

A Grantmaker's Guide to Understanding and Addressing Trauma

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Suzanne Koeplinger, Catalyst Initiative Director

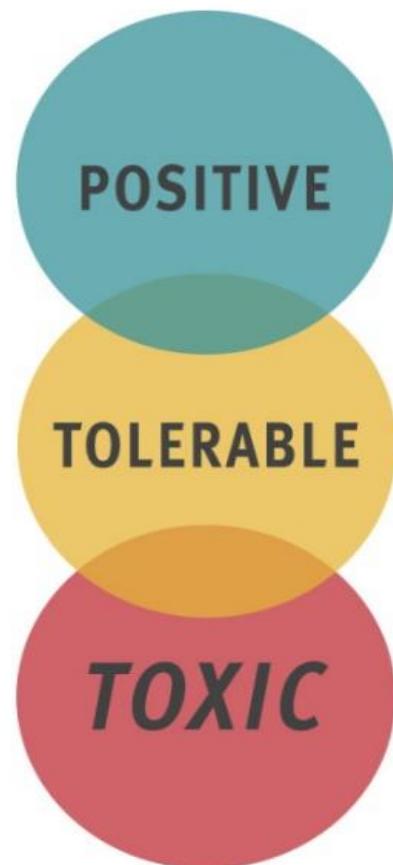
Suzanne@Georgefamilyfoundation.org



Defining our Terms

- Trauma
- Toxic Stress
- Adverse Childhood Experiences (ACEs)
- Trauma Informed
- Trauma Healing Practices

Positive/Tolerable/Toxic Stress



Brief increases in heart rate,
mild elevations in stress hormone levels.

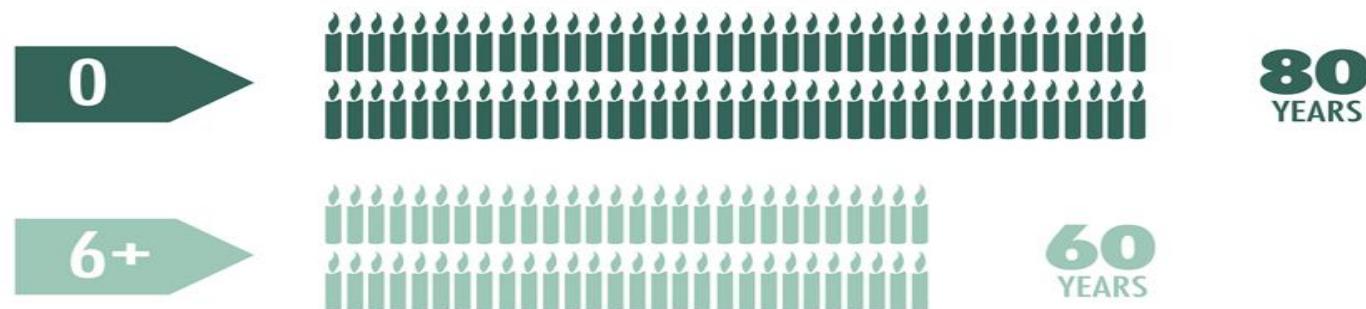
Serious, temporary stress responses,
buffered by supportive relationships.

Prolonged activation of stress
response systems in the absence
of protective relationships.

Adverse Childhood Experiences

LIFE EXPECTANCY

People with six or more ACEs died nearly **20 years earlier on average** than those without ACEs.



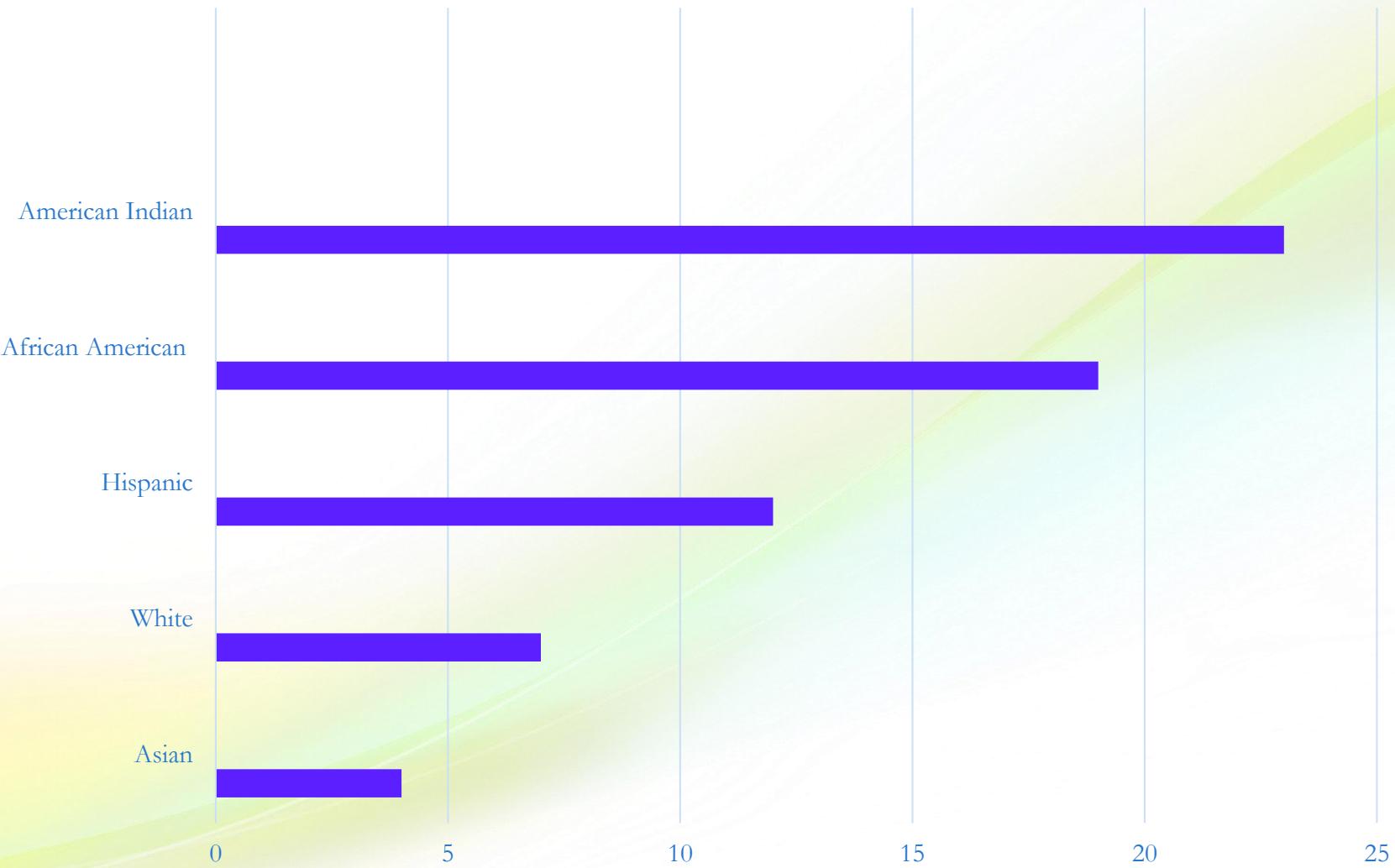
ECONOMIC TOLL

The Centers for Disease Control and Prevention (CDC) estimates the lifetime costs associated with child maltreatment at **\$124 billion**.

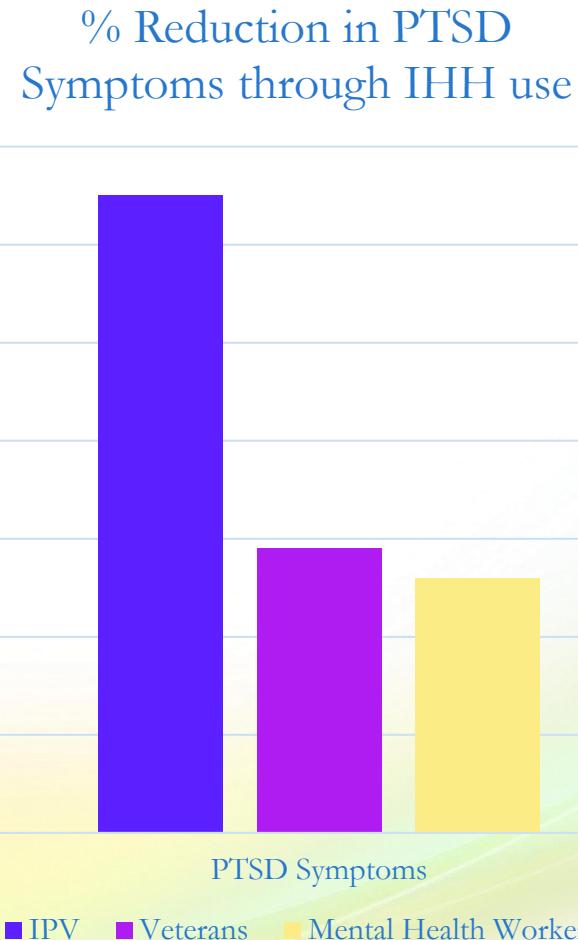


5 or more ACEs in MN

<http://www.health.state.mn.us/divs/cfh/program/ace/>



Literature Review: Sample findings



- 8 weeks of Mindfulness Based Stress Reduction (MBSR) reduced anxiety, depression and PTSD symptoms in 50 women with interpersonal trauma history. Depression scores dropped by 65%.
- 6 weeks of yoga improved sleep quality and reduced PTSD symptoms in veterans by 29%.
- 8 weeks of daily meditation helped New Orleans mental health workers improve symptoms of depression, anxiety and PTSD post Hurricane Katrina.

THE PHYSIOLOGY OF TRAUMA AND TRANSFORMATION



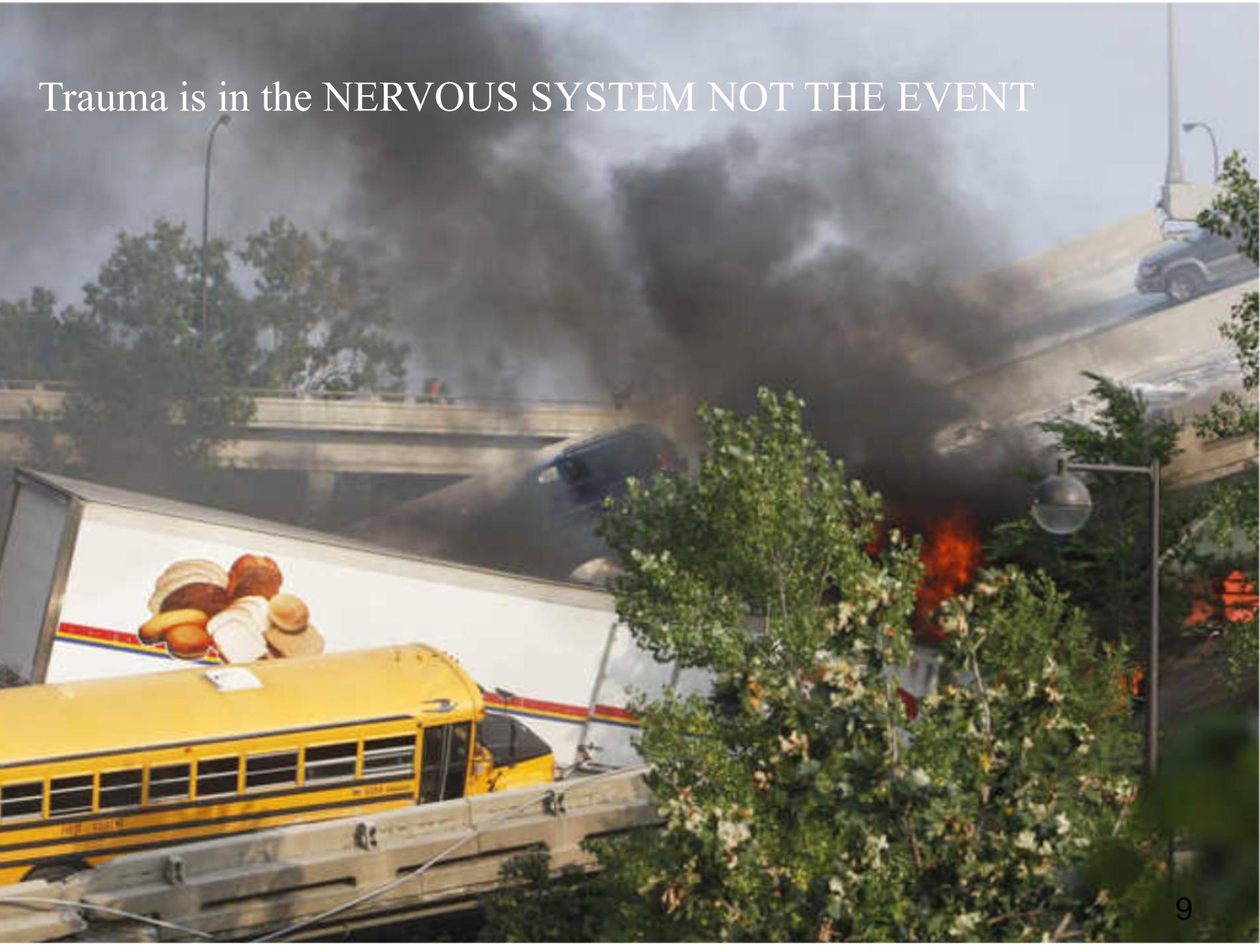
Lora Matz, M.S., LICSW

*PrairieCare, Clinical Education Director and
Senior Faculty with The Center for Mind-Body Medicine*

Trauma lies in the
Nervous System Not
the Event Itself

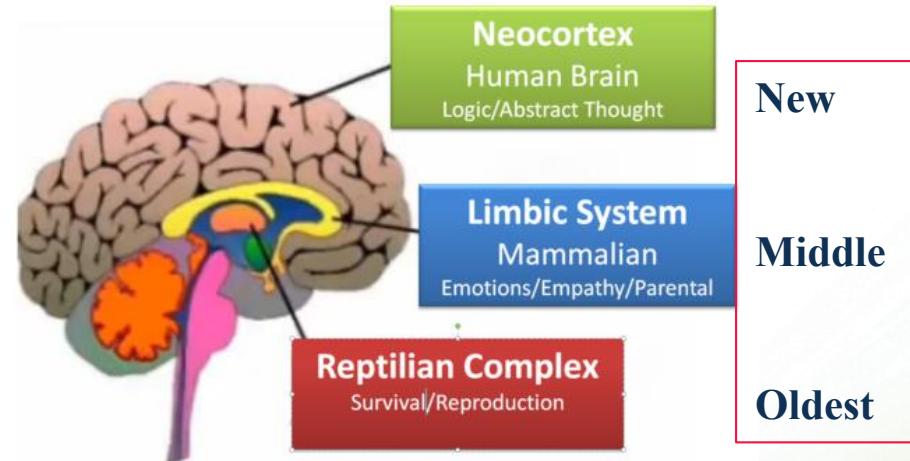


Trauma is in the NERVOUS SYSTEM NOT THE EVENT



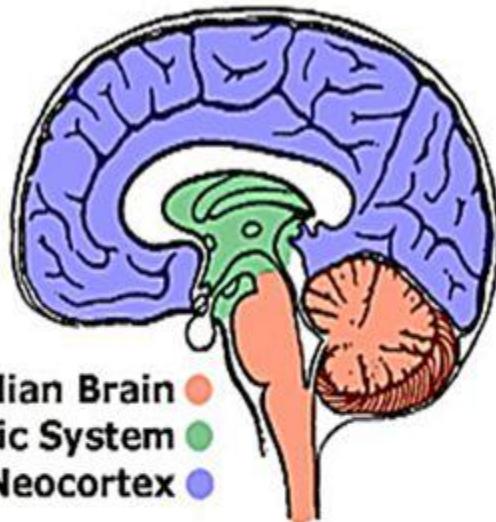
Trauma is Physiological

The 3 Brains

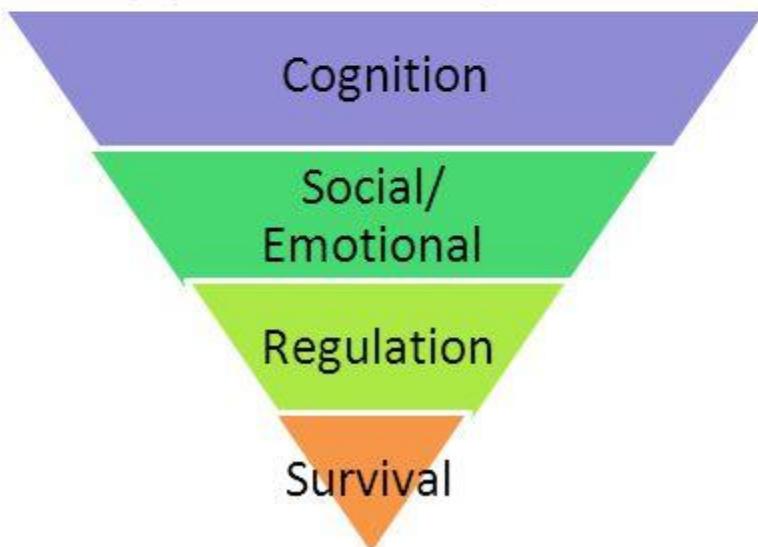


- When there is no time to think when facing a threat, our primary and natural instincts take over as instinctual-regulated by the Autonomic Nervous System (we are wired this way)
- At the root of a traumatic response is our 280 million year heritage-which resides in the deepest structures of the reptilian brain.

Trauma & Brain Development



Typical Development



Developmental Trauma

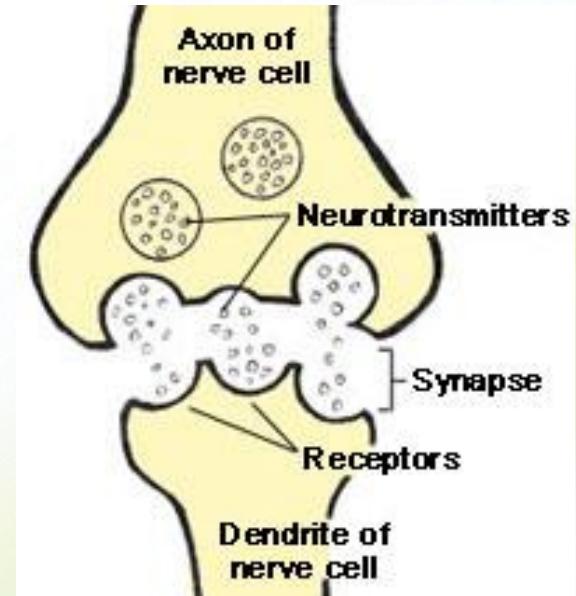


A **perceived threat** or stress automatically engages an emergency hot line in the brain (the emergency center-the Amygdala)

Once activated the **Amygdala** sends the equivalent of an all points bulletin that alerts other brain structures.

This **RAPID RESPONSE ALARM** sends **SURVIVAL ENERGY** TO EVERY SYSTEM IN THE BODY releasing over 1,400 physical and chemical reactions and over 30 different hormones and neurotransmitters

Over time if these chemicals are not released as in the case of trauma-they destabilize us and create greater vulnerability





The Gas



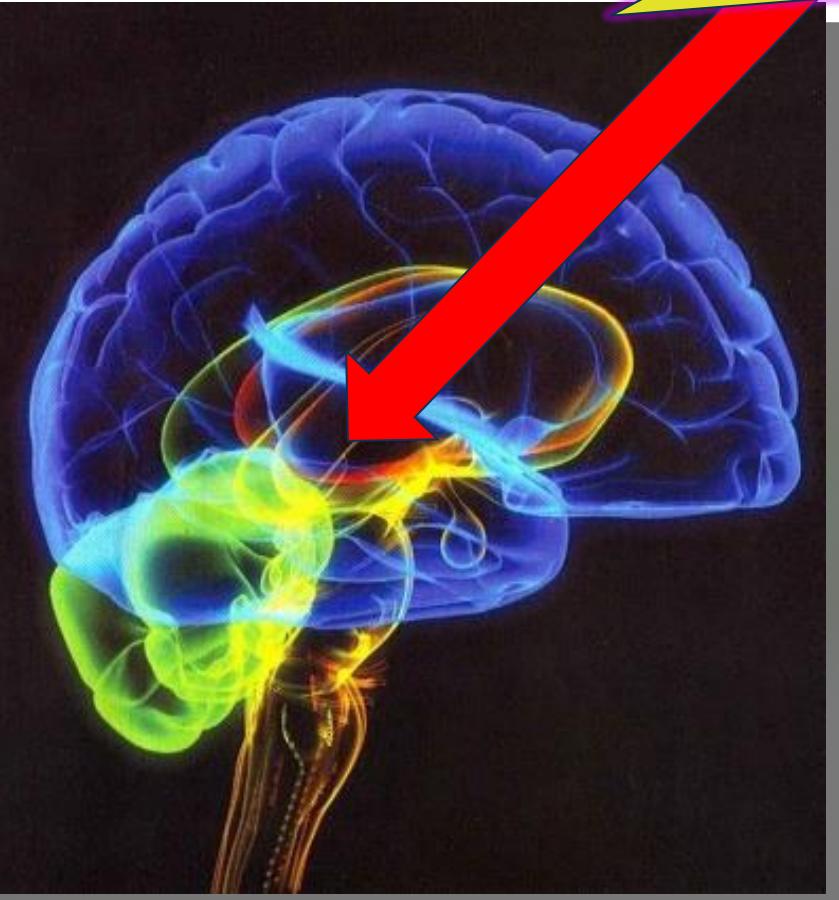
The Brakes

Sympathetic nervous system-

- Heart rate, blood pressure, breathing speed up
- Breathing become shallow
- Digestion slows or stops
- Muscles tense
- Digestion slows down or stops
- Racing thoughts, difficulty focusing attention
- Cold hands –sometimes sweaty
- Strong emotional responses, negative thoughts
- Alarm based thinking
- The Fight-Flight Response is activated

Parasympathetic nervous system-

- Breathing and heartbeat are regular
- Breathing returns to normal
- Muscles are relaxed
- Digestion is activated
- Ability to focus attention, better at solving problems, memory retention and memory retrieval
- Dry hands and normal temperature
- Helps you to feel quiet and peaceful and relaxed
- Positive thoughts and feelings of well being
- The Relaxation Response-Rest and Digest is activated (restores balance)



**Threatening stimulus
always gets first priority
and turns on the
neurochemistry of fear**

AMYGDALA HIJACKING

TAKES OVER THE BRAIN

The Freezing Response

Is a biologically driven reaction of FREEZING in the face of threat.

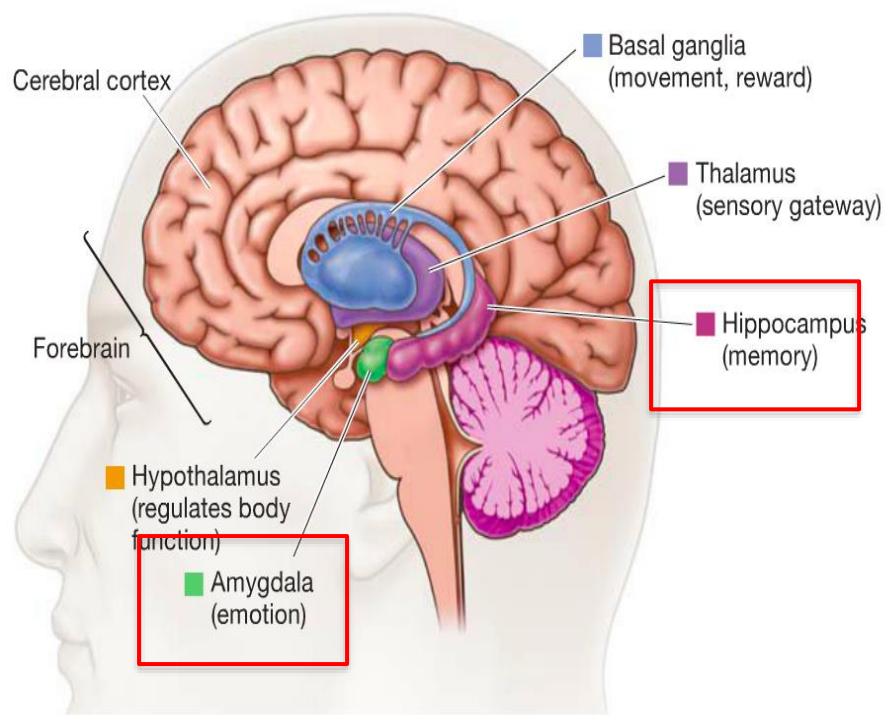
This immobility response is instinctual and an unconscious/automatic reflex built into humans and animals who can't escape a situation by fighting or fleeing. **With Freezing-the immobilized body undergoes huge biochemical extremes in a very short time.**

A flood of endogenous opioids—the brain's natural heroin-like substances—is released, killing pain, producing calm and a sense of psychological distance from what is happening.

The result is that these systems become overactive and sensitized, leading to many emotional, behavioral and cognitive problems long after the event is over.



Biological Structure of Traumatic Stress



1. Hyperactivation of the Amygdala
2. Alteration in Hippocampal Functioning and Volume
3. Hypo-activation of key prefrontal cortex areas:
hypersensitivity to potential trauma and decreased ability to mobilize judgment, make decisions, feel grounded in body and have empathy for others

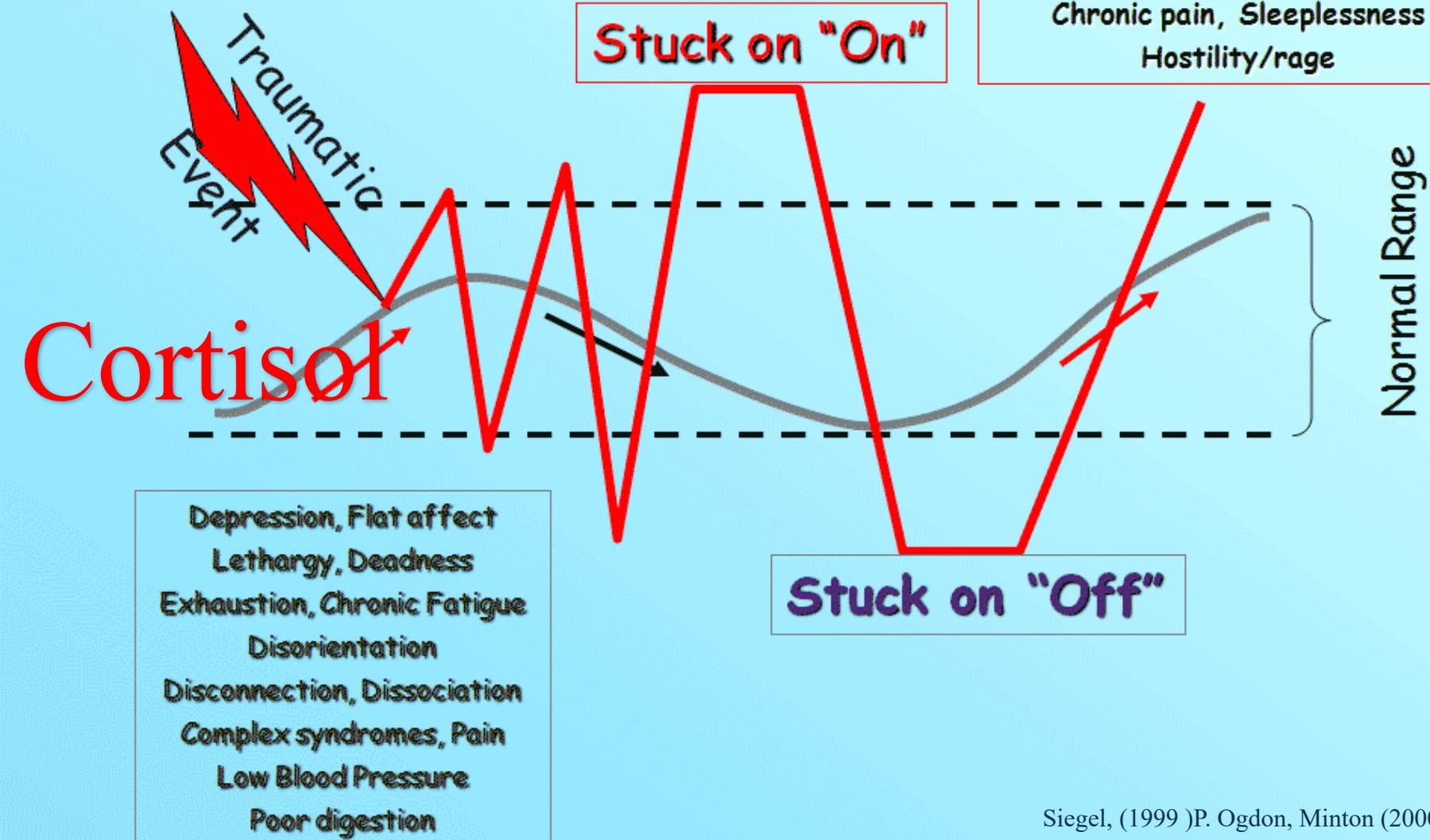
Hormonal Changes

The HPA axis has been implicated as playing a fundamental role in the psychobiology of trauma

- The HPA axis provides a feedback loop of hormones to regulate stress
- Extreme stress *sensitizes* the HPA feedback process
- **Overall daily cortisol Levels are significantly lower in those diagnosed with PTSD** (though they were likely higher in the period immediately after the trauma)

Morris MC, Compas BE, Garber J. Relations among posttraumatic stress disorder, comorbid major depression, and HPA function: a systematic review and meta-analysis. *Clin Psychol Rev.* 2012 Jun;32(4):301-15.

Symptoms of Un-Discharged Traumatic Stress



Siegel, (1999)P. Ogdon, Minton (2000)



Unhealed Trauma

- Can manifest as:
 - A ”brokenness” and sense of “shattering” of one’s sense of wholeness, one’s identity, belief system
 - In patterns of behaviors that carry on the pain to others in relationship

“If Trauma is not transformed, it is transmitted.” Richard Rohr