



Becoming Trauma Informed: Understanding Trauma and How It Impacts the Brain

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What is Trauma?

For the purposes of today's presentation, trauma is a deeply distressing or disturbing experience.

ACES-Adverse Childhood Experiences

- ▶ In 1995-1997, Dr. Anda and Dr. Felitti conducted the ACE study which looked at various categories of childhood experiences:
- ▶ Emotional, physical and sexual abuse and emotional and physical neglect (an interesting point is that being ignored causes the same chemical reaction in the brain as experiencing a physical injury) were part of this study.
- ▶ Examples of ACES include: Witnessing DV/Household dysfunction, growing up with a family member with mental illness or substance use d/o in the household, parental separation or divorce, or having someone in your household sent to jail or prison.
- ▶ ACE scores range from 0-10, and this is thought of as a biological stress dose. *Cortisol is toxic to neural networks, and adrenaline confuses neural networks. The higher the exposure to adversity, the higher the exposure to adrenaline and cortisol.*
- ▶ Leads to difficulty regulating emotion, higher likelihood of anxiety, difficulty thinking.
- ▶ **Childhood adversity is linked to reduced inhibitory control and alterations in key brain networks. Consider what reduced inhibitory control means.**
- ▶ Creates health and social problems; as ACE goes up, so does probability of behavioral and health issues and likelihood of repeating generational trauma (i.e. DV partners, abuse, etc).

ACE Questionnaire

Prior to your 18th birthday:

1. Did a parent or other adult in the household often or very 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?
No___If Yes, enter 1 __
2. Did a parent or other adult in the household often or very often... Push, grab, slap, or throw something at you? or Ever hit you so hard that you had marks or were injured?
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 Attempt or actually have oral, anal, or vaginal intercourse with you?
No___If Yes, enter 1 __
4. Did you often or very 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?
No___If Yes, enter 1 __
5. Did you often or very 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?
No___If Yes, enter 1 __
6. Were your parents ever separated or divorced?
No___If Yes, enter 1 __
7. Was your mother or stepmother:
Often or very often pushed, grabbed, slapped, or had something thrown at her? or Sometimes, often, or very 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?
No___If Yes, enter 1 __
8. Did you live with anyone who was a problem drinker or alcoholic, or who used street drugs?
No___If Yes, enter 1 __
9. Was a household member depressed or mentally ill, or did a household member attempt suicide? No___If Yes, enter 1 __
10. Did a household member go to prison?
No___If Yes, enter 1 __


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

The Balance is Held in *Positive Childhood Experiences*

Positive Childhood Experiences mitigate ACE scores and can contribute to **resilience**.

To find out what positive childhood experiences you have, answer the following questions. How much or how often during your childhood did you: (Keep this in mind as we get to strategies that you can use with your students)

1. feel able to talk to your family about feelings;
2. feel your family stood by you during difficult times;
3. enjoy participating in community traditions;
4. feel a sense of belonging in high school;
5. feel supported by friends;
6. have at least two non-parent adults who took genuine interest in you; and
7. feel safe and protected by an adult in your home.



Trauma can alter brain functioning in many ways, but three of the most important changes appear to occur in the following areas:

- ▶ 1. The prefrontal cortex (PFC), known as the “Thinking Center”
 - ▶ 2. The anterior cingulate cortex (ACC), known as the “Emotional Regulation Center”
 - ▶ 3. The amygdala, known as the “Fear Center”
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- ▶ The PFC is located behind your forehead. It’s responsible for abilities including rational thought, problem-solving, personality, planning, empathy, and awareness of ourselves and others. *When this area of the brain is strong, we are able to think clearly, make good decisions, and be aware of ourselves and others. Ideally this is what we want for students to succeed in their careers.*

Traumatized brains look different from non-traumatized brains in three predictable ways:

- ▶ 1. The Thinking Center is underactivated.
- ▶ 2. The Emotional Regulation Center is underactivated.
- ▶ 3. The Fear Center is overactivated.
- ▶ What these activations indicate is that, often, a traumatized brain is “bottom-heavy”, meaning that activations of lower, more primitive areas, including the fear center, are high, while higher areas of the brain (cortical areas) are underactivated. If traumatized, one might experience chronic stress, vigilance, fear and irritation. This may mean that it is hard to feel safe, calm down, and sleep. This is all a result of a hyperactive amygdala.
- ▶ Reference- Psychology Today: How to Heal the Traumatized Brain-Dr. Jennifer Sweeton Psy.D


The Impact of Trauma-*trauma* *changes the brain*

- ▶ A traumatized brain can be tired, hungry, worried, rejected or detached, and these states are often accompanied by feelings of isolation, worry, angst, and fear. The neurobiological changes caused by negative experiences trigger a fear response in the brain. When we feel distress, our brains and bodies are flooded with emotional messages that trigger the question, “Am I safe?”
- ▶ We react physiologically with an agitated limbic system that increases blood pressure, heart rate, and respiration as the levels of the hormones cortisol and adrenaline increase in our bodies. Chronic activation of the fear response can damage those parts of the brain responsible for cognition and learning.
- ▶ -Edutopia.org

Healing Trauma-

This takes effort, repetition and time


- ▶ Relational trauma can be healed in relationships. If we can give students a corrective experience in our relationship with them, they may be able to learn to trust, feel safe and ultimately regulate their emotions.
- ▶ We can all be part of healing trauma in a student by being present, attuning to their emotional experiences, being supportive and most importantly, *regulating our own emotions*.
- ▶ We can teach them positive coping skills such as body based exercises (i.e. breathing, chair yoga) and mindfulness techniques to deactivate the fear center. You could start your classes or end your classes with this when you sense stress and tension. When we quiet the fear center, we are better able to work on activating the thinking center and emotional regulation center. Therapists use play therapy, DBT, CBT, EMDR, Somatic Experiencing, etc.
- ▶ Focus more on the relationship and less on the behavior, but we need to pay attention to both. Behavior is a symptom and form of communication. Negative emotions are also a symptom of trauma and when a traumatized person feels negative emotion (for example when they are harshly corrected or sense inflexibility), they can be triggered and are more likely to go in to fight or flight.



“ Interpersonal experience shapes the mind as it continues to develop throughout the lifespan... Interactions with the environment, especially relationships with other people, directly shape the development of the brain's structure and function. ”

~ DANIEL J. SIEGEL

The healing is in the relationship. Just as trauma shapes the brain, so do positive interactions.



“The more healthy relationships a person has, the more likely he will be to recover from trauma and thrive. Relationships are the agents of change and the most powerful therapy is human love.”

-DR. BRUCE PERRY

Many times, trauma occurs in relationships, and we can help give a corrective experience by modeling healthy reciprocal relationships.

“Yes Brain Strategies”

- ▶ The Yes Brain is an approach. It is an open, receptive way to be. It develops balance, resilience, insight and empathy. We have the power to amplify these skills which adds to the whole picture of social and emotional success.
- ▶ The Yes Brain is a neurological state that is open and receptive. The brain is integrated (working together as a whole=connected to emotions and logic).
- ▶ The way we respond to students when they have trouble helps with prevention and intervention.
- ▶ The Brain is a social organ. Experiences with others shape us. Where attention goes, neurons fire. Where they fire, they wire. So that means, that if we bring attention to what we want to develop, it will. Example: We can build empathy if we model it, or mindfulness if we practice it.

Yes Brain Summary continued:

- ▶ 'No Brain' is often anxious, shut down, rigid, defense. The more time we spend in a Yes Brain or No Brain state becomes wired over time and becomes their approach in the world.
- ▶ Balance comes first in the "Yes Brain", because we cannot develop other traits without balance. Emotional regulation skills are key.
- ▶ The way that we respond can either help or hinder a student's ability to regulate. We have to be regulated first. There is research in this area in interpersonal neurobiology. This helps model pausing, and making calm, kind choices. Check in with your students to show you care (i.e. Monday check in).
- ▶ When emotions flood, it's hard to use words/use left hemisphere of brain.
- ▶ Insight can lead to regulation.

Conclusion

- ▶ The main things that you can actively do to help the students that you work with include:
- ▶ Regulating your own emotions and be aware of your own reactions around the students that you teach. I'm not saying it is easy, but it gets easier with practice. Being present with someone tells them they matter.
- ▶ Nurture psychological safety in your classroom. Give breaks, allow snacks, and build community.
- ▶ Relationships are key. Healing and transformation happens through corrective experiences, which means that if they have trauma at home, they can come to school and feel safe in their corrective relationship with their instructor who is safe. Be mindful of old practices (stress inoculation).
- ▶ You can teach students mindfulness, model positive social skills, and help them build insight and empathy through various lessons or modeling and this will shape their brain. Be mindful of each student's individual need in class (i.e. participation (ignored vs. encouraged, self-initiation, etc)).
- ▶ A helpful tool is *Insight Timer* to cultivate mindfulness. You could start your class with this each meeting. These practices help thicken the medial prefrontal cortex which allows for quicker recovery from emotions (staying in the frontal lobe more often).

Further reading and summary:

<https://www.understood.org/en/articles/what-is-trauma-informed-teaching>

What does trauma-informed teaching look like? Making simple changes to class structure and interactions with students can have a huge impact on those who are experiencing trauma. Here are strategies for educators to try:

- Expect that students will overreact sometimes. Provide the space and time they need to calm down. Let them know this is a normal response to trauma. Give trigger warnings if necessary.
- Give students opportunities to talk or write about their experiences. Understanding the reasons behind a student's behavior can help you respond with empathy.
- Remind yourself that behavior is a form of communication. Try not to take it personally.
- Communicate with students about what you're seeing. They might have ideas that they/you could try in class.
- Make sure your teaching is culturally responsive and doesn't exacerbate traumatic experiences that students may have had.
- Teach and model social and emotional skills, including positive behavior strategies.
- Ask the school counselor or other specialists for recommendations and support (or refer them).