



CHILDHOOD TRAUMA AND ITS EFFECTS ON BRAIN DEVELOPMENT

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Mental Health Professionals
Applying the Therapeutic Power of Play!



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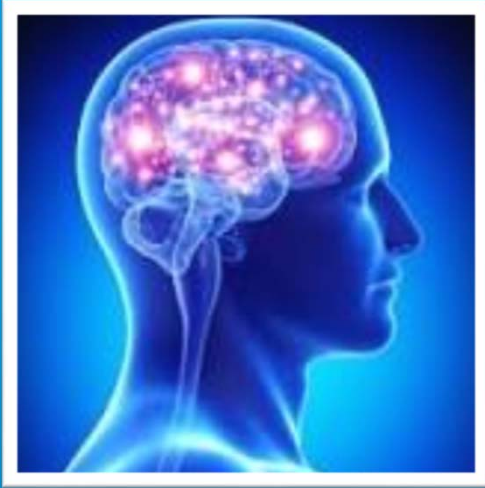


Podcast Guest
Healing Series



#Goals

- Attendees will gain a basic understanding of the brain and brain development
- Attendees will gain a basic understanding of the limbic system
- Attendees will gain a basic understanding of fight, flight, and freeze responses
- Attendees will gain a basic understanding of the concept of neuroception and how important it is to create an environment of felt-safety for the children in their care
- Attendees will gain a basic understanding of trauma, trauma responses and how trauma could be diagnosed or seen as other developmental challenges (i.e., ADHD, anxiety, etc.)
- Attendees will gain an understanding of the trauma of foster care and adoption



Brain Development - Stages

Stage 1: 0 to 10 months.

Stage 2: birth to 6 years.

Stage 3: 7 to 22 years.

Stage 4: 23 to 65 years.

Stage 5: older than 65 years.

1st Trimester - The development of the brain begins in the first few weeks after conception. About seven weeks after conception the first neurons and synapses begin to develop in the spinal cord. These early neural connections allow the fetus to make its first movements

2nd Trimester - The cerebral cortex is growing in thickness

3rd Trimester - reflexes such as fetal breathing and responses to external stimuli become more regular. The cerebral cortex also supports early learning which develops around this time



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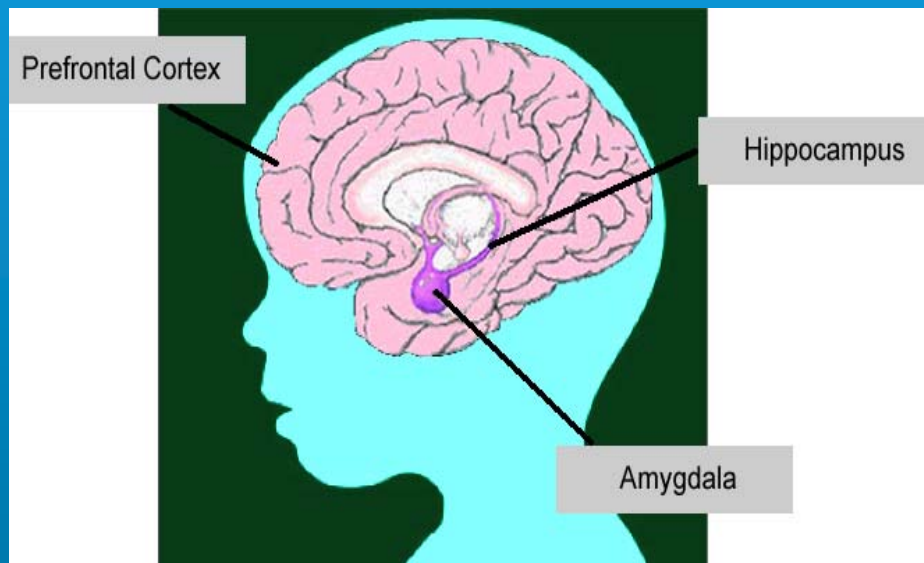
Stage 5: older than 65 years.

Stage 1: 0 to 10 months - Neurons and connections growing. Pregnant woman should stay as stress-free as possible, take folic acid, B6 & B12, stimulate this young developing brain with sounds and sensations. Mother should avoid toxins, cigarettes, heavy metals, alcohol, drugs.

Stage 2: birth to 6 years - Development of voluntary movement, reasoning, perception, frontal lobes active in development of emotions, attachments, planning, working memory, and perception. By age six, the brain is 95% its adult weight and peak of energy consumption.

Stage 3: 7 to 22 years - The prefrontal cortex is the last to mature and it involves the control of impulses and decision-making. The brain is not fully developed until ages 22-25

The Earliest Messages that the Brain Receives Have an Enormous Impact

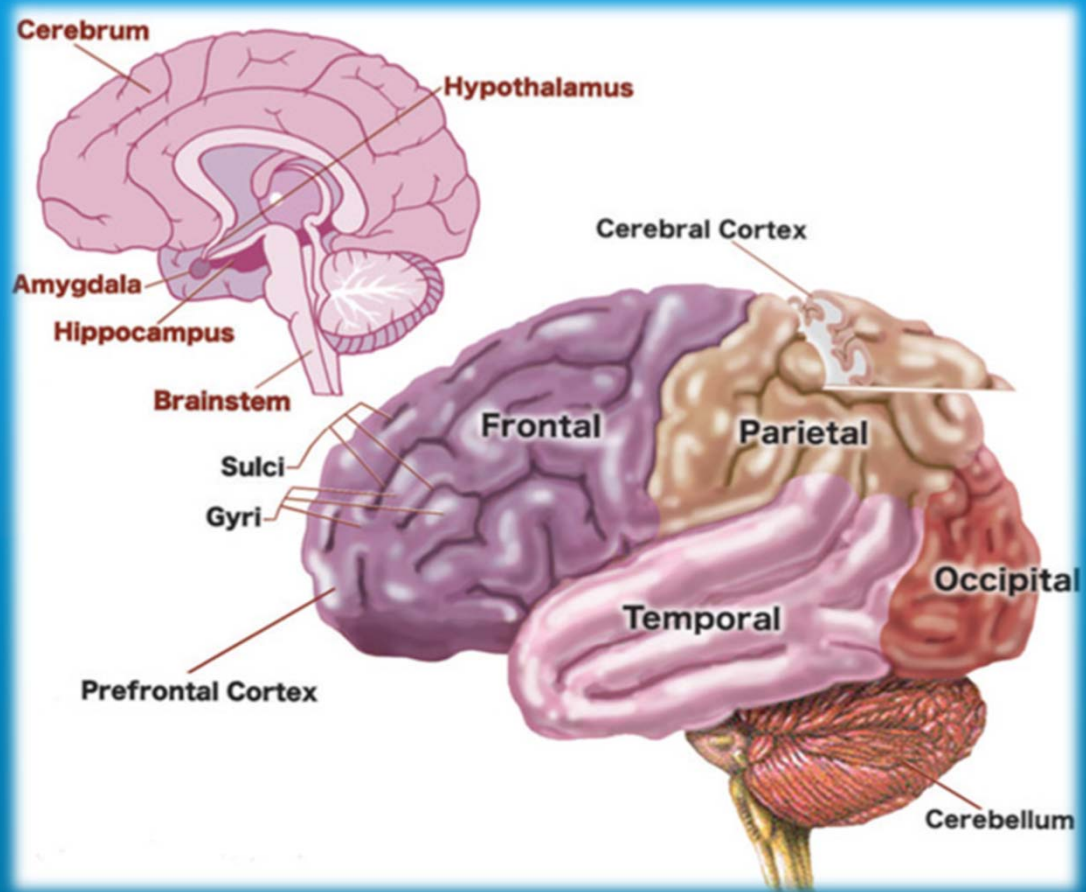


(National Scientific Council on the Developing Child, 2005, 2007, 2010)

In response to overwhelming stress in young children:

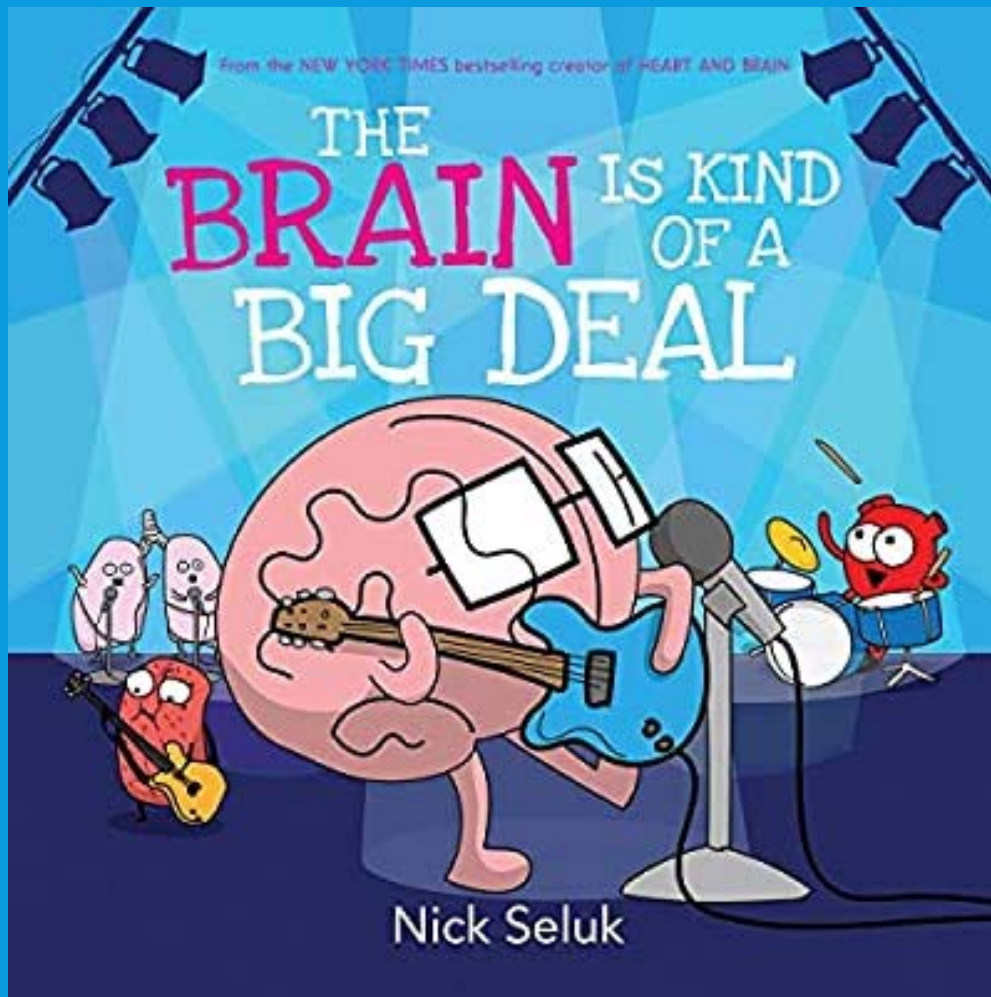
- The brain drives the "fight or flight response" and release of stress hormones.
- The young child has limited capacity to manage this overwhelming stress and experiences increased arousal — fear and anxiety (physical and emotional sensations).
- Excessive fear and anxiety and excessive cortisol (stress hormone) can affect the capacity for stress regulation as well as development
- Significant early adversity can lead to lifelong problems (physical and mental health).

THE HUMAN BRAIN



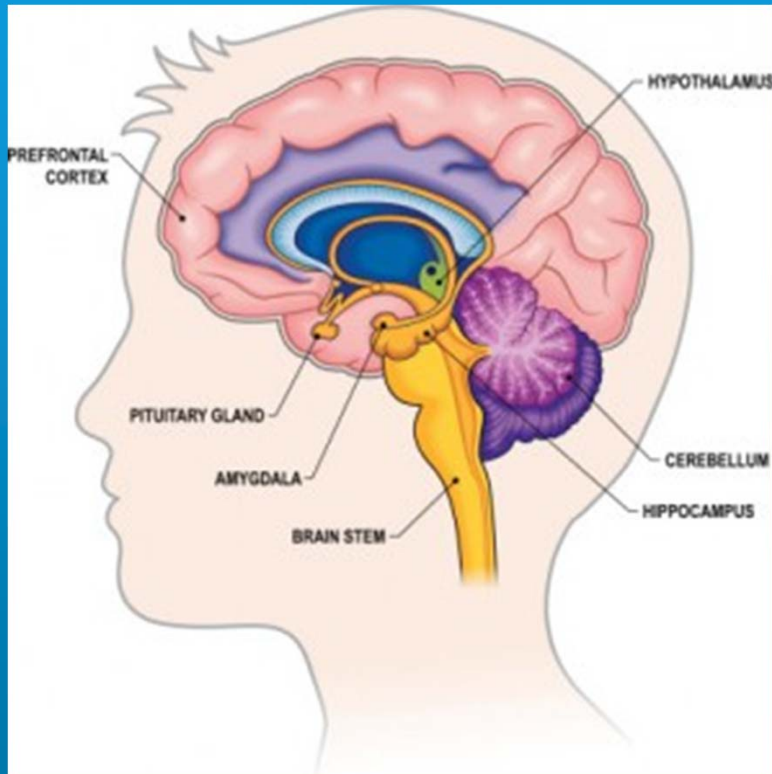
Source: Adapted by Bill Day from www.educarer.org, 2006.





Great book for explaining the brain and all its amazing abilities to adults and kids!

Limbic System



Hypothalamus: The hypothalamus deals, for the most part, with homeostasis, or maintaining internal stability. It regulates hunger and thirst; responds to pain and pleasure; and controls anger, aggression, and sexual satisfaction. In addition, it is responsible for the function of the autonomic nervous system.

Hippocampus: A person's memory depends on the hippocampus, a vital part of the brain that converts short-term memories to long-term memories.

Amygdala: The amygdala lies in feeling and discerning emotion, especially fear. **It is most stimulated by events upon which a person's survival depends, such as those that warn of danger or distress,** as well as those that indicate necessary needs like food and water.

(National Scientific Council on the Developing Child, 2005, 2007, 2010)

FIGHT OR FLIGHT OR FREEZE

Brain – “There is a saber-toothed beast after us!! What are our options??”

Heart... “Oh &*^# -- um, fight, freeze..??”

Body – **“DUDES....RUN!!!”**
(Flight)

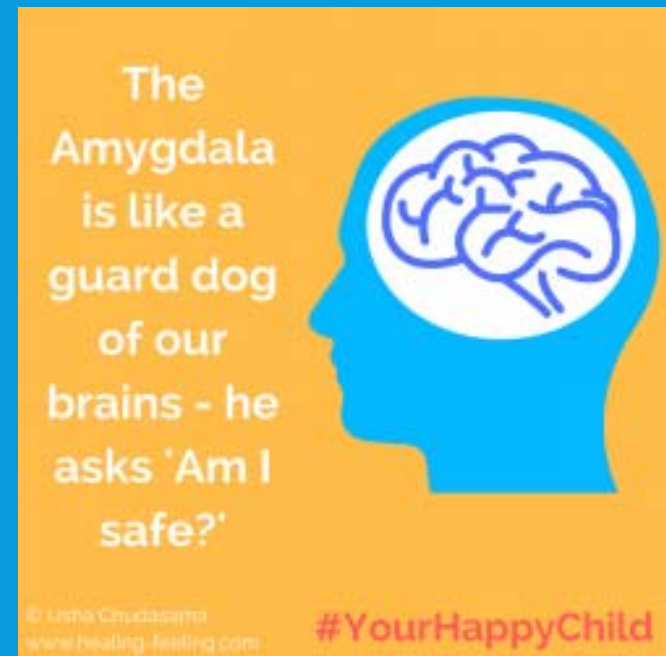


EVERY HUMAN BRAIN RESPONDS THE SAME

Trauma lies on a continuum but is always about a fight-flight-freeze response.

When we are faced with a threat, a message is sent to the amygdala in the limbic system of the brain.

The amygdala assesses the threat and sends a message to the brain stem to activate the fight-flight-freeze response.



“No human being,
child or adult,
chooses to have a
brain response to
punish
another human being.”

Janet Nordine, MS, LMFT, RPT-S





CHILDREN WITH SHAKY FOUNDATIONS

Baby's Foundations are made **shaky** due to in utero stress toxins, childhood traumas, a lack of consistent love and good role models within early family life.

Shaky Foundation

- ❖ Lowers Stress Tolerance
- ❖ Increases the Likelihood of "Collapse"
- ❖ Mis-attunement – caregiver not reading baby's cues
- ❖ In Utero stress toxins impact brain stem development
- ❖ Brainstem Impairment due to ongoing Trauma / Abuse in childhood
- ❖ Real or perceived Loss or Abandonment
- ❖ Cold Parenting
- ❖ **All Babies** would respond the same way – not only children in foster care or children who are adopted. ALL CHILDREN!

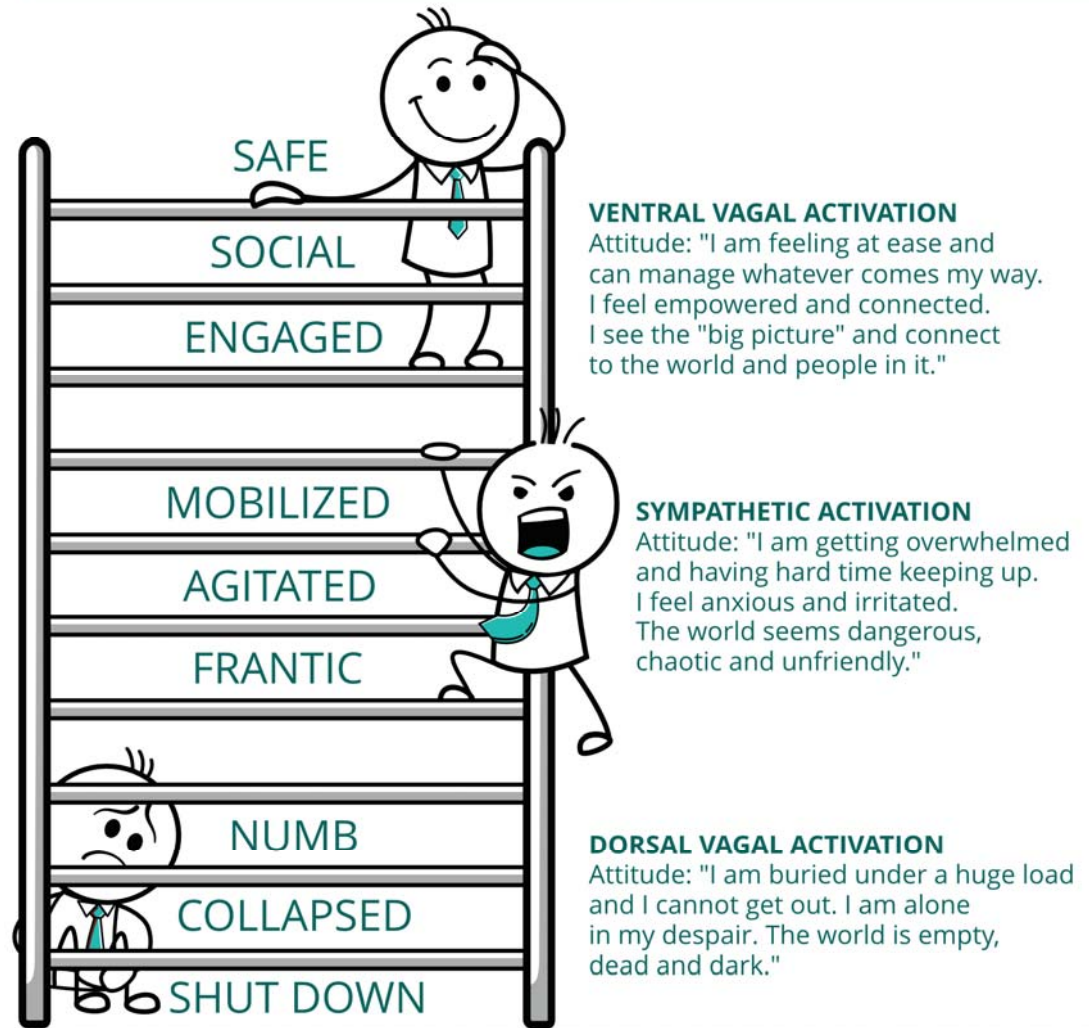
SURVIVAL

WHICH DO YOU CHOOSE

FIGHT, FLIGHT, OR FREEZE

makeameme.org

AUTONOMIC NERVOUS SYSTEM AS A LADDER



Adapted from *The Polyvagal Theory in Therapy* by Deb Dana

Fight

source: www.innerworldwork.co.uk

What I look like in Fight ...

- × Hot & bothered
- × Angry & aggressive
- × Controlling
- × Lie or blaming
- × Shouty & argumentative
- × Pushing away friends
- × Demanding
- × Inflexible



www.innerworldwork.co.uk

What I am aware of ...

- × I'm in danger
- × Really scared
- × I am all alone
- × I feel bad
- × Frightened
- × Unimportant
- × Invisible



www.innerworldwork.co.uk

Whats happening in my Inner World ...

- × I can't be cross at the people
I really want to be cross at
- × I'm going to push you away
before you get rid of me
- × Unsafe
- × I hate myself, I am
unloveable, I want to die
- × Why wasn't I good enough?
- × I need to be in control &
make things predictable



www.innerworldwork.co.uk

You can help me feel safe with the following ...

- ✓ Give me a role
- ✓ Support me socially
- ✓ Match my energy
- ✓ Make things predictable
- ✓ Deep breathing
- ✓ Connect & show empathy
before exploring the
consequences of my behaviour



www.innerworldwork.co.uk

Flight

source: www.innerworldwork.co.uk

What I look like in Flight ...

- × Run away
- × Keeping SUPER busy
- × Not coping in free time
- × Need to be first or at the front
- × Bumping into people
- × Avoiding tasks and activities
- × Baby talk or silly voices
- × Hyperactive, giddy & silly
- × Hiding under tables



www.innerworldwork.co.uk

What I am aware of ...

- × Unable to focus
- × Lonely
- × Panic
- × Feeling bad, movement is distracting
- × Shame
- × Overwhelmed
- × Worried about what happening next
- × Anxious, apprehensive



www.innerworldwork.co.uk

How my body feels

- × Escape, run & hide
- × Painful joints
- × Numb
- × Vibrating
- × Ready for action
- × Jumpy & tense
- × Sick



Whats happening in my Inner World

- × I want to escape from this scary moment but I can't
- × I dont want you to see my real feelings, you can't handle them
- × I am really worried I can't do whats going to happen next



You can help me feel safe with the following ...

- ✓ Keep me close by
- ✓ Deep breathing
- ✓ Give me a easy & familiar task
- ✓ Make things predictable
- ✓ Tell me I'm safe, show me a safe place or person I can go to
- ✓ Kindly talk though what might be tricky



Freeze

source: www.innerworldwork.co.uk

What I look like in Freeze...

- × Not interested, bored
- × Confused, forgetful
- × Talking about something else
- × Hard to move through the task
- × Not listening
- × Staring into space, daydreaming
- × Clumsy



What I am aware of...

- × My brain is slowing down
- × Trying to think of something safe
- × I can't do this
- × Feeling deeply anxious
- × I can hear you're getting frustrated
- × Starting to shut down
- × I feel under attack



How my body feels ...

- × Frozen brain
- × If I don't move, you can't see me
- × Everything feels like a dream
- × Under attack
- × In a fog
- × Disconnected
- × Numb



What's happening in my Inner World ...

- × I can't bear your rejection
- × I need to feel safe
- × Shame, I hate myself
- × I'm scared I don't know what's going to happen
- × When I fail at this you'll send me away
- × When you realise I can't do this, you won't want me in your class anymore

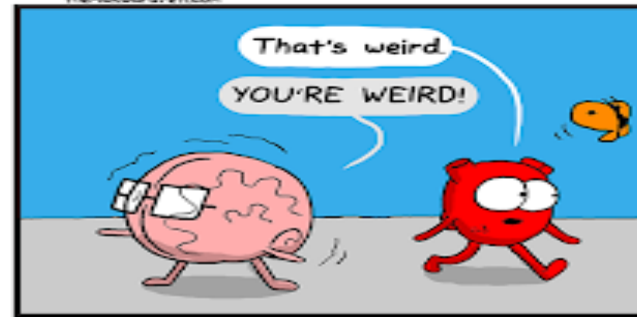
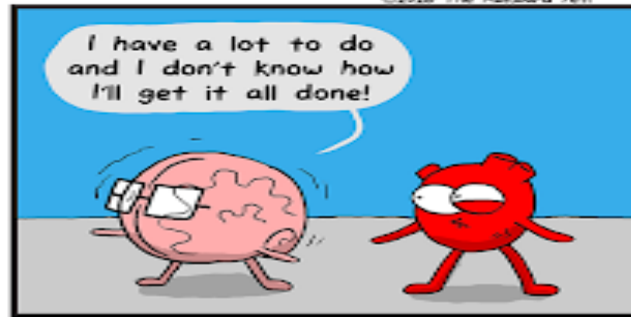
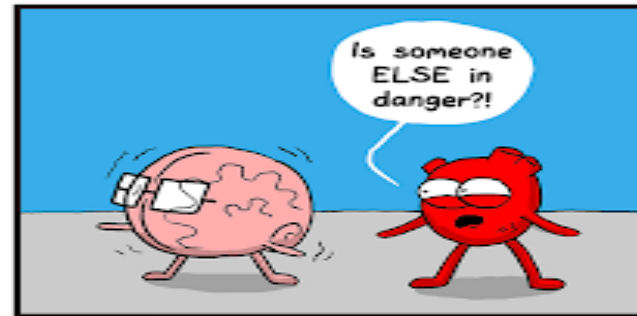
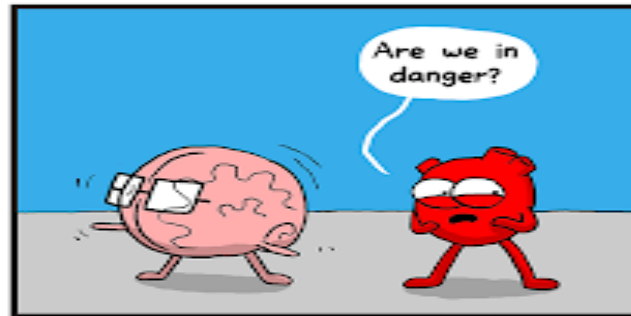
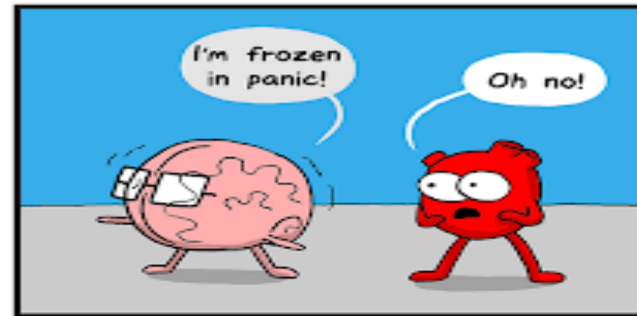
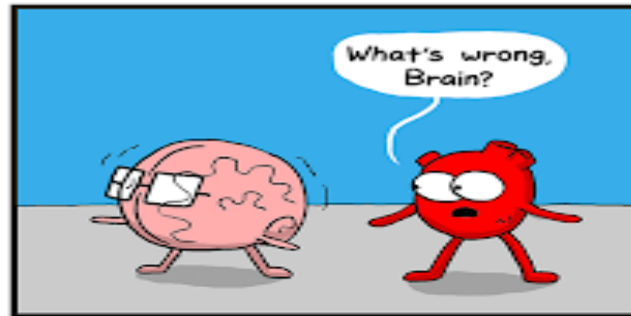


You can help me feel safe with the following ...

- ✓ Do the task with me
- ✓ Deep breathing
- ✓ Tell me I'm ok & that I'm safe
- ✓ Ask me to push my hands down under my seat & lift myself up off the chair
- ✓ Gently wonder where I've gone & welcome me back to the room
- ✓ Make the task smaller & more predictable
- ✓ Tell me kindly who I am & what I'm doing
- ✓ Tell me what you want me to do !! without showing frustration



**F
R
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E
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Interoception

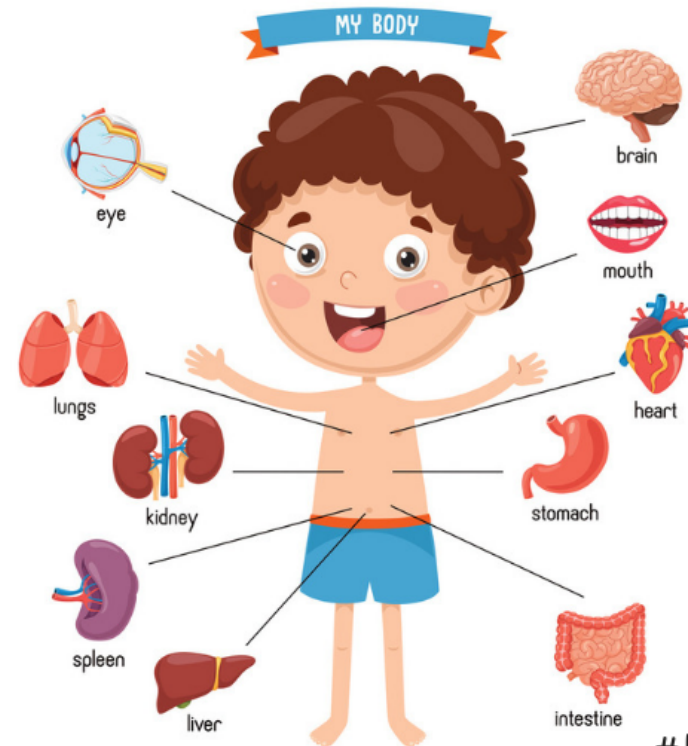
The Sense of knowing what is going on **inside** of your body

www.totsontarget.com

TheraSpeak

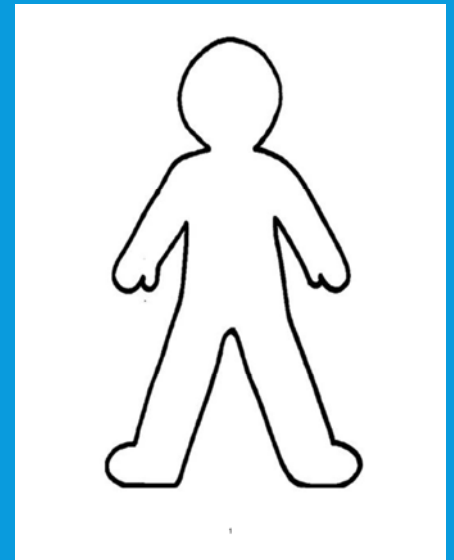
Interoception

Helps me feel when I'm thirsty, lets me know when I have to use the potty, and tells me when I've eaten too much!



#totsontarget

“Stress and trauma affect the strength of signals at the most basic levels of interoception, as well as the ability to 'access' or tolerate the disturbance, which in turn compromises accurate interpretation of sensations and related decisions regarding behavior.” *Interoceptive Awareness Skills for Emotion Regulation: Theory and Approach of Mindful Awareness in Body-Oriented Therapy*



My Favorite Question –
“WHERE DO YOU FEEL THAT
(EMOTION / SENSATION / FEELING)
IN YOUR BODY? “

DSM-5 Criteria for Children Who Are 6-Years of Age or Younger!

(American Psychological Association, 2014; Scheeringa et al., 1995)

- A. Exposure to actual or threatened death, serious injury, or sexual violence in one or more of the following ways:
 - 1. Directly experiencing trauma.
 - 2. Witnessing traumatic events occurring to others.
 - 3. Learning that trauma occurred to parents or caregivers.
- B. Intrusive symptoms (one or more of the following):
 - 1. Recurrent, involuntary, and intrusive distressing memories of the trauma.
 - 2. Recurrent distressing dreams related to the trauma.
 - 3. Dissociative reactions (flashbacks) in which the child acts as if the trauma is recurring.
 - 4. Intense or prolonged psychological distress at exposure to cues that symbolize the trauma.
 - 5. Marked physiological reactions to reminders of the trauma.

TRAUMA

Brain Development and Trauma

Trauma can affect how the brain functions and the autonomic nervous system.

- Young children can continue to show fear symptoms, even if threatening stimuli are no longer present (McHale, 2013).
- Young children can show high resting heart rates, high stress hormones, and poor sleep patterns (McHale, 2013).
- Prolonged stress of trauma can result in the shrinkage of the areas of the brain responsible for learning, memory, and regulation of affect and emotions (Newberger, 1997).

Young children's stress response system develops rapidly during the first three years of life and can be altered by stress.

- Nonetheless, the early postnatal period is a particularly vulnerable time.

MFLNFamilyDevelopment/april-3-2014-trauma-in-young-children-webinar2

TRAUMA

Brain Development and PTSD

(De Bellis et al., 2002)

Maltreated children who were diagnosed with PTSD (versus those who were not diagnosed):

- Had decreased volume in the corpus callosum, prefrontal cortices, and temporal lobes and smaller amounts of prefrontal cortical white matter.
- Had smaller intracranial, cerebral, and prefrontal measurements.
- Had increased volume in the superior temporal gyrus.
- Had larger volumes of cerebrospinal fluid in the frontal lobes.

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TRAUMA

Childhood Trauma is Also:

@the.holistic.psychologist

A parent denying your reality



Not being seen or heard



Having a parent who vicariously
lives through their child



Being told (directly or indirectly) you can't or
shouldn't experience certain emotions



Having a parent who overcompensates for
what they felt was missing in their childhood



Having a parent who's focused on appearance



Having a parent who cannot regulate
emotions

TRAUMA

THE TRAUMA OF FOSTER CARE AND ADOPTION

“Children are not things to be molded but
persons to be unfolded.”

FOSTER CARE

“Children are not in Foster Care because everything in their life was going well”

Janet Nordine, MS, LMFT, RPT-S



Adoption

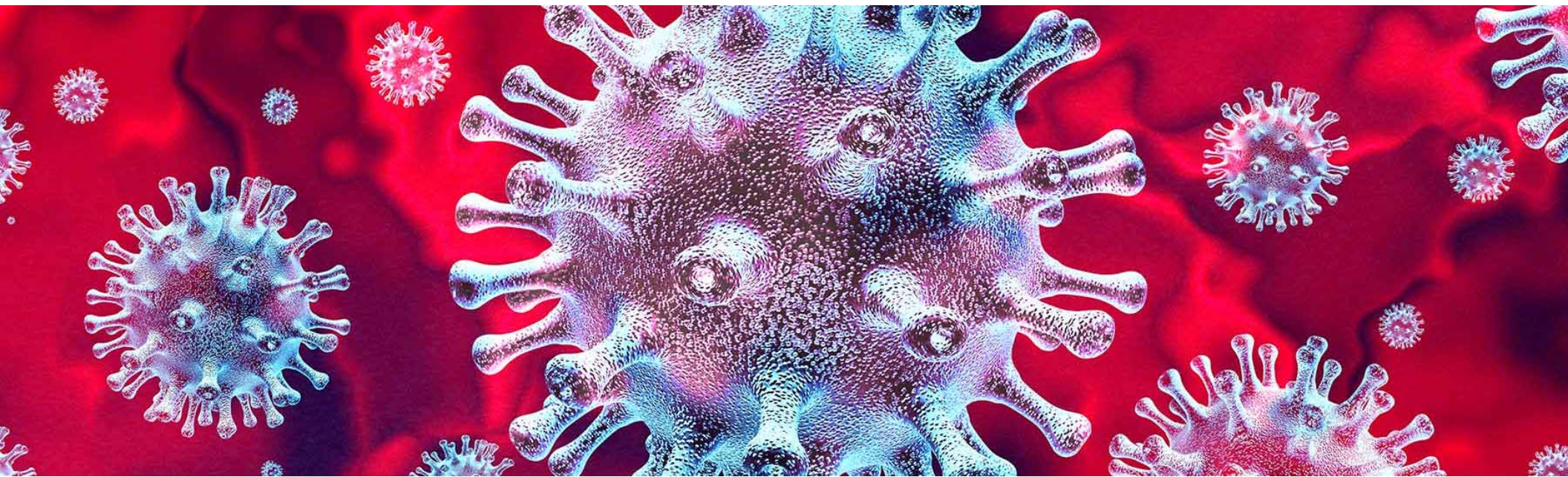
Trauma creates the feeling of self-alienation and the belief you don't belong in the world.

The message to adoptees of "You are chosen and lucky" mixed with the body/mind experience of loss is crazy-making.

**It's so hard to put the pieces of self and experience together when they don't click.
-Anne Heffron**

**Anger is an appropriate response to heartbreak.
We are not angry adoptees.
We are heartbroken people.
-Anne Heffron**

Anne Heffron is the author of the Memoir, [You Don't Look Adopted](#)



**HOW CAN WE HELP
CHILDREN AND FAMILIES?
ESPECIALLY NOW?**

Many Children and Adults will report that the Covid 19 Quarantine as a time of **TRUAMA** in their lives.

“The fear and social isolation associated with COVID-19 commonly exacerbates existing chronic stresses. Reports are surfacing of increased mental health problems, anxiety, partner violence, depression, suicidality, child abuse, opioid use disorder, other substance abuse, drug overdose, and alcohol abuse. Children are forced to stay home from school or daycare and witness and experience this trauma in greater degrees. These all contribute to higher childhood adversity (ACE scores) which will add to chronic stress across the lifespan (toxic stress).” <https://www.acesconnection.com/>

ACEs – ADVERSE CHILDHOOD EXPERIENCES – Do you know the score?

**“Children are not
Attention Seeking.
Children are
Connection
Seeking”**



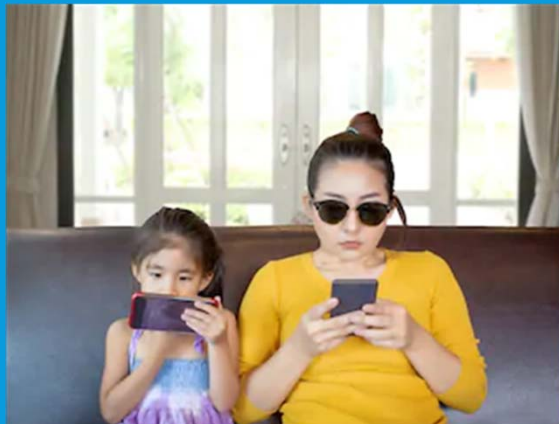
Mdghw#Q rug lqh/#P V/#OP IW/#JSW0V

Connection

"A subjective state that is determined based on the safety of the caregiver, the safety of the environment, and the child's inner experience." Alan Sroufe, PhD



**When I'm
with you,
I feel safe
from the
things that
hurt me
inside.**



"The Child's appraisal of the caregiver's availability is crucial. That appraisal is largely dependent upon the child's experience of the caregiver's availability in the past."

John Bowlby



“WE (OUR CHILDREN) WERE HARMED IN
RELATIONSHIP AND WE (THEY) WILL EXPERIENCE
HEALING THROUGH NURTURING RELATIONSHIPS.”

Dr. Karyn Purvis

www.child.tcu.edu



“

Providing an atmosphere of "felt safety" disarms the primitive brain and reduces fear. It is a critical first step toward helping your child grow and heal.

THE CONNECTED CHILD

Felt Safety

- Are they hungry?
 - Thirsty?
- Needing Nurturing Touch?
- Are you in a Power Struggle?

The Opposite of **FEAR** is FELT SAFETY – Dr. David Cross

Mirror Neurons



We are a social species.
Our neuroception is
attuned to the state of
other mammals.
We often subconsciously
mirror or match the
survival states of others
around us.

In a herd, if one animal senses danger, the entire group becomes more alert, which increases the chances of survival for the whole group. Calmness, safety, and a sense of wellbeing are also contagious.

Trauma Geek

**“NEURONS THAT FIRE
TOGETHER, WIRE
TOGETHER.” –**

DR. DONALD HEBB

1949

CANADIAN PSYCHOLOGIST

Reflect the preciousness of your child through your eyes

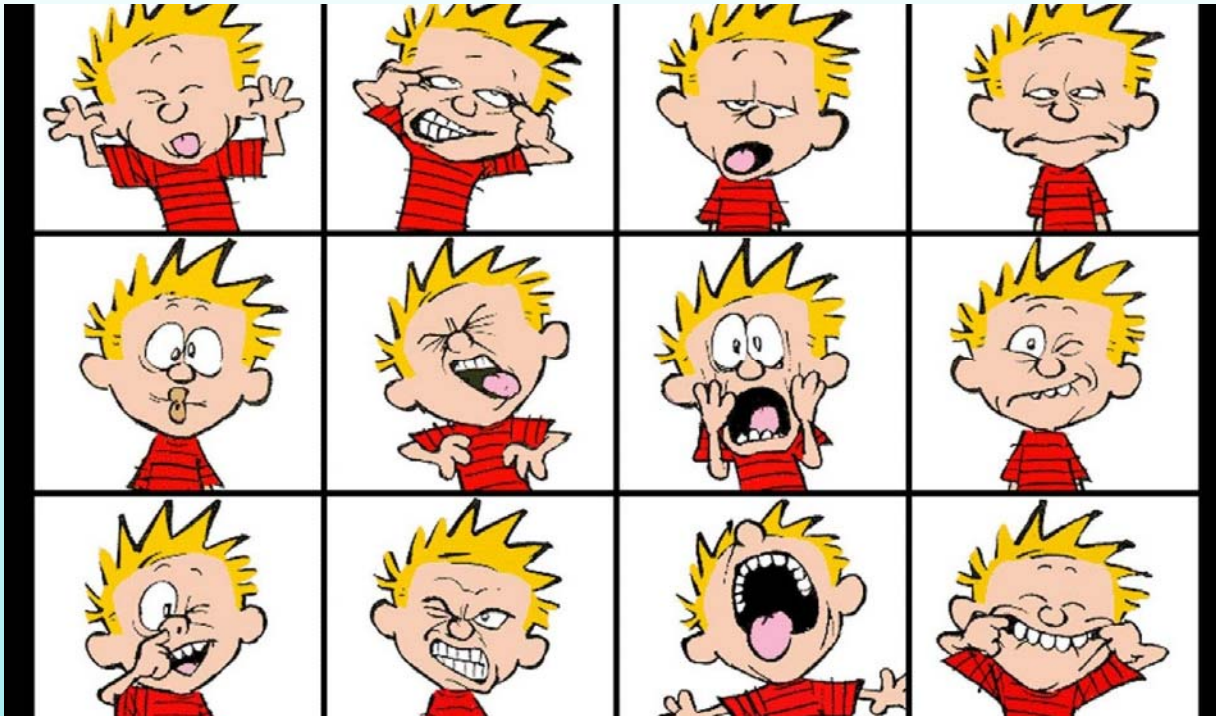


MIRRORING CHILDREN MAKES ALL THE DIFFERENCE

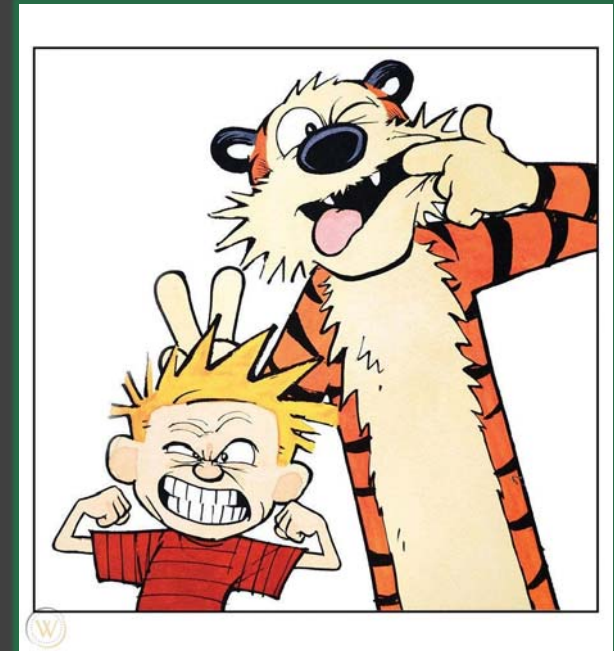
ATTUNEMENT AFFECTS BRAIN DEVELOPMENT

- During interactions characterized by attunement, caregivers and their children synchronize neural activity in the right cortex of each brain (McHale 2013)
- Attachment allows brain rhythms to be in tune and ultimately for infants to manage stress
- Attunement is critical for later emotional regulation with skill guided by right prefrontal cortex (Peck 2003)





EMOTIONAL CO-REGULATION (ATTUNEMENT)



Co-Regulation
Perfection!!

Ideas for Parent / Child interaction at Home

- Limit Screen time - Video games, TV and Computer Time
- Go outside – Get Vitamin D daily
- Practice taking deep breaths together
- Make Eye Contact when talking
- Play a game together
- Offer protein filled snacks and hydration often – especially when you can see dysregulation coming
- Keep to a Schedule – post it, discuss it together
- “Pre-Teach” transition or change (in 5 min or 10 min we will...)
- Make and Eat Meals together
- Stick to regular bed time and getting up time – Naps are great, too! (this is also for ADULTS, too!!)
- Be playful with children – Play is the language of the Child!
- Look for what your child does well. Offer lots of compliments.

If you or your child is struggling, seek out a Therapist who specializes in working with children and parents together.

“YOU CAN NOT LEAD A CHILD TO A PLACE OF HEALING IF YOU DO NOT KNOW THE WAY YOURSELF.”

— KARYN PURVIS, PH.D.





**KEEP
CALM**

AND

**NEVER GIVE UP
NO MATTER WHAT**



PLAY

disarms fear.
builds connectedness.
teaches social skills.
teaches competencies
for life.


- Dr. Karyn Purvis -



OUR CHILDREN NEED
TO KNOW THAT
THEY ARE PRECIOUS,
IN THE SUNSHINE
AND IN THE RAIN.

DR. KARYN PURVIS



 showhope.org

Tell your children 'you are
precious, you are valuable, and
nobody else is created like you.'

~ DR. KARYN PURVIS ~



QUESTIONS?

THANK YOU SO MUCH
FOR ATTENDING

Childhood Trauma and its Effects on Brain Development
Janet Nordine, MS, LMFT, RPT-S - www.experiencecourage.com

References:

Websites

Center for Disease Control – Child Development, Early Brain Development information

<https://www.cdc.gov/ncbddd/childdevelopment/early-brain-development.html>

Dr. Karyn Purvis – The Connected Child – Felt Safety

<https://child.tcu.edu/wp-content/uploads/2015/06/The-Connected-Child-Chapter-Four.pdf>

www.totsontarget.com – Tots On Target

www.innerworldwork.co.uk - Inner World Work (Fight, Flight, Freeze slides)

www.educarer.org Educarer

Books –

Interoception: How I Feel: Sensing My World from the Inside Out – Cara N. Koscinski, MOT. OTR/L

Beyond Behaviors: Using Brain Science and compassion to Understand and Solve Children's Behavioral Challenges – Mona Delahooke, PhD

The Connected Child – Karyn B Purvis, Ph.D, David R Cross, Ph.D and Wendy Lyons Sunshine

The Whole-Brain Child – Daniel J Siegel, M.D. and Tina Payne Bryson, Ph.D.

The ACEs Revolution – The Impact of Adverse Childhood Experiences – Jon R Trayser

You Don't Look Adopted – Anne Heffron

The Brain is Kind of a Big Deal – Nick Seluk

The Polyvagal Theory in Therapy – Deb Dana

Podcasts –

Adoptees On – Therapists who are also Adoptees talking about the Adoption Experience – Healing Series <http://www.adopteeson.com/>

Attachment Theory in Action - <https://attachmenttheoryinaction.podbean.com/>

Continued Learning –

The West Coast Institute for Gestalt Therapy with Children and Adolescents – <http://westcoastinstitute.us/>.

Robyn Gobbel, LCSW - <https://www.gobbelcounseling.com/> or Robyn@gobbelcounseling.com
Relational Neurosciences and translate it for helpers, healers, educators, and parents. Webinars for everyone who works with children

Adoptees Connect – connection groups for Adult Adoptees – www.adopteesconnect.com

Association for Play Therapy – www.a4pt.org

Slide Citations:

National Scientific Council on the Developing Child, 2005, 2007, 2010)

April 3, 2014-Trauma in Young Children Under 4-Years of Age: Attachment, Neurobiology, and Interventions – University of South Florida

Child Development information -

www.MFLNFamilyDevelopment/april-3-2014-trauma-in-young-children-webinar2