family member, a family member abusing alcohol or other drugs, neglect, mental illness in a family member, exposure to community violence, or death of a parent or caregiver.

When examining results from the data collection, Blodgett and his research team discovered that the more adversities a child had, the more likely the child was to have failing grades, attendance issues, behavioral problems and health issues (Stevens, 2012). More specifically, there were 248 children who had experienced three or more adverse childhood experiences. When teachers and administrators reflected on the school behaviors of these students, they concluded that students who had three or more adverse childhood experiences were three times more likely to have academic failure. These students were also five times more likely to have severe attendance problems, six times more likely to have school behavior problems, and four times more likely to have poor health compared with children with no known trauma.

When examining the results more closely, they can be explained in terms of "dose-effect". This means that there was a relationship between the amount of ACEs and the amount of negative school behaviors. Explanations of the results in terms of dose-effect are indicated in the table below. From the results, a student with one adverse childhood experience was 2.4 times more likely than was a student with no ACEs to have serious behavioral issues, a student with two ACEs was 4.3 times more likely to have these issues, and a student with three or more ACEs was 6.1 times more likely to have these issues. Based on the results, Blodgett suggests the number of ACEs matters more than severity (Souers & Hall, 2016).

Table 1: Correlation Between Number of ACEs and Struggles with School and Health (Souers & Hall, 2018 p. 349)

	Attendance	Behavior	Coursework	Health
3+ ACEs	4.9	6.1	2.9	3.9
2 ACEs	2.6	4.3	2.5	2.4
1 ACE	2.2	2.4	1.5	2.3
No known ACEs	1.0	1.0	1.0	1.0

Effects of Trauma on the Developing Brain

Toxic Stress

As previously stated, the author of this literature review defines trauma as "an exposure to an overwhelming event outside of the realm of normal human experience, resulting in excessive stress to the body, mind and psyche" (Civitas, 2002/2004, p.7). A key factor to consider when examining trauma is stress. When children have prolonged

experiences of adversity without a caring adult in their lives, it creates high amounts of stress. This causes their body to activate its stress response system by releasing stress hormones. However, for a child who has experienced trauma, their stress response systems will release higher levels of stress hormones, which then become toxic to the human body. When one's stress response system is over activated as a result of exposure to chronic trauma, it is referred to as toxic stress (Sporleder et al., 2016). Toxic stress impacts a child developmentally and it directly affects their learning, memory, social skills, and aspects of executive functioning, which contributes to a student's success in the educational environment (Shonkoff & Garner, 2012).

Cortisol

Jim Sporleder refers to research from Harvard as he states, "adverse environments resulting from neglect, abuse, and/or exposure to violence can impair the development of executive function skills as a result of the disruptive effects of toxic stress on the developing architecture of the brain" (Sporleder et al., 2016, p. 21). One of the body's main disruptive responses on the developing brain is the stress hormone called cortisol. This hormone is produced in the adrenal glands along with adrenaline. Together, these stress hormones are released to prepare the body to be in survival mode.

Cortisol contributes to a human beings response to stress. In terms of exposure to trauma, a child who has experienced prolonged trauma will release more cortisol than a child who has not experienced trauma (Sporleder et al., 2016). Researcher William Steel references Yerkes– Dodson Law of 1908 and states, "the quality of our performance on any task, whether physical or mental, is related to our level of stress or emotional arousal" (Steele, 2017, p. 12). This is crucial for educators to understand because a

student's performance in school will be impacted if they are experiencing extreme high or extreme low levels of emotional arousal.

Neocortex

Stress impacts the entire human body, but there are three main areas of the brain that impact a child's learning, memory, mood, relational skills, and executive functioning skills (Shonkoff & Garner, 2012). These three areas are known as the neocortex, limbic system, and reptilian brain (Steele, 2017). The location of these areas in the brain from the top to bottom starts with the neocortex followed by the limbic system and reptilian brain, respectively (Sporleder et al., 2016). These three areas of the brain are interrelated, meaning that the health of the neocortex directly affects the limbic system and reptilian brain. The neocortex's main role when regulating stress is creating survival responses in the limbic system and reptilian brain. Other functions of the neocortex are language skills, reasoning skills, and logical thinking. Ultimately, this part of the brain contains the necessary functions needed to be a successful learner.

Limbic System

Once the neocortex is activated from stress stimuli, the next section of a healthy brain that is triggered is the limbic system. The limbic system is located in the middle of the brain and is commonly referred to as the "emotional brain" (Steele, 2017). In relation to the education setting, the limbic system helps a student remember past events, traumatic or not. It also helps a student recognize threats from our surroundings. Additionally, the neocortex assists a student in making choices based on their personal experiences. Simply put, the limbic system is one's behavioral response and to what the brain senses needs to happen in order to survive (Sporleder et al., 2016).

Reptilian Brain

The third part of the brain that is activated in relation to stress is called the reptilian brain. The reptilian brain's main role is survival when it comes upon dangerous situations (Sporleder et al., 2016). When faced with threat, this part of the brain influences the release of the stress hormone cortisol. When cortisol is released the effects of this hormone will last five to eight minutes. In this time, and using this part of the brain, a person makes a decision for safety from the stress stimuli. These instinctual reactions are also known as the fight, flight, or freeze stress response (Steele, 2017). Each response is an observable external behavior, which is specific to fight, flight, or freeze.

Top-Down Brain Control

Understanding the roles of the involved neuroanatomy is important due to the natural sequence of brain processes when an individual experiences trauma. In a healthy brain, which is one that has not experienced a traumatic event, it works in what is called "top-down" control (Sporleder et al., 2016). This allows the brain to work from the neocortex to the limbic system and finally to the reptilian brain. Dr. Dan Siegel, from the UCLA School of Medicine, refers to the neocortex area of the brain as the "upstairs brain." Overall, the "top-down" control or "upstairs brain" supports the development of executive functions.

Executive functions allow an individual to obtain working memory, mental flexibility, and self-control (Executive Function and Self Regulation, n.d.). In the classroom, proper development of executive functioning skills enables a student to be successful. A child's working memory allows them to retain and manipulate information over short periods of time. This means that a student posses organization skills, is able to

focus and concentrate, can store and retrieve information easily, remember multiple thoughts and directives, and think in sequential order (Sporleder et al., 2016). Another area of executive function is mental flexibility. A student who obtains mental flexibility is able to shift their focus in response to different demands, apply different rules across different settings, understand multiple meanings of concepts, and access and apply problem-solving skills that can be generalized to various situations. Lastly, a child whose brain has developed with the absence of trauma will be competent in their ability to have self-control. Possessing this executive function enables a child to prioritize and control impulsive actions or behavioral responses. When a student has self-control in the classroom, they are adept at completing one task and then starting another, controlling their behavioral impulses, understanding cause-effect, and thinking beyond the obvious.

Bottom-Up Brain Control

A child's brain that has experienced trauma will not be able to function in "top-down" control. Instead, their brain will process stress from the "bottom-up" approach (Sporleder et al., 2016). This means that their reptilian brain and limbic systems are processing stress stimuli instead of the neocortex. Again, Dr. Dan Siegel, refers to this other area of the brain as the "downstairs brain" (Steele, 2017). When a child's "midbrain" or "downstairs brain" is more dominant than their neocortex, it will inhibit their logical thinking, sequential thinking, memory storage, information retrieval, auditory processing, language processing, and organization. In short, it will impact their executive functioning skills, which will impact their success in the academic environment.

Difficulties in academic processes will cause various frustrations in a student. These frustrations are portrayed by a student's external or internal behaviors. Since the "bottom-up" brain control processes stress stimuli from the midbrain, these behaviors can be referred to as survival behaviors (Sporleder et al., 2016). When a student is in a constant state of survival, those behavioral responses can present challenges to professionals. However, by becoming trauma informed, educators will be able to recognize that "the majority of challenging behaviors of students are not willful acts but deregulated responses to the fears, worries, anxieties, and challenges they have or are experiencing" (Steele, 2017, p.15).

As previously stated, "bottom-up control" activates the limbic system and reptilian brain before the neocortex. When the limbic system is activated it prepares the body for different levels of arousal in response to stress stimuli. These different levels of arousal reactions and behaviors can be viewed on a continuum in which traumatized students move back and forth (Steele, 2017). The continuum ranges from high arousal called hyper arousal to hypo arousal, which is a lower state of nervous system arousal. When a student exhibits hyper arousal behaviors, the child will may portray anxiety tendencies, anger management difficulties, irritability, verbal and physical aggressiveness, defiance, impatience, attention/ focus difficulty, being easily startled, agitation, and anticipation or worry for something negative to happen. Overall, students who display hyper arousal reactions are disruptive in the classroom environment. However, on the other end of the continuum are hypo arousal reactions. These behaviors or reactions can be perceived as passive. For a student who has experienced trauma, these hypo arousal behaviors may involve avoidant behaviors, lack of movement, lethargy,

insensitivity, and helplessness. These students present themselves as "daydreamers" and disengage themselves to deal with the stress stimuli (Levine & Kline, 2008).

Students who are accessing and making decisions using their "downstairs" brain cannot physiologically self-regulate their emotions, which contributes to their inability to make appropriate decisions (Sporleder et al., 2016). When presented with stress, their learning brains are taken over by cortisol. For a child with healthy brain development, the cortisol is meant to affect the child for five to eight minutes so that they are able to make a behavioral response to the stimuli (Souers & Hall, 2016). However, students who have experienced trauma have high levels of cortisol in their brains and it is with them all of the time. This causes the child to be in a constant state of survival. Psychologists have classified these states of survival as fight-flight-freeze responses. The table below presents associated fight, flight, freeze behaviors that may be portrayed by children who have experienced trauma.

Table 2: Fight, Flight, and Freeze Behaviors (Souers & Hall, 2016)

Flight	Fight	Freeze
• Withdrawing • Fleeing the classroom • Skipping class • Daydreaming • Seeming to sleep • Avoiding others • Hiding or	• Acting out • Behaving aggressively • Acting silly • Exhibiting defiance • Being hyperactive • Arguing • Screaming/yelling	• Exhibiting numbness • Refusing to answer • Refusing to get needs met • Giving blank look • Feeling unable to move or act

wandering • Becoming disengaged		

Overall, students who are functioning in the “bottom-up” control system physiologically cannot learn. This causes students to react to stressful situations in fight, flight, freeze mode. The brain releases a flood of cortisol to the brain, which limits access to the neocortex. As a result, it inhibits the student’s ability to recall and comprehend information. This impacts the student’s speech, language, motor, and sensory areas of learning and processing (Sporleder et al., 2016). Students who are functioning from their “downstairs brain” will also have trouble sustaining focus and paying attention. This affects a child’s ability to multitask in the classroom environment, which can cause them to become easily frustrated and confused. Students may display these frustrations by hypo or hyper arousal behaviors. These deregulated behaviors impact a student's self control, which will negatively affect their ability to connect socially, make appropriate decisions, and problem solve.

Overall, brain development differs greatly between students who have experienced trauma versus those who have not (Sporleder et al., 2016). However, according to Debbie Zacarian, “neuroscience suggests the ability of the brain to "rewire itself," under certain conditions, giving us an enormous amount of hope in our work with students who have experienced trauma” (Zacarian, Alvarez-Ortiz & Haynes, 2017, p. 267). Therefore, examining the neuroanatomy of the brain and its effects on a student, educators will be able to better understand their student’s behaviors and academic difficulties from a developmental point of view. By applying this knowledge, educators

will be able to identify which trauma informed strategies will best fit the needs of students who have experienced trauma.

Effective Trauma Informed Practices

Resiliency

As mentioned earlier, trauma impacts a child's overall development, which results in incompetence in the school setting. However, these deficits do not mean that these children are "broken" (Gingsberg, 2015). They still have the ability to develop certain skills that will allow them to be successful when they are faced with adversity. The Resilience Research for Prevention Programs of Minnesota shares research results from researchers Ann Masten and Coatsworth regarding why many children develop competence even under chronic stress and adverse conditions. Together, the researchers found three key factors common to all competent children, regardless if they grew up in favorable circumstances. These three factors include the following (Benard & Marshall, 2012, p. 4):

1. A strong parent-child relationship, or, when such a relationship is not available, a surrogate caregiving figure who serves a mentoring role;
2. Good cognitive skills, which predict academic success and lead to rule-abiding behavior; and
3. The ability to self-regulate attention, emotions, and behaviors.

These three areas directly relate to the school environment. Educators with strong efficacy skills wish to improve these three areas for all students. However, victims of trauma will have difficulty in these three areas due to previously mentioned physiological reasons. More specifically for these students, the overall goal to foster academic

competence is to take that student from "surviving to thriving" in the educational setting (Sporleder & Forbes, 2016).

The American Psychological Association (APA) defines this notion as resilience. According the APA, resilience is the process of adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress. Resilience is a key component to help a student to overcome adversities that are in their lives. When a child is resilient, it allows a child to gain the "capacity to spring back, rebound, successfully, adapt in the face of adversity, and develop social, academic, and vocational competence despite exposure to severe stress or simply to the stress that is inherent in today's world" (Henderson & Milstein, 2003, p. 7).

If a child develops resiliency skills they are also developing what Henderson and Milstein refers to as protective factors. As stated in Henderson and Milstein's book, *Resiliency in Schools*, protective factors are resources, skills, strengths, and coping mechanisms in a person's environment that are available to help victims of trauma more effectively handle the stress and reduce the long-term effects of trauma. Protective factors can be classified as internal and external factors (Henderson & Milstein, 2003). Internal factors that promote resiliency are individual characteristics of a person. In contrast, external factors are those environmental characteristics of families, schools, communities, and peer groups that promote resilience. Below in Table 3 are specific explanations of internal and external protective factors that contribute to resilience in an individual: (Henderson & Milstein, 2003, p. 9)

Table 3: Resiliency Internal and External Protective Factors

Internal Protective Factors	**External Protective Factors**
• Gives of self in service to others and/or cause • Uses life skills, including good decision making, assertiveness, impulse control, and problem solving • Sociability; ability to be a friend; abilities to form positive relationships • Sense of humor • Internal locus of control • Autonomy; independence • Positive view of personal future • Flexibility • Capacity for and connection to learning • Self-motivation • Is "good at something"; personal competence • Feelings of self-worth and self-confidence	• Promotes close bonds • Values and encourages education • Uses high-warmth, low criticism style of interaction • Sets and enforces clear boundaries (rules, norms, laws) • Encourages supportive relationships with many caring others • Promotes sharing of responsibilities, service to others "required helpfulness" • Provides access to resources for meeting basic needs of housing, employment, health care, and recreation • Expresses high and realistic expectations for success • Encourages goal setting and

	mastery • Encourages prosocial development of values (such as altruism) and life skills (such as cooperation) • Provides leadership, decision making, and other opportunities for meaningful participation • Appreciates the unite talents of each individual

In short, a student's potential to develop resiliency depends on the ability of the environment to support children to develop their strengths, promote their natural abilities to cope with stress, and return to healthy functioning after exposure to ongoing trauma (Benson & Scales, 2009).

Trauma Informed Ideology

Every school can support students who have experienced trauma, violence, and chronic stress in its own unique way (Cole et al., 2005). Schools can create environments that guarantee every child is healthy, safe, engaged, supported, and challenged (Brown, 2008). These environmental components will foster various external characteristics of resilience in children. By providing an environment that addresses the needs of the whole child, students will be given the opportunity to then uncover and strengthen those internal

characteristics. Implementing a trauma informed approach creates awareness in a school environment about the impacts of trauma on a child and drives a school's motivation for implementing trauma sensitive strategies to meet the needs of all students. In doing so, a school that is trauma sensitive provides children with an environment that is nurturing, developmentally appropriate, and educationally rich and responsive to the needs of their student populations (Garbarino, Dubrow, Kostelny, & Pardo, 1992).

According to Massachusetts Advocates for Children and Harvard Law, there are six attributes that foster trauma informed ideology in a school. In Volume One of *Helping Traumatized Children Learn*, it states that the attributes of a trauma informed ideology are as follows (Massachusetts Advocates for Children, 2005, p.47):

- Leadership and staff share an understanding of trauma's impacts on learning and the need for a school-wide approach
- The school supports all students to feel safe physically, socially, emotionally, and academically
- The school addresses students' needs in holistic ways, taking into account their relationships, self-regulation, academic competence, and physical and emotional well-being
- The school explicitly connects students to the school community and provides multiple opportunities to practice newly developing skills
- The school embraces teamwork and staff share responsibility for all students
- Leadership and staff anticipate and adapt to the ever- changing needs of students

Flexible Framework

There are various ways a school can go about becoming trauma informed. However, each school has their own unique needs. Therefore, there is no "one size fits all" way to implement trauma informed strategies within the school setting (Massachusetts Advocates for Children, 2013). However, one trauma informed initiative was designed that can be tailored towards the specific strengths and needs of a school. Massachusetts Advocates developed the Flexible Framework for Children at the Harvard Law School in 2005 as part of the state's Trauma and Learning Policy Initiative. The goal of this initiative was to create awareness of trauma's impacts on learning and to guide schools in becoming trauma-sensitive learning environments. The Flexible Framework ultimately focuses on the needs of the school as a whole from a trauma lens, and addresses those needs by developing a measurable Action Plan that infuses trauma informed strategies (Massachusetts Advocates for Children, 2005). By undergoing examination of various questions and activities educators look at their school's environment and analyze which school operations are strengths or barriers to student success.

Massachusetts Advocates for Children state in Volume Two of *Helping Traumatized Children Learn*, "the goal of using this process is for schools to become trauma-sensitive learning communities where new ideas and expansive thinking are nurtured and where synergy and teamwork make it possible for complex issues to be explored" (Massachusetts Advocates for Children, 2013, p. 31). The process of implementing the Flexible Framework can be addressed by four reflective driving questions (Massachusetts Advocates for Children, 2013). From this guide, these

questions can be answered through various suggested activities. Each part of the process has particular intended outcomes, which will help a school or classroom develop an Action Plan that can be assessed. The Flexible Framework process questions, intended outcomes, and activities have been organized by the author in Table 4.

Table 4: Flexible Framework Process for Creating a Trauma Informed School

Driving Question	**Intended Outcomes**	**Activities**
1. Why do we feel an urgency to become a Trauma Sensitive School?	-Describe steps for converting the urgency that individual staff members feel into a strong foundation for getting the whole staff invested -Sharing learning with colleagues -Growing a strong coalition -Getting buy-in from formal and informal leaders -Establishing a steering committee -Reaching out to the district for support	-Sharing learning and a sense of urgency -Growing a coalition -Engaging leadership -Establishing a steering committee -Reaching out to the District
2. How do we know we are ready to create a Trauma-Sensitive Action Plan?	-Expand the sense of urgency felt by a small but significant coalition to an entire staff that is ready to develop and implement a trauma-	-Engaging the whole staff in shared learning -Surveying the staff

	sensitive Action Plan -Develop clear sense of the staff's priorities	-Identifying staff 's trauma- sensitive priorities for action (Trauma-Sensitive Vision questions) -Assessing staff 's readiness to become a trauma-sensitive school
3. What actions will address staff priorities and help us become a Trauma-Sensitive School?	-Committee needs to determine which of the priorities identified by staff should be addressed first. -Brainstorms a set of actions that will address that priority and also help the school become more trauma sensitive -Committee develops a plan to assess the effectiveness of implementation.	-Identifying trauma-sensitive action steps to address staff's priorities -Developing a school-wide Action Plan (Flexible Framework questions and Trauma-Sensitive Vision questions) -Planning for assessment

4. How do we know we are becoming a Trauma-Sensitive School?	-Focuses on measuring the effectiveness of the steering committee's Action Plan -Discusses ways to assess the broader culture change that should start to take place in the school -Observing and documenting whether or not the culture of the school is changing	-Evaluating outcomes of the Action Plan -Assessing progress toward whole-school trauma-sensitivity (Expanded Flexible Framework questions and Expanded Trauma-Sensitive Vision questions) -Sustaining the school-wide trauma-sensitive learning community

Within certain activity sections there are simple and expanded Flexible Framework and Trauma- Sensitive Vision questions (Massachusetts Advocates for Children, 2005). These questions are used to help professionals examine the school infrastructure. The founders of this framework state that the six discrete but interrelated school operations are:

1. Leadership by school and district administrators to create the infrastructure and culture to promote trauma-sensitive school environments
2. Professional development and skill building for all school staff, including leaders, in areas that enhance the school's capacity to create supportive school environments
3. Access to resources and services, such as mental health and other resources, that help students participate fully in the school community and help adults create a whole-school environment that engages all students
4. Academic and nonacademic strategies that enable all children to learn
5. Policies, procedures, and protocols that sustain the critical elements of a trauma-sensitive school
6. Collaboration with families that actively engages them in all aspects of their children's education, helps them feel welcome at school, and understands the important roles they play

It is vital to recognize that the simple and expanded versions of the Flexible Framework and Trauma Sensitive Vision questions are based on the above attributes (Massachusetts Advocates for Children, 2005). The attributes and associated questions help schools evaluate which efforts will lead the school toward the trauma-sensitive vision. Ultimately, they help the school identify which efforts are successful, and which need more work, as they pursue the kind of change they are seeking. Table 5 was developed by the author and explains the rationale and the specific questions addressed in the activities for parts two and three of the Flexible Framework process for becoming Trauma Sensitive (Massachusetts Advocates for Children, 2013).

Table 5: Flexible Framework & Trauma Visions Questions

Flexible Framework	**Trauma-Sensitive Visions**
-Ensure the developed Action Plans take into account all the important elements of school operations -Identify institutional barriers as well as strengths that may become relevant as the school works to achieve its intended goals	-Serve as a touchstone or reminder to keep the vision in clear view as schools identify priorities and plan, implement, and evaluate their action plans
Questions: • What role does school and/or district leadership play in implementation? • What professional development is necessary for implementation? • What resources, supports, or services need to be in place for students, families, and/or staff? • What classroom strategies—both academic and nonacademic—support implementation? • What policies, procedures, or	**Questions:** How will addressing a given priority or taking a specific action: • Deepen our shared understanding of trauma's impacts on learning and the need for a school-wide approach? • Help the school effectively support all students to feel safe—physically, socially, emotionally, and academically? • Address students' needs in holistic ways, taking into account their relationships, self-regulation, academic competence, and physical and emotional well-being?

protocols do we need to review, revise, and/or develop? • What do we need to do to ensure that families are active partners in helping with implementation?	• Explicitly connect students to the school community and provide them with multiple opportunities to practice newly developing skills throughout the school? • Support staff's capacity to work together as a team with a sense of shared responsibility for every student? • Help the school anticipate and adapt to the ever-changing needs of students and the surrounding community?

As schools move farther along in the process of being trauma sensitive and begin to develop their Action Plans the deeper they will reflect. Therefore, the Flexible Framework questions and Trauma Sensitive Vision questions will be revisited and more closely examined. In collaboratively answering expanded versions of these two sets of questions, professionals will analyze their answers using a trauma informed mindset (Massachusetts Advocates for Children, 2013). Using these two tools together allows this practice of thinking to infuse the culture and operations of the school to develop an Action Plan that can be assessed from a "trauma lens". Below Massachusetts Advocates for Children state in Volume Two *of Helping Traumatized Children Learn* states the specific Expanded Flexible Framework Questions and the Expanded Trauma-Sensitive

Vision Questions addressed in the activities for part four of the Flexible Framework process for becoming trauma sensitive:

Table 6: The Expanded Flexible Framework Questions

The Expanded Flexible Framework Questions Address:
How might each of the following components be serving as a support or a barrier to implementation: **What role does school and/or district leadership play in implementation?** Consider the following: • Actions by school and/or district leadership • Other initiatives already in place in the school • Supports for staff • Staffing arrangements **What professional development is necessary for implementation?** Consider the following: • Professional development topics for the full staff • Specialized topics for teachers and student support staff • How the school's own experts and those in the community can help staff extend and reinforce the learning that begins in trainings and enhances skills through mentoring and consultation **What resources, supports, or services need to be in place for students, families, and/or staff?** Consider the following: • The resources/services necessary for students, staff and/or families, including

linguistically, culturally, and clinically appropriate services

- Current collaborations with community providers, including ease of access and responsiveness, to determine which ones work well and which need to be reinforced/enhanced
- New services and collaborations that need to be built
- The barriers that currently exist to students' access to appropriate community
- Services that support their school success
- Procedures that support the frequent communication required for effective coordination between school-based and community-based behavioral health providers and teachers

What academic and nonacademic classroom strategies support implementation?

Consider the following:

- Academic and nonacademic approaches being used in classrooms
- Opportunities for student skill-building in the classroom and during unstructured parts of the day (lunch, recess, etc.)
- How to ensure that all educators throughout the building are consistently implementing and reinforcing the classroom approaches necessary to support implementation
- Opportunities for enhancing the curriculum/classroom approaches already in place in the school

What policies, procedures or protocols do we need to review, revise, and/or develop?

Consider the following:

- A review of all policies, procedures, or protocols to determine which need to be adjusted, added, or deleted
- A close review and adjustment of policies related to confidential communication

within the school or between the school and family

- A close review and adjustment of policies related to school discipline
- How to ensure that any changes to policies or procedures are adequately and accurately communicated to the entire school community

What do we need to do to ensure that families are active partners in helping with implementation?

Consider the following:

- What role families play in the school
- What information to share with families
- How to build on current family engagement efforts, including a review of the need to expand or revise these efforts
- How to ensure that the school is sensitive/responsive to particular cultural issues and needs, language barriers, etc.

Table 7: Expanded Trauma-Sensitive Vision Questions

The Expanded Trauma-Sensitive Vision Questions Address:

- **How have our actions deepened leadership and staff's shared understanding of how trauma impacts learning, relationships, and behavior, and why a school wide-approach is needed?**

Consider leadership's and staff's understanding of the following:

- Trauma is prevalent among the student population
- Trauma plays a major role in the difficulties student face in learning, behavioral,

and relationship issues students need support too develop skills to overcome these difficulties and succeed in school

- The goal is not to identify specific students but rather to create a whole-school environment that will support all students
- All students want to succeed, and educators need to look for the good intentions that underlie challenging behaviors

How have our actions helped the school effectively support all students to feel safe—physically, socially, emotionally, and academically?

Consider whether the school environment is:

- Experienced by students as a safe place, including
  - ❖ physical safety
  - ❖ social safety
  - ❖ emotional safety
  - ❖ academic safety
- Organized in such a way that all students' needs for safety are met
- Based on a structure that maintains the balance between consistent expectations of all community members with the flexibility of a caring learning environment characterized by predictable routines and respectful relationships

How have our actions helped us to address all students' needs in holistic ways?

Consider whether the school focuses on:

- Helping students succeed by supporting them to develop skills in four key areas that are critical to learning:
  - ❖ relationships with adults and peers

- ❖ self-regulation of emotions, behaviors, and attention
- ❖ sense of competence from achieving in academic and nonacademic areas
- ❖ physical and emotional health and well-being

- Avoiding "misunderstanding" students by recognizing the connection between a student's presentation and his/her real needs

How have our actions helped us to explicitly connect all students to the school community and provide multiple opportunities for students to practice newly developing skills?

Consider whether the school focuses on:

- Identifying ways to support students in making a positive connection to peers, adults, and activities
- Helping individual students develop the specific skills they need to successfully make these connections
- Collaborating with other staff to ensure a coordinated and comprehensive approach/plan for each student

How have our actions helped us to work together as a team with a sense of shared responsibility for all of our students?

Consider whether the school is a community of adults where:

- There is a structure and a culture in place that promote teamwork among educators
- Staff share responsibility for all students and address together the impact of trauma on learning
- There is a process and a structure in place that can help staff figure out what to do

when a child is struggling

How have our actions helped us anticipate and adapt to the ever-changing needs of our students and to impacts from the broader community?

Consider whether the school has in place:

- A process and structure to maintain equilibrium, help address changed circumstances, and recalibrate support as the needs of the school community shift

Following the process for becoming trauma sensitive is extensive at its fullest. However, the Flexible Framework offers tools to increase the ability of a school to develop their own trauma-sensitive approaches to meet the particular needs of all students (Massachusetts Advocates for Children, 2013). Therefore, this framework has been developed to be adapted for schools to use tailored to their needs. As a result, there are many different models that schools and different policy initiatives have developed and implemented that address the key characteristics of the Flexible Framework.

Walla Walla, Washington

Lincoln High School in Walla Walla, Washington is one of the most common success stories as a result from the implementation of the Flexible Framework. In 2010, Jim Sporleder, who at the time was principal of Lincoln High School, learned about the CDC Kaiser Adverse Childhood Experiences and the neurobiology of toxic stress (Sporleder & Forbes, 2016). Based on that workshop, Jim Splorleder knew that there were changes that needed to be made in his alternative school. The reason for this is that data collected from his 2009-2010 school year showed that there were 600 office referrals, 48 incidents involving police action at school, 798 suspension days, 50

expulsion days, and a 44.4% graduation rate. This data specifically fueled his efficacy to improve the ways school professionals interacted and addressed the needs of their high-risk population.

In order to make changes, Sporleder needed more information. Therefore, he attended various trainings on how to integrate trauma-informed and resilience-building practices in the school setting. Jim Sporleder teamed up with Natalie Turner, assistant director of the Washington State University Area Health Education Center in Spokane, WA. Together they came up with three essential changes that shifted the staff's mindset on student behavior from "What's wrong with you?" to "What happened to you?" (Stevens, J., 2012). In order to do so, Jim Sporleder states the staff at Lincoln High School implemented these three changes:

1. When a kid showed symptoms of stress, teachers intervened early to provide help – a quick talk, a longer chat with a school counselor, or intervention with a counselor at the adjacent Health Center.
2. For behavior that required more follow-up, such as not complying with a teacher after numerous requests, teens talked with Sporleder, who walked them through where they are in their decision-making ability: green, yellow or red. If they're fuming, for example, they're in the red zone, are unable to think clearly, need a day to think about things before they can discuss how to handle similar situations differently, and what actions will get them to that point.
3. In staff meetings, conversations switched from how to discipline kids to how to help them and their families.

In conjunction with these changes, Sporleder shares that their staff also focused on developing a relationship with students first and then worried about disciplinary measures later (Sporleder & Forbes, 2016). His rationale behind this was children biologically have a need to feel safe and secure, therefore a connection to adults in the school environment highlights the positive influence of relationships and student functioning.

In just one school year of implementing these changes, the staff at Lincoln High School noticed positive results. Overall, there were decreases in the numbers of negative behavioral data. For the 2010-2011 school year, there were only 320 office referrals, 17 incidents involving police action, 135 suspension days, 30 expulsion days, and the graduation rate went up to 54.6% (Sporleder & Forbes, 2016). Lincoln High School continued to collect data in these areas, and results continue to decrease. In conjunction to these successes, Lincoln High School also saw increases in their state assessment scores. Table 8 presents the subject areas and the schools assessment scores from 2012 and 2013 respectively:

Table 8: Lincoln High School State Assessment Scores

Subject Area	**Year 2012**	**Year 2013**
Reading	64.7	80.9
Writing	66.5	89.4
Algebra	24.7	51.7

Geometry	54.3	72.3
Science	21.2	57

Supportive Trauma Interventions for Educators (STRIVE)

In Boston, Massachusetts, the Child Witness to Violence Program developed a trauma informed initiative geared towards elementary students at Orchard Garden School. Researchers developed the STRIVE intervention which is aimed at helping schools and early education systems of care increase their capacity to identify, respond to, and optimally support the unique needs of young children who have been impacted by trauma exposure (McConnico, Boynton-Jarrett, Bailey, Nandi, 2016, p. 37). In order to do so, this framework focused on five core components, which are attachment, safety, trust, power, control, and reflective practice. With this focus, researchers' believe that staff will begin to understand and view student's behavior as source of communication for a particular need.

By focusing on the above core components, educators will be able to create an academic atmosphere that fosters children's strengths to promote resiliency, efficacy, a sense of self-worth, and positive well being (McConnico, et al., 2016). It is intended to be infused into an existing curriculum. Specific objectives of the STRIVE framework include (McConnico et al., 2016, p. 39):

1. Increase teachers' and school personnel's understanding and awareness of various kinds of trauma that young children are exposed to and ways this exposure impacts their development and academic functioning and performance.

2. Provide teachers with concrete strategies and interventions that they can use in the classroom to support their students and address the behavioral challenges they may exhibit.
3. Improve young children's ability to access the curriculum by providing a supportive school atmosphere in which children can feel safe, encouraged, and a sense of agency.

The STRIVE intervention was piloted among three grade levels ranging from kindergarten through second grade classrooms at the Orchard Gardens Pilot School for a total of approximately 250 students. In addition to these students, this trauma informed model also supported training of 12 educators. The STRIVE pilot intervention was conducted using the two following components (McConnico et al., 2016 p. 39):

1. Developing and implementing a training program educators that provides psycho-education about the impacts of trauma on young children and ways to incorporate trauma-informed practices when addressing challenging and disruptive behaviors in the classroom; and
2. Infusing a curriculum that promotes feelings of high self-esteem and efficacy among the children in this setting.

Addressing the components listed above, the STRIVE intervention provided trauma informed trainings, ongoing coaching and consultation, and a toolkit for educators (McConnico et al., 2016). The 12 educators involved in the pilot launch of this intervention received 10 hours of training that was geared towards building resiliency skills. These training sessions helped educators by increasing their knowledge base about the behavioral reactions that are typical among children who have been exposed to

prolonged trauma. Also, the trainings also provided educators with an understanding of environmental stimuli that may trigger a traumatic response from a child. Concrete strategies and resources for managing challenging behaviors as well as preventative strategies were provided to educators in the STRIVE Toolkit. Teachers learned about the importance and positive impacts as a result of a positive, caring, and supportive relationship

Data collection measures included standardized and non-standardized forms. There was comparison of data from pre-intervention to post intervention data (McConnico, et al., 2016). The collection of data from implementing STRIVE measured the impacts on children's functioning in the classroom, teachers' feelings about their knowledge of the impacts of trauma, and teachers' perceived level of confidence in their ability to implement trauma-informed practices in their interactions with students. This pilot intervention included observational and questionnaire data. The observational data was conducted using the Classroom Assessment Scoring System (CLASS). Two observations took place in each classroom. One observation took place before staff had training and another was several months after the various trainings. This observational method evaluated the quality of relationships in the classroom environment between students and teachers. The CLASS focuses on three domains: Emotional Support, Classroom Organization, and Instructional Support. These domains can receive scores ranging from 1 (low) to 7 (high). Finally, teachers were given a questionnaire prior to and at the end of the implementation of STRIVE. This questionnaire addressed teacher's knowledge about trauma, impacts of trauma, trauma-informed strategies, and their confidence in their ability to implement strategies they had learned. This questionnaire

also assessed teacher's perceptions of their own self-efficacy, addressing challenging classroom behaviors, identifying trauma, and responding to the needs of children with trauma.

Overall, the researchers found an increase in knowledge among educators comparing pre- and post-intervention self-report surveys (McConnico, et al., 2016). Below in Table 9 are the results from the pre-post intervention self-report surveys presented by the author:

Table 9: STRIVE Results

	Pre-Intervention	**Post-Intervention**
Teacher understands the effects of trauma on child development	56%	80%
Teacher understands the effects of trauma on a child's behavior	75%	90%
Teacher feels prepared to respond to children who have been exposed to trauma	44%	60%

In addition to the above data results, 70% of educators agreed/strongly agreed that the trauma-informed curriculum and professional development tools were an important investment of their time, and 60% agreed/strongly agreed that the trauma-informed classroom tools educators introduced help their students manage their emotions. From the two CLASS observations, researchers concluded significant differences. The two

domains that showed a positive change were Educational Support and Classroom Organization.

Making SPACE for Learning

The Childhood Foundation for Protecting Children in Australia developed a trauma informed movement for professionals working with traumatized youth. It is called "Making SPACE for Learning." The acronym SPACE is used to represent five key strategies to assist professionals in meeting the needs of all students (Australian Childhood Foundation for Protecting Children, 2010). The acronym stands for staged, predictable, adaptive, connected, and enabled. These five areas are interrelated and can be incorporated to support students individually and at the level of the classroom and across the whole school environment. This trauma informed initiative can be tailored for school's specific needs, however, the more areas of SPACE that are addressed by one strategy the more effective the outcomes.

Below is a table that has been developed by the author, which has been adapted from the *Making SPACE for Learning Guide*. Table 10 describes the rationale behind each letter of the acronym and specific strategies that address the individual component of the SPACE acronym (Australian Childhood Foundation for Protecting Children, 2010).

Table 10: SPACE Rationale & Strategies

SPACE & Rationale	**Strategies**

Staged -Brain development is sequential. Therefore, functions of the brain-body system only emerge after basic functions have developed and been consolidated with rehearsal and practice. Strategies that incorporate the "staged" concept start with a foundational concept that eventually increases in complexity by repetition and rehearsal.	-Support students to understand the link between their behavior and its impact on others. Use strategies that build understanding gradually. -Develop a shared code of conduct for all classrooms within the school. -Do a check-in at the start of each week and each term: "What do you remember from last week/term? What stands out? Why? What would you like to be the same this week/term? What would you like to be different?" -Utilize symbols for feelings to promote communication, for example colors, pictures, newspaper headlines, and signs.
Predictable -For children who have experienced trauma, uncertainty and unpredictability of routines and reactions from others increase the stress response in their bodies. Physiologically, an elevated stress response will impede on their success in the educational environment. In	-Have written plans for children that are made accessible to relevant school staff. These plans will help to ensure consistency and predictability for children both within and outside the classroom (E.g. responses to the child from yard duty teachers at lunchtime should be consistent

order to implement strategies that support predictability, professionals need to provide stability and familiarity. As a result, the activation of the student's response system will be reduced.	with the classroom approach). -Establish working plans to respond to the individual behavior of students that is based on understanding the meaning and function of the behavior. Share the plans with others who have a role in teaching or supporting the student in other contexts around the school. Work together to maintain the response plans consistent across settings. -Rehearse narrative structure by drawing the day's journey using different media including chalk, text, wool, and clay. -Integrate discussion about future activities to help make what is about to happen feel familiar. For example, mention and at times discuss activities, which will take place in the next session, tomorrow, next week, next term, next year, and next school.
<u>Adaptive</u> -Children who have experience trauma	-Develop plans in the lead up to excursions and camps that enable the

develop their own behavioral reactions in response to the adversities in their lives. These reactions are developed based on their physiological reaction to the chronic toxic stress and the experiences of relationships. By implementing adaptability strategies, it will give children the understanding that there are multiple meanings for behavior that can be generalized across environments and situations. It will assist students in understanding that there are multiple strategies for dealing with certain situations.	student to adjust and prepare for the new experience. -Utilize naturally occurring breaks during the day to interrupt patterns of trauma-based behavior, which reflect stress. -Create a calm box that contains items, which help children to feel comfort and ease. It may include sensory-rich objects, photos of favorite things, special toys, items that link the student to an important relationship or other visual reminders, which are age appropriate. -Provide explicit commentary, modeling or coaching of strategies to manage stressful situations. Model and discuss your own calming strategies within the classroom. -Integrate emotional literacy activities into the curriculum to support students to recognize, name, manage feelings and learn to respond to others' expression of feelings.

Connect	
-Children who have experienced trauma struggle with maintaining and being in healthy relationships. This may be due to their background or the absence of a good adult role model in their lives. Students who struggle with relationships will view any other relationships has a source of stress. By providing opportunities for students to connect to others and the environment will foster a feeling of safety and consistency. This will contribute to a more overall positive academic experience.	-Create spaces for the student to move into and still be part of the class group. Tactile corners in the classroom that have bean bags or a rocking chair, stress balls or a plush rug can support students to participate in class activity and calm down at the same time. -Give consideration to the benefit of the student being placed in another class on days where a casual replacement teacher is in attendance. The other class would be taken by a teacher with whom the student has an established connection. -Build in regular resources that enable the teacher to spend one-on-one time listening, talking and/or drawing with the student. -Involve students in helping to develop classroom rules. Keep the rules simple and short. Display them in visually appealing ways in the classroom. Build them into classroom activities to provide opportunities for rehearsal.

Enable Students who are impacted by trauma have difficulty with the way in which they perceive themselves. They have difficulties in their ability to identify, understand, and communicate their feelings. Due to their lower self-esteem, students will have difficulty identifying their qualities, attributes, and talents. Strategies addressing this area will foster personal connections and validate their experiences, feelings, thoughts, and actions from their past and present.	-Give children an opportunity to have a sense of agency and control in their own lives. Create structures within which children can make choices during their day. -Promote the strengths and interests of the child. -Provide praise that is concrete, specific and delivered with a neutral tone. This offers a student the possibility to learn to interpret positive reinforcement without hearing it through the lens of their past relational experiences. -Utilize an identity web to explore the strength of children's connections to their family, friends and people at school. Use the pictorial map to help them make sense of themes such as closeness and distance in relationships.

Chapter III: DISCUSSION AND CONCLUSION

Summary

The topic of trauma as it relates to education is an evolving ideology in the educational world, and surprisingly there is an abundance of literature that assisted the author in answering the question posed of this literature review. The question asked, "How can schools implement trauma informed practices to address the needs of students who have experienced trauma?" was supported by research related to the background of trauma, its effects on a developing child, and specific trauma informed practices that can be applied within the school setting. A review of literature documented that childhood trauma and its effects are more prevalent today than in the past. As a result, there are more children in the educational system that have been exposed to trauma and that are dealing with the effects of this exposure (National Survey of Children's Health, 2011/2012).

Current research suggests that one of the most severe impacts of trauma is on the child's developing brain. This contributes to an increase of cortisol levels which causes the brain to function from an emotional state first, which limits the child's access to executive functioning skills. As a result, students who have experienced trauma will exhibit difficulties in working memory, mental flexibility, and self-control. Having deficits in these areas will inhibit a student's overall ability to be successful in the school setting (Shonkoff & Garner, 2012). The literature also suggests that there are a variety of ways to help students who have experienced trauma within the school setting. However, there is no "one size fits all" strategy since every school has their unique needs and populations. Therefore, it is vital for educators to undergo various trainings about trauma,

engage in collaborative and reflective practice, and develop a measureable action plan to ensure a positive learning experience for all students (Massachusetts Advocates for Children, 2013).

Professional Application

The effects of trauma not only impact the child who has experienced the traumatic event, but also the child's classmates as well. As a result, there are increasingly more students with learning deficits and intense behavioral needs (Steele, 2017). In order to address those effects and meet the needs of all students, it is critical for educators to apply trauma informed strategies so that all students are able to be successful. The professional literature is filled with different ways (e.g., Benard & Marshall, 2012; Henderson & Milstein, 2003; Massachusetts Advocates for Children, 2005; Stevens, J., 2012; (Sporleder & Forbes, 2016; McConnico, Boynton-Jarrett, Bailey, Nandi, 2016; Australian Childhood Foundation for Protecting Children, 2010) professionals can go about becoming trauma informed. This many options can become overwhelming. However, each school will have their own way that they become trauma informed. To start, educators need to understand how trauma impacts the brain. Regardless if the child is a victim of trauma or not, this will help educators better understand all of their student's behaviors and academic tendencies. This will reshape educators' mindsets so they can understand the motives behind students' behavior and learning difficulties. By doing so, it helps school professionals narrow down and identify what it is the student really needs. These student behaviors and learning difficulties are a form of communication related to a need that requires intervention in order to overcome.

It is vital for professionals to increase their awareness about the prevalence of trauma within their community. This will help educators pinpoint specific students who may need direct intervention as well as school-wide interventions. By reflecting on the prevalence of trauma, professionals will be able to collaboratively develop priorities to positively change in their community. Using these prioritized changes, professionals will be able to develop an action plan that can be assessed to ensure that the interventions are working. The professional literature suggests that school action plans should promote strong adult-child relationships, self-regulation, and good cognitive skills for all students (Benard & Marshall, 2012).

Limitations of the Research

Sufficient research is available to explain the prevalence of trauma and its effects on children. However, there is little research describing the prevalence of trauma and its effects on different student sub-groups within the school setting. For example, how does trauma affect females versus males? How does age affect someone who has experienced trauma? What is the prevalence of trauma amongst different ethnicities in the United States? Does a child's cultural background affect the way they deal with trauma?

Most of the research (e.g., Sporleder & Forbes, 2016; Massachusetts Advocates for Children, 2005; Henderson & Milstein, 2003; McConnico, Boynton-Jarrett, Bailey, Nandi, 2016; Australian Childhood Foundation for Protecting Children, 2010) that has been conducted on the effectiveness of trauma informed strategies has been collected through self-report data collection measures. Therefore, another limitation of research is that the literature is mostly anecdotal in nature rather than being based on empirical data. This may contribute to subjectivity in the research because the participants of various

studies can choose how much or how little information they want to share. Along with this limitation, the few quantitative studies that were found in the literature consisted of very small sample sizes. These limitations of research pose difficulties when deciding which strategies are most effective.

Implications for Future Research

More research needs to be conducted to provide more information about the prevalence of trauma and its effects on different sub-groups within the school setting. This would be beneficial for professionals working with children because they would be able to better understand the impacts of trauma as it relates to the child's cultural background, gender, socioeconomic status, family dynamic, etc. With this understanding, professionals would be more informed and would be able to understand the impacts of trauma from a community perspective. This could help professionals within the school system to serve as a stronger resource for their students and their families.

Conclusion

In retrospect, if I had known what I know now about the importance of trauma awareness and trauma informed strategies, I can only imagine how much more success I would have had with my students. Also, I can only imagine how much more of a resource I could have been for my colleagues. I believe that I could have changed my colleagues' negative perception of these "bad kids". If I returned to the school where I encountered countless children with lives impacted by trauma there are so many things that I know now I wish I could share with those colleagues. I would explain to them that before any academic learning can take place the students needed a positive and caring adult in their lives. These students needed a teacher to ignore the demands of fast-paced curriculum

guides and preparation for state assessments. These “bad kids” needed someone to take the time to help them learn how to interact with and tolerate others, process their emotions, and express their feelings. Above all else, these students needed someone to teach them how to understand and love themselves.

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