

**Mending Cycles of Childhood Trauma:
The Role of Supportive Adults in the Classroom**

Colleen A. O'Donnell

Art Education Program, Kendall College of Art and Design
of Ferris State University

Abstract

Since the development of the Adverse Childhood Experiences (ACEs) test by Dr. Vincent Felitti et al. in the late 1990's, there has been a growing body of evidence confirming the prevalence of trauma and abuse experienced by children. The negative effects of this trauma upon the developing child's brain has been well researched and documented. These changes in development can have both immediate and long-lasting detrimental effects on physical and cognitive health, and can eventually lead to premature death. According to research, these negative effects can be mitigated by fostering resilience through forming supportive relationships with trusted adults. Since many hours of children's lives are spent at school, this offers a unique opportunity for educators to fill this role and help mend the cycle of childhood trauma that so often gets repeated through generations. This thesis explores types of trauma, its effect on the developing brain, and the negative health outcomes that may occur if left untreated. It offers teachers practical strategies to implement in the classroom for students who have experienced trauma.

Key Words: childhood trauma, ACEs, classroom strategies, brain development, intergenerational trauma, effects of trauma.

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Mending Cycles of Childhood Trauma:

The Role of Supportive Adults in the Classroom

I have been lucky in my life to have experienced very few trauma-related events. The limited traumatic events that occurred, happened after the formative years of my youth. None of these trauma events were chronic or complex, but rather isolated incidents. Because of this fact, in combination with the supportive relationships I had with family and friends, I have not had any lasting adverse health-related effects. However, as a teacher I have worked with many students over the years who have experienced trauma in more frequent and severe ways. Often-times I would be notified by parents, guardians, or counselors of this trauma so that I could be better prepared to effectively teach these students. Sometimes, this information was never directly revealed, and yet through the observation of certain behaviors, I could render an educated guess that significant trauma had occurred. Based on the anecdotal evidence I have observed in my 12 years of teaching experience, I can say that children who experience trauma are affected in many adverse ways. Research confirms this, as countless studies have shown the negative effects of childhood trauma (Felitti et al., 1998; Brown et al., 2009; Kelly-Irving et al., 2013; Shonkoff & Garner, 2012). These studies show a direct correlation between adverse childhood experiences (ACEs) and negative mental, physical, and emotional health. These effects are often both immediate and long-lasting, following children into adulthood. Repetitive and complex trauma during childhood can affect such things as brain development, addiction tendencies, and overall health which can eventually even lead to premature death (Kelly-Irving et al., 2013; Brown et al., 2009).

In addition to my desire to better serve my students, my own interest in examining trauma and its effects arose from my mother's personal experience with childhood trauma. This trauma

was inflicted by her parents and included verbal, emotional, and physical abuse. This toxicity also extended to the previous generation. My mother's maternal grandfather (my great-grandfather) lived in their household and contributed to this abuse as well. The realization that my seemingly loving and caring maternal grandparents had hurt my mother so deeply was sad and shocking to me. The terrible events of my mother's childhood stood in stark contrast to the childhood that she provided for me. Research shows that when children grow up in toxic home environments, they are more likely to continue this cycle of toxicity into adulthood within their own families, and yet I experienced no childhood trauma of my own (Felitti, et al., 1998). During many conversations, I asked my mother how she and my father were able to stop the cycle of abuse perpetrated by her parents and grandfather, giving my sister and I such a healthy and happy childhood. She mentioned a handful of important adults in her life who offered her support and kindness; a caring neighbor, and her grandmother on her father's side. She also said without a doubt, observing the healthy relationship between my father's parents (her in-laws), as well as the way they demonstrated how a loving and respectful parent to child relationship should look, stood in stark contrast to her own experience. These relationships and role models became the main influences on her ability to stop the cycle of trauma from reoccurring.

This revelatory news led me to thinking about my own students and their traumatic experiences. Relationships play a key role in children's development and ability to buffer and overcome the effects of risk factors such as adverse childhood experiences (Osher et al., 2018). I wondered: what could my role as a teacher be in forming these important relationships with my students? Could I help reduce the likelihood of my students who have experienced trauma from continuing the vicious cycle and inflicting trauma upon future generations? With this thesis, I seek to explore mending cycles of childhood trauma by means of supportive and caring teacher-

student relationships. The goals of this research are to first define trauma and its immediate and lasting effects on the brain and body. I will then explore how this affects learning, and what role teachers can play in positively influencing children who have experienced trauma.

Defining and Identifying Trauma

Types

The National Institute of Mental Health (USA) defines childhood trauma as: “The experience of an event by a child that is emotionally painful or distressful, which often results in lasting mental and physical effects.” Common causes of childhood trauma include, but are not limited to: accidents, bullying and cyberbullying, chaos or dysfunction in the home, death of a loved one, emotional abuse or neglect, physical abuse or neglect, separation from a parent or caregiver, sexual abuse, stress caused by poverty, sudden and/or serious medical conditions, violence, and war/terrorism (retrieved from www.lookthroughtheireyes.org). These types of traumatic events are often categorized and divided into groups such as interpersonal/non-interpersonal, direct/observed, and acute/chronic/complex.

Interpersonal trauma is defined as a traumatic event caused by another person, including strangers, acquaintances, friends, or family members (Thomas et al., 2021). Examples of interpersonal trauma include physical, emotional, and sexual abuse, as well as bullying and neglect. Non-interpersonal trauma is defined as a traumatic event that was not caused directly by another person (Thomas et al., 2021). This includes natural disasters, accidents, war or terrorism, death of a family member or close friend, and the witnessing of trauma inflicted upon another person. In a study done of nearly 3,000 adult U.S. citizens, individuals were asked to respond to a survey which questioned whether they had ever experienced trauma, and if so, what type (Kilpatrick et al., 2013). Almost 90% had experienced trauma with the majority, 53.1%,

experiencing a form of interpersonal trauma in their childhood or adulthood (Kilpatrick et al., 2013).

Direct trauma is defined as any traumatic event that happens physically or psychologically to an individual first hand. This can include physical, verbal, or sexual abuse, or neglect. Indirect trauma is defined as a traumatic event that was witnessed by an individual, but wasn't inflicted directly upon them. For example, experiencing the death of a close family member or friend, the imprisonment of a member of the household, or witnessing the physical or psychological abuse of someone in the household such as a sibling or parent.

Traumatic events of any variety can also be categorized as acute, chronic, or complex, with each causing varying effects on the individual. Acute trauma is defined as an isolated, or one-time event and is much less likely to have long-lasting adverse effects than the other two. Chronic trauma is defined as a single type of trauma that is repeated or ongoing. Complex trauma is the exposure to varied and multiple traumatic events. Both chronic trauma and complex trauma can contribute to toxic stress in childhood. "Toxic stress in childhood is severe, prolonged, or repetitive adversity with a lack of the necessary nurturance or support of a caregiver to prevent an abnormal stress response" (National Scientific Council, 2014). This toxic stress can inhibit natural and positive methods of coping as well as lead to risky behaviors during childhood such as smoking or other drug use (Ryan et al., 2017).

ACE Studies

ACE, which stands for adverse childhood experience, is a term used to describe abuse, neglect, or other forms of trauma experienced during the period of birth to 18 years of age (Sciaraffa et al, 2017). In a groundbreaking study conducted by the Center for Disease Control (CDC) and Kaiser Permanente, Dr. Vincent Felitti and his colleagues studied the link between

ACEs and health and well-being later in life (Felitti et al., 1998). The study included over 17,000 adult California residents age 19-60. Participants completed surveys inquiring about their childhood experiences prior to age 18 as well as their current health and behaviors (Felitti et al., 1998). The survey studied seven ACE categories: psychological abuse, physical abuse, sexual abuse, violence against the mother, living with household members who were substance misusers, living with household members who were mentally ill or suicidal, and living with household members who were ever imprisoned (Scott, 2020). This original ACEs study has generated numerous additional studies and research continues to grow in this area (Sciaraffa, 2017). In Figure 1, we can see how the CDC's current ACEs test has been expanded from the original seven categories, adding questions pertaining to neglect and divorce.

Figure 1

Current ACE Questionnaire

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household **often** ...
Swear at you, insult you, put you down, or humiliate you?
or
Act in a way that made you afraid that you might be physically hurt?
Yes No If yes enter 1 _____
2. Did a parent or other adult in the household **often** ...
Push, grab, slap, or throw something at you?
or
Ever hit you so hard that you had marks or were injured?
Yes No If yes enter 1 _____
3. Did an adult or person at least 5 years older than you **ever**...
Touch or fondle you or have you touch their body in a sexual way?
or
Try to or actually have oral, anal, or vaginal sex with you?
Yes No If yes enter 1 _____
4. Did you **often** feel that ...
No one in your family loved you or thought you were important or special?
or
Your family didn't look out for each other, feel close to each other, or support each other?
Yes No If yes enter 1 _____
5. Did you **often** feel that ...
You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?
or
Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
Yes No If yes enter 1 _____
6. Were your parents **ever** separated or divorced?
Yes No If yes enter 1 _____
7. Was your mother or stepmother:
Often pushed, grabbed, slapped, or had something thrown at her?
or
Sometimes or often kicked, bitten, hit with a fist, or hit with something hard?
or
Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?
Yes No If yes enter 1 _____
8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
Yes No If yes enter 1 _____
9. Was a household member depressed or mentally ill or did a household member attempt suicide?
Yes No If yes enter 1 _____
10. Did a household member go to prison?
Yes No If yes enter 1 _____

Now add up your "Yes" answers: _____ This is your ACE Score

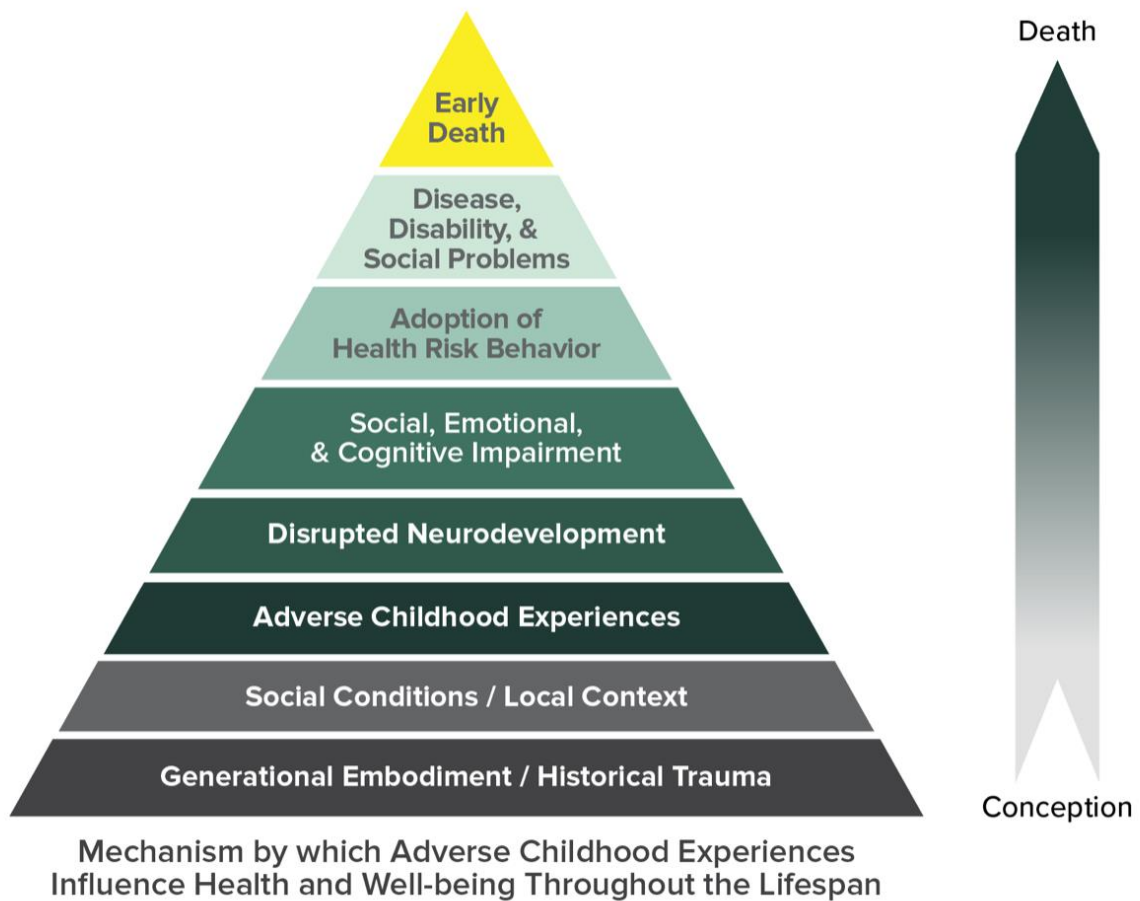
Note: This is the current questionnaire to determine an individual's ACE score, or the number of adverse childhood experiences in their lifetime.

The results of the Felitti study were important in two ways: researchers discovered that the survey-identified ACEs were common, and that there was a strong correlation between ACEs and health and social problems later in life (Sciaraffa, 2017). Only about one third of the respondents had no ACEs. The results revealed that nearly 60% of the participants had experienced at least one ACE, and one fourth reported three or more categories of childhood trauma exposure. Additionally, researchers discovered that ACEs were often interrelated and tended to cluster, with 87% of those surveyed having experienced one ACE also experiencing a second ACE. (Felitti et al., 1998). The second component of the survey which asked participants to report their current health revealed a strong correlation between ACE scores and health risks. As ACE scores increased, so did the chances of experiencing “ACE attributable” problems.

Those surveyed with multiple ACEs were more likely to experience health risks including physical inactivity and obesity, depression and suicide attempts, multiple sexual partners and sexually transmitted diseases, and alcohol and substance abuse when compared to participants who reported no ACEs (Felitti, 1998). Further, due to these increased risks, the number of ACEs was also associated with many of the leading causes of morbidity and mortality in the U.S., including heart disease, chronic lung disease, cancer, and liver disease (Felitti, 1998). From these findings, Felitti and his colleagues developed the ACE pyramid which represents the conceptual framework for the ACE study (see Figure 2).

Figure 2

ACE Pyramid Representing the Conceptual Framework for the ACE Study



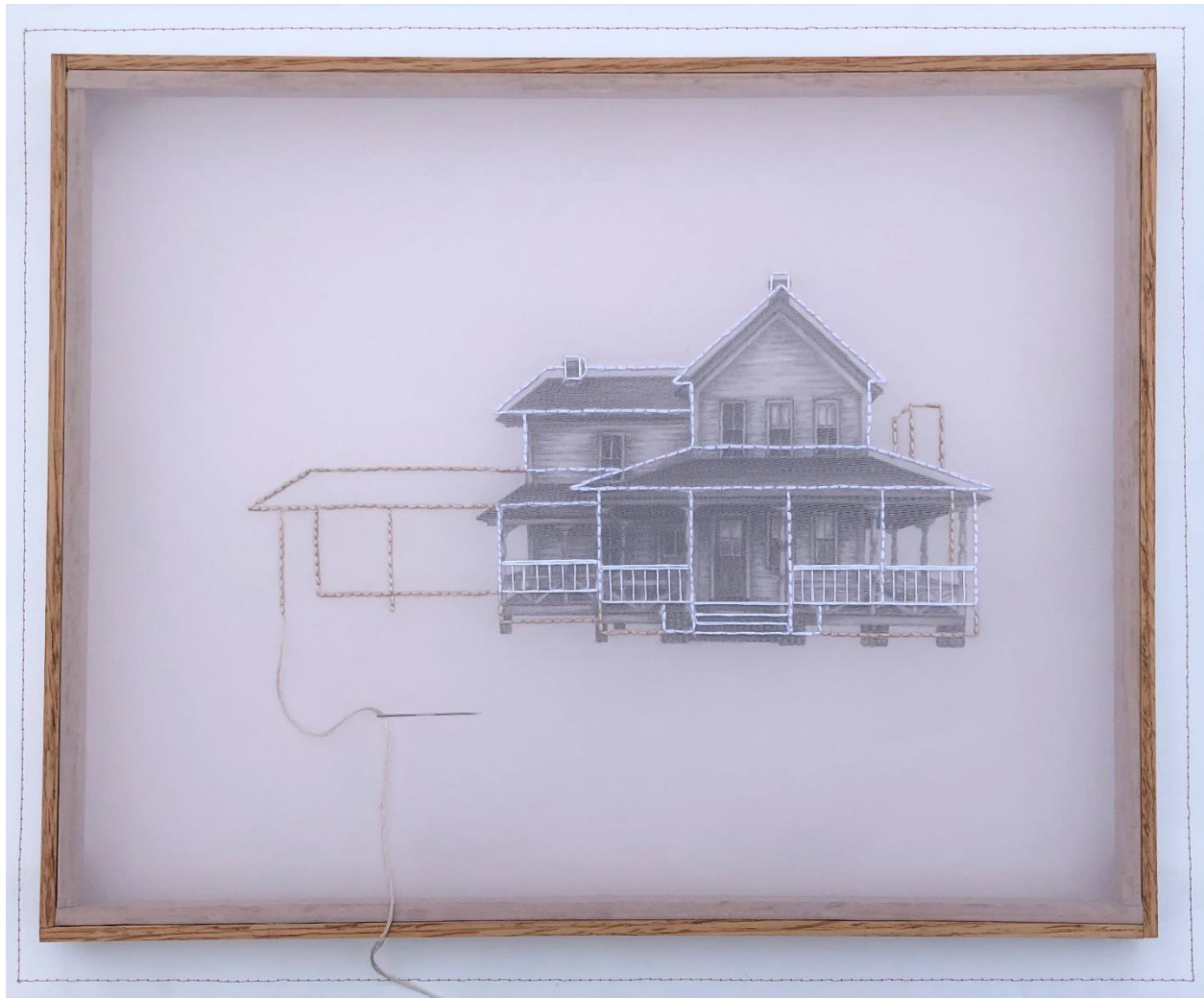
Note: This pyramid demonstrates the potential path for negative health outcomes when adverse childhood experiences occur from the time of conception to death.

More recent studies using ACE tests have also shown related risks specific to children and adolescents (Sciaraffa, 2017). In a study of elementary students at Washington State University in 2012, Dr. Christopher Blodgett found that “children with at least three ACEs were three times more likely to experience academic failure, four times more likely to experience health problems, five times more likely to experience attendance problems, and six times more likely to have behavioral problems” (Sciaraffa, 2017).

After learning about the types of trauma and the ACEs test, I was very curious to have my mom take the test. From our previous conversations I guessed that she may score a 2 or 3 at most. She scored a 5. This score made me feel both deeply saddened, and also in awe of the resilience that she had to become the amazing mother that I knew and loved. Knowing that she experienced this abuse in her own home, inspired me to create my piece “Hand-sewn Haven” (see Figure 3). The subject of this mixed-media piece is the home of my grandparents on my father’s side. My paternal grandparents acted as role models for my mother, showing her the type of relationship with each other, and with their children, that she never had with her own parents but always wanted. Not only was their home a safe space for her, but it was always such a warm and comforting place for my sister and I throughout our childhood. Mixing mediums inspired by both my grandpa and grandma O’Donnell, I first used burnt remnants of wood from my grandpa’s woodshop to draw their home in its original state when they purchased it from my great-grandfather. Layered over top and inspired by my grandma who loved to sew, sheer fabric is stitched to complete their home as it looks in present day. As my research continued and I learned of the many negative effects of ACEs, I kept coming back to this “Hand-sewn Haven” as a reminder of the good that my mother also had in her life that helped mend her childhood trauma.

Figure 3

“Hand-sewn Haven”



Note: Mixed media piece depicting the author's paternal grandparent's home. The first layer is a charcoal drawing of the home in its original state, completed using burnt remnants from her grandfather's woodshop. The top layer is stretched sheer fabric with hand-stitching that depicts the home in present day.

Effects of ACEs

Stress

From birth, the developing brain responds and adapts to various types of stimuli and stressors (Sciaraffa, 2017). While some levels of stress are positive, exposure to severe or chronic stress early in a child's life can impact the brain structure at the cellular level and negatively impact learning ability (Ryan et al., 2017). The architecture of the brain in children is affected by increasing levels of a three-tiered model of stress labeled as positive stress, tolerable stress, and toxic stress (Shonkoff & Garner, 2011).

Positive stress is described as mild to moderate stress that is short-lived. This type of stress may result in increased heart-rate and mild changes in stress hormone levels (Sciaraffa, 2017). Examples of positive stress are frustrations associated with learning a new skill, getting an immunization, or the anxiety around the first day of school. Positive stress provides important opportunities to practice healthy, adaptive responses to adverse experiences, and are seen as growth-promoting for the developing brain (Shonkoff & Garner, 2011). Positive stress in childhood is viewed as a necessary and important part of growth, and when accompanied by a supportive and caring adult to help the child cope with the stressor, provides a protective effect that facilitates the brain's ability to return the stress systems back to baseline status (Ryan et al., 2017).

Tolerable stress is stronger than positive stress, and poses the risk of more serious long-term negative outcomes (Sciaraffa, 2017). Examples of non-normative tolerable stress events are the death of a family member, a serious illness or injury, being displaced from the home, a contentious divorce, or a natural disaster. These types of events present a great magnitude of adversity or threat to the child, and therefore create a greater potential for negative physiological

health outcomes later (Shonkoff & Garner, 2011). In these cases, protective adult relationships and a safe environment after the event are essential to facilitate the child's adaptive coping skills, to promote a return to the brain's baseline level, and to make these events tolerable (Shonkoff & Garner, 2011).

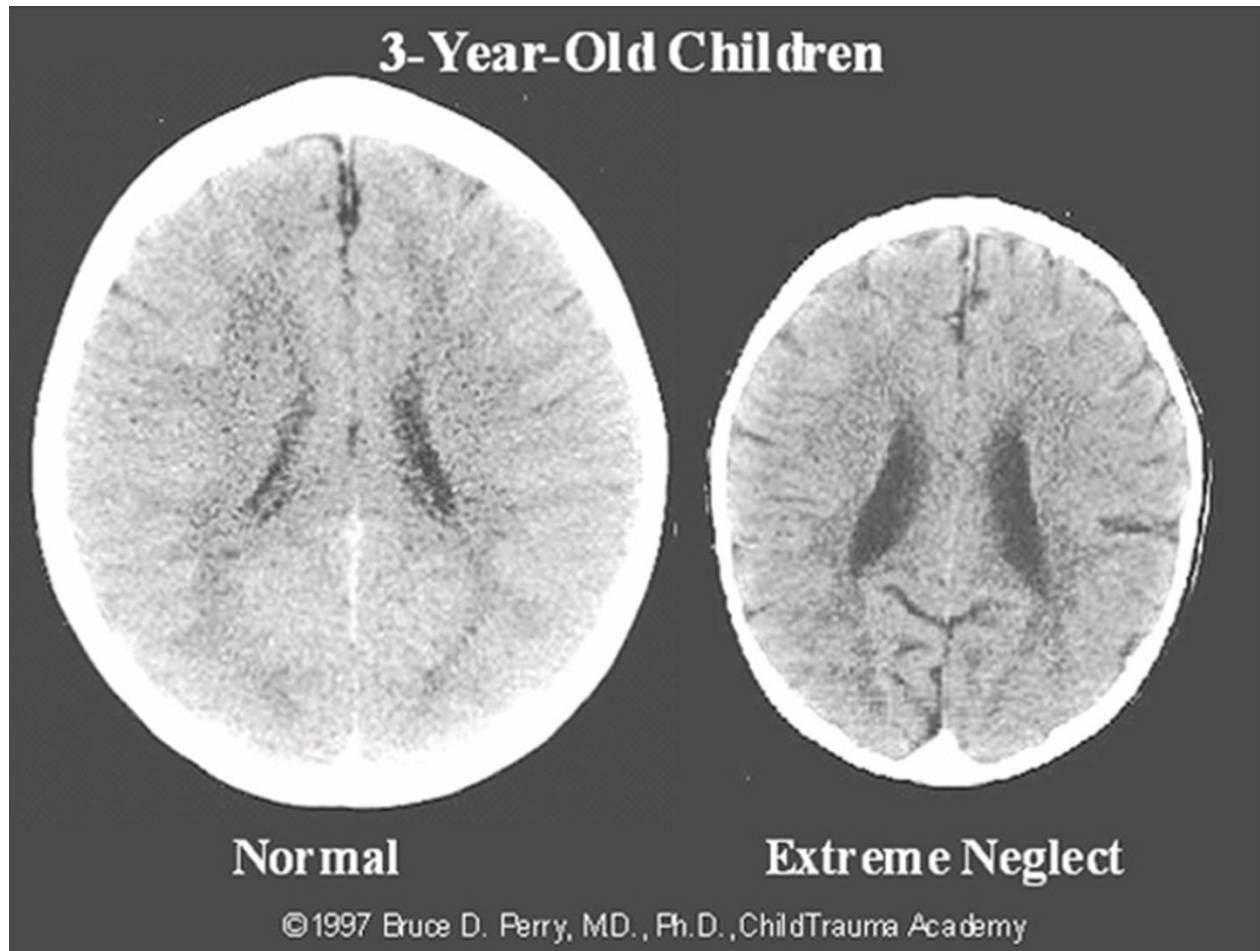
Toxic stress is the third and most dangerous form of stress experienced by the brain and body (Shonkoff & Garner, 2011). Toxic stress results from frequent, strong, or prolonged stress events in the absence of the buffering protection of a supportive adult relationship (Sciaraffa, 2017; Shonkoff & Garner, 2011). According to the Adverse Childhood Experiences Study, toxic stress can include such ongoing situations as child abuse or neglect, parental substance abuse, and maternal depression (Felitti, 1998). When toxic stress occurs in a child's life, it creates a disruption of brain circuitry and other organ and metabolic systems. This disruption can lead to physiologic dysregulations, or changes in the body, which in turn can cause impairments in learning and behavior, and create the roots of chronic physical and mental illness (Shonkoff & Garner, 2011).

Brain Health and Development

In order to examine how these adverse reactions occur in the brain, it's important to understand the body's hypothalamic pituitary adrenocortical axis, or HPA axis. This HPA axis is a complex system in charge of stimulating the release of cortisol, the "stress" hormone, within the body (Sciaraffa, 2017). This intricate system consists of feedback loops that help keep physiological homeostasis, or a steady balance within the body (Sheng et al., 2021). Cortisol impacts areas of the brain involved in memory, attention, and regulation of thoughts and emotions (Sheng et al., 2021, Sciaraffa, 2017). In a typically developing system, the HPA axis has a built-in negative feedback loop that shuts off the release of cortisol. However, in a child

who experiences toxic stress, the HPA axis causes this cortisol response to become dysregulated, making it potentially less efficient and effective. Thus, ACEs can lead to an “overly reactive stress system and a fear based, reactive, hyperalert system of interaction” (Ryan et al., 2017, p. 113). These changes in the HPA axis can also alter the functioning of the brain causing maladaptive cognitive responses, disassociation, and absence of awareness (Ryan et al., 2017).

Due to the plasticity of the fetal, infant, and early childhood brain, persistently elevated levels of stress hormones can disrupt its developing architecture, actually changing the size of the brain (National Scientific Council of the Developing Child, 2014). Exposure to toxic stress has been shown to alter the size and make-up of the amygdala, hippocampus, and prefrontal cortex (PFC) of the brain contributing to functional differences in stress response, learning, memory, and executive functioning (Shonkoff & Garner, 2011; Anda et al., 2005). In Figure 4, we see the devastating impacts of toxic stress on the developing brain. In this CT scan of the brains of two 3-year-old children, there is a drastic size difference when seen side-by-side. The image on the left is of a normal developing child, while the much smaller brain on the right is that of a child who has experienced extreme neglect (Perry & Pollard, 1997). While chronic stress can create overactivity in the amygdala, comparable levels of stress can actually lead to a loss of neurons and neural connectivity in the hippocampus and PFC (Shonkoff & Garner, 2011).

Figure 4*CT Brain Scans*

Note: Side-by-side brain size comparisons depicting the difference in brain development between a normal developing 3-year-old child and a 3-year-old child that has experienced extreme neglect.

The amygdala is an activator of the physiological stress response, and part of its key functioning is in the mediation of fear and anxiety (Sheng et al., 2021). When a child experiences significant stress in early development, it can trigger amygdala hypertrophy, or an increase in size and activity (Shonkoff & Garner, 2011). This can then lead to a hyperresponsiveness to even low stress situations, creating a chronically activated physiological stress response with increased potential for fear and anxiety (Ryan, Lane, & Powers, 2017; Shonkoff & Garner, 2011).

The hippocampus also plays an important role in the stress response system, as it can turn off elevated levels of cortisol (Sheng et al., 2011). Levels of toxic stress diminishes the hippocampus' ability to do this which can lead to impairments in memory and mood-related functions. In addition to this, “toxic stress limits the ability of the hippocampus to promote contextual learning, making it more difficult to discriminate conditions for which there may be danger versus safety” (Shonkoff & Garner, 2011, p. e236).

Like the hippocampus, the prefrontal cortex (PFC) also has a role in turning off cortisol in the body (Sheng et al., 2021). Without the proper development of the PFC, children can experience extreme difficulties functioning in the world around them. The PFC has the important role of regulating autonomic balance, and developing executive functions such as working memory, decision-making, behavioral self-regulation, and mood and impulse control (Shonkoff & Garner, 2011). The PFC is also known to aid the stress response system by suppressing amygdala activity when necessary, thus allowing children to develop more adaptive responses to stressful experiences. When chronic stress is experienced however, changes in connectivity within the PFC may occur, which impairs its ability to suppress this process (Shonkoff & Garner, 2011).

Due to the interconnectivity of these three parts of the brain, the impact of toxic stress to even one part can have detrimental effects on a child's development. The results can be a perfect storm of both an increase in reactivity to even mild adverse experiences and a decrease in the ability to effectively cope with future stress (Shonkoff & Garner, 2011).

Physiological Health

When ACEs occur and change the architecture of the brain, physiological health can be affected both immediately and later into adulthood. When exposed to potentially dangerous situations, in this case ACEs, the body's autonomic nervous system (ANS) is activated and responds by releasing the hormones epinephrine and norepinephrine (Sheng, et al., 2021). These hormones create an immediate response in the body which results in increased heart rate, increased blood supply to muscles and the brain, reduced blood supply to the skin and gut, and a release of glucose for the energy needed to respond to the stressor (Sciaraffa, 2017). In healthy functioning individuals, once the threat of danger has gone away, the body regulates itself and returns to balance. In children who experience toxic stress with more severe or ongoing ACEs, this process becomes broken and the stress response system can be permanently activated (Scott, 2021). For these children, this can lead to a dysregulation of stress hormones, reproductive hormone development, blood pressure, heart rate, metabolism, and appetite (Scott, 2021). ACEs are associated with sleeping irregularities, sensory motor issues such as muscle tone irregularities and clumsiness, physiologic hyperactivity, impulsivity, irritability, and attachment issues (Ryan et al., 2017). This permanent heightened stress response can also lead to children developing a sensory modulation disorder called sensory over-responsivity (SOR) (Ryan et al., 2017). Children with SOR experience sensitivity to visual and auditory stimuli. These children may

“overrespond to touch, pulling away from a hug or tap on the shoulder; they may indicate that lights are too bright and ordinary sounds too loud” (Ryan, et al., 2021, p. 114).

Research also shows that ACEs can lead to many negative physiological health issues in adulthood. In the original ACEs study performed by Felitti, there was a significant relationship between the number of ACEs and ischemic heart disease, cancer, bronchitis or emphysema, hepatitis or jaundice, and skeletal fractures (Felitti, 1998). ACEs can even result in a shortened lifespan. A UK study examining premature mortality of individuals 50 years or younger found that men who had experienced two or more ACEs had a 57% increased risk of premature death, and women who had experienced two or more ACEs had an 80% increased risk of premature death (Kelly-Irving et al., 2013). Another study found that individuals who had experienced six or more ACEs had a 20-year reduction in average life expectancy (Brown et al., 2009).

Psychological Health

Individuals who have experienced ACEs have a higher risk of various mental health problems compared to those who have not (Kessler et al. 2010, Norman et al., 2012). Trauma during childhood increases the odds of developing depression, anxiety, bipolar disorder, panic disorder, and post-traumatic stress disorder (PTSD) (Norman et al., 2012). Brain scans of children with PTSD show smaller whole brain volume as well as a smaller corpus callosum, the nerve fibers that connect the right and left hemispheres of the brain (Carrion & Steiner, 2000; De Bellis, 2002). According to Mayo Clinic, symptoms of PTSD can include nightmares, flashbacks, avoidance behaviors, and an interference in the ability to carry out normal daily tasks (Mayo Clinic, 2021). Adults with PTSD often report problems with rumination, anger, and shame (Gluck et al., 2017). Previous studies show that negative emotions brought on by trauma such as shame and anger can predict behavioral problems in childhood and self-harm in

adulthood (Gluck et al., 2017) Numerous studies have also shown that ACEs can lead to an increase in suicide attempts, suicidal ideation, and involvement in violent interactions (Scott, 2021; Norman et al., 2012).

Research suggests that disassociation through substance abuse is often used to avoid the pain experienced by childhood trauma, sometimes leading to addiction (Shonkoff & Garner, 2012). “Adolescents with a history of multiple risk factors are more likely to initiate drinking alcohol at a younger age and are more likely to use alcohol as a means of coping with stress than for social reasons” (Shonkoff & Garner, 2011, p e237). Other coping mechanisms associated with childhood trauma include tobacco use, illicit drug abuse, promiscuity, excessive gambling, and eating disorders such as anorexia and bulimia (Shonkoff & Gardner, 2012; Norman et al., 2012). Binge-eating disorder is also a risk factor associated with ACEs, and these individuals are three times as likely to be morbidly obese (Di Lemma et al., 2019). The effects of ACEs are often intergenerational, creating an unfortunate cycle of adversity that is passed onto future generations (Di Lemma et al., 2019; Felitti et al., 1998). “For example, a parent who misuses substances to cope with previous adverse events will increase their child’s exposure to adversity by living with a parent with substance misuse problems” (Scott, 2020, p 8). Conversely, if an individual can end this cycle of trauma through prevention and the right methods of support, they can instead have a positive effect upon future generations. Considering this cycle of generational trauma that so often happens lead me to create my piece titled “The Threads that Bind Us” (see Figure 5). This mixed media piece consists of two layers: my mother’s embroidered hands on sheer mesh fabric which hover over a monochromatic painting of my paternal grandmother smiling into the sun. This piece celebrates the strong role model my grandmother became for my mother, helping her to stitch together a new life free from the trauma she endured as a child.

Figure 5

“The Threads that Bind Us”



Note: Mixed media piece depicting the author’s paternal grandmother painted in oil on canvas.

Layered on top is the author’s mother’s hands embroidered on stretched mesh fabric.

Post ACEs

Classroom Implications

With research showing that trauma in childhood can actually alter the size and functioning of various parts of the brain, it's no wonder that it may affect the way children learn and behave at school. Cognitively, children who have experienced trauma may experience a lack of academic skill, poor concentration, lack of focus, and a decrease in attentiveness (Sciaraffa, 2017). Due to the effect ACEs have on the hippocampus region of the brain, students may have trouble with working memory which can affect performance on tests and lead to confusion in daily activities (Sciaraffa, 2017; Shonkoff & Garner, 2011). ACEs can cause some children to have difficulty managing seemingly simple tasks as their ability to regulate stress has been altered. These students may find school work with multiple steps too overwhelming.

Behaviorally, children who have experienced trauma can display a wide range of symptoms at school. Many have difficulty regulating their behavior, mood, and impulse control (Shonkoff & Garner, 2011). These students may be easy to anger and cause disruptions during instruction. They may display problems with authority or have difficulty cooperating, taking teacher direction, and adhering to school and classroom rules (Sciaraffa, 2017). Other students who have experienced ACEs may not exhibit such outwardly disruptive behavior. Some children seem withdrawn from peers and teachers, and may appear sad or even emotionally "numb". Others appear clingy, have underdeveloped social skills, or be overreactive to others due to chronic misperceptions (Sciaraffa, 2017; Ryan et al., 2018).

These developmental and behavioral issues can lead to many negative outcomes for students. Argumentative and disruptive behavior can lead to frustrated teachers feeling the need to hand out frequent consequences, and schools giving students detentions and suspensions.

Difficulty with mood regulation and underdeveloped social skills can alienate these children, making it difficult to sustain friendships with their peers. Combine these symptoms with academic underperformance, and it's no wonder that many students who have experienced ACEs also develop a strong dislike of school and a lack of motivation and confidence in their ability to learn.

Resilience and Supportive Adult Relationships

In a 2019 CDC study done of 144,000 adults across 25 states, a whopping 61% had experienced at least one ACE and 16% had experienced 4 or more ACEs (Center for Disease Control, 2019). With ACEs being so prevalent, it begs the question: What can be done to prevent ACEs from negatively affecting individual's health outcomes? As scientific research reveals the direct connection between ACEs and poor health, it would be safe to assume that all individuals who experienced trauma as children would be destined to experience these negative impacts. However, a considerable number of people exposed to ACEs actually end up showing few long-term negative effects and can in fact demonstrate positive outcomes (Collishaw et al., 2007; Luthar, 2003; Bellis et al., 2018). These positive outcomes for ACE survivors are due to protective factors, which can help buffer the effects of childhood trauma and foster what's known as resilience (Bellis et al., 2018). "Resilience typically describes the ability to adapt successfully to disturbances that threaten development of a positive life course or the ability to resume one following periods of adversity" (Bellis et al., 2018, p. 2). In other words, the more resilient a child is, the less likely it is that they will develop negative health outcomes after experiencing trauma. Some of these protective factors needed for resilience are intrinsic, while others may come from external sources.

Some children are born with intrinsic personal characteristics that are protective and can foster resilience (Roffey, 2017). These predispositions include high intelligence, an easy-going temperament, optimism, persistence, self-determination, and an internal locus of control (Milgram & Palti, 1993; Mak et al., 2011; Benard, 2004; Prilleltensky et al., 2001; Lefcourt et al., 1984). But many children don't start out their lives possessing these personality traits and coping styles. Furthermore, as shown in brain scans of children who have experienced ACEs, even if they were born with these traits, many of these qualities are often negatively affected by the trauma itself. Remember, the areas of the brain that are often affected by trauma are those in charge of functions related to memory, impulse control, and emotional regulation.

Fortunately, external factors can play a big part in fostering resilience in children as well, regardless of the intrinsic qualities a child does or does not possess. These external protective factors include a safe environment, community support, and most importantly, caring relationships (National Scientific Council on the Developing Child, 2004/2015). Research on this topic reveals that humans grow through their connection with others, and that caring adult relationships can be essential protective factors for children who have experienced ACEs (Condly, 2006). Interestingly, relationships have not always been thought of as essential for child development. Up until the 1960's, many behavioral scientists believed that babies became attached to their mothers because they provided them with food (Harlow et al., 1965). It wasn't until 1965 when Harry Harlow's revolutionary study of infant primates prompted this theory to shift. Through a series of experiments in which infant primates were kept in isolation, kept away from their mothers, and given the choice between surrogate mothers with and without food, Harlow and his team discovered the importance of relationships in child development. These experiments revealed that without the formation of a caring and affectionate relationship with a

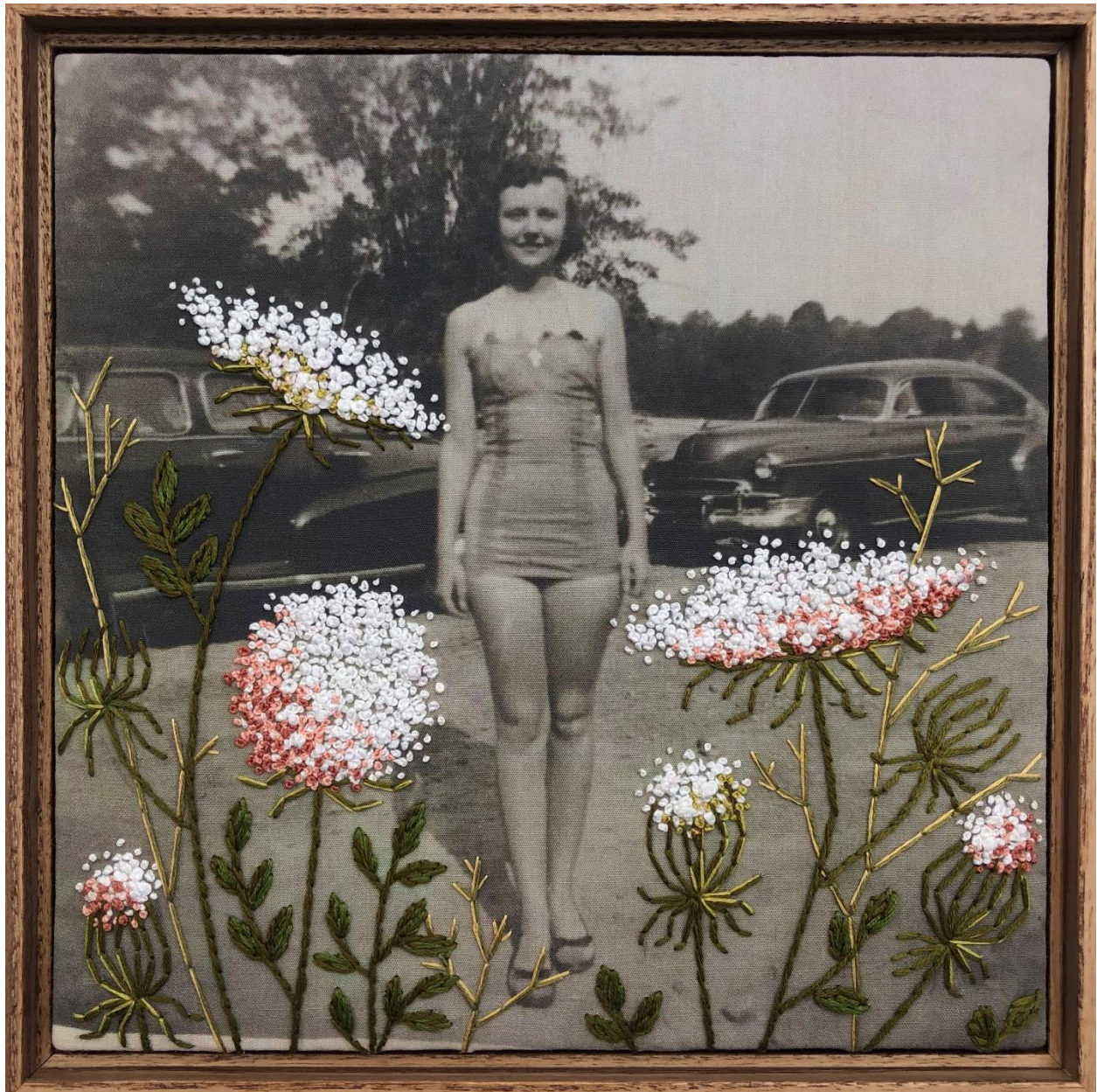
caregiver, the monkeys would demonstrate stunted development, low coping skills, and disturbed behavior (Harlow, 1965). The monkeys consistently would spend the most time with the mother covered in soft terry cloth, only going to the wire monkey to get a quick bite of food.

Researchers assumed that the monkeys would spend the most time with the mother that provided them with food, regardless of the comfort level she provided. This ground-breaking discovery has since led researchers to discover the vital role that safe, caring relationships with adults have in the healthy development of children and adolescents. In the decades since Harlow's primate study, research has shown that relationships and attachments are essential to optimize brain development and maturity from the time of birth through adulthood (Seigel, 2012). Unless a caregiver responds to their baby's attempts to engage them in social interaction, the synapses between brain cells make fewer connections and both social and emotional development as well as learning are inhibited (Gerhardt, 2001). Through understanding the importance of relationships in healthy childhood development, it's easy to see why they are also essential for development post ACEs.

In children who have experienced trauma, safe and caring relationships with trusted adults can act as the primary protective factor needed to foster resilience needed to mitigate negative health outcomes. These relationships can be foundational to healing, post traumatic growth, and positive health outcomes (Bloom, 1999; Meichenbaum, 2006). When I think about how remarkable it was that my mother was able to become the capable, loving, and healthy woman that she is today despite the trauma that she endured as a child, I now know that it was because of the few caring adults she knew at the time. A kind neighbor, a loving aunt, and later in her life, my dad's mother. My piece "Sanctuary" depicts my paternal grandmother as a young woman of about 17 standing proudly as she smiles at the camera (see Figure 6).

Figure 6

“Sanctuary”



Note: Embroidered Queen Anne's Lace flowers on printed fabric. Subject is author's paternal grandmother at about age 17.

Embroidered all around her are Queen Anne's Lace flowers. Technically a weed, Queen Anne's Lace grew like wild around my grandparent's home, and my sister and I would pick them in the summers spent visiting them. Only later as an adult did I discover that Queen Anne's Lace symbolizes 'sanctuary'. How fitting that my memories of picking these delicate flowers with my grandmother would represent the very feeling of safety and comfort that my mother and I found in her presence. It is so inspiring to me that the relationship that my mother formed with my paternal grandmother helped impact the loving way she raised my sister and I.

Relationships such as these have an enormous impact on mending the effects of trauma. Studies have even shown that out of environmental, community, and relational protective factors, relationships provide the most protection and in turn foster the most resilience in children with ACEs (Cothran, 2003). Furthermore, in a study which surveyed over 30,000 children and adolescents, when asked to examine the role of school, family, and peer relationships, school connectedness was the strongest predictive protective factor for vulnerable youth (Saewyc et al., 2006). With an average of 1,200 hours spent in school during a school year, teachers and other school staff have the incredible opportunity to offer supportive and stable relationships for these children.

School Connectedness and Teacher Strategies

Since relationships and a connection to school are so essential in fostering resilience in vulnerable youth, it's important for teachers to have practical strategies to offer support. School connectedness can be defined as "an academic environment in which students believe that adults in the school care about their learning and about them as individuals" (Blum, 2005, p. 16). According to research, developing school connectedness requires that teachers and administration provide high expectations and support for learning, positive student-teacher

relationships, and a physically and emotionally safe environment (Hutchinson, 2010; Wilson & Elliot, 2003). Fortunately, there are many simple methods that teachers can use to achieve this.

Creating a safe environment that is supportive for learning starts with giving students clear behavior expectations. As many children of trauma come from chaotic home environments with often erratic and unpredictable behavior from care-givers, creating daily and weekly routines and classroom norms can help put children who have experienced ACEs more at ease (Sciaraffa, 2017). Teachers should not assume that students will come to school with prior understanding of school-appropriate behavior. Keeping expectations posted in the classroom, modeling what they should look like, and reviewing them often is a good strategy for teachers to practice (Sciaraffa, 2017). Enforcing classroom rules and giving fair consequences to students who break them, will also help to create a safe, secure, and predictable environment. Keeping a calm demeanor when giving out consequences will help to lower the probability of triggering a stress response in students who have experienced trauma. It's also important for teachers to follow up with a student the day after a consequence is given to help repair the relationship and to demonstrate that their support and care will remain, even when that student makes a bad choice.

Developing quality relationships at school are also an important component of creating protective factors used to build resilience. In fact, of the components of school connectedness examined in a study by McNeeley, student-teacher relationships were found to be the key predictor of decreased negative behavior (McNeeley, 2005). High quality connections can be made in small, simple gestures and interactions; they are found in greetings, smiles, offering, listening, acknowledging and including (Dutton & Ragins, 2007). When students with emotional and behavioral disorders were asked what teacher's actions had most helped them to manage

their behavior, the main themes that emerged focused on relationships, caring, and respect (Cothran et al., 2003). Simply learning students' preferred names, and using them often to say 'hello', can demonstrate that you care about them. In a longitudinal study done in Australia, researchers identified the "ordinary, everyday, relational, 'little things' that teachers do to nurture and promote student resilience at school" (Johnson, 2008, p 385). The things that students said mattered were teachers listening, helping when they got stuck with work, being positive and encouraging, and being an advocate for them (Johnson, 2008). They also valued when teachers took an interest in them personally such as when they remembered birthdays, were able to have fun and share a joke, empathized with their difficulties, and could simply 'be there' in times of need (Johnson, 2008).

While these techniques may seem remarkably simple, that doesn't mean that they will always be easy. As research shows, children who have experienced ACEs may have difficulty responding normally in social situations, which could appear as little to no outward reaction to a teachers' efforts. Even when it appears that their kind gestures aren't being reciprocated or appreciated, it's important for teachers to remain consistent and continue to be there for students. As Cothran and colleagues discovered, students with emotional and behavioral disorders surveyed reported that they appreciated and valued caring behavior from teachers even when they did not acknowledge it or appeared to reject it (Cothran et al., 2003). This could be due to children having a history of chaotic or non-caring relationships, making it difficult for these students to internalize and reciprocate the teachers' caring actions despite the desire to do so (Mihalas et al., 2009). The students in Cothran's study who had rejected teacher efforts to engage them, still responded that they wanted teachers to get to know them (Cothran et al., 2003). An important takeaway from this, is that vulnerable students crave connection with teachers, even

when it seems as though they don't. Consistent support, kindness, and care should be continued even when it seems unwanted.

Other techniques teachers and schools should consider adopting are the implementation of Social Emotional Learning (SEL) lessons and mindfulness practices within the classroom. A review of 213 articles examining the effects of school-based SEL skill-building on child outcomes indicated that SEL programs significantly increased positive social behaviors and decreased conduct problems and emotional distress (Durlak et al., 2011). Research has also shown that it may be possible to grow regions of the brain, which may be useful in situations where trauma has caused negative changes. A study measuring the effects of a mindfulness training program called Mindfulness-Based Stress Reduction (MBSM), found that it resulted in an actual increase in gray matter in certain regions of the brain (Holzel et al., 2010). Remarkably, those were the areas of the brain involved in learning, memory, and emotional regulation; the very same areas that are often affected by ACEs (Holzel et al., 2010).

Conclusion

When my interest in learning about childhood trauma was sparked by my mothers' account of her own childhood experience, I had little knowledge of the potential for its' lasting effects on health and well-being. What I discovered was an ever-growing mountain of research showing the potentially catastrophic effects of trauma-induced toxic stress on the brain and body. I learned that not only is childhood trauma dangerous, but it's also quite prevalent in today's society. With the CDC's most recent data showing that nearly two-thirds of adults report experiencing at least one ACE in their lifetime, this is a problem affecting far too many children. I can't help but to also wonder what the data will show in the future in regards to children's experience of the Covid-19 pandemic. It is clear in the behaviors I have already seen emerging in

the classroom, this experience has been traumatic for my students. What will the lasting effects be from remote learning and lack of social interaction in the years to come? While the seemingly endless lists of negative health outcomes from my research were sobering, the research I conducted was also sprinkled with a healthy dash of hope. While the ultimate goal is to reduce ACEs in the first place, when ACEs do occur, it's encouraging to know that there are multiple protective factors that can mitigate those negative outcomes. I felt encouraged when I discovered the enormous impact that schools and teachers can have in fostering resilience in students. Many of the strategies that teachers can use to form high quality relationships with students are simple and can be easily implemented. This research shows the incredible opportunity educators have to make lasting effects on their students' health well into adulthood. Discovering this has given me a renewed sense of pride in the choice I made to become an educator. It has also reinforced an understanding of the great responsibility that I have to be a positive influence in the lives of my students.

When my mother confided in me the trauma that she endured as a child, I had no idea the potential effects that could have had on my own childhood experience. I now know the high likelihood of intergenerational trauma, and I feel incredibly lucky that my parents were able to stop that cycle of trauma that so frequently gets passed on. I'm in awe of the resilience that my mother developed in the face of her experiences. I'm grateful for the positive influence of my paternal grandparents, and the support other caring adults had on my mother as she grew into adulthood and became a parent herself. I'm excited and motivated to continue to use what I've learned to be that positive role model and supportive, caring adult in the lives of my students going forward. It is clearer than ever that teachers serve a vital role in the health and well-being of the future generation.

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Appendix A

Additional Thesis Artwork

Figure A1

“Timeline”



Note: This is a mixed media piece consisting of cotton quilting batting, embroidery floss, eggshells, and wire. The subject is a tree ring, which symbolizes the author's paternal grandparent's life timeline.

Figure A2

“Sanctuary II”



Note: Oil painting on canvas of the author's paternal grandmother with embroidered Queen

Anne's Lace pattern.

Appendix B

Lesson Plan

Emotion Creature Dolls

Colleen O'Donnell

7th grade

Allocated Time – 16, 45-minute class sessions



Outcome Statement- 7th grade students will create a hand-sewn mixed media emotion creature doll based off of a drawing made by their 3rd grade buddy. The project will culminate with a field trip to the neighboring elementary school where Middle School students will present their creature dolls to their buddies and read aloud their original short stories. This lesson is important because it teaches students the value of forming relationships, acting as role models, and facing fears.

Objectives–

The learner will:

1. Create a 3-dimensional creature doll inspired by a creature drawing drawn by 3rd grade buddy
2. Apply hand sewing techniques to assemble creature doll
3. Collaborate with 3rd grade buddy to create doll and story
4. Write an original short story about overcoming a fear
5. Understand and apply the vocabulary and concepts of the lesson during critique

Criteria-

The creature doll will:

1. Closely resemble the original 3rd grade buddy creature drawing
2. Consist of mixed media and include at least one found or recycled object

The short story will:

3. Be accompanied by at least 5 illustrations.

Art Standards and Benchmarks:

1. ART.VA.II.7.1 Identify, design, and solve creative problems at an emerging level.
2. ART.VA.II.7.3 Collaborate, communicate, and work with others to create new ideas at an emerging level.
3. ART.VA.II.7.6 Make knowledgeable choices about materials, techniques, media technology, organizational principles, and processes to articulate ideas and communicate intended meaning at an emerging level.
4. ART.VA.III.7.2 Interpret artwork searching for embedded meaning, function, and personal connections at an emerging level.

Integrated Standards from another discipline:

1. Grade 7 Language Arts: Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.
2. Grade 7 Language Arts: With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
3. Grade 7 Social and Emotional Learning: 4B. Children/Students develop and maintain positive relationships.

Multi-Sensory Consideration –

1. Sound/Visual: watch videos of Nick Cave’s Sound Suits, video clips from Pixar’s Monsters Inc.
2. Interpersonal play: “Create a Monster” dice rolling game played with peers
3. Intrapersonal: students recall and reflect on times when they’ve overcome a fear
3. Tactile: supply students with a variety of found materials and fabrics with varying textures to be used for the construction of their monsters
4. Movement: Walk to neighboring elementary school to visit with 2nd grade buddies

Presentation Consideration –

1. Novel:
 - Incorporating a found/recycled item into the final monster doll design
 - “Monster Mash” song playing as students walk into room
 - Surprise texture guessing game during anticipatory set
 - randomly assigning 2nd grade monster drawing to students as a surprise/reveal.
2. Linear:
 - Having a design to follow for the monster doll

- Printed guides for stitches on tables during sewing
- multiple lessons on writing a story taught sequentially
- rubric for monster doll and written story.

Anticipatory Set – As students enter the classroom, they will see multiple boxes with a small opening cut into the top on tables in the front of the room. These boxes will be filled with mystery objects of various textures. The class will play a ‘guess the object’ game in groups and compete for the most correct guesses. This will lead into the mixed media and texture components of the creature dolls and get students in a creative mindset.

Materials/Tools –

- 3rd grade buddy creature drawings (collaborate with elementary Art teachers or classroom teachers for this)
- Various fabrics and textile scraps
- Fabric paint or markers
- Assortment of buttons and beads
- Mixed media materials such as pipe cleaners, feathers, faux fur, lace, etc.
- Needles
- Thread and yarn
- Scissors
- Cotton fill/batting
- Drawing paper
- Mixed media tools such as pencils, markers, and colored pencils

Concepts and Vocabulary –

- Emotional intelligence: the capacity to be aware of, control, and express one's emotions, and to handle interpersonal relationships judiciously and empathetically.
- Role model: a person whose behavior, example, or success is or can be emulated by others, especially by younger people.
- Narrative: a spoken or written account of connected events; a story.
- Adjective: a word or phrase naming an attribute, added to or grammatically related to a noun to modify or describe it.
- Metaphor: a figure of speech in which a word or phrase is applied to an object or action to which it is not literally applicable.
- Simile: a figure of speech involving the comparison of one thing with another thing of a different kind, used to make a description more emphatic or vivid
- Whip stitch: a simple sewing stitch that is used in crocheting, knitting and sewing, and in which the needle is passed in and out of the fabric in a series of stitches that circle an edge of the fabric.
- Running stitch: a simple needlework stitch consisting of a line of small even stitches that run in and out through the cloth without overlapping.
- Eye of a needle: the small hole in a needle through which the thread is passed.
- Threading a needle: to guide a piece of thread through the eye of a sewing needle.
- Mixed media: the use of a variety of media or materials in a work of art.

Resources –

- Videos of Nick Cave’s Sound Suits <https://www.youtube.com/watch?v=PwupTQt9zxY>
<https://www.youtube.com/watch?v=S6cG5wYxRcw>
- Monster Inc. clips video <https://www.youtube.com/watch?v=i2SoDjHx5I8>
- *What Do You Do with a Problem?* By Kobi Yamada book, or video
https://www.youtube.com/watch?v=9B39II_WTtc

Procedures –

Day 1: As students enter the room they hear the song “Monster Mash” playing. Without explaining the lesson yet, students will participate in the Anticipatory set: Texture guessing game (see full description above). Once the game is over, the teacher will show a scene compilation clip from “Monster’s Inc.” After this, students will have a few guesses as to what they will be making for this project. The teacher can then reveal the project, and let students know that they will be sewing Emotion Creature (or monster) Dolls in the likeness of 3rd grade drawings that they will be paired with. Students will play Monster dice drawing game with remaining class time. If time allows, the drawings may be passed out to students and then stored safely in their assigned cubbies until the following day.

Day 2: Teacher presentation of Nick Cave’s Sound Suits, and a read aloud of the book *What Do You Do with a Problem*. Small group and class discussion about fears and issues facing Middle School students and other age groups, and ways to overcome and face those fears. Examine the fear written on the 3rd grade buddy creature drawings, and discuss with groups and whole class. Allow students to begin exploring mixed media available for their creature dolls. Explain and begin brainstorming ideas for the found/recycled object requirement.

Day 3: Teacher performs sewing demonstration and allows time for students to practice on scrap fabric. Print outs with stitch steps and photos will be passed out to groups to help students review. If time allows, teacher may demonstrate how to begin cutting out the base layer of the creature.

Day 4: Continue demonstration of cutting out and sewing base layer of creature. Allow studio time for students.

Day 5: Studio time for students to stitch base layer of creature. If enough students are ready, teacher may demonstrate how to sew on beads and buttons, and stuff the creature.

Day 6: Teacher reviews stitch and stuffing process. Studio work day for students.

Day 7: Teacher demonstrates how to begin adding mixed media using fabric glue and sewing methods, as well as fabric paint and markers to add details. Studio work day for remainder of class.

Day 8: Studio work day for students.

Day 9: Teacher begins story writing lesson on narrative, including overcoming a fear, using relevant descriptive details, and well-structured event sequences. Teacher will place various

children's books at student tables to look through as references. Links to videos of children's stories will be posted on Google Classroom for students to review as well. Students who are ready to begin writing may use the remainder of class to begin. Students who need a little more work time for creature dolls may continue working on them and begin writing as homework.

Day 10: Review of story writing lesson. Studio work day for students.

Day 11: Studio work day for students. Students may read their in-progress stories to their table partners for feedback. Students who are ready may begin illustrations for their stories.

Day 12: Studio work day for students.

Day 13: Studio work day for students.

Day 14: Final studio work day. Students who are finished may have final critiques with their table partners or whole group.

Day 15: Field trip to Elementary school to present finished creatures and stories to 3rd grade buddies. Stories will be read aloud to buddies, and a photo with each 7th grader next to their buddy and their creature doll will be taken.

Day 16: Lesson wrap up day. Photos will be printed by the teacher and given to each 7th grader, with a copy sent to the class of 3rd grade buddies. Students will present photos to their groups and answer prompt questions. Whole class discussion and celebration. Students can play the Monster dice rolling game for the remainder of class to draw their own creatures.

Closure – Following the field trip to the elementary school to present their creature dolls and stories to their 3rd grade buddies, students will have a chance to reflect and share with their peers the next day. They will have the chance to show their small groups the photo that was taken (and printed by the teacher) of themselves with their buddies. They will discuss the following questions first in their small groups, and then can choose to share with the rest of the class.

1. What is something you think you taught your buddy through this experience? What did they teach you?
2. Why is it important to have someone special you can trust and look up to in your life?
3. How can being a role model in a younger person's life make yours better?
4. What is a fear you faced? What helped you to do so?
5. What materials did you incorporate into your creature doll?
6. What makes a good story?
7. How can artists use their craft to tell a story?
8. Can art bring people together? In what ways?

Accommodations –

Cognitively Impaired Students: Students with cognitive impairments who are not able to sew a creature doll can join one of the 7th grade and 3rd grade buddy pairs. This student can create their own creature drawing to be a companion to accompany the other creature. If drawing a

representational creature is above the ability level of the student, they may paint an abstract or non-representational work inspired by the colors and emotions in the 3rd grade buddy’s creature drawing.

Artistically Gifted Students: For gifted students who desire to expand on the project, they may create a second stuffed doll inspired by the collaboration with their buddy. This doll can be modeled after a second character in the short story, or even be a “mini-me” modeled to look like the 3rd grade buddy! Handouts and video tutorials for more advanced sewing techniques can also be used for gifted students.

Assessment –

Evidence of success will be:

- A completed creature doll and illustrated story to present upon meeting 3rd grade buddies in person.
- Peer reflection and assessment through small group critiques.
- Self-reflection and assessment through completing the attached rubric below.

Emotion Creatures Rubric

	10	8	6
Creature: Craftsmanship	Creature has been carefully sewn using one of the stitches demonstrated in class. Stitches are even and stuffing is not falling out.	Creature has been sewn using one of the stitches demonstrated in class. Stitches are mostly even although some stuffing may be visible.	Creature has not been sewn using one of the stitches demonstrated in class. Stitches are haphazardly done and some stuffing is falling out.
Creature: Use of materials	Mixed materials have been thoughtfully used to emulate the spirit and design of the original drawing. At least one found or recycled object has been incorporated into the design.	Mixed materials have been used to mostly emulate the spirit and design of the original drawing. OR no found/recycled objects have been incorporated.	Mixed materials have not been thoughtfully used to emulate the spirit and design of the original drawing. AND no found/recycled objects have been incorporated.
Story: narrative	Story has used narrative to develop a real or imagined experience with relevant details and well-structured event sequences. Story references a fear and allows its characters to overcome that fear.	Story has somewhat used narrative to develop a real or imagined experience although may be lacking in relevant details and well-structured event sequences. Story references a fear.	Story has not successfully used narrative and does not contain relevant details and event sequences. Story may be confusing OR does not reference a fear.

<p>Story: illustrations</p>	<p>At least 5 high quality illustrations have been drawn to support and enhance the text of the story.</p>	<p>At least 4 high quality illustrations have been drawn to support and enhance the text of the story.</p>	<p>3 or less illustrations have been drawn to support and enhance the text of the story.</p>
<p>Overall effort and time management</p>	<p>High amount of effort has been clearly used in the creation of the creature and story writing. Time in class has been used wisely, and both components have been completed in time for the field trip to meet the 3rd grade buddies.</p>	<p>Moderate amount of effort has been clearly used in the creation of the creature and story writing. Time in class has been mostly used wisely, and both components have been completed in time for the field trip to meet the 3rd grade buddies.</p>	<p>Low amount of effort has been demonstrated in the creation of the creature and/or the story. Time in class was not used wisely and creature or story is not complete upon the visit to the 3rd grade buddies.</p>
<p>Artist Statement</p>	<p>Artist statement includes at least 5 sentences describing the process of making the creature, writing the story, and meeting with 3rd grade buddies. Correct grammar, spelling, and punctuation have been used.</p>	<p>Artist statement includes at least 4 sentences describing the process of making the creature, writing the story, and meeting with 3rd grade buddies. Correct grammar, spelling, and punctuation have been mostly used.</p>	<p>Artist statement includes 3 or less sentences and has many grammar, spelling, and punctuation mistakes.</p>