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# CHILD TRAUMA

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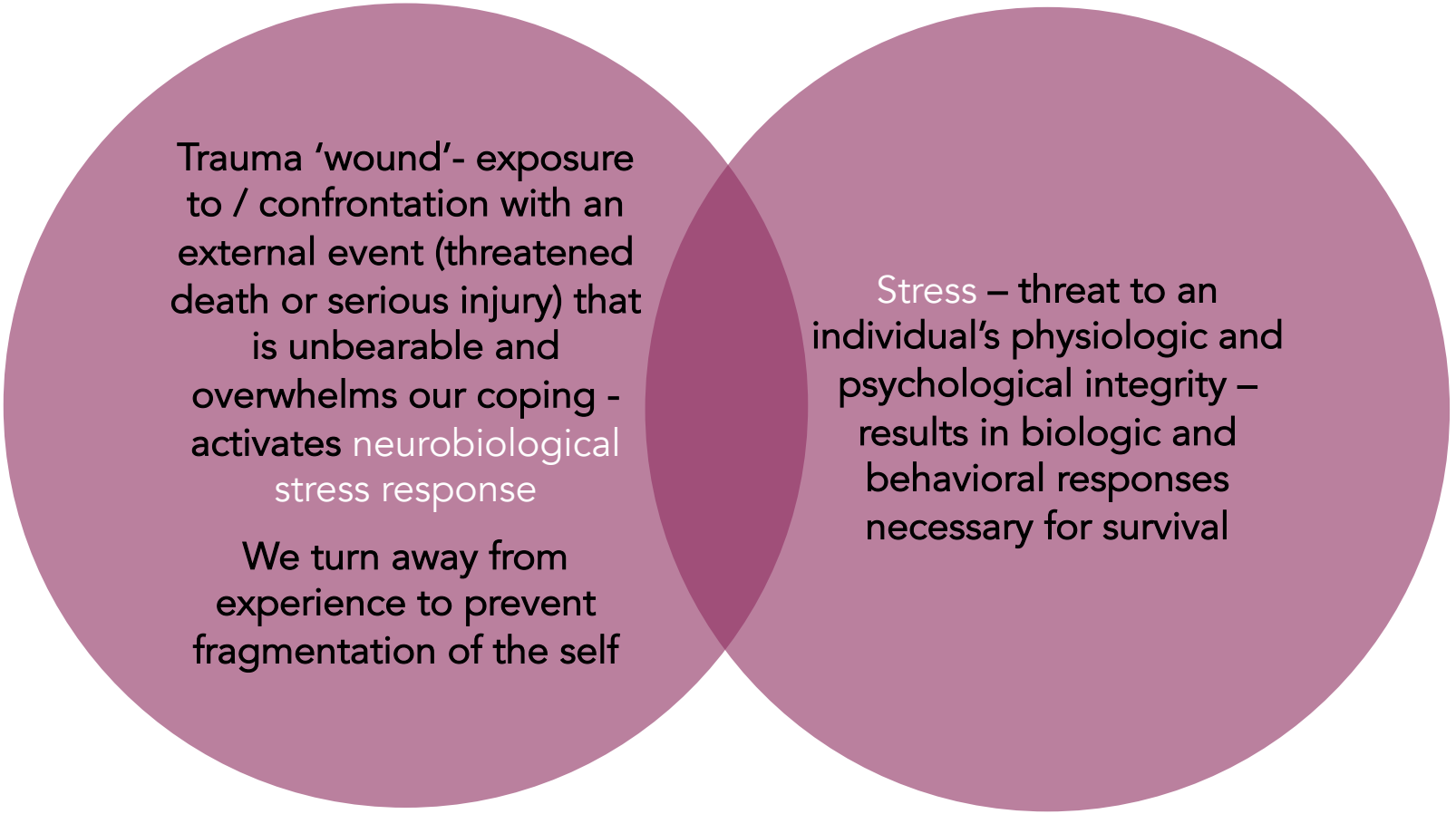
# WHAT IS MENTAL HEALTH AND WELLBEING?

- A state of wellbeing in which the individual:
  - Realizes her/his own abilities
  - Can cope with the normal stresses of life
  - Can work productively and fruitfully
  - Is able to make a contribution to her/his community
- These circumstances are shaped by the distribution of money, power and resources at global, national and local levels

# TRAUMA / STRESS



*Traumatic events of the earliest years of infancy and childhood are not lost, but like a child's footprint in wet cement, are often preserved life-long. Time does not heal the wounds that occur in those years; time conceals them. They are not lost; they are embodied.*

*Vincent J. Felitti (2010)*

# ADVERSE CHILDHOOD EXPERIENCES (ACEs): INTERPERSONAL TRAUMA – CUMULATIVE CHILDHOOD STRESS – CHILDHOOD MALTREATMENT

**Abuse**

- Physical
- Sexual
- Emotional

**Neglect**

- Emotional
- Physical

**Household Challenges**

- Substance Use
- Mental illness
- Suicide attempt
- Intimate Partner Violence – Domestic violence
- Parental imprisonment / incarceration

# TOXIC STRESS

## The Toxic Stress Response Defined

***"prolonged activation of the stress response systems that can disrupt the development of brain architecture and other organ systems, and increase the risk for stress-related disease and cognitive impairment, well into the adult years…"***

– National Academies of Sciences, Engineering, and Medicine

In addition to ACEs, **other risk factors for toxic stress** include poverty, exposure to discrimination, and exposure to the atrocities of war.

Source: National Academies of Sciences, Engineering, and Medicine. Vibrant and healthy kids: *Aligning science, practice, and policy to advance health equity*. Washington, DC: National Academies Press, 2019.; Nelson CA, Bhutta ZA, Burke Harris N, Danese A, Samara M. Adversity in childhood is linked to mental and physical health throughout life. *BMJ (Clinical Research Edition)* 2020; 371: m3048.

# NEUROBIOLOGY OF STRESS

- If threat is not perceived to diminish – chronic - dysregulation of Hypothalamic Pituitary Axis – inappropriate release of cortisol:
  - **Hippocampus shrinkage: increases memory deficits and learning disorders**
    - Over-representation – intrusive memories, flashbacks
    - Suppression – selective amnesia, inability to recall
  - **Prefrontal Cortex: impaired emotional regulation and executive functioning (planning, flexibility, reasoning)**
  - **Amygdala hypersensitized: increase fear response 'hypervigilance'**
    - Hasty actions – impulsivity - 'react before thinking'

# NEUROBIOLOGY OF STRESS

- Decrease in serotonin (neurotransmitter)
  - Increased aggressive behaviors, depression and anxiety
- Decrease in oxytocin (hormone) – impairments:
  - Social memory
  - Empathy
  - Emotional recognition
  - **Attachment**

# MANIFESTATION OF NEUROLOGICAL IMPAIRMENT

- Trauma at young age can significantly hinder neurological development:
  - Negative impact on emotional and behavioral regulation, motivation and cognitive functioning:
    - Compromised executive functioning (PFC)
    - Difficulty regulating arousal levels in response to sensory stimulation/cues/triggers (Amygdala) - **hyperarousal**
    - **Difficulty with attention** and memory (Hippocampus)
    - Disruptions to sleep and other circadian rhythms
    - Compromised language development
    - **Impaired social information processing**

# OTHER BIOLOGIC SYSTEM IMPAIRMENTS

## Biological Systems Disrupted by Toxic Stress

| System | Mechanism(s) | Health Impact |
|---|---|---|
| Neurologic; Neuroendocrine | Dysregulation of SAM and HPA axes; autonomic imbalance | Difficulty modulating, sustaining, or dampening the stress response; heightened or blunted stress sensitivity |
| | Altered reactivity and size of the amygdala | Increased fear responsiveness, impulsivity, and aggression |
| | Inhibition of the prefrontal cortex | Impaired executive function, with poorer planning, decision-making, impulse control, and emotion regulation |
| | Hippocampal neurotoxicity | Difficulty with learning and memory |
| | VTA and reward processing dysregulation | Increased risky behaviors and risk of addiction |
| Immunologic; Inflammatory | Increased inflammatory markers, especially Th2 response; inhibition of anti-inflammatory pathways; gut microbiome dysbiosis | Increased risk of infection, auto-immune disorders, cancers, chronic inflammation; cardiometabolic disorders |
| Endocrine; Metabolic | Changes in growth hormone, thyroid hormone, and pubertal hormonal axes | Changes in growth, development, basal metabolism, and pubertal events |
| | Changes to leptin, ghrelin, lipid and glucose metabolism, and other metabolic pathways | Increased risk of overweight, obesity, cardiometabolic disorders, and insulin resistance |
| Epigenetic; Genetic | Sustained changes to the way DNA is read and transcribed | Mediates all aspects of the toxic stress response |
| | Telomere erosion, altered cell replication, and premature cell death | Increased risk for disease, cancer, and early mortality |

# ACES' IMPACT ON CHILDREN

- Low school engagement
- Increased odds of missing school due to health reasons e.g. asthma
- Difficulty completing tasks
- More contacts with household for school problems
- Children with 3+ ACES
  - One in five had to repeat a grade
  - Almost one in four diagnosed with a learning disability
- Increase vulnerability for later development of mood, personality and substance use disorders, PTSD

# TRAUMA-INFORMED SYSTEMS

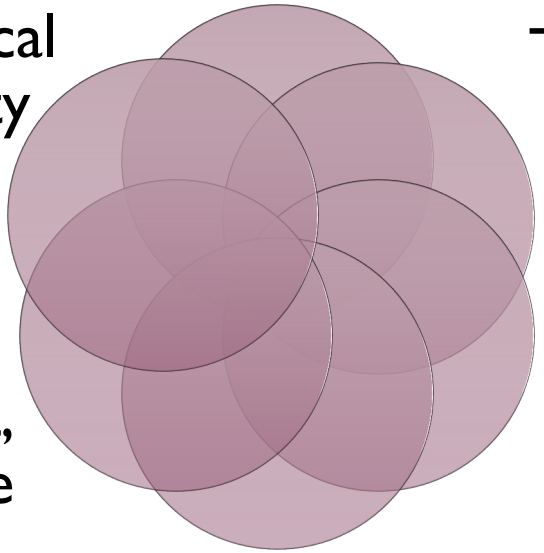
- **R**ealize the prevalence of trauma in the population
- **R**ecognize the signs / symptoms of trauma
- **R**espond – Integrate knowledge into:
  - Practices and procedures re treatment
  - Advocacy to eliminate trauma conditions (social determinants)
  - Organizational policies and practices
- Avoid re-traumatization
  - of clients
  - and providers (avoid VR, STS)

# PRINCIPLES OF TI APPROACH

Safety

Cultural, Historical & Gender Equity Issues

Trustworthiness & Transparency



Empowerment, Voice & Choice

Peer Support

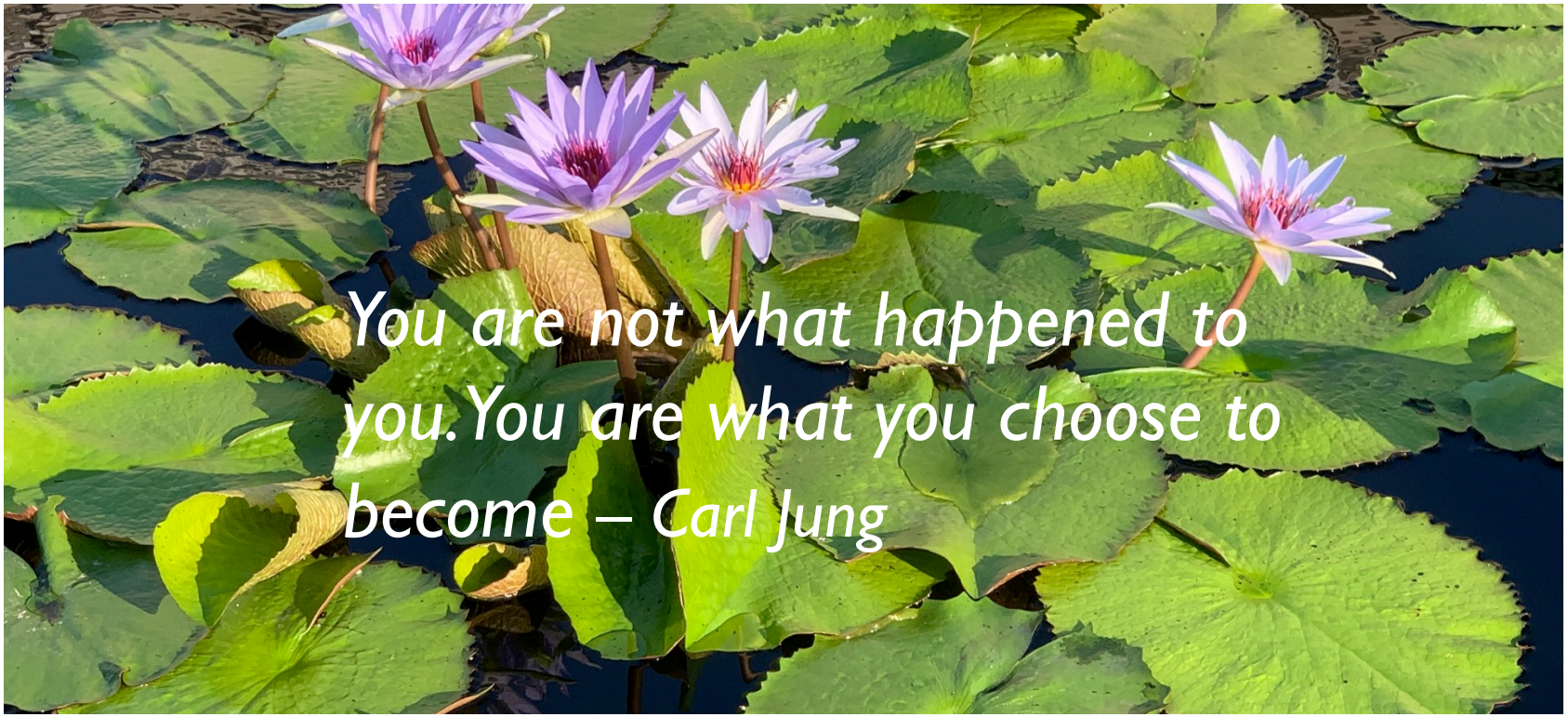
Collaboration & Mutuality

# BUFFERING STRESS RESPONSE

## Evidenced-Based Buffering Interventions


Source: Adapted from Burke Harris, Nadine. *The Deepest Well: Healing the Long-Term Effects of Childhood Adversity*. Boston: Houghton Mifflin Harcourt, 2018; Gilgoff et al. Adverse Childhood Experiences, outcomes, and interventions. *Pediatric Clinics* 2020; **67**(2): 259-73;

# THE HEALING


You are not what happened to you. You are what you choose to become – Carl Jung