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ACES: DEEPER DIVE

AMI DAVIS (SHE/THEY)

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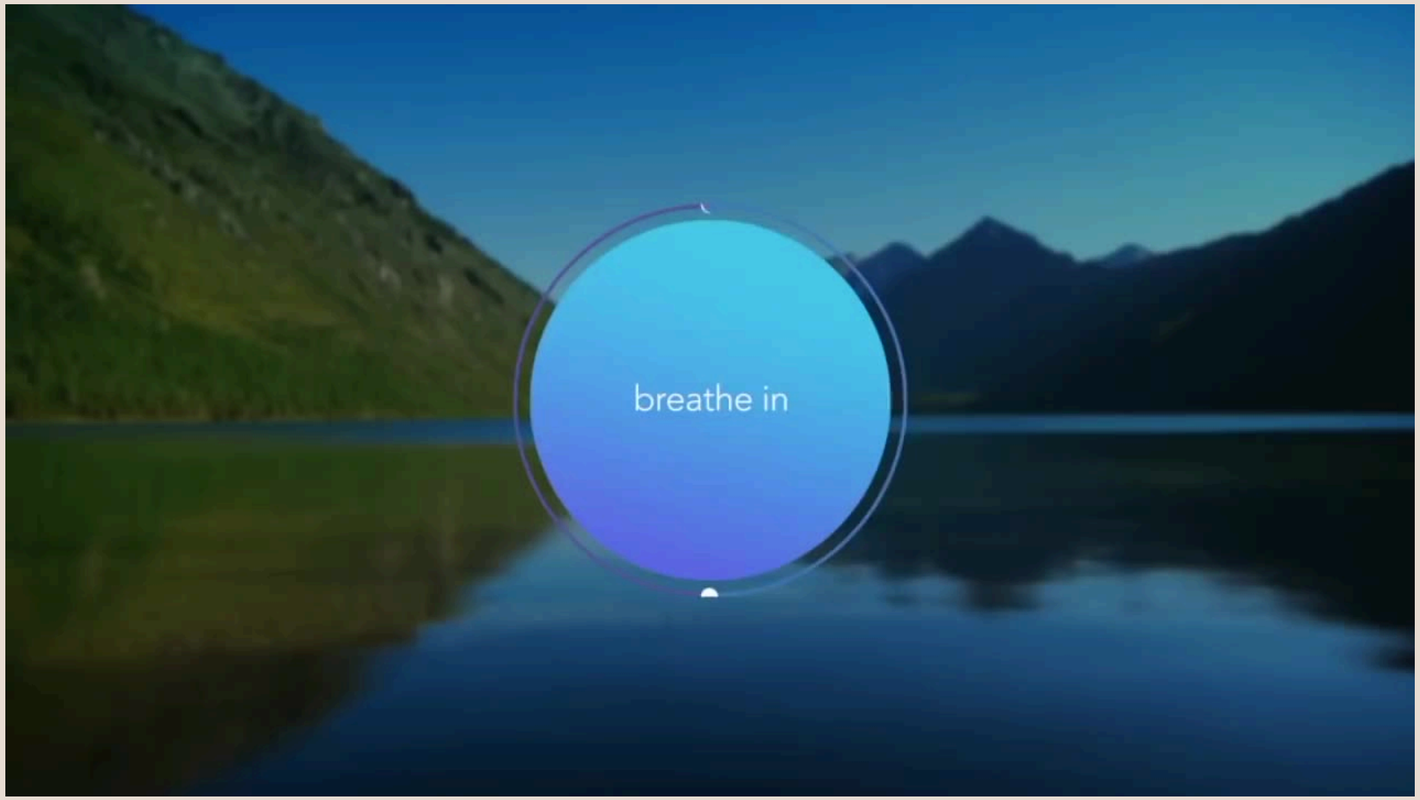
LET'S LEAVE THE STRESS AT THE DOOR....

1.Sit comfortably, OPEN hands, open front body
2.Scan your body for tension
3.As you follow the breath cues, INTENTIONALLY release that muscle tension, anywhere you find it



ACES STUDY BACKGROUND

The Study – 1997, Felitti/Kaiser, San Diego

Obesity Clinic

Why? - Early death/health disparities

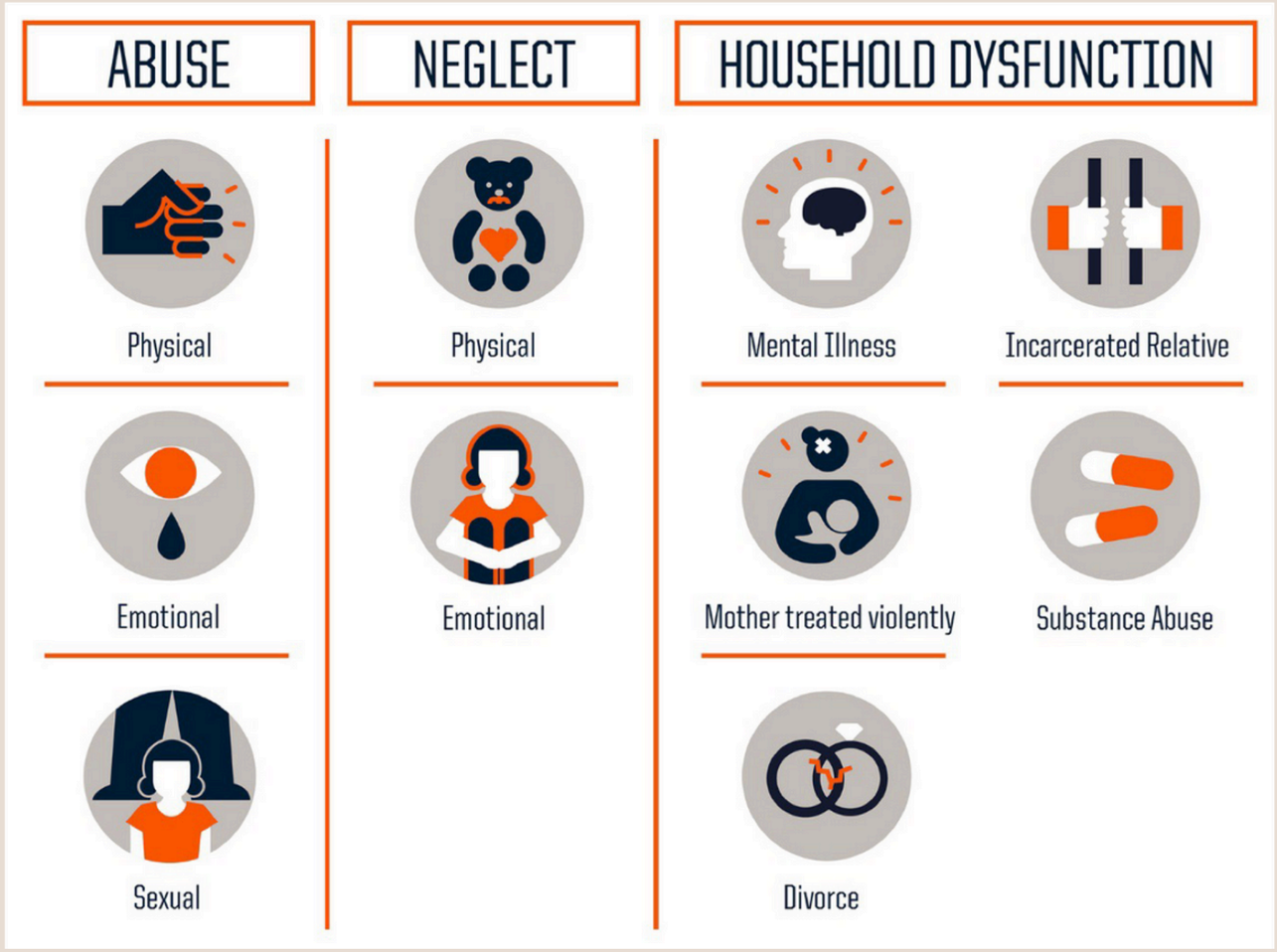
Findings – Trauma = early death

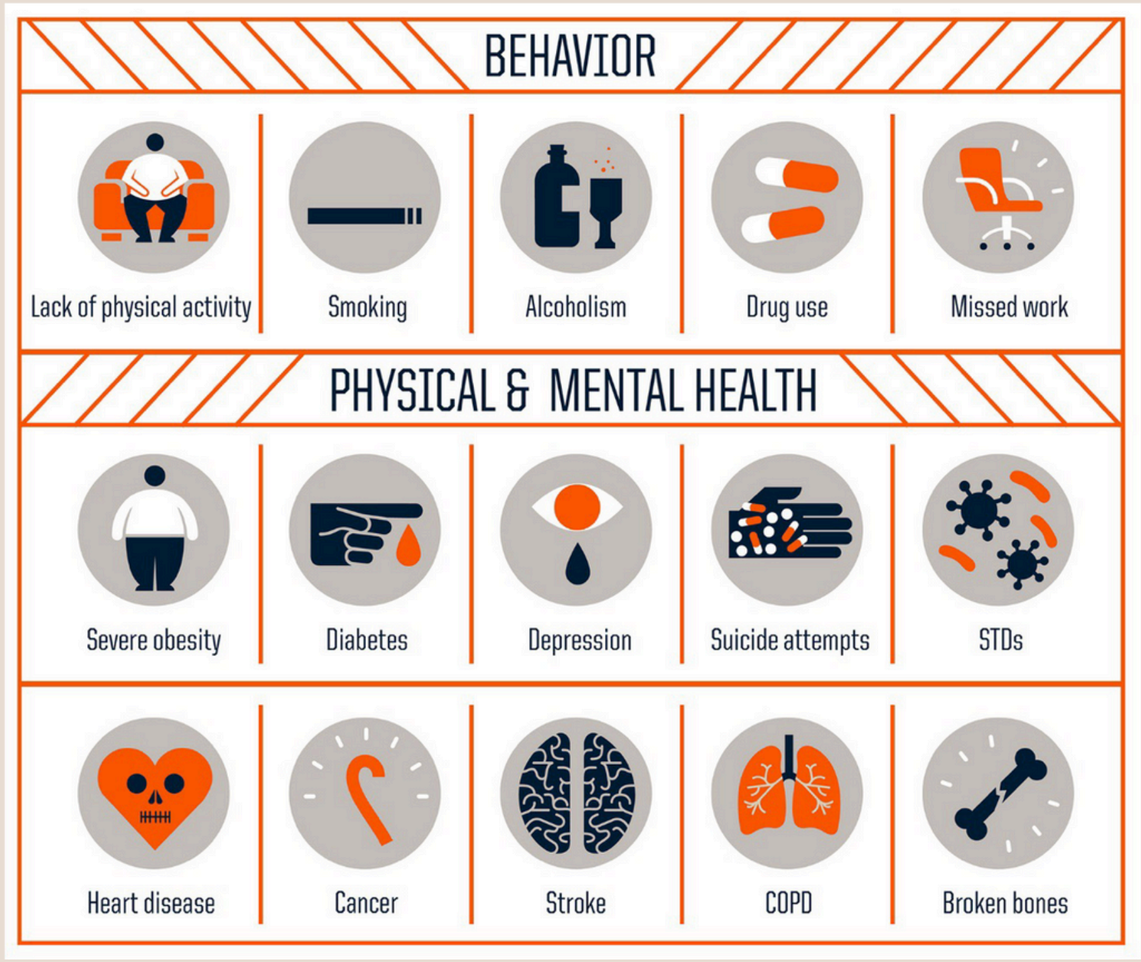
Types of Trauma

- Individual
- Household
- Family-based

Not included:

- Community
- Systematic
- Societal
- Historical


ABUSE
NEGLECT
HOUSEHOLD DYSFUNCTION
Physical
Emotional
Sexual
Physical
Emotional
Mental Illness
Incarcerated Relative
Mother treated violently
Substance Abuse
Divorce


BEHAVIOR
Lack of physical activity
Smoking
Alcoholism
Drug use
Missed work
PHYSICAL & MENTAL HEALTH
Severe obesity
Diabetes
Depression
Suicide attempts
STDs
Heart disease
Cancer
Stroke
COPD
Broken bones

Demographic Information for CDC-Kaiser ACE Study Participants, Waves 1 and 2.

Demographic Information	Percent (N = 17,337)
Gender	
Female	54.0%
Male	46.0%
Race/Ethnicity	
White	74.8%
Black	4.5%
Asian/Pacific Islander	7.2%
Other	2.3%
Hispanic	11.2%
Age (years)	
19-29	5.3%
30-39	9.8%
40-49	18.6%
50-59	19.9%
60 and over	46.4%
Education	
Not High School Graduate	7.2%
High School Graduate	17.6%
Some College	35.9%
College Graduate or Higher	39.3%

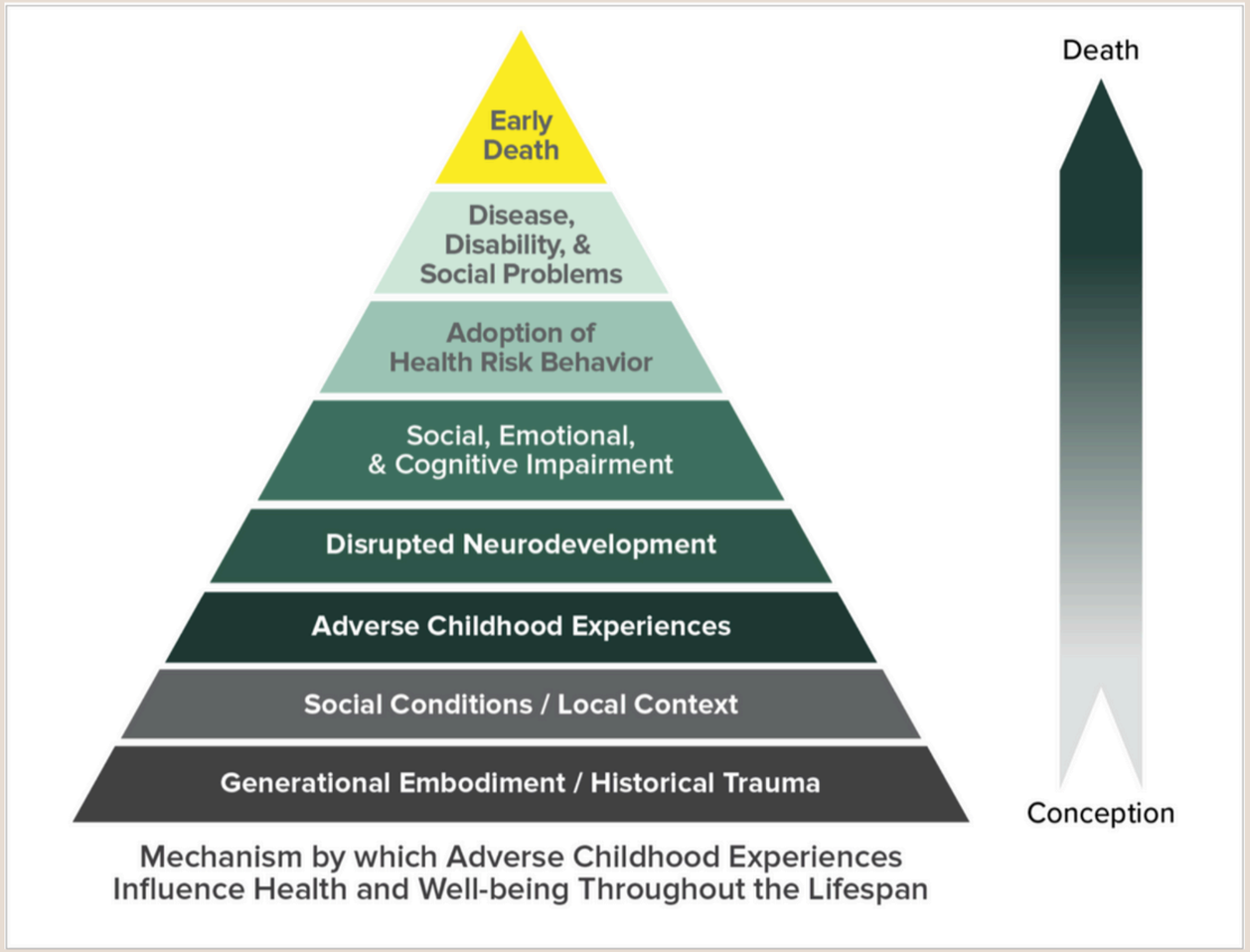
Prior to your 18th birthday:

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?
   No____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?
   No____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?
   No____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?
   No____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?
   No____If Yes, enter 1 ___
6. Were your parents ever separated or divorced?
   No____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?
   No____If Yes, enter 1 ___
8. Did you live with anyone who was a problem drinker or alcoholic, or who used street drugs?
   No____If Yes, enter 1 ___
9. Was a household member depressed or mentally ill, or did a household member attempt suicide?
   No____If Yes, enter 1 ___
10. Did a household member go to prison?
    No____If Yes, enter 1 ___

Now add up your "Yes" answers: _ This is your ACE Score

Number of Adverse Childhood Experiences (ACE Score)	Women	Men	Total
0	34.5	38.0	36.1
1	24.5	27.9	26.0
2	15.5	16.4	15.9
3	10.3	8.6	9.5
4 or more	15.2	9.2	12.5

WHAT HAPPENED TO YOU?



Mechanism by which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan

Understanding ACEs

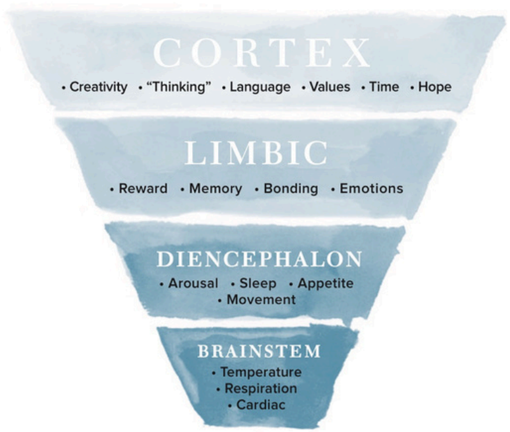
with Dr. Nadine Burke Harris

California's First Surgeon General

ACES MEETS CHILD DEVELOPMENT MEETS

Figure 1

A MODEL OF THE BRAIN

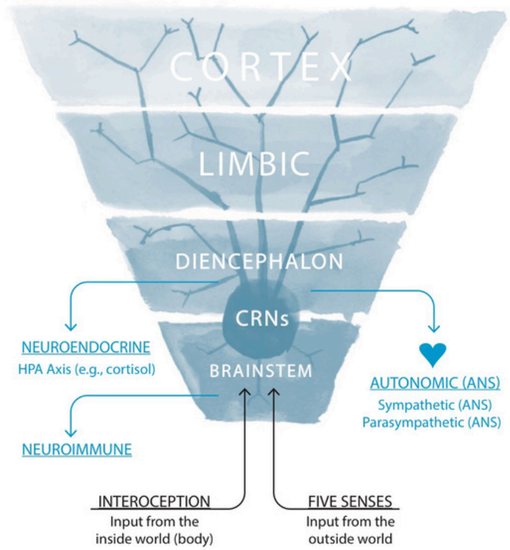


HIERARCHICAL ORGANIZATION OF THE HUMAN BRAIN

The brain can be divided into four interconnected areas: brainstem, diencephalon, limbic, and cortex. The structural and functional complexity increases from the lower, simpler areas of the brainstem up to the cortex. The cortex mediates the most uniquely "human" functions such as speech and language, abstract cognition, and the capacity to reflect on the past and envision the future.

Figure 2

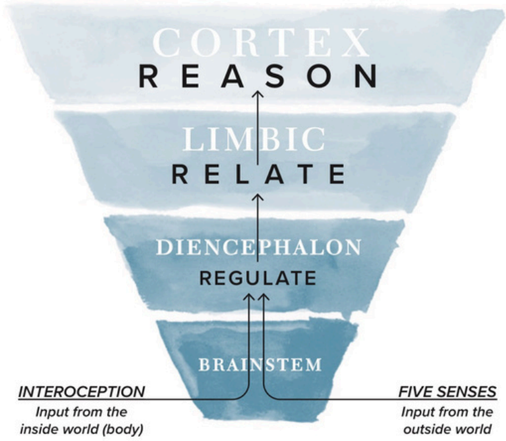
TREE OF REGULATION



Note: HPA = Hypothalamic-Pituitary-Adrenal Axis; ANS = Autonomic Nervous System; CRNs = Core Regulatory Networks

Figure 10

SEQUENCE OF ENGAGEMENT

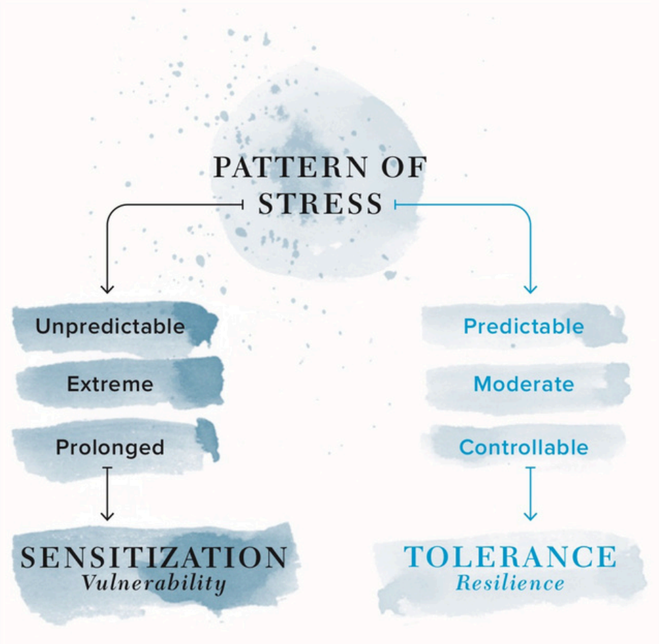


Our brain is continually getting input from our body (interoception) and the world (five senses). These incoming signals are processed in a sequential fashion, with the first sorting taking place in the lower brain (brainstem, diencephalon). To reason with another person, we need to effectively get through the lower areas of their brain and reach their cortex, the part responsible for thinking, including problem-solving and reflective cognition. But if someone is stressed, angry, frustrated, or otherwise dysregulated, the incoming input will be short-circuited, leading to inefficient, distorted input to the cortex. This is where the sequence of engagement comes in. Without some degree of regulation, it is difficult to connect with another person, and without connection, there is minimal reasoning. Regulate, relate, then reason. Trying to reason with someone before they are regulated won't work and indeed will only increase frustration (dysregulation) for both of you. Effective communication, teaching, coaching, parenting, and therapeutic input require awareness of, and adherence to, the sequence of engagement.

TOXIC STRESS

Figure 3

PATTERNS OF STRESS ACTIVATION



The long-term effects of stress are determined by the pattern of stress activation. When the stress-response systems are activated in unpredictable or extreme or prolonged ways, the systems become overactive and overly reactive—in other words, sensitized. Over time, this can lead to functional vulnerability, and since the stress-response systems collectively reach all parts of the brain and body, a cascade of risk in emotional, social, mental, and physical health occurs. In contrast, predictable, moderate, and controllable activation of the stress-response systems, such as that seen with developmentally appropriate challenges in education, sport, music, and so forth, can lead to a stronger, more flexible stress-response capability—i.e., resilience.

Positive

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

Tolerable

Serious, temporary stress responses,
buffered by supportive relationships

Toxic

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

UNPROCESSED EMOTIONS CAN LEAD TO CHRONIC STRESS. CHRONIC STRESS CAN LEAD TO PROLONGED ACTIVATION, WHICH CAN CAUSE:

- anxiousness or depressive feelings
- supressed immunity (more sickness)
- inflammation/pain
- vascular disease, narrow blood vessels
- cancer growth
- bone thinning
- insulin resistance, inducing diabetes
- abdominal obesity - risk of cardiovascular and metabolic problems
- cognitive and emotional impairment
- elevated blood pressure, blood clotting, risking of heart attacks or stroke

OFFICE OF THE
CALIFORNIA SURGEON GENERAL

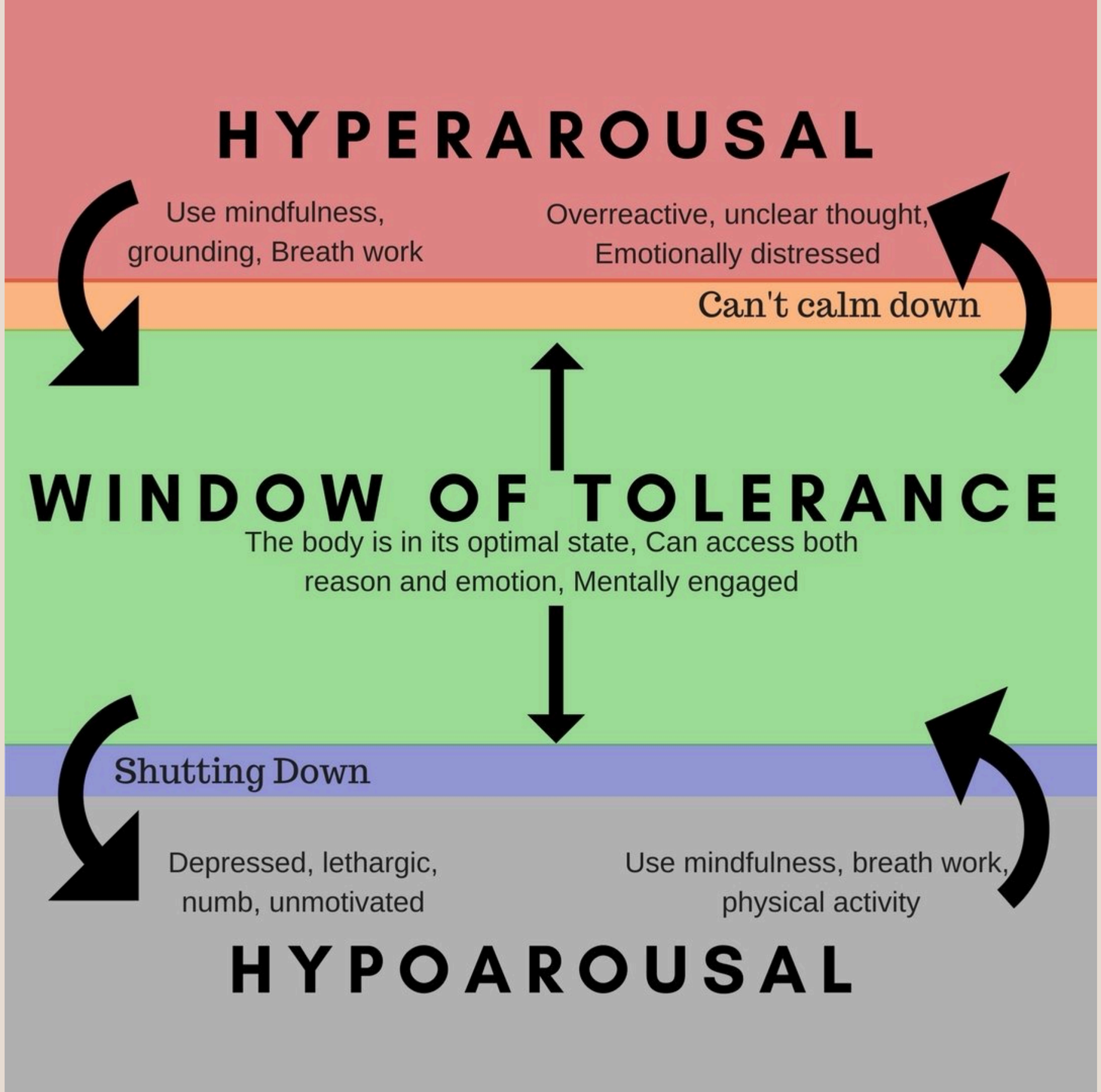


Figure 6

STATE-DEPENDENT FUNCTIONING

"STATE"	CALM	ALERT	ALARM	FEAR	TERROR
DOMINANT BRAIN AREAS	Cortex (DMN)	Cortex (Limbic)	Limbic (Diencephalon)	Diencephalon (Brainstem)	Brainstem
ADAPTIVE "Option" Arousal	Reflect (create)	Flock (hypervigilance)	Freeze (resistance)	Flight (defiance)	Fight
ADAPTIVE "Option" Dissociation	Reflect (daydream)	Avoid	Comply	Dissociate (paralysis/catatonia)	Faint (collapse)
COGNITION	Abstract (creative)	Concrete (routine)	Emotional	Reactive	Reflexive
FUNCTIONAL IQ	120–100	110–90	100–80	90–70	80–60

All functioning of the brain depends on the state we're in. As we move from one internal state to another, there will be a shift in the parts of the brain that are in "control" (dominant); when you are calm, for example, you are able to use the "smartest" parts of your brain (the cortex) to reflect and create. When you feel threatened, those cortical systems become less dominant, and more reactive parts of your brain begin to take over. This continuum goes from calm to terror.

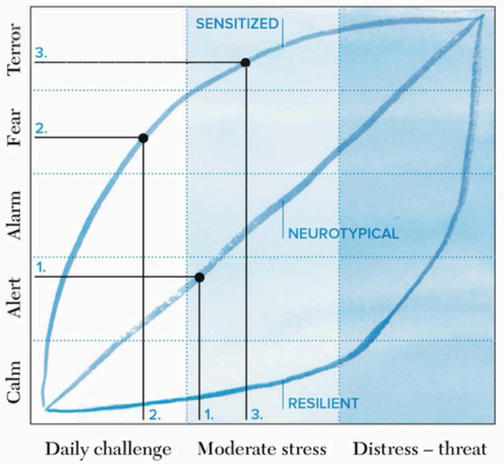
State-dependent shifts result in corresponding changes in a host of brain-mediated functions, including problem-solving capacity, style of thinking (or cognition), and the sphere of concern. In general, the more threatened someone feels, the more control of functioning shifts from higher systems (cortex) to lower systems (diencephalon and brainstem). Fear shuts down many cortical systems.

Adaptive behaviors seen during state-dependent shifts in functioning will differ depending upon which of the two major adaptive response patterns (Arousal and Dissociation) are dominant for any given individual during a stressful or traumatic event.

Default Mode Network (DMN) is a term for a widely distributed network, mostly in the cortex, that is active when an individual is thinking about others, thinking about themselves, remembering the past, and planning for the future.

Figure 5

STATE-REACTIVITY CURVE

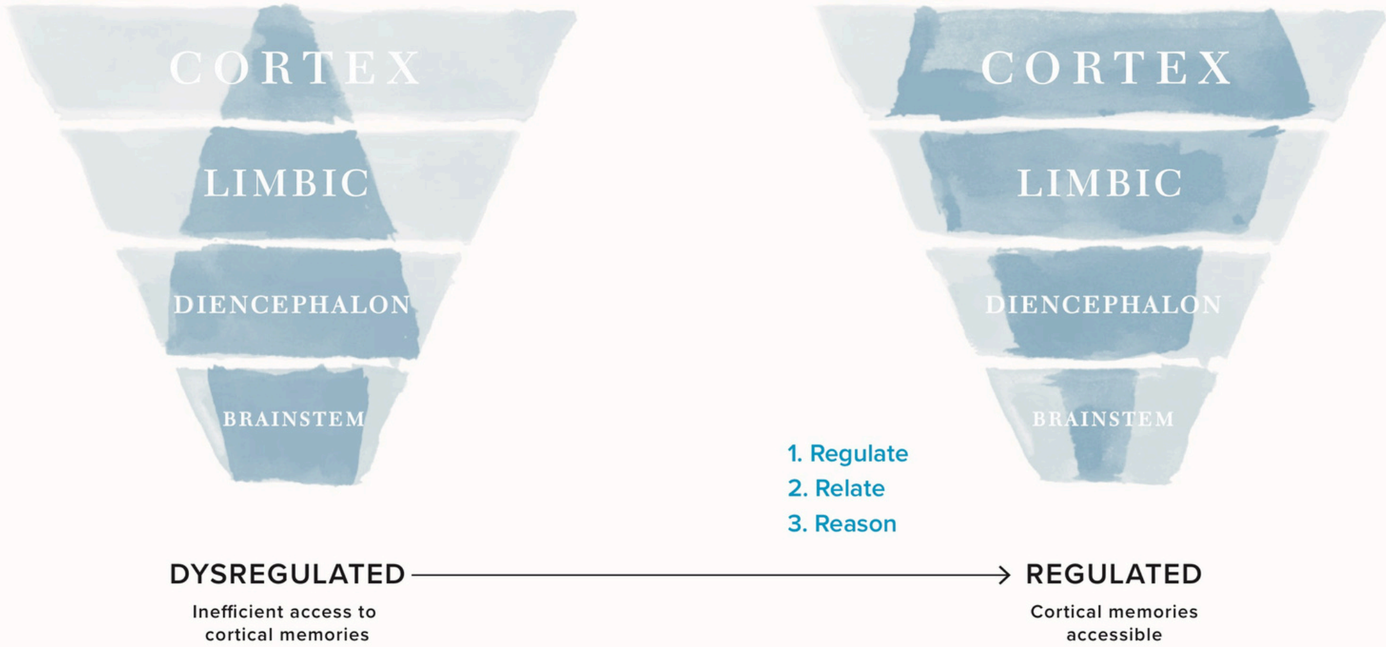


When a challenge or stressor occurs, it will push us out of balance, and an internal stress response will be activated to get us back in balance. With no significant stressors—no internal needs (hunger, thirst, etc.) unmet and no external complexity or threat—we will be in a state of calm. As challenges and stress increase, our internal state will shift, from alert to terror (see Figure 6).

In someone with *neurotypical* stress-response systems, there is a linear relationship between the degree of stress and the shift in internal state (straight diagonal line). For example, in the face of a moderate stressor (1), a proportional activation will put the individual in an active alert state. If an individual has a *sensitized* stress response (top curve) caused by their history of trauma, even the most basic daily challenges (2) will induce a state of fear. Someone with a sensitized stress response (3) will respond to even moderate stress with a terror response. This overreactivity contributes to their emotional, behavioral, and physical health problems.

Figure 11

STATE DEPENDENCE AND MEMORY

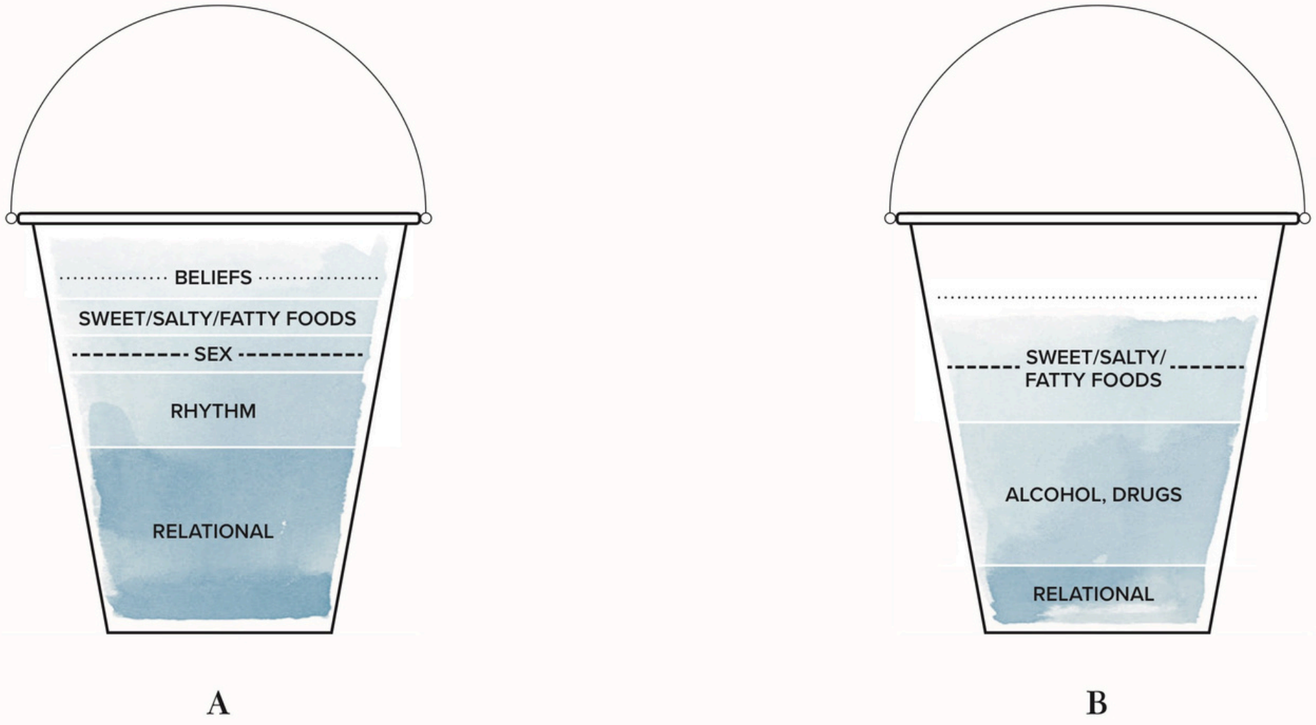


STATE DEPENDENCE AND ACCESS TO 'NARRATIVE' MEMORY

In a fear state (dysregulated), there is a "shutdown" of some of the systems in higher areas of the brain (e.g., cortical). This makes retrieval of previous linear narrative memory inefficient; a common example of this is test anxiety. The content has been stored, but in the moment (e.g., during the test), retrieval is not possible. When the person is regulated, and feeling connected and safe, the stored content is accessible and easier to retrieve.

Figure 4

FILLING OUR REWARD BUCKET



Activation of key neural networks in the brain can produce the sense of pleasure or reward. These reward circuits can be activated in multiple ways, including relief of distress (e.g., using Alcohol to self-medicate or Rhythm to regulate the anxiety produced by a stress-response system that's been altered by trauma); positive human interactions (Relational); direct activation of the reward systems using various drugs of abuse such as cocaine or heroin (Drugs); eating Sweet-Salty-Fatty Foods (SSF foods); and behaviors consistent with your values or beliefs (Beliefs).

Each day we need to fill our "reward bucket." The darker dashed line is a minimal level of reward that we need to feel adequately regulated and rewarded; if our daily set of rewards falls below this, we feel distressed. If we get above the upper, black-dotted line, we feel fulfilled and regulated. Each of us does this in a somewhat individualized way.

Many of us have opportunities for healthy rewards: lots of positive human interactions through work, worship, or volunteering that are consistent with our values and beliefs, for example (A). But a lack of strong relationships and connection can make an individual more vulnerable to overuse of other, less healthy forms of reward (B). A healthy combination of rewards (e.g., lots of positive human interactions, doing work consistent with your values, integrating healthy rhythm and sexuality into your day, staying regulated in healthy ways) can help decrease the pull toward any single, unhealthy form of reward such as substance use or overeating.

TRAUMA IS...

DR. GABOR MATE'

THE MYTH OF NORMAL

"SOCIAL AND PSYCHIC FACTORS PLAY A ROLE IN EVERY DISEASE, BUT IN MANY CONDITIONS, THEY REPRESENT DOMINANT INFLUENCES"

DR. SOMA WEISS

the deepest well

HEALING the LONG-TERM EFFECTS of CHILDHOOD ADVERSITY

NADINE BURKE HARRIS, M.D.

Appendix 1

WHAT'S MY ACE SCORE?

Prior to your eighteenth birthday:

1. Did a parent or other adult in the household **often** . . .
   Swear at you, insult you, put you down, or humiliate you?
   or
   Act in a way that made you afraid you might be physically hurt?
   Yes No If yes enter 1 ____

2. Did a parent or other adult in the household **often** . . .
   Push, grab, slap, or throw something at you?
   or
   Ever hit you so hard that you had marks or were injured?
   Yes No If yes enter 1 ____

3. Did an adult or person at least five 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?
   Yes No If yes enter 1 ____

4. Did you **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?
   Yes No If yes enter 1 ____

5. Did you **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?
   Yes No If yes enter 1 ____

6. Were your parents ever separated or divorced?
   Yes No If yes enter 1 ____

7. Was your mother or stepmother . . .
   Often pushed, grabbed, slapped, or had something thrown at her?
   or
   Sometimes or **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?
   Yes No If yes enter 1 ____

8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
   Yes No If yes enter 1 ____

9. Was a household member depressed or mentally ill, or did a household member attempt suicide?
   Yes No If yes enter 1____

10. Did a household member go to prison?
    Yes No If yes enter 1____

Now add up your "Yes" answers: ____

This is your ACE Score.

Appendix 2

CYW ADVERSE CHILDHOOD EXPERIENCES QUESTIONNAIRE (ACE-Q) CHILD

To Be Completed by Parent/Caregiver

Today's Date: _____

Child's Name: _____ Date of Birth: _____

Your Name: _____ Relationship to Child: _____

Many children experience stressful life events that can affect their health and well-being. The results from this questionnaire will assist your child's doctor in assessing his or her health and determining guidance. Please read the statements below. Count the number of statements that apply to your child and write the total number in the box provided.

Please DO NOT mark or indicate which specific statements apply to your child.

1) Of the statements in Section 1, HOW MANY apply to your child? Write the total number in the box. ☐

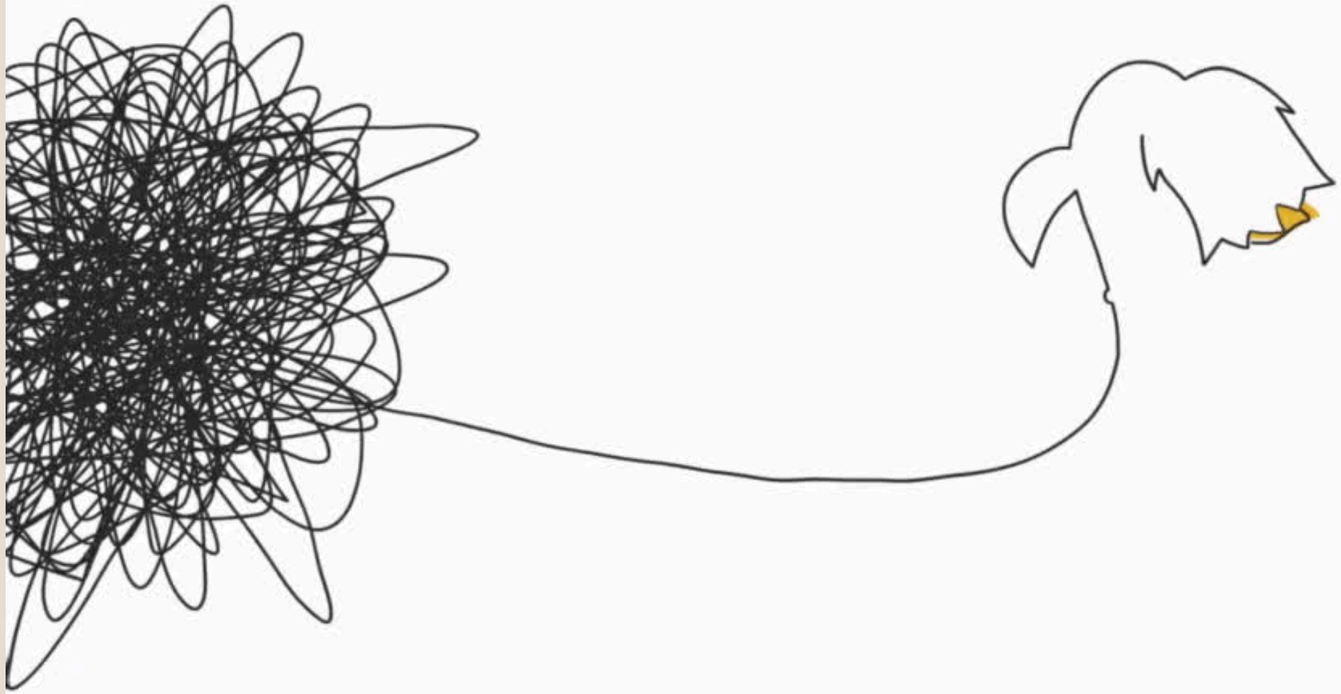
Section 1. At any point since your child was born . . .

- Your child's parents or guardians were separated or divorced.
- Your child lived with a household member who served time in jail or prison.
- Your child lived with a household member who was depressed, mentally ill, or attempted suicide.
- Your child saw or heard household members hurt or threaten to hurt each other.
- A household member swore at, insulted, humiliated, or put down your child in a way that scared your child, OR a household member acted in a way that made your child afraid that she or he might be physically hurt.
- Someone touched your child's private parts or asked your child to touch their private parts in a sexual way.
- More than once, your child went without food, clothing, or a place to live, or had no one to protect her or him.
- Someone pushed, grabbed, slapped, or threw something at your child, OR your child was hit so hard that your child was injured or had marks.
- Your child lived with someone who had a problem with drinking or using drugs.
- Your child often felt unsupported, unloved, or unprotected.

2) Of the statements in Section 2, HOW MANY apply to your child? Write the total number in the box. ☐

Section 2. At any point since your child was born . . .

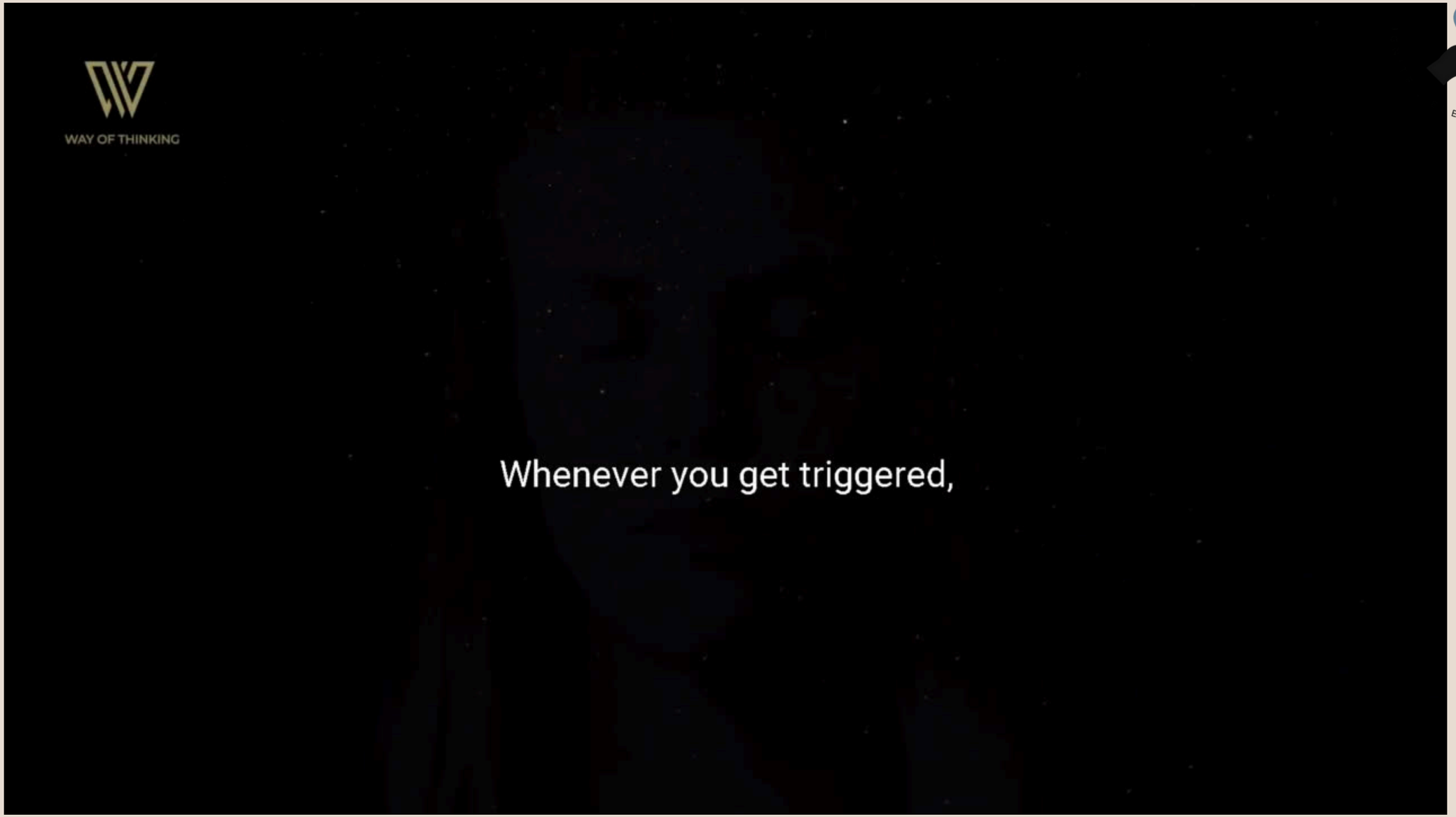
- Your child was in foster care.
- Your child experienced harassment or bullying at school.
- Your child lived with a parent or guardian who died.
- Your child was separated from her or his primary caregiver through deportation or immigration.
- Your child had a serious medical procedure or life-threatening illness.
- Your child often saw or heard violence in the neighborhood or in her or his school neighborhood.
- Your child was often treated badly because of race, sexual orientation, place of birth, disability, or religion.



and ability to learn.

WHAT WE CAN DO

- Pediatricians, schools, and social service providers can screen for ACEs and provide resources to the family
- Teaching self-regulation to children including breathing, mindfulness, “quiet time” or “breaks” VS “time out”
- Provide as many solutions to barriers as possible:
  - snacks, water, restroom use as needed, the ability to get up and move or bouncy chairs, fidget “toys,” grounding practices
  - build in TRC into our systems
- Prioritize healing and skill building for parents and care givers
- Remember that when people are having fun and creating, they are calm and feeling safe, and if they are calm and safe, they can learn and achieve
- Advocate for survivors, including yourself
- Normalize conversation around trauma and its effects
- “if trauma happens within a relationship, it must be healed within a relationship”
- Remind survivors of their PERSONAL POWER and help them to OWN it


WAY OF THINKING
Whenever you get triggered,

KEY COMPONENTS TO:

Prevention

- Keep stressors tolerable as much as possible
- Ensure support systems are in place and ACCESSIBLE
- Unconditional Positive Regard
- Teach self-regulation and awareness EARLY
- MODEL appropriate EQ and behaviors EARLY and OFTEN
- Remind of their personal power as often as possible

Resilience

- Healthy support systems - VALIDATE their experiences and feelings
- Separate VALUE from behavior
- Teach self-awareness
- Help to develop belief systems and POSITIVE narratives about themselves
- Stop negative self talk or false/limiting narratives as much as possible
- PATIENCE, redirection

Healing

- All of the above PLUS:
- Safe spaces for Survivors
- Education
- Therapies / professional aide / Rx possibly
- Support groups
- Breathing practices, yoga, meditation, mindfulness, journaling, nutrition, exercise
- PATIENCE with self and others
- Continued investment in healing

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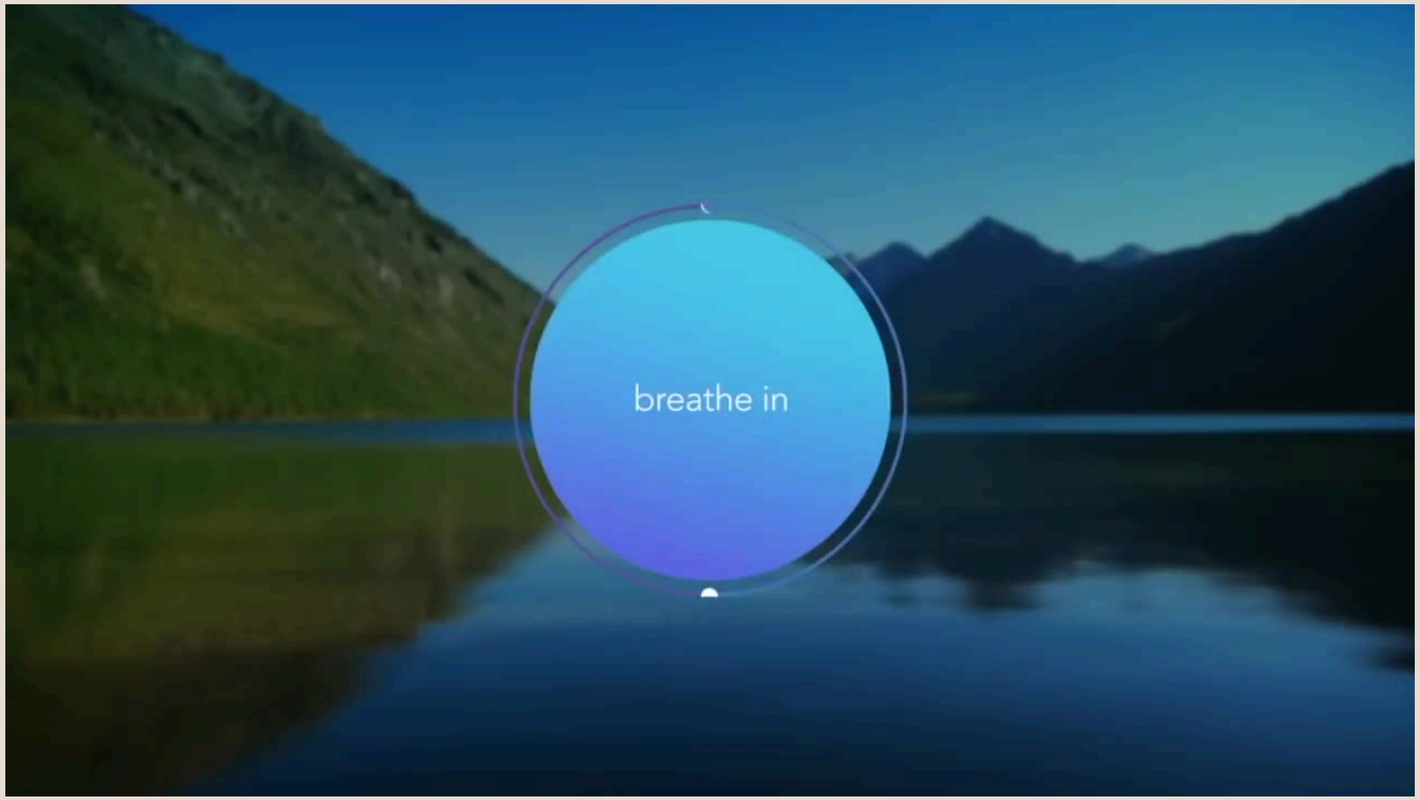
WARNING

FIRST,

DO NO HARM.

LET'S LEAVE THE STRESS AT THE DOOR....

1.Sit comfortably, OPEN hands, open front body
2.Scan your body for tension
3.As you follow the breath cues, INTENTIONALLY release that muscle tension, anywhere you find it



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RESOURCES

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Dr. Soma Weiss
Dr. Vincent Felitti
Robert Anda CDC
Dr. Francine Shapiro
Dr. James S. Gordon
Dr. Nicole LePera
Dr. Richard C. Schwartz
Dr. Daniel J. Siegel
Dr. Frances E. Jensen
Dr. Laurence Steinberg
Dr. MaryCatherine McDonald
Dr. Bessel van der Kolk