



The Infinite Connections between Safety, Health, and Emotional Regulation

by Terri N. Wall, PhD, Bethany Crawley, JD, RYT,CMT,
and Maria Mahmoodi, MD, FAAFP

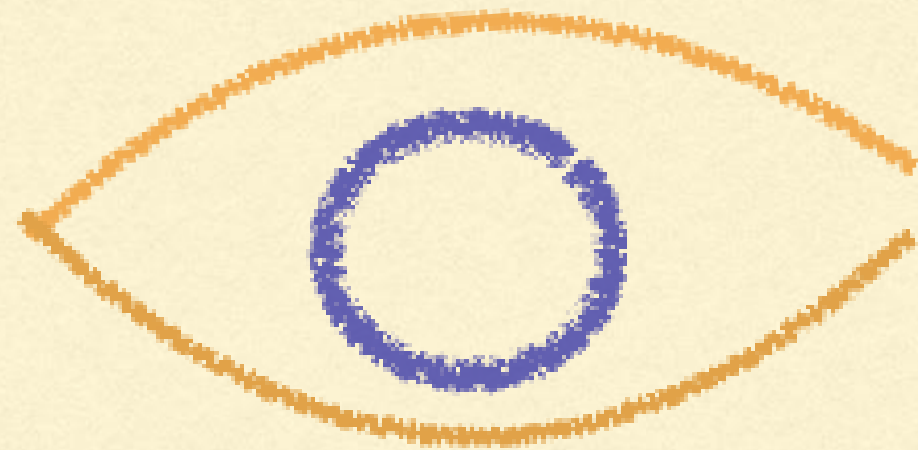
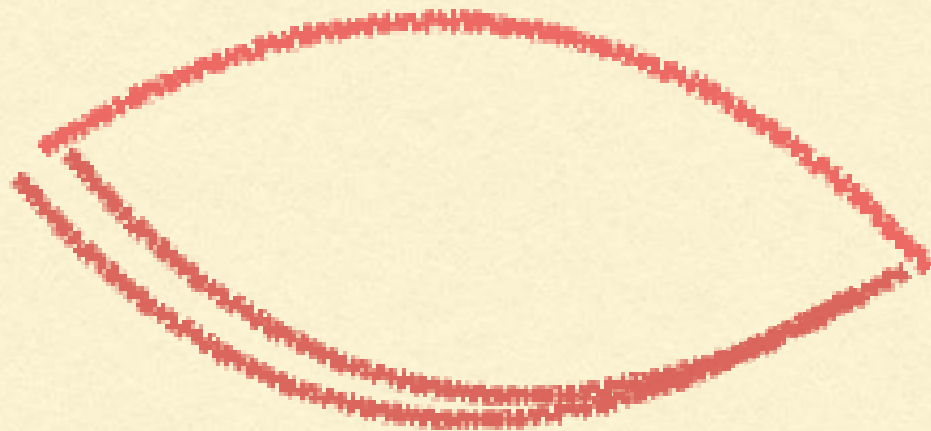
One of the central tasks of *sati* (*mindfulness*) is the **de-automazation of habitual reactions** and perceptual evaluations . . . [which] thereby leads to a **progressive restructuring of perceptual appraisal**, and culminates in an undistorted vision of reality ‘as it is’ . . . which neither suppresses the contents of experience nor compulsively reacts to them.”

— Analayo

Satipatthana, The Direct Path to Realization, Windhorse Publications (2003) p. 267

The “Perpetual Process” of Mindfulness Practice

Resist + Re-Enact

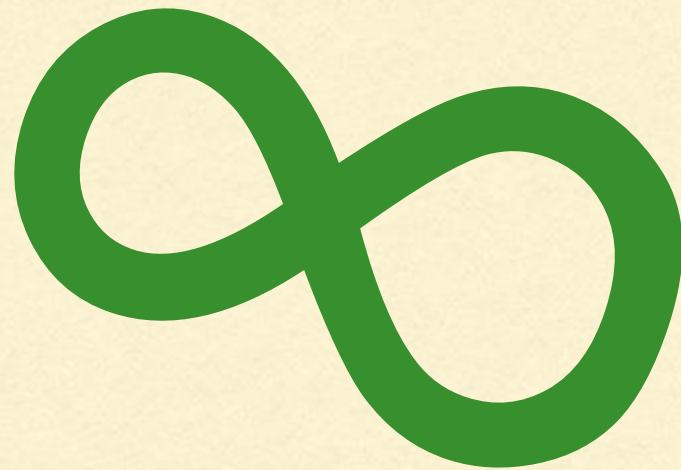
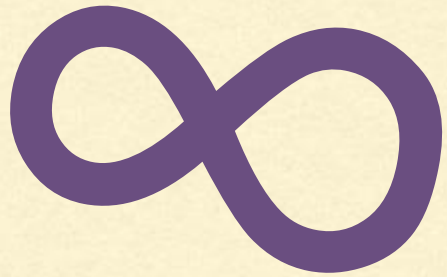


Cultivating Awareness and
Allowing Receptivity + (over
time and with mindfulness practice)
Flexible Response

THE PROBLEM:

THE COLLAPSE OF OUR SAFETY

THE CONFUSION + TRAUMA CONTINUUM

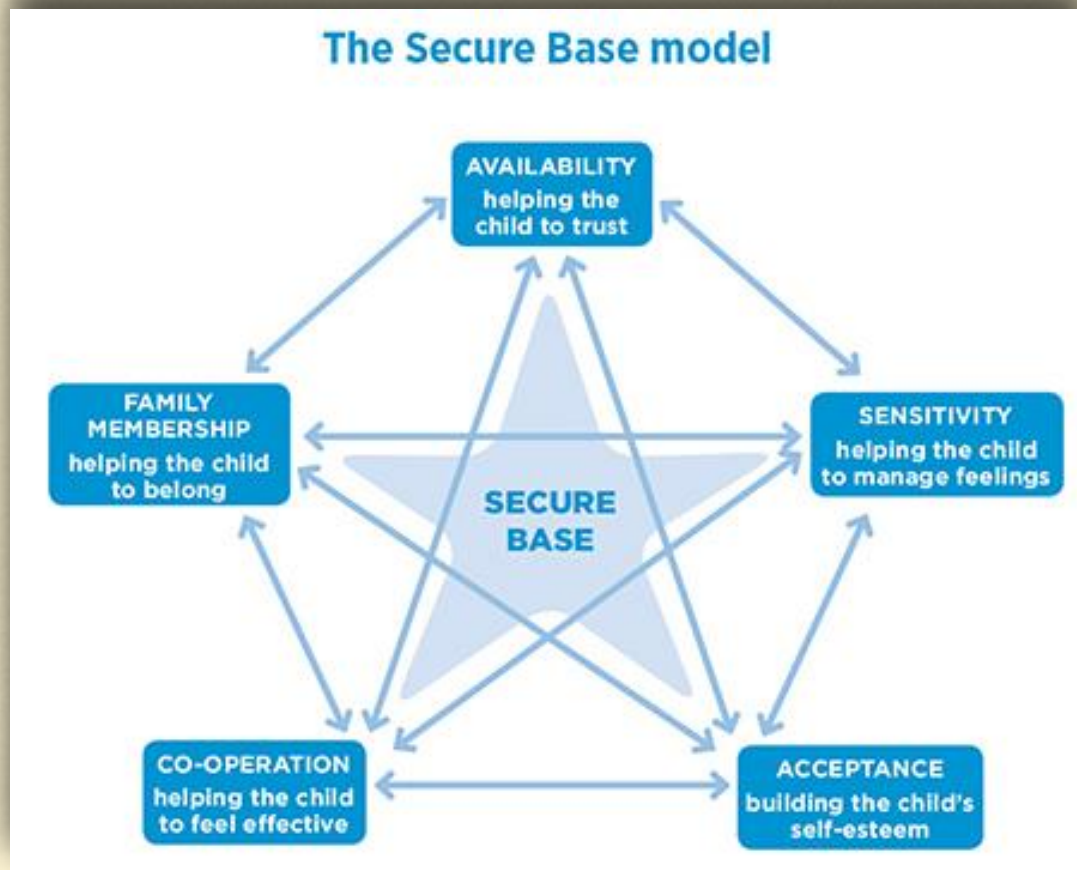


“More than anything else, being able to feel safe with other people defines mental health; safe connections are fundamental to meaningful and satisfying lives.”

—*Bessel van der Kolk, MD*

The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma, Penguin Group (2014), p. 352

SECURE ATTACHMENT: THE IDEAL



If the Attachment Figure (“AF”) is sufficiently near, attentive and responsive (“available”), then the child feels:

- ➔ secure, loved and self-confident
- ➔ and is playful, smiling, exploration-oriented and sociable.

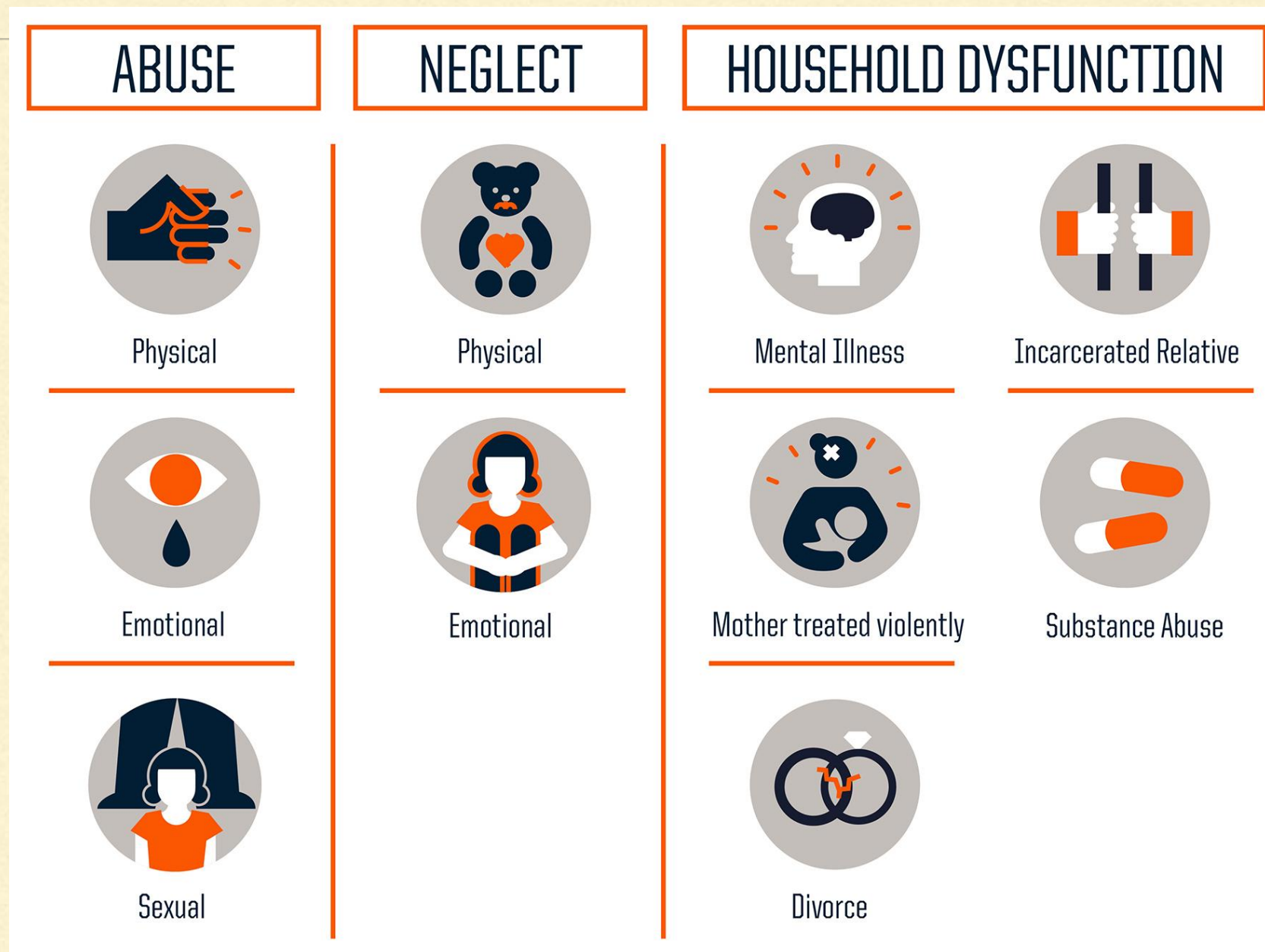
INSECURE ATTACHMENT DEVELOPS WHEN . . .

AF is inconsistently available or not available, the child feels unsafe and

- ➔ Attachment behaviors emerge to manage the child's fear and anxiety (*i.e.* visual checking, signaling, pleading and moving to reestablish contact), and
 - ➔ The child either becomes preoccupied with AF, clinging and anxious about separation and exploration, or
 - ➔ The child becomes defensively avoidant of contact and appears to be indifferent of separation from and reunion with AF.
-

CHILDHOOD TRAUMA:

THE ACE (ADVERSE CHILDHOOD EXPERIENCES) STUDY



Felitti, Vincent J et al. (1998) Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults, *American Journal of Preventive Medicine*, Vol. 14 , Iss.4 , 245 - 258;

Infographic source: Robert Wood Johnson Foundation (<http://www.rwjf.org/en/library/infographics/the-truth-about-aces.html>)

THE RESULTS:

64% HAD AT LEAST 1 ACE

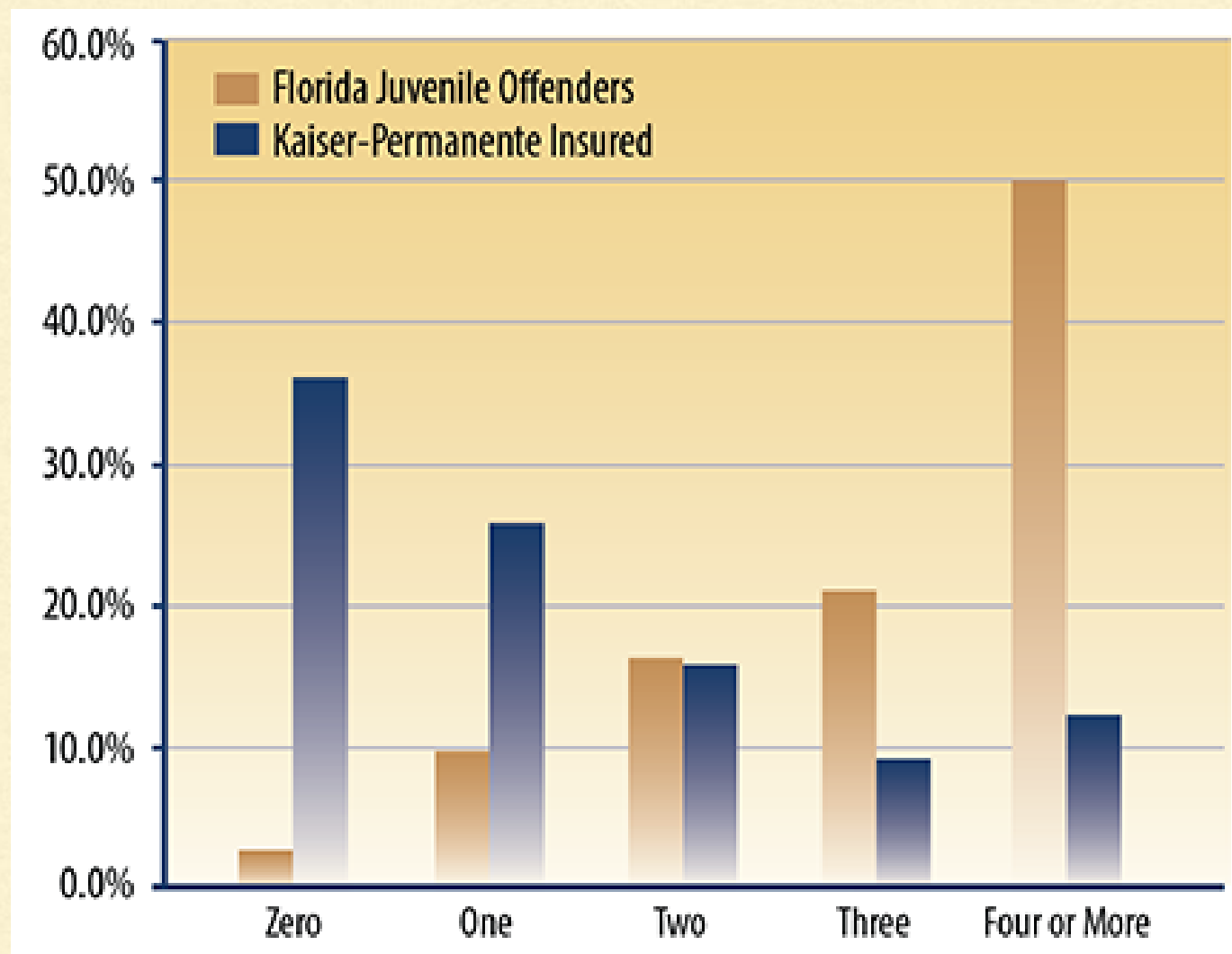


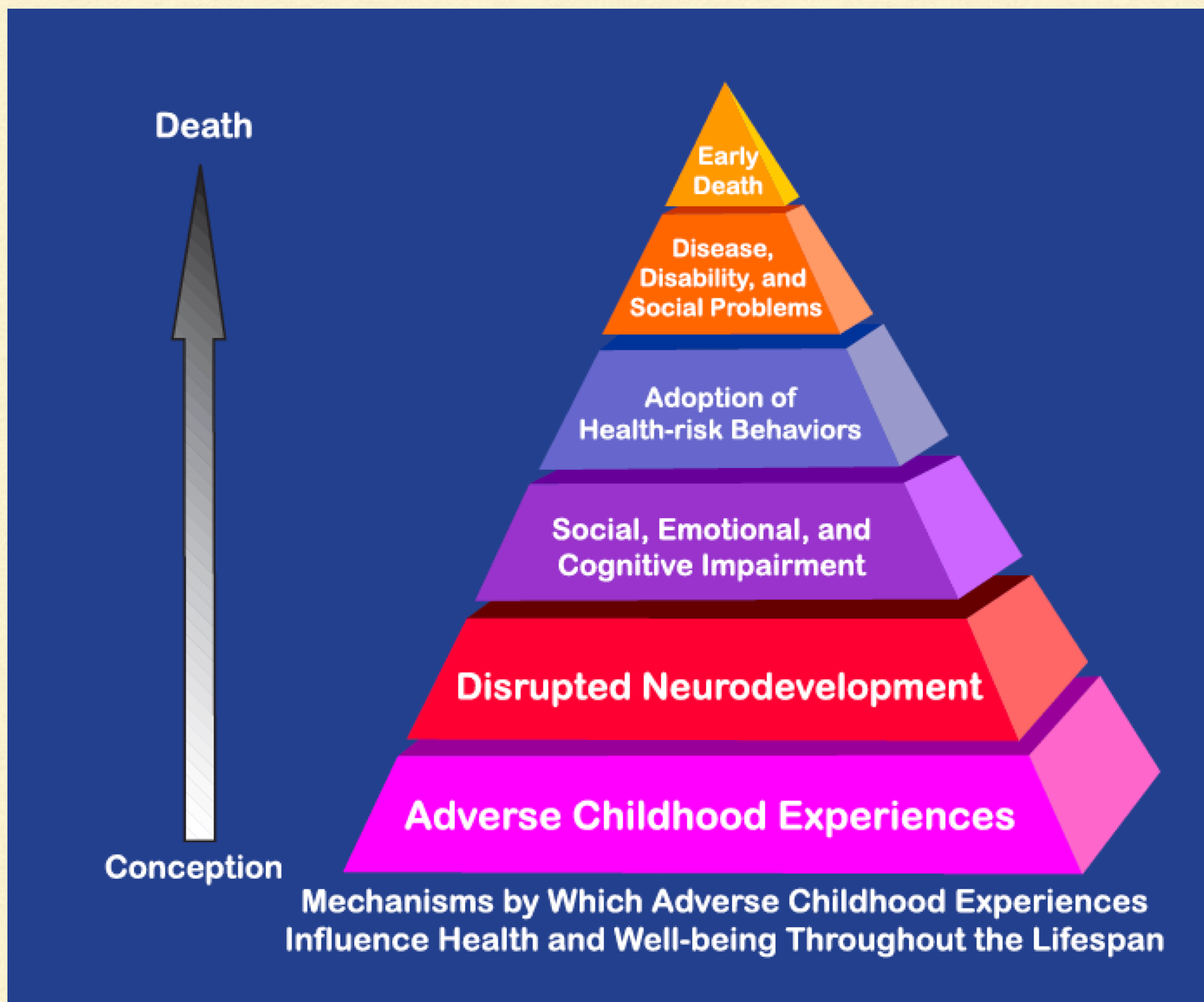
Fig. 3. Comparison of ACE Scores Between Juvenile Offenders and Kaiser-Permanente Study. Note. Prevalence for insured adults based the entire ACE Study sample (n=17,337) as posted by the CDC.

- ACE Results:
 - 36% had 0 ACE's
 - 11,095 (of 17,337) had at least 1 ACE
 - 26% had 1 ACE
 - 16% had 2 ACE's
 - 9.5% had 3 ACE's
 - 12.4% had 4 or More ACE's

CONSEQUENCES OF EARLY TRAUMA

As the number of ACEs increases so does the risk for the following:

- Myocardial infarction
 - Asthma
 - Smoking
 - Disability
 - Reported income
 - Unemployment
 - Coronary heart disease
 - Stroke
 - Diabetes
 - Autoimmune Disease
 - COPD
 - Frequent headaches
 - Liver disease
 - Ischemic heart disease
 - Cancer
 - Depression
 - Anxiety
 - PTSD
 - Aggression
 - Dissociation
 - Substance use
 - Risky sexual behaviors
 - Personality Disorders
-



EARLY LOSS OF CONSISTENT VISCERAL SAFETY: INSECURE + DISORGANIZED ATTACHMENTS

is positively associated with . . .



- Chronic Pain
- Frequent/Severe Headaches
- Stroke
- Heart Attack
- High Blood Pressure
- Ulcers
- Depression
- Anxiety
- Alcoholic/substance abuse related disorders

DISORGANIZED ATTACHMENT

- In stable, middle-class environments
 - Disorganized attachment shows short and long term stability
 - ***About 15% of infants develop disorganized attachment behavior.***
- In other social contexts and in clinical groups this percentage may become **2 - 3 times higher.**

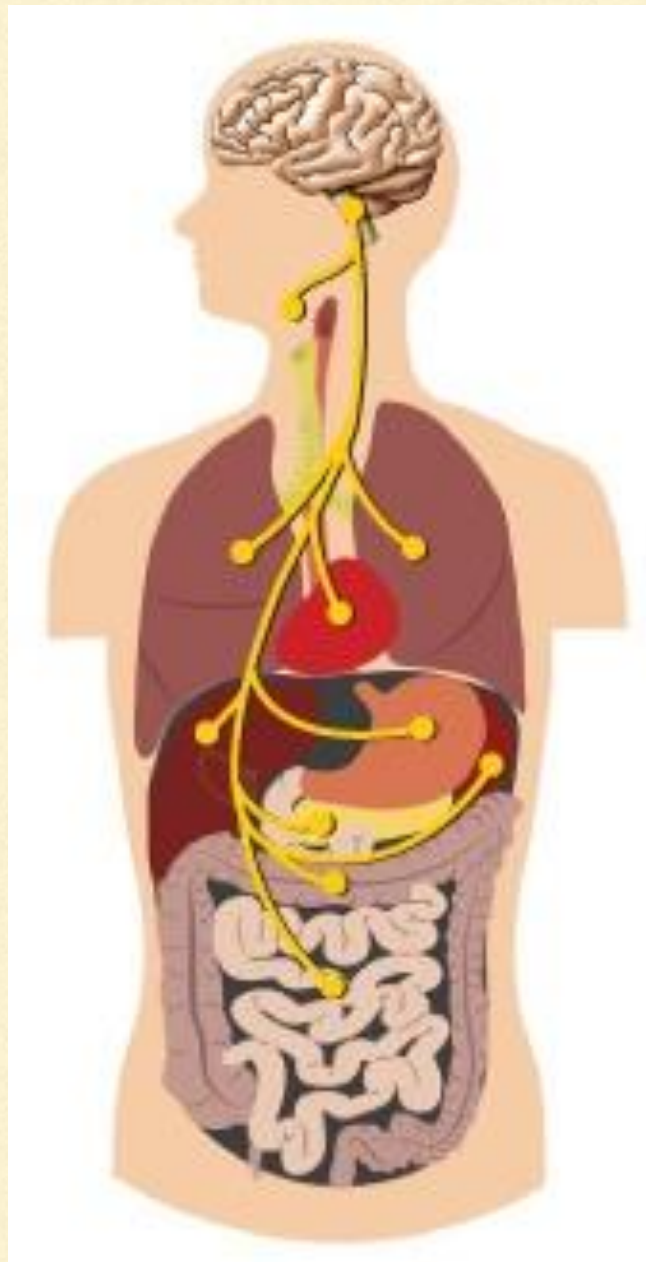
Disrupted Brain Development for Infants + Children

Chronic Stress can lead to:

- Hypertrophy and over activity in the amygdala and orbitofrontal cortex, leading to increased anxiety
- Loss of neurons and neural connections in the hippocampus and medial Prefrontal Cortex (PFC), leading to less top-down control as a result of PFC atrophy
- Impaired memory and mood control due to hippocampal reduction
- Creating a weak foundation for later learning, behavior, and health.

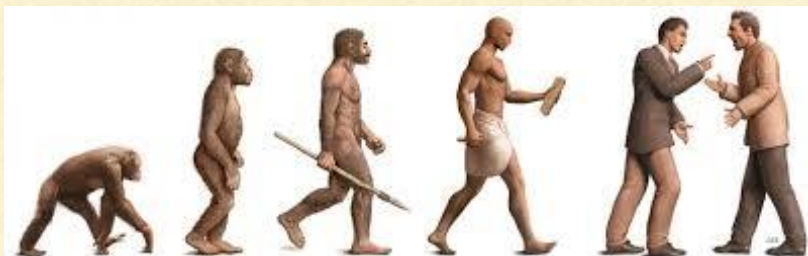


THE POLYVAGAL THEORY



- ANS regulates 3 fundamental physiological states.
- Our level of safety determines which state is activated:
 1. Dorsal Vagal, Parasympathetic Branch
More Primitive
 2. Sympathetic Fight or Flight, or
 3. Social Engagement: Ventral Vagal,
Parasympathetic Branch

NEUROCEPTION



“Because of the heritage of our species, neuroception takes place in the primitive parts of the brain, without our conscious awareness. The detection of a person as safe or dangerous triggers neurobiologically determined prosocial or defensive behaviors. Even though we may not be aware of danger on a cognitive level, on a neurophysiological level, our body has already started a sequence of neural processes that would facilitate adaptive defense behaviors such as fight, flight or freeze.”

- Stephen W. Porges, PhD

TRAUMA LEAVES US WITH NO SAFE PLACE TO “BE”

“After trauma the world is experienced with a different nervous system that has an altered perception of risk and safety.”

-Bessel van der Kolk, *The Body Keeps the Score*, p. 80.



“Oh, and, your feelings have been trying to get in touch with you.”

“To be traumatized is to live in an body with which you have an unreliable and unpredictable relationship.”

- David Emerson, *Trauma-Sensitive Yoga in Therapy*. W.W. Norton & Co. (2015) p. 54

WHAT DO WE DO?...

HOW CAN WE HEAL?

Practice Somatic Mindfulness to Open the Window of Tolerance
through Interoceptive Pathways

Stimulate Ventral “Smart” Vagal Circuits

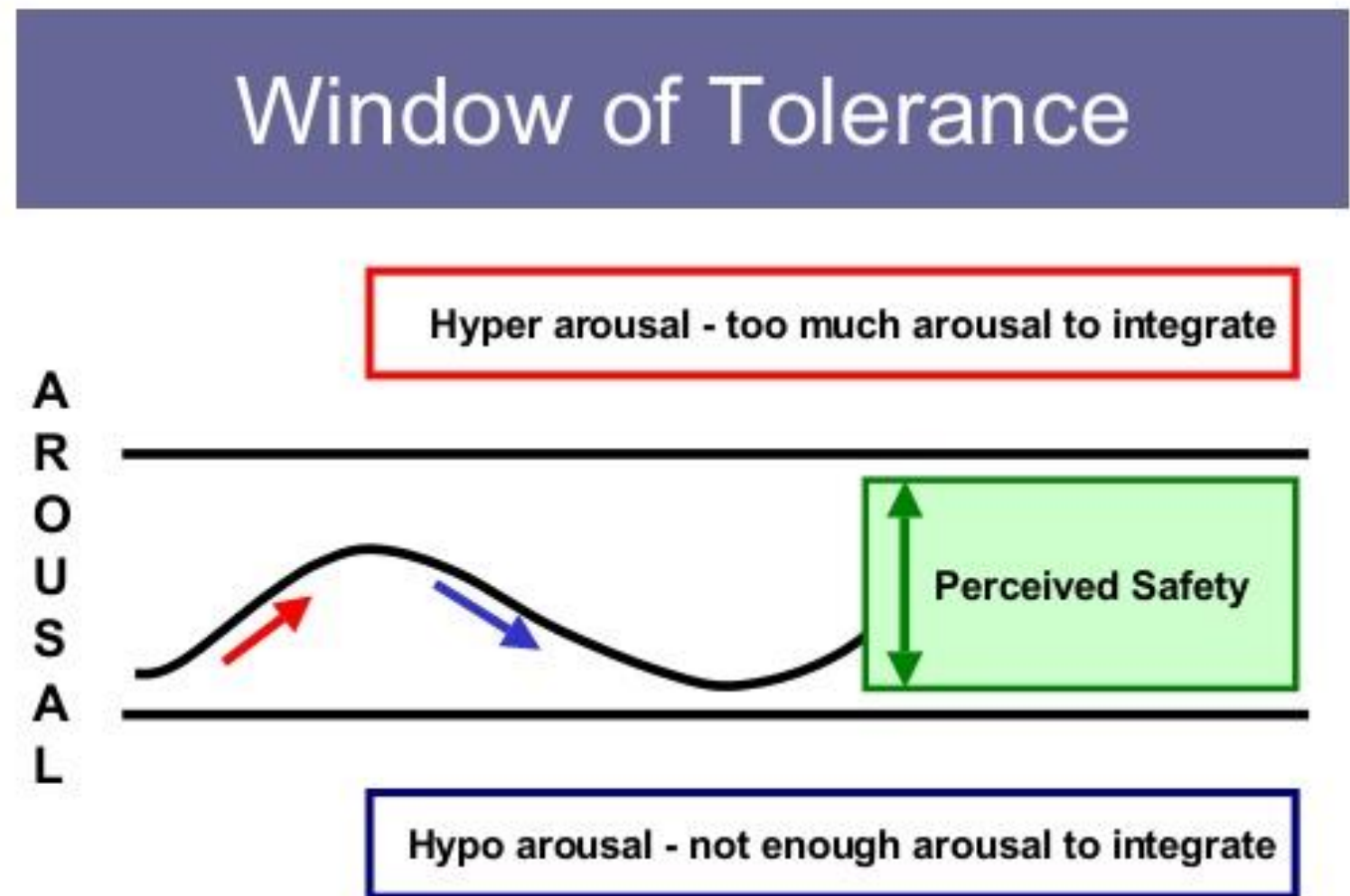
Find and Cultivate an Appreciation of Safety in Reality, As It Is.

The Paradox of the Re-training Opportunity: The “Self-Aware” Moment of Our Collapsed Safety

SOMATIC
MINDFULNESS/
INTEROCEPTION

&

INCREASING THE
WINDOW OF
TOLERANCE



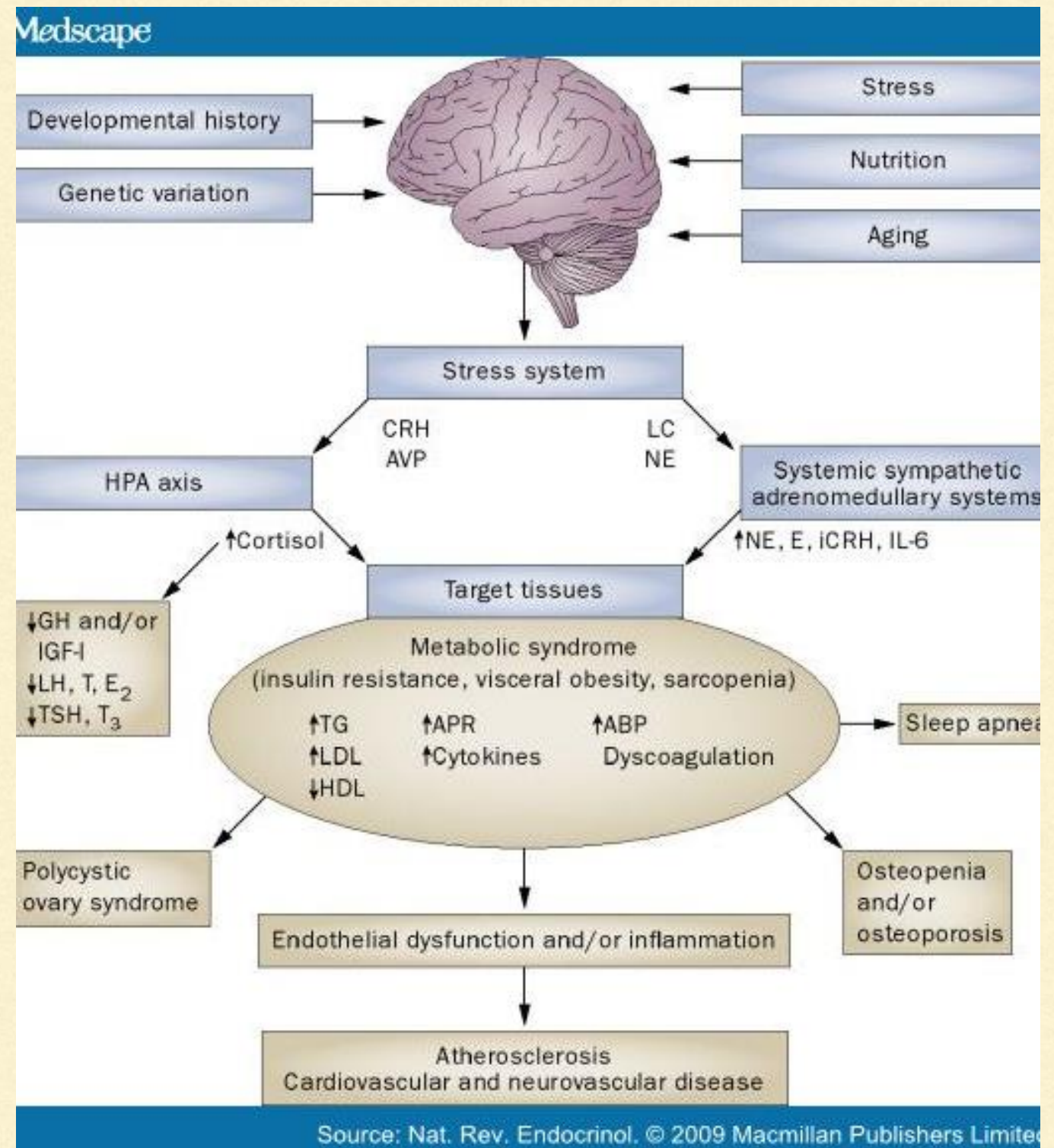
Adapted from Empowering the body in the treatment of trauma: The role of Sensorimotor Processing in trauma, by P. Ogden, 2006. Paper presented at the conference: The Embodied Mind: Integration of the Body, Brain, and Mind in Clinical Practice, Los Angeles, CA.

Slide by Sophia Deborah Erez © 2008

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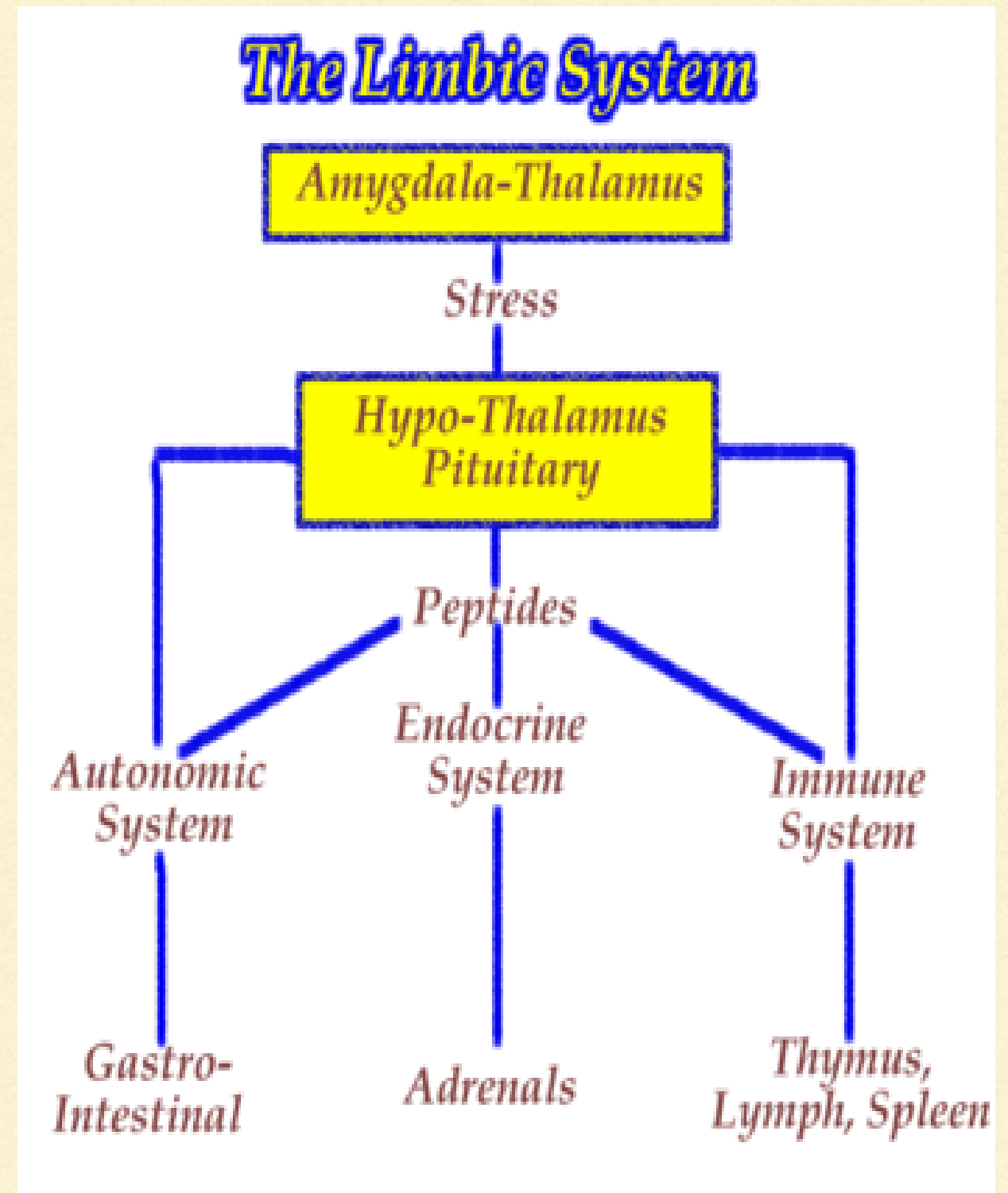
SYMPTOMS OF STRESS

- . Abdominal obesity
- . Decrease in HRV
- . Hypertension
- . Low HDL
- . Elevated cholesterol
- . Insulin resistance
- . Diabetes
- . Elevated Cytokines
- . Decrease memory
- . Negative effect on hippocampus
- . Suppresses immune function
- . Adrenal fatigue
- . Loss of energy

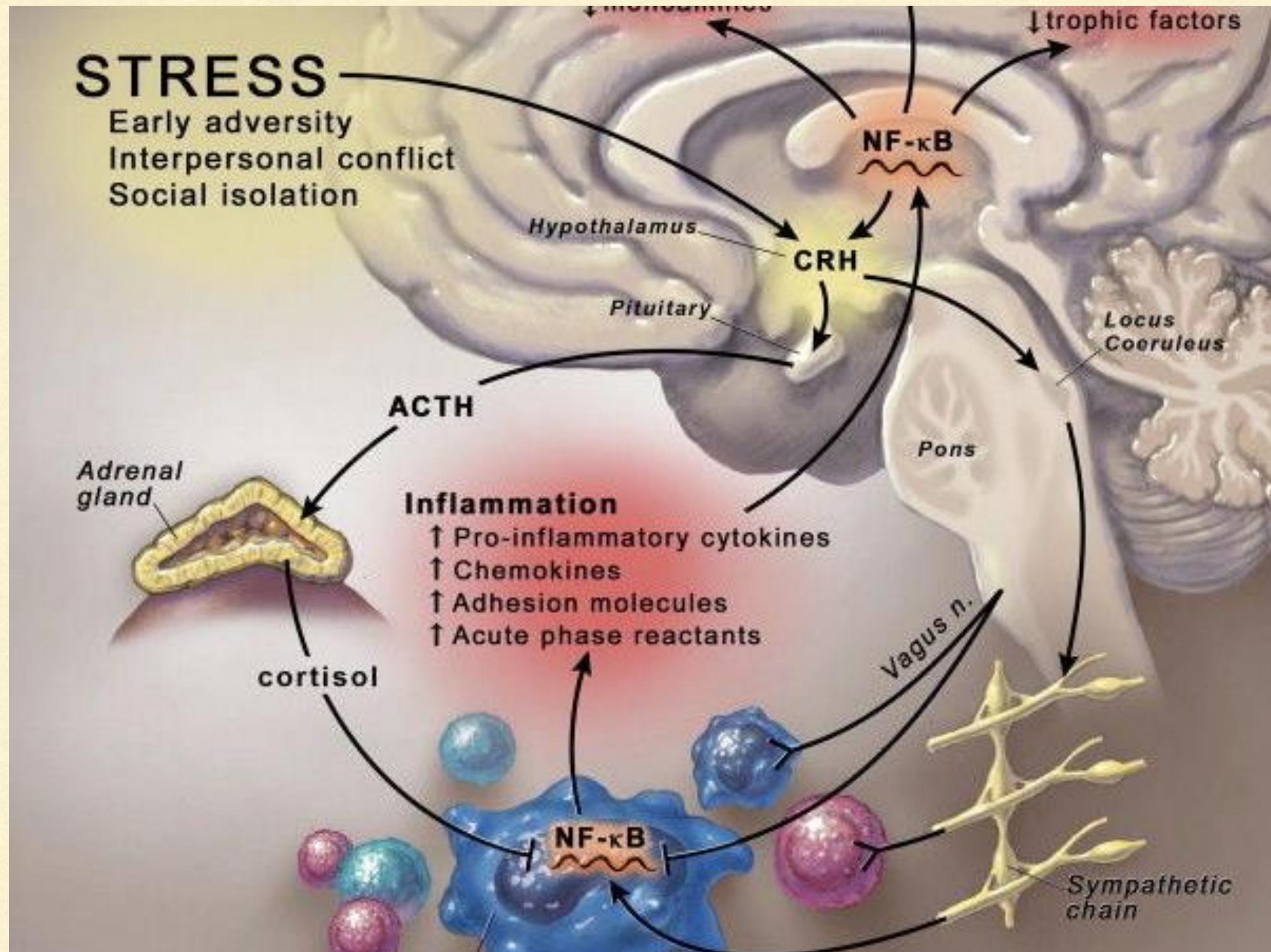


STRESS, CHRONIC DISEASE & THE HPA AXIS

- Irritable Bowel Syndrome
- Chronic Fatigue
- Fibromyalgia/ Myofascial pain
- PTSD
- Autoimmune Disease
- Multiple Chemical Sensitivity
- Premenstrual Syndrome
- Chronic Pain
- Food “Allergy” Syndrome
- Interstitial Cystitis
- Hypoglycemia
- Non-specific chest pain



DISREGULATED STRESS RESPONSE + CHRONIC INFLAMMATION



MIND BODY CONNECTION

- Psychoneuroimmunology :The inter-relationship between neuro sciences of the central nervous system, the neuroendocrine system, and the immune system.
- This shows that emotions and health are interdependent.



CASE: MRS. X

- 58 y old female with h/o Myasthenia gravis, Pernicious anemia, Asthma, Hashimoto hypothyroidism, Crohn's and non healing progressive lower ext leg ulcers for past 18 months.
 - She has been under care of both infectious disease and wound care for past 18 months and has had multiple hospitalization for IV antibiotics.
-



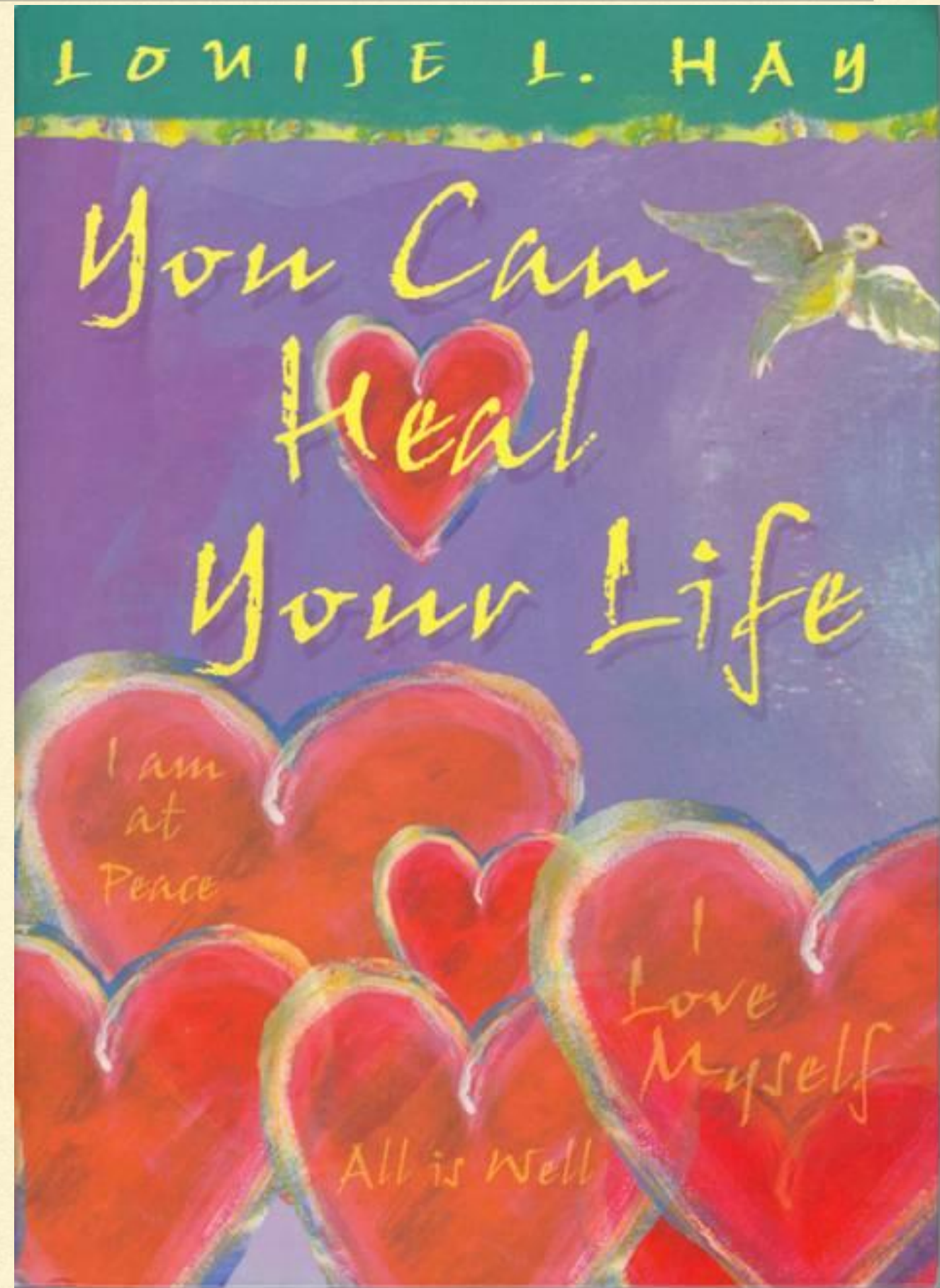
CASE HISTORY

- Medical History:
 - Premature birth
 - Fetal alcohol syndrome
 - Alcoholism
 - Physical and emotional abuse as a child
 - Depression
 - Multiple suicidal attempts
 - Social History:
 - Both parents were alcoholics
 - Depression in Parents
 - Pt sober for past 30 years
 - Non-smoker
 - Married
-



Emotions associated with Inflammatory bowel disease:

- Insecurity.
- Represents inability of letting go of that which is over.
- Holding on to the past.



MIND/BODY CONNECTION

Belief system

- Lack of self-esteem
 - Lack of self love
 - Severe lack of trust
 - Severe sense of insecurity
 - Constantly living in her past and childhood experiences
-

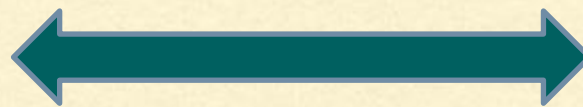
TREATMENT PLAN

- . Nutritional counseling
 - . Identified food allergies
 - . Correct nutritional deficiencies
 - . Treatment of Dysglycemia
 - . Probiotics
 - . Prebiotics
 - . **CBT, Psych-K**
 - . Adequate pain control
 - . Dental care
 - . Controlling oxidative stress
 - . Controlling inflammation
-



PARALLEL PROCESS AND THE PRACTICE CYCLE

Teacher



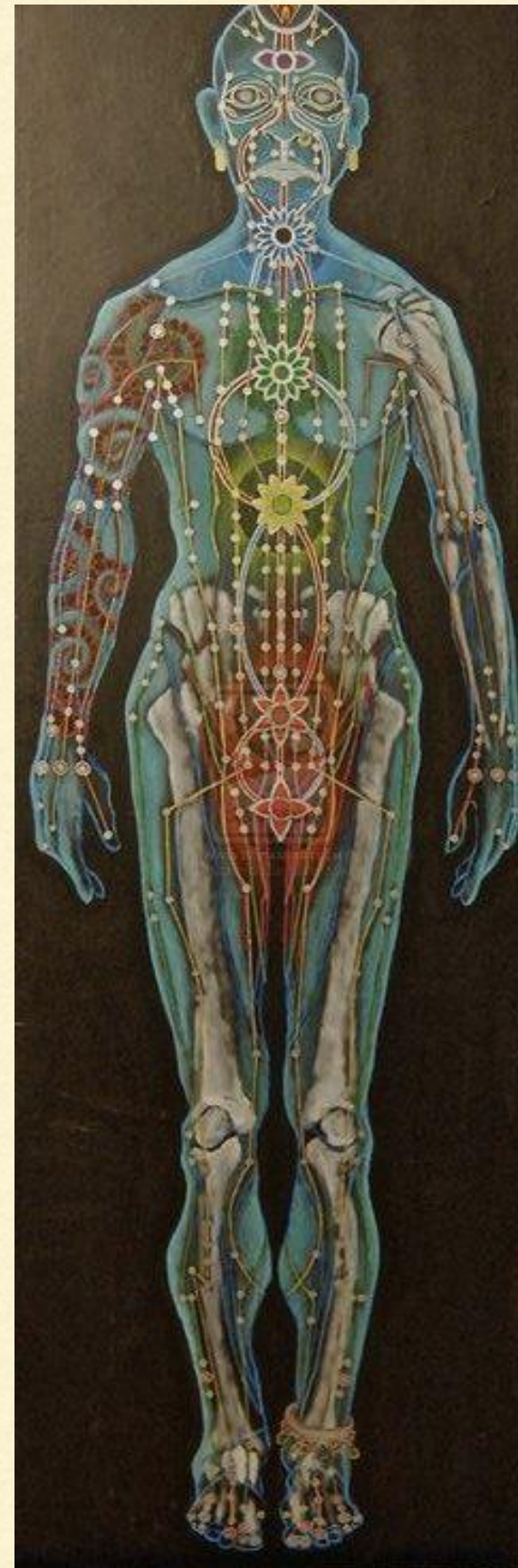
Learner



Patient



THE EXPERIENTIAL & EMBODIED PRACTICE FIELD



THE NEUROBIOLOGY OF STRESS

Stress is the “psychological condition in which the individual perceives or experiences challenges to physical or emotional well-being as overwhelming their ability and resources for coping.”