



The Neurobiology of Animal Assisted Trauma Responsive



TRAUMA

Event or events or set of circumstances (includes witnessing)

Experienced as emotionally and/or physically harmful

Lasting adverse effects

Response to stress hormones

Disrupt capacity to regulate cognitive states

What is trauma?

Trauma is anything that our system can't handle or process. It is not what happens to us, but what we hold inside in the absence of an empathetic witness.

-Peter Levine

Srishti Narula | @srishti.therapy



EMPATHY

EMPATHY WITNESS with ANIMAL ASSISTED SERVICES (AAS)

FEEL SEEN AND HEARD

NOT “OTHERED”

SACRED TO “HOLD SPACE”
FOR SOMEONE’S PAIN

Why do we talk about Trauma in AAS?



The silent pandemic: ACEs statistics



Populations served by AAS



How trauma affects others around b/c of distress and symptoms manifesting in behaviors of disruption

Quick Survey for ACEs

Adverse Childhood Experiences (ACE) 10-Question Survey

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? 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? 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? 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? 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? If YES, enter 1 _____
6. Was a biological parent **ever** lost to you through divorce, abandonment,
or other reason? 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? If YES, enter 1 _____
8. Did you live with anyone who was a problem drinker or alcoholic or
who used street drugs? If YES, enter 1 _____
9. Was a household member depressed or mentally ill or did a household
member attempt suicide? If YES, enter 1 _____
10. Did a household member go to prison? If YES, enter 1 _____

Now add up your YES answers – **TOTAL "Yes":** _____

This is your ACE score



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ACE Statistics

67% of people have at least 1 ACE



1 in 6 adults experienced four or more types of ACEs.

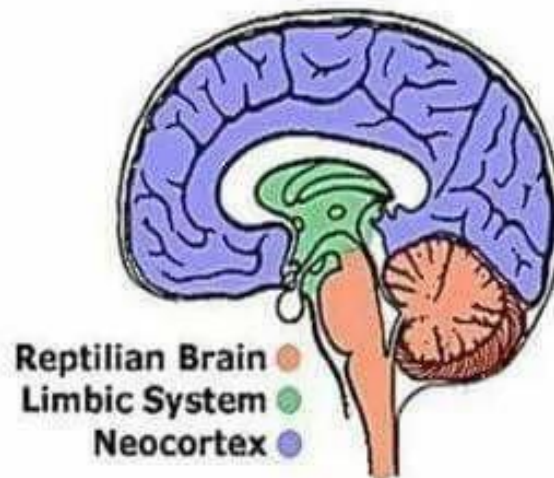


At least 5 of the top 10 leading causes of death are associated with ACEs.

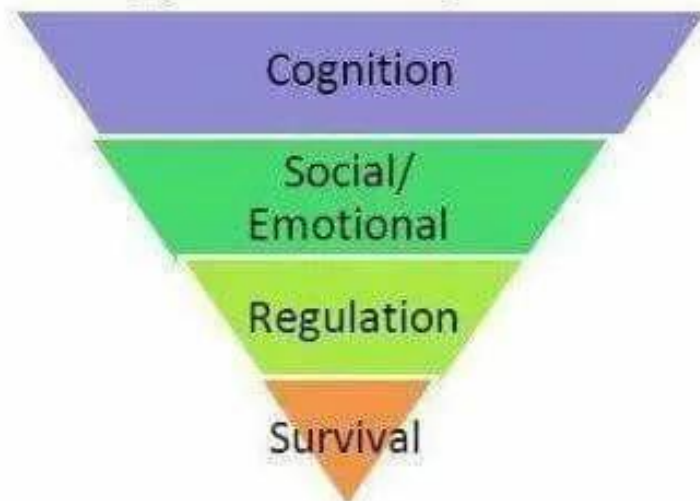


Preventing ACEs could reduce the number of adults with depression by as much as 44%.

Trauma & Brain Development



Typical Development



Developmental Trauma



Adapted from Holt & Jordan, Ohio Dept. of Education



Populations Served with Trauma

Military-related PTSD

First Responder PTSD

Crime-related PTSD

Abuse in form of Neglect

Physical Abuse

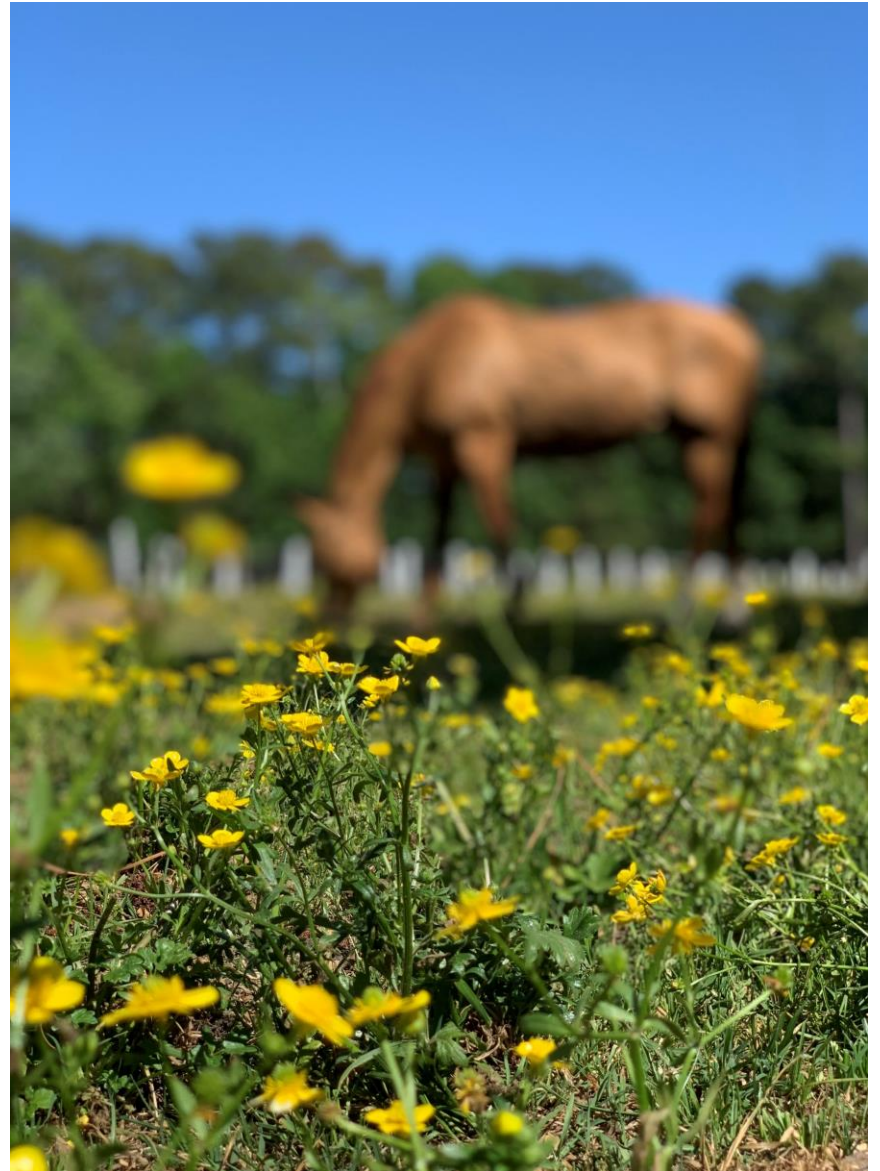
Emotional Abuse

Anxiety

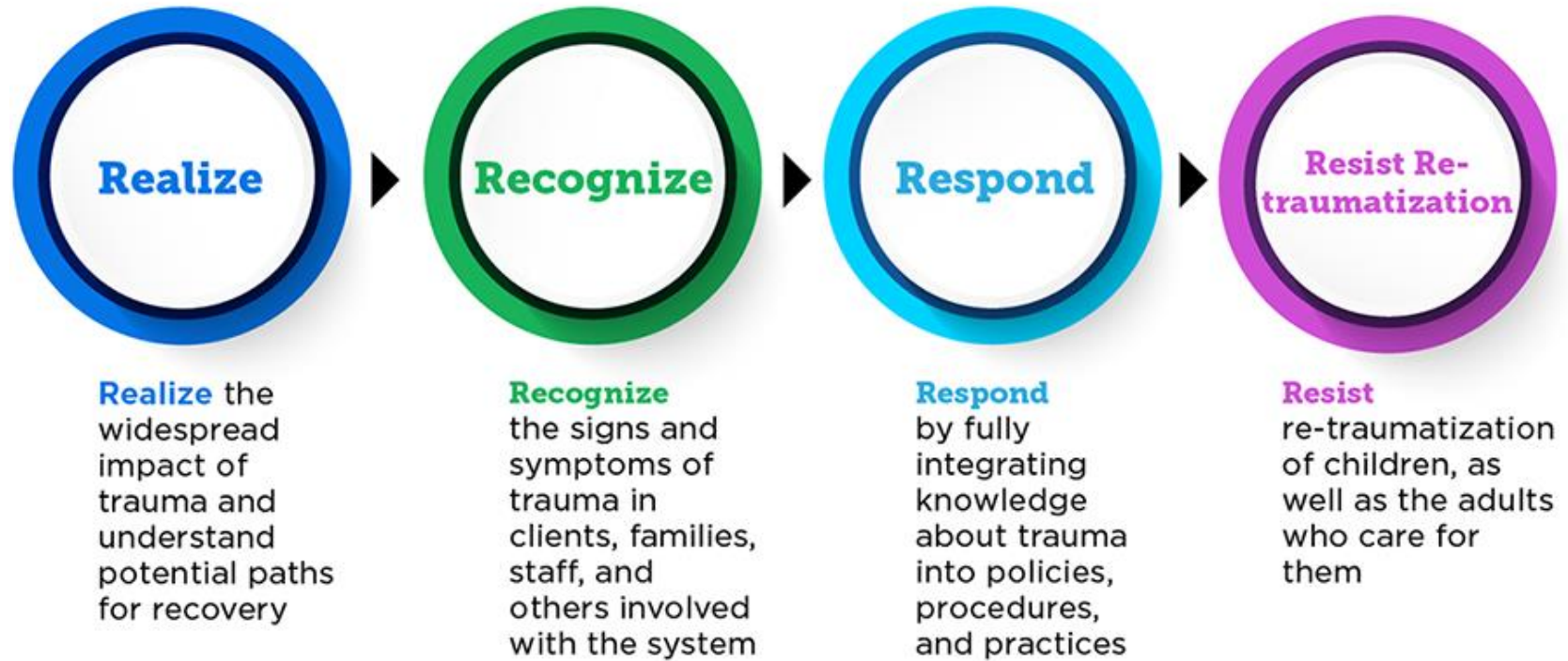
TRAUMA is not a diagnosis recognized by the DSM 5, used to diagnose disorders

Everyday you can
rewrite your story
thanks to
neuroscience!

AAS can be
catalyst for
neuroplasticity



The Four Rs of Trauma-Informed Care



This figure is adapted from: Substance Abuse and Mental Health Services Administration. (2014). SAMHSA's concept of trauma and Guidance for a trauma-informed approach. HHS publication no. (SMA) 14-4884. Rockville, MD: Substance Abuse and Mental Health Services Administration.

SIGNS of TRAUMA

Late (timekeeper
part of brain
affected)

Fear of making
mistakes

Memory deficits
(smaller
hippocampus –
short-term memory)

Difficulty
experiencing
joy/pleasure

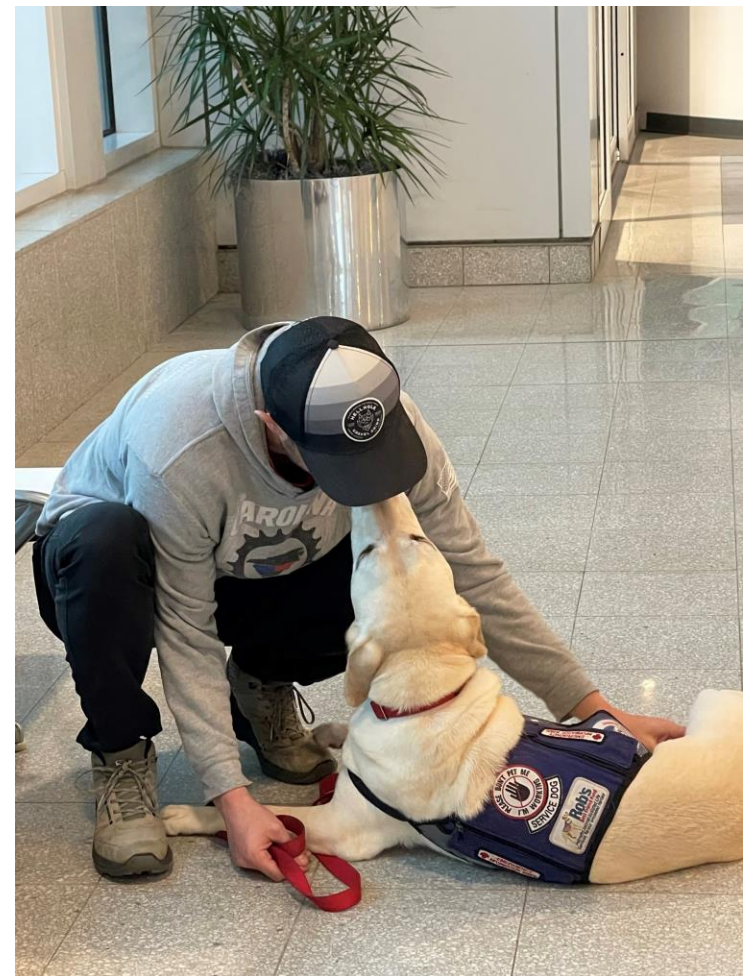
Risky behaviors

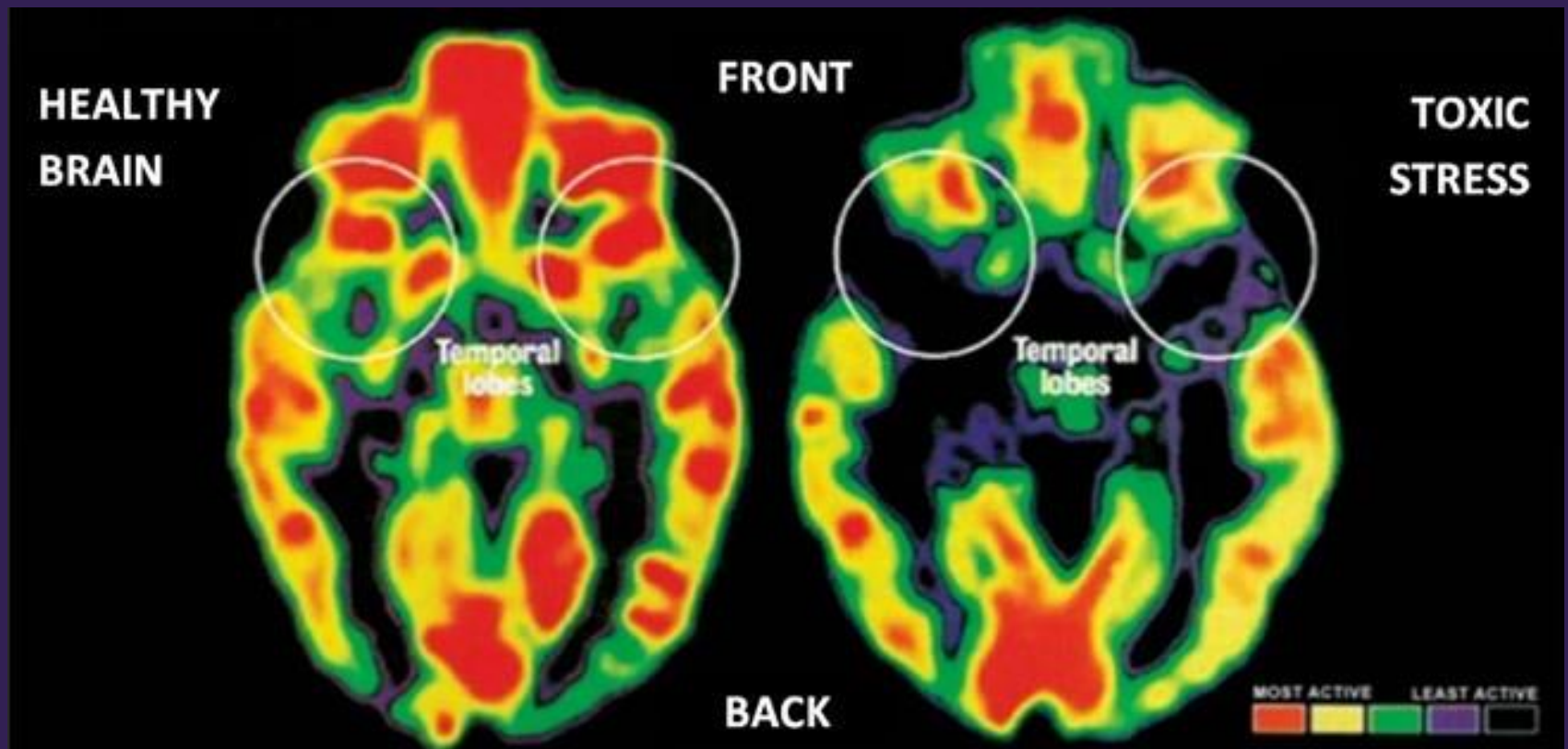
Feelings of blame,
shame, and ongoing
negative emotions

Loss of Hope

Isolation/Dissociates

Many physical signs
that mimic other
conditions





Stress is common denominator

Paws and Breathe: Coregulation



Fully Integrate Trauma Knowledge

PROCESSES AND PROCEDURES

Safe environment (emotionally and physically)

Application - triggers

Adapt classes/healthcare information

STAKEHOLDERS

Self-aware

Regulation practices

Animals decompression post trauma work

Group work vs individual work

Learning with Trauma

Hear/See new information – 1 part of brain

Discuss information – different part of brain

Write about information – yet another part of brain

Attach emotion-implicit memory!

MUST FEEL SAFE!!!! If not, ear will focus on low male voices, listening for “predator” sounds

Neurosequential
Model:
Stage not Age

“Your relationship lives to teach
another day”

Dr. Bruce Perry

SEQUENCE OF ENGAGEMENT



Bottom-Up
Processing
to make
Top-Down
Processing
Possible

Polyvagal Theory - An Intro

Ventral Vagal

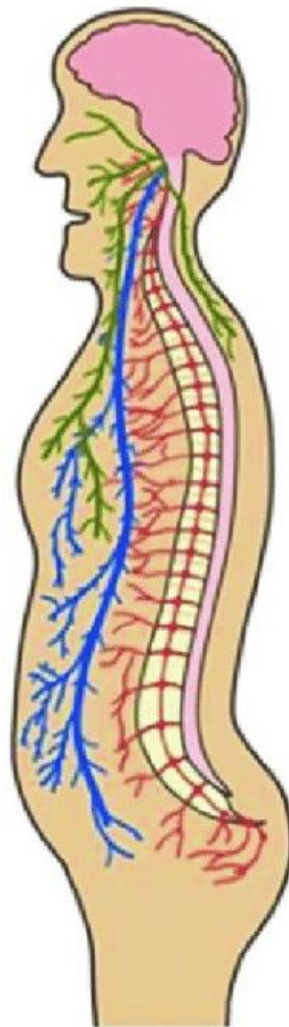
- Social Engagement Network
- Location: Face, throat, chest
- Ability to talk, engage, co-regulate, self-soothe and remain calm
- Top of the regulatory and evolutionary ladder

Sympathetic

- Fight & Flight (Mobilization)
- Location: Along the spinal cord
- Mobilize the body to fight, or run away from danger
- Increased heart rate, tense muscles, fast shallow breathing
- Middle of the regulatory and evolutionary ladder

Dorsal Vagal

- Freeze, Collapse, Dissociate (Immobilization)
- Location: Diaphragm, heart, gut
- Shut off from the threat, when can't fight or flight
- Decreased heart rate, low energy, depressed, numb, shut down
- Bottom of the regulatory and evolutionary ladder



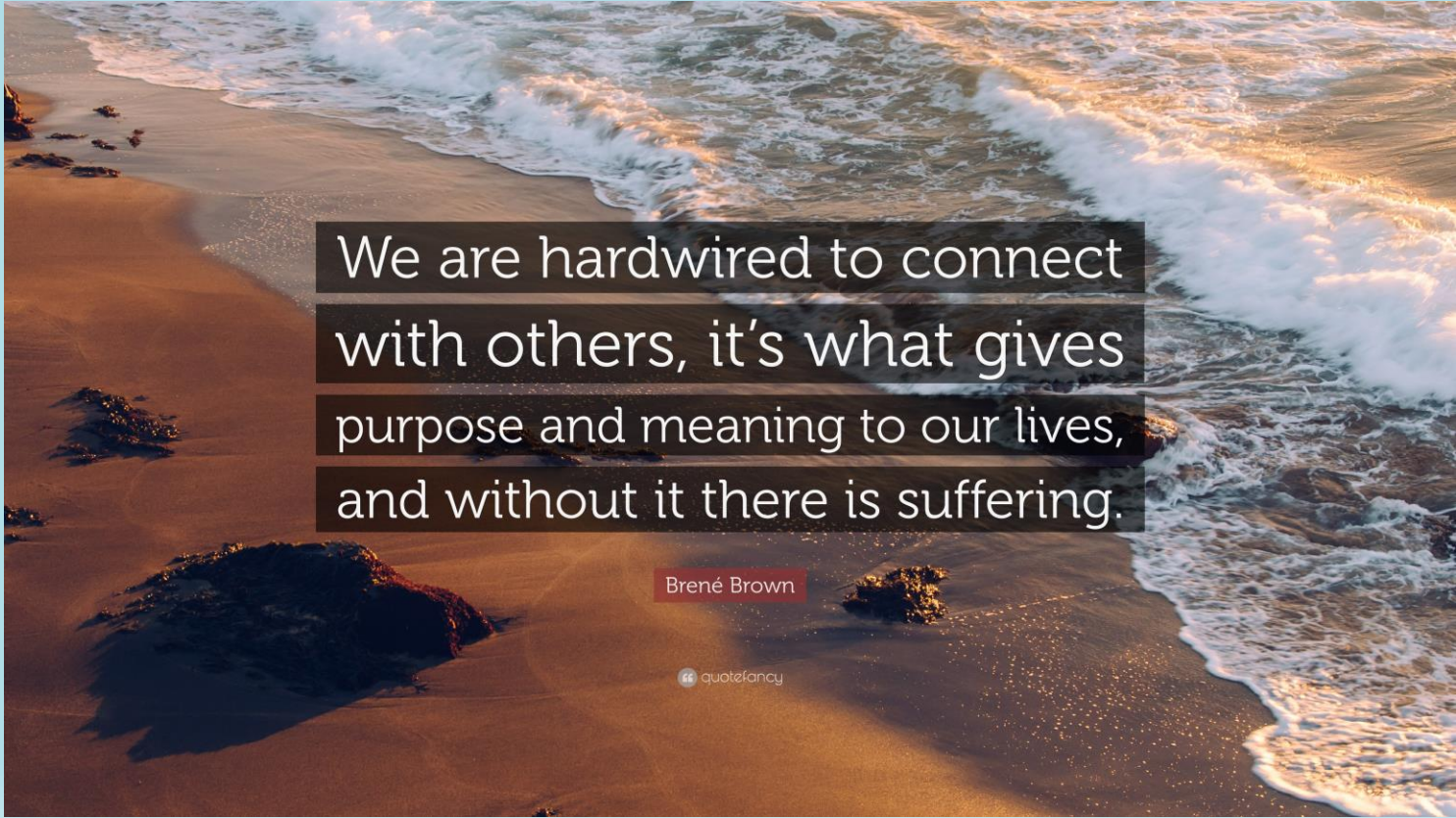
Ways to Calm the Body After the Fight, Flight, Freeze, and Fawn

1. Use grounding techniques
2. Try journaling
3. Hold a frozen orange or ice pack
4. Splash water on your face
5. Seek connection
6. Sip on water
7. Practice butterfly tapping
8. Try yoga
9. Use progressive muscle relaxation
10. Practice square Breathing or deep breathing



Ways to Calm Body after Dysregulation

We Must Build Responsive Communities Based on Connections



We are hardwired to connect with others, it's what gives purpose and meaning to our lives, and without it there is suffering.

Brené Brown

quote fancy



Connections
are Antidote
to Trauma

References:

Adverse childhood experience (ACES) chart. Mentor Books West.
(n.d.). <https://mentorstorenow.com/products/ace-score-questionnaire-chart-with-dry-eraser-pen-included>

Brené Brown on empathy. YouTube. (2013, December 10).
<https://youtu.be/1Evwgu369Jw>

karlee83@gmail.com. (2021, March 11). *Definition of trauma.*
Mountain Creative Arts Counseling.
<https://www.mountaincreativearts.com/definition-of-trauma/>

Mustafa, O. B. (2023, August 24). *Omar Bani Mustafa on linkedin: Trauma and brain development in children.* Omar Bani Mustafa on LinkedIn: Trauma and brain development in children.
https://www.linkedin.com/posts/omar-bani-mustafa-757721151_trauma-and-brain-development-in-children-activity-7100445551107694592-d5ub

O'Shea Brown, Gillian. (2021). *Healing Complex Posttraumatic Stress Disorder: A Clinician's Guide.*

Perry, B. D., & Winfrey, O. (2021). *What happened to you?: Conversations on trauma, resilience, and healing.* Macmillan Audio.

Singleton, J. K., & Spirit, P. (2021). Paws & breathe®: Interspecies Stress Reduction Collaboration to support clinician well-being. *Journal of Interprofessional Education & Practice*, 25, 100470.
<https://doi.org/10.1016/j.xjep.2021.100470>

Top 35 Peter A. Levine quotes (2024 update). Quotefancy. (n.d.).
<https://quotefancy.com/peter-a-levine-quotes>

Toxic stress: A threat to the futures of millions of children. The EDIT Blog.
(2017, November 6). <https://blogs.kcl.ac.uk/editlab/2017/11/06/toxic-stress-a-threat-to-the-futures-of-millions-of-children/>



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