2023 MASOC & MATSA Lunch & Learn

Incorporating Polyvagal Approaches and the Neurobiology of Trauma in Treatment of Sexually Abusive Behavior

Meghan Fagundes, Ph.D.
Dr.Fagundes@PositivePsychologyInc.com
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Overview

- History
- Adverse Childhood Experiences
- Neurobiology of Trauma through the lens of Polyvagal
- Effects of Trauma on Development
- Trauma Informed Care with Sexually Abusive Behavior

What will I learn?

01. To recognize practices that are not trauma informed

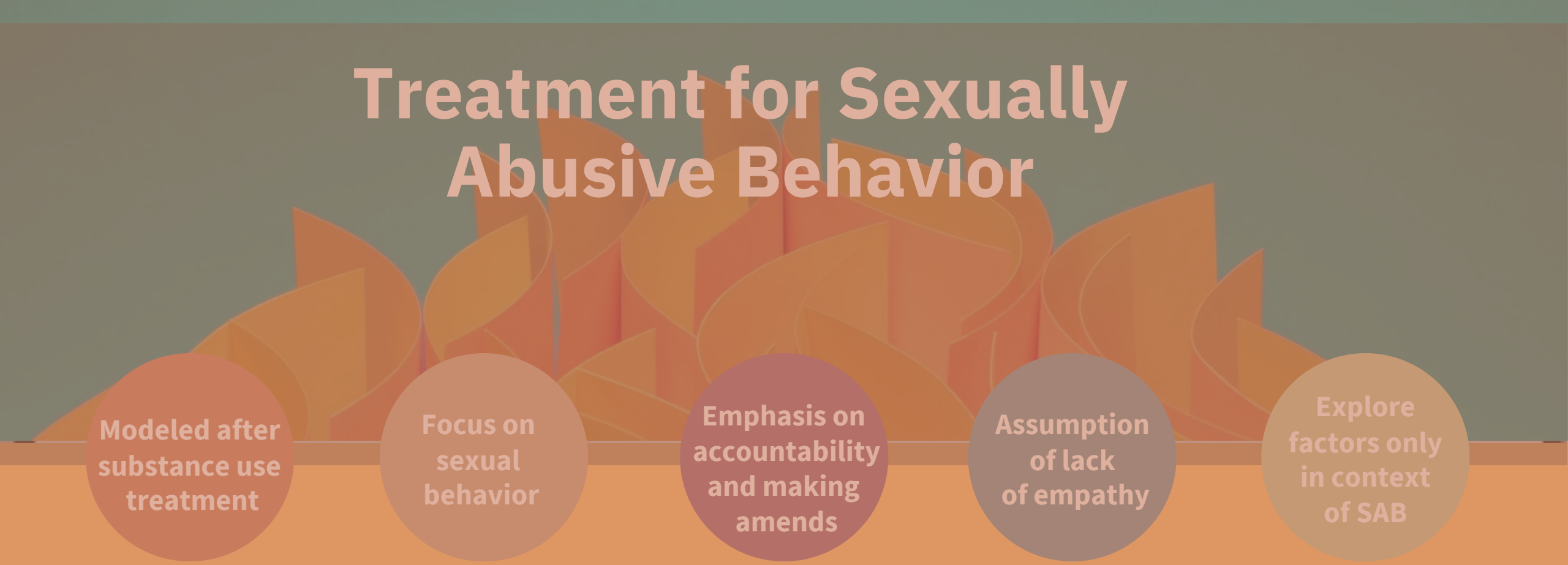
02. The impact of trauma on neurobiology and development

03. Basic principles of polyvagal theory and trauma informed care

04. Skills to use in treatment with sexually abusive behavior

History

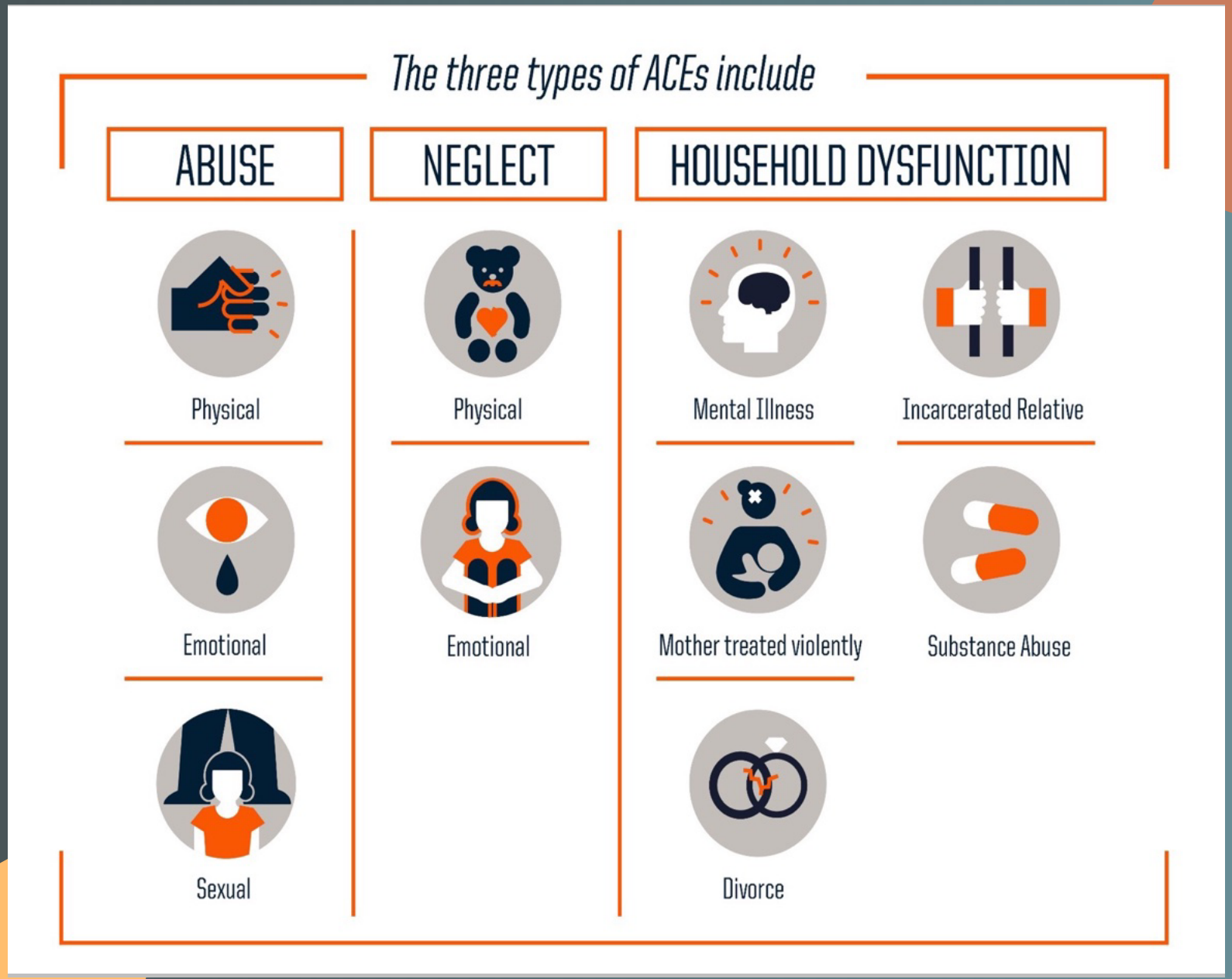
Treatment for Sexually Abusive Behavior



What's the problem with this?

Adverse Childhood Experiences

Adverse Childhood Experiences



(Felitti et al., 1998; Levenson et al., 2017)

Original study (*N* = 17,331):

Most adult males and females received a score of at least **1**

In a study of JSB (*N* = 6,549):

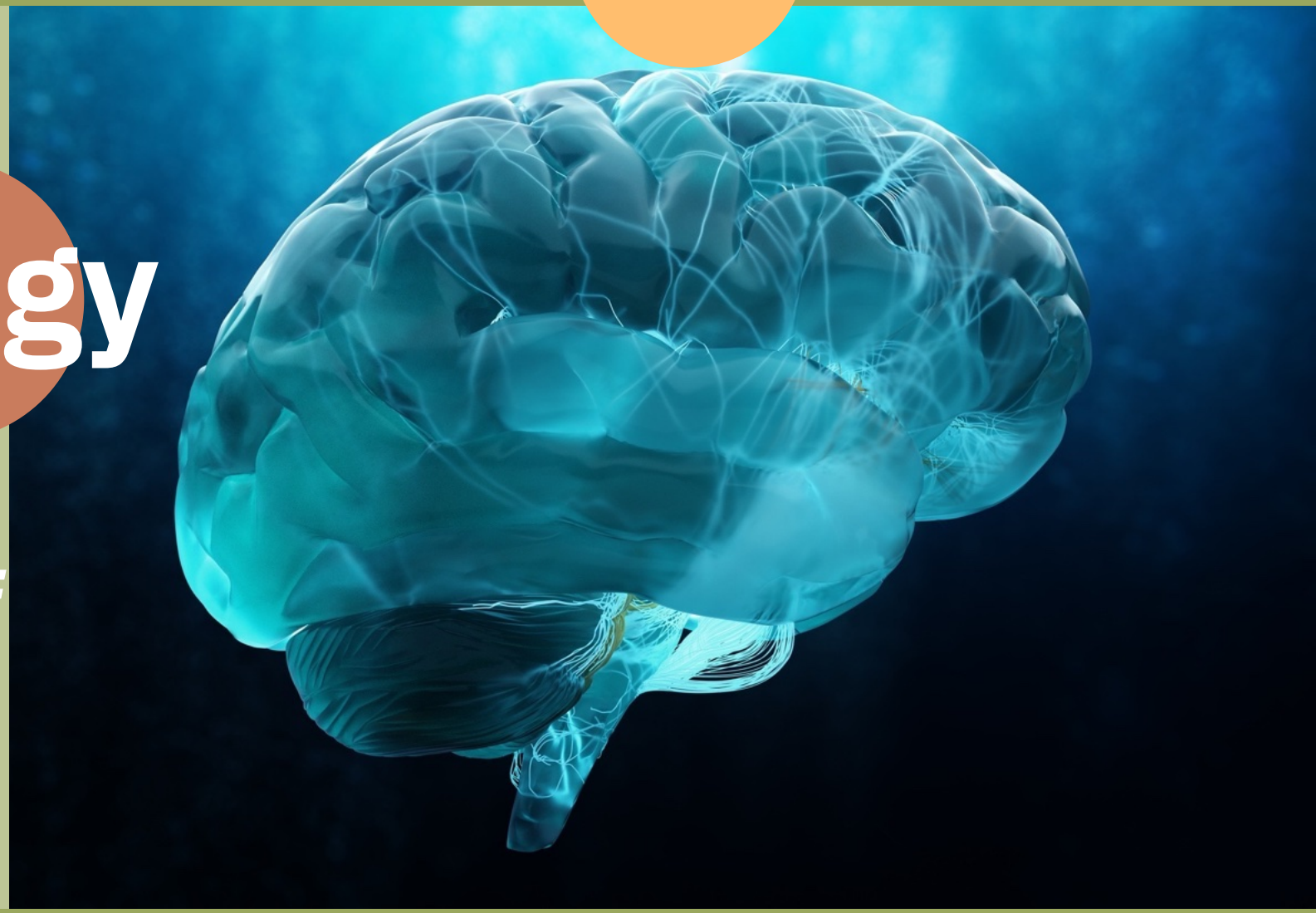
Average score for males: **2.7**
Average score for females: **4.0**

In a study of ASB (*N* = 679):

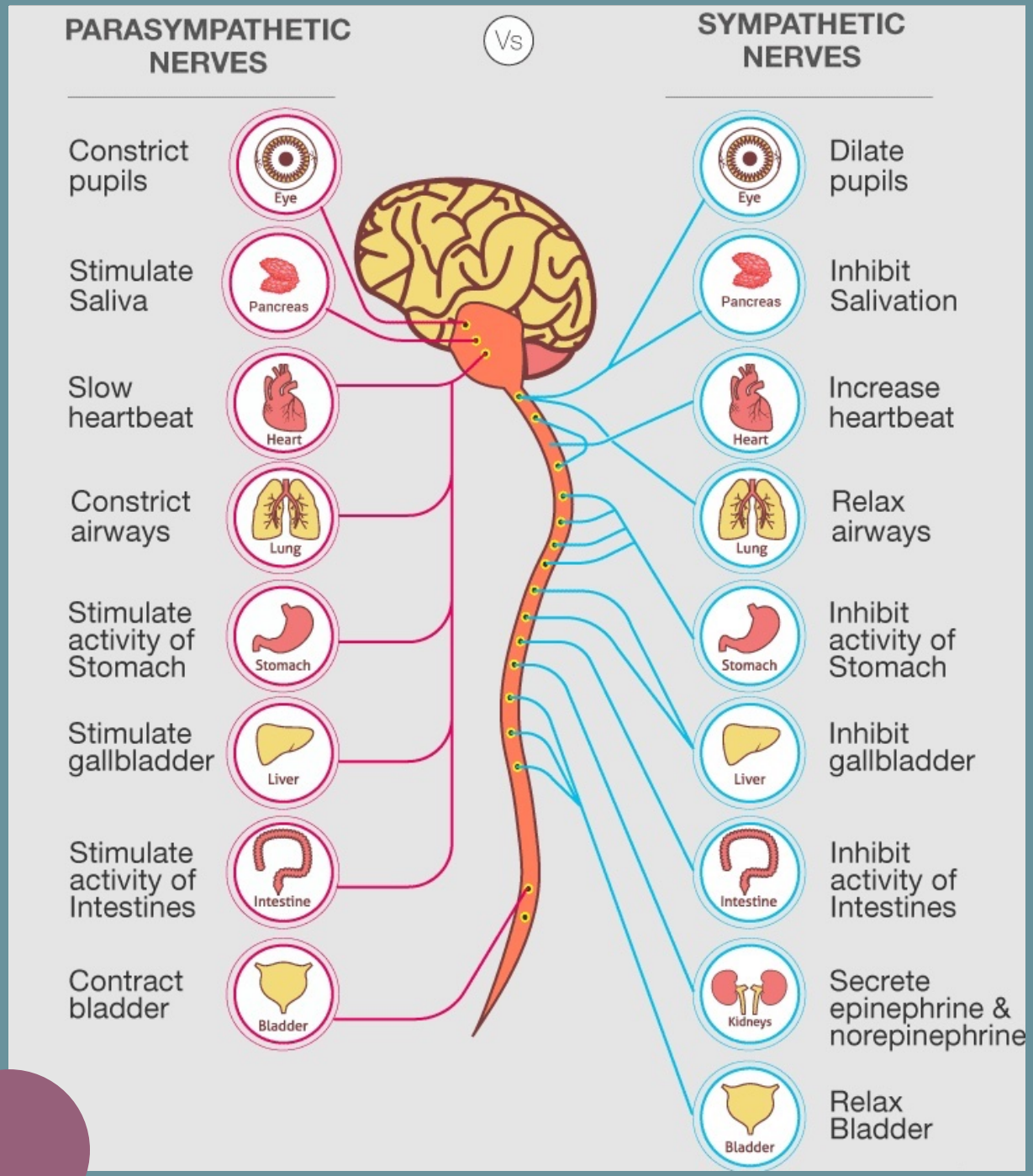
Average score for males: **3.5**
Average score for females: **3.2**

Neurobiology of Trauma

through the lens of Polyvagal Theory



AUTONOMIC NERVOUS SYSTEM



Sympathetic

Fight/Flight
Epinephrine and cortisol

Parasympathetic

Rest/Digest
Acetylcholine

Polyvagal: The Autonomic Hierarchy

★ Clues to **present time suffering** in **autonomic response history**

★ Based on **ANS response**

Autonomic Nervous System

Parasympathetic

Sympathetic

MOBILIZATION

Dorsal Vagal

IMMOBILIZATION

Ventral Vagal

SOCIAL ENGAGEMENT

★ **Vagus nerve**

(Dana, 2018; Porges et al., 1994)

“Understanding without awareness”

Neuroception

Shifts autonomic states according to **internal** and **external** cues

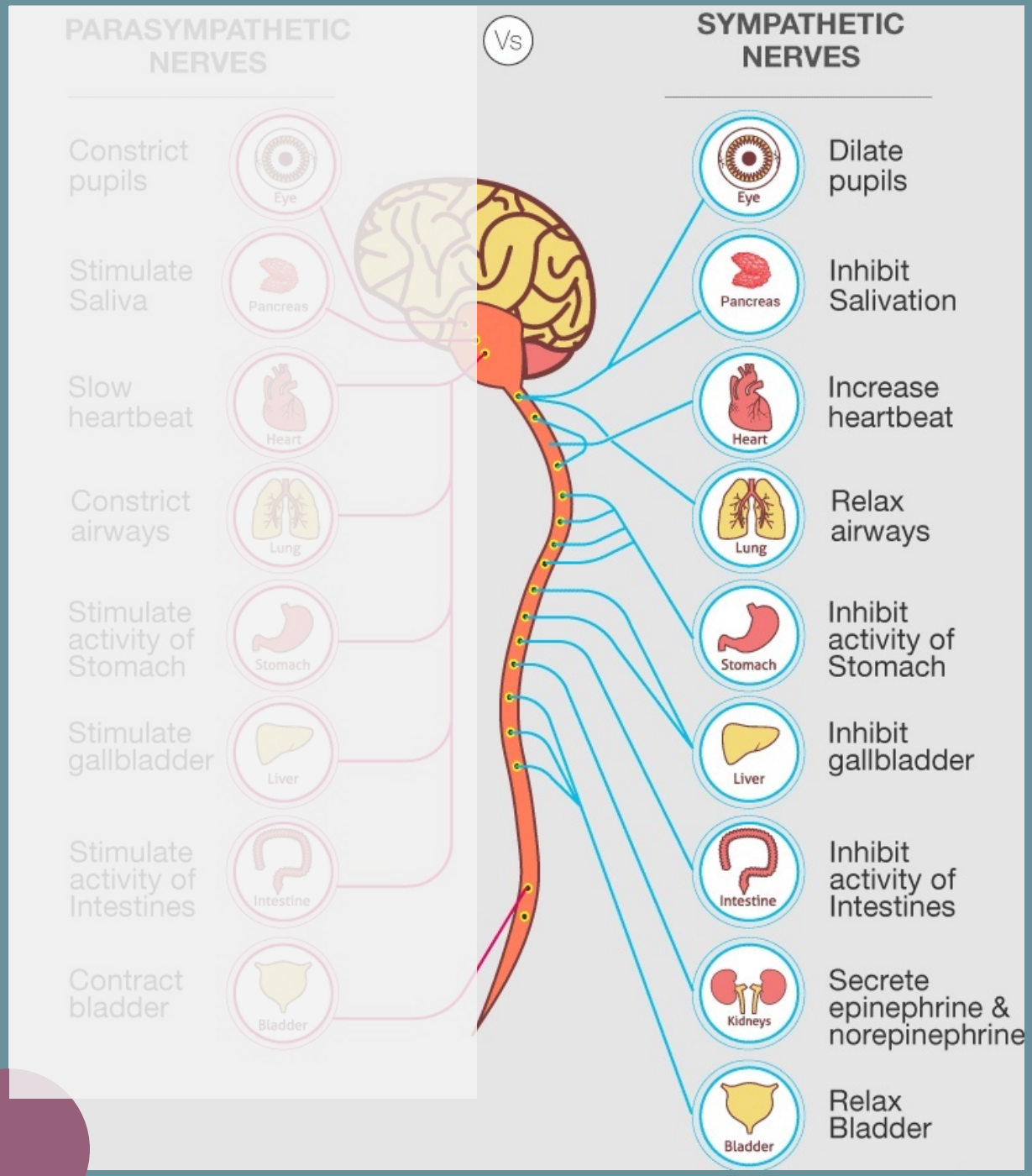
Influences **somatic** and **behavioral** responses **outside perception/awareness**

Some features **hardwired** (i.e. response to sound)

Some based on **individual experience**

Misattunement in neuroception leads to **under or over responding**

Even moments described as “understandable” trigger autonomic response because **understanding is territory of the brain, not rest of nervous system**



Sympathetic

400 million years old

Creates the possibility of survival through **movement** and the ability to **actively engage** or **avoid**

Acute Stress Response

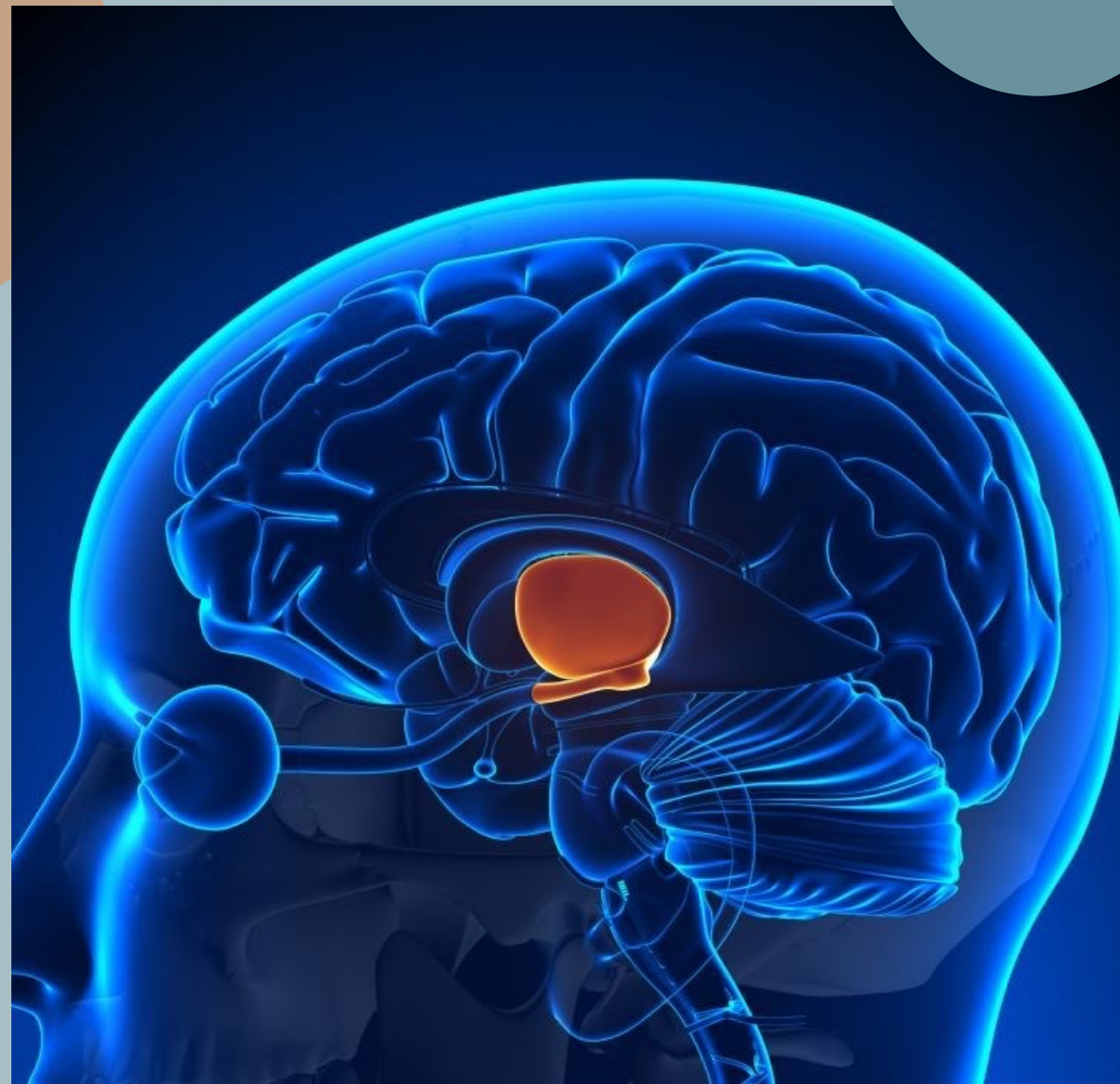
SAMS

- Amygdala perceives threat via perception/neuroception

Acute Stress Response

SAMS

- Amygdala perceives threat via perception/neuroception
- Sends info to hypothalamus



Acute Stress Response

SAMS

- Amygdala perceives threat via perception/neuroception
- Sends info to hypothalamus
- Hypothalamus activates adrenals

Acute Stress Response

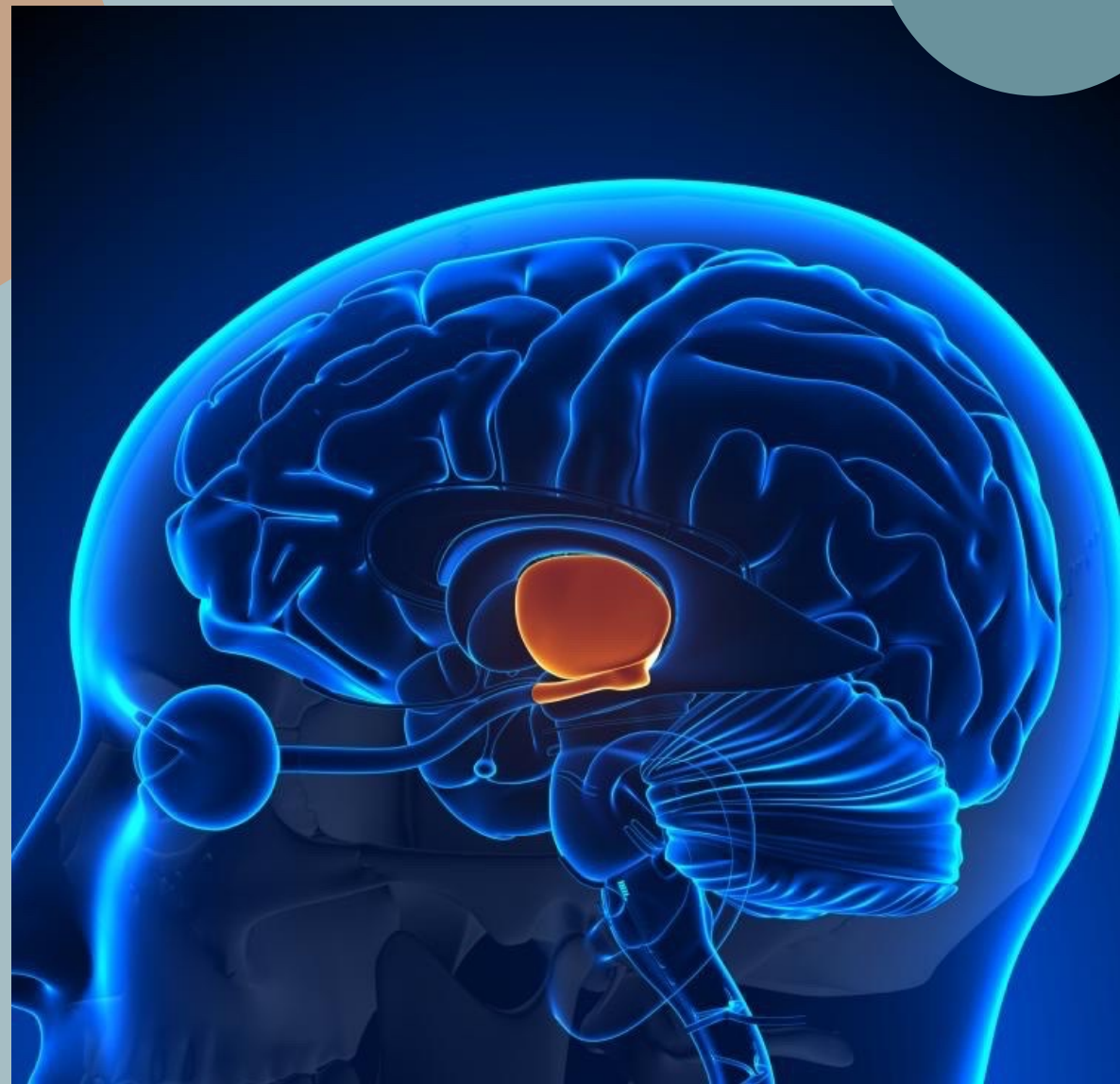
SAMS

- Amygdala perceives threat via perception/neuroception
- Sends info to hypothalamus
- Hypothalamus activates adrenals
- Adrenals release epinephrine into bloodstream

Acute Stress Response

HPA

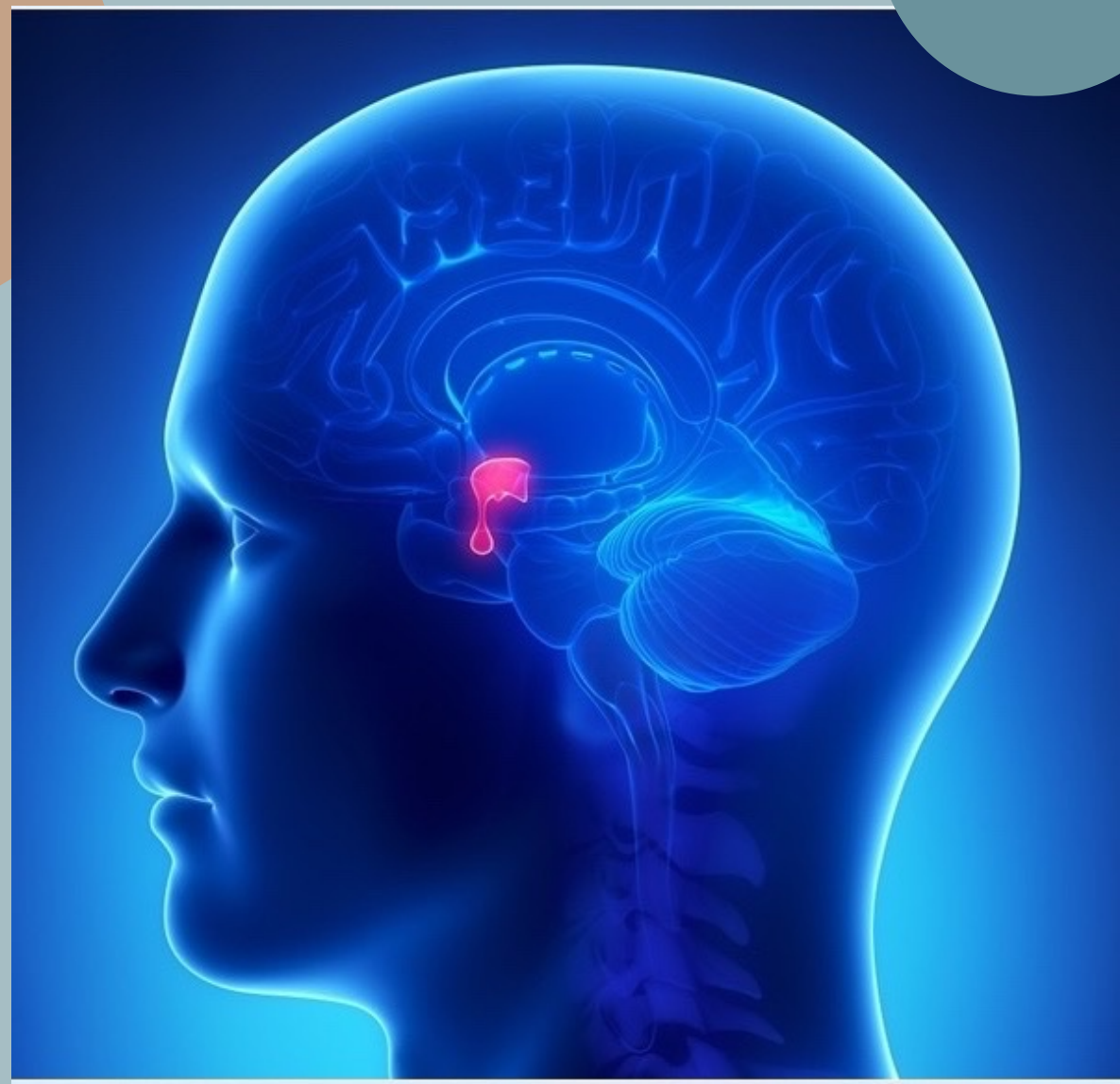
- Hypothalamus detects continued threat



Acute Stress Response

HPA

- Hypothalamus detects continued threat
- Sends message to pituitary gland



Acute Stress Response

HPA

- Hypothalamus detects continued threat
- Sends message to pituitary gland
- Pituitary gland sends message to adrenals

Acute Stress Response

HPA

- Hypothalamus detects continued threat
- Sends message to pituitary gland
- Pituitary gland sends message to adrenals
- Adrenals release cortisol

Hearing shifts

Ability to **read facial cues diminishes**

Heart rate and **respiration** increases

Psychomotor agitation

Scan environment for potential danger

Connection is **threatening,** world is a **dangerous place**

How do we get out of sympathetic response?

PARASYMPATHETIC NERVOUS SYSTEM

Vagus Nerve

Originates in **brain stem –** Cranial Nerve X

Extend from different places
in the brain stem

Division occurs at diaphragm
Supradiaphragmatic = ventral (front)
Subdiaphragmatic = dorsal (back)

PARASYMPATHETIC NERVOUS SYSTEM

Dorsal Vagal Freeze

Most primitive - 500 million years old

Path of **last resort** (extreme danger)

Protects through **immobilization**, collapse

Shuts down systems to **conserve energy**

Prepares for imminent death

Dissociation, analgesia

Freeze vs. Collapse

Freeze =
paralyzed with fear

Collapse =
giving up

Ventral Vagus

- **Newest** system – 200 million years old
- Uniquely mammalian
- Protects through **connection**
- **Slows** heart rate, softens tone
- **Promotes co-regulation**

Social Engagement System

Evolutionary development in which **pathways to face and head** linked with **ventral vagus** in brain stem

Cranial nerves V, VII, IX, X, XI
Eyes, ears, voice, head now work in concert with heart

Searches for and **signals** cues of **safety**

Safety circuit present from birth
Tone of voice, facial expression, tilt of head
Move to watchful surveillance if lack of safety/rupture in connection

Co-Regulation

Rely on **connection** and social engagement for **survival** and **regulating** ANS response

Social **disconnection/exclusion** activate same **pain pathways** as physical injury

Loneliness increases **watchfulness** for threats **(Unhappy** + feeling of being **unsafe)**

Unmet need for connection = activation of ANS (**Sympathetic** or **Dorsal)**

Vagal Brake

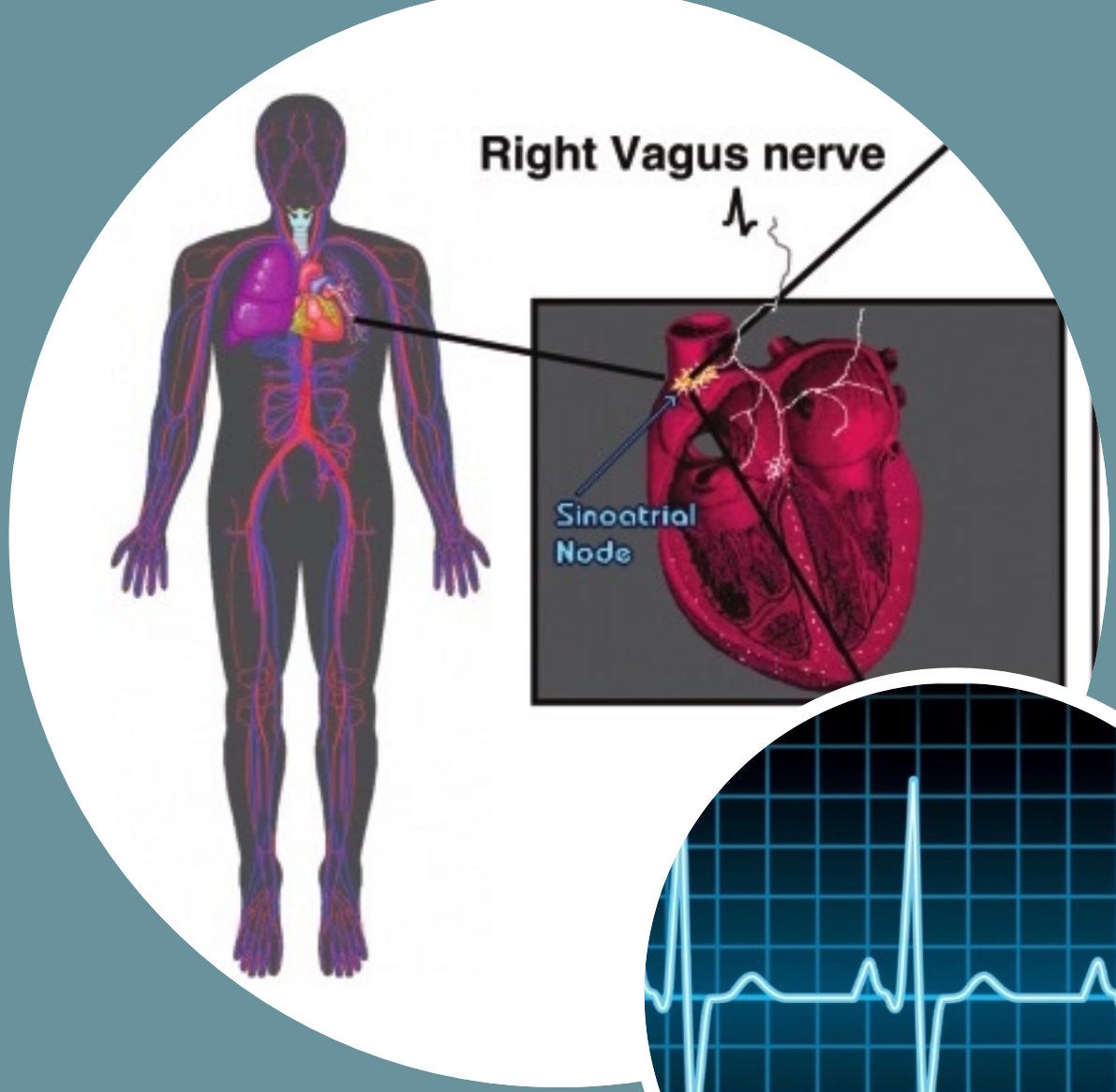
Allows **increase** and **decrease** in heart rate with respiration

Works at **sinoatrial node** to keep heart rate around 72 BPM

Can be measured through **Heart Rate Variability (HRV)**

Helps support a **flexible response** to the challenge of everyday living

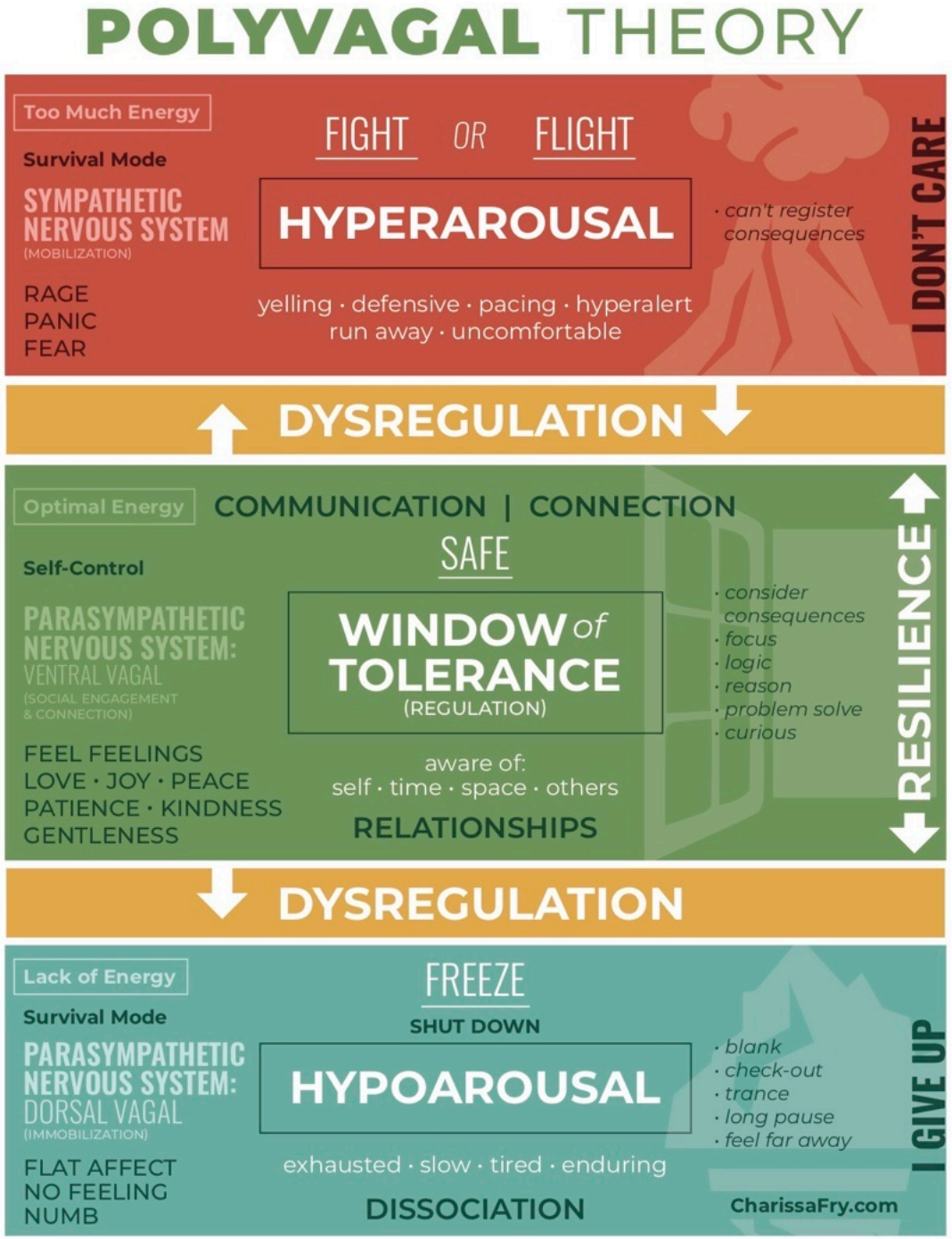
Well functioning vs. **poorly functioning**
Flexibility of response



SYMPATHETIC

mobilization

PARASYMPATHETIC



VENTRAL VAGAL

social engagement

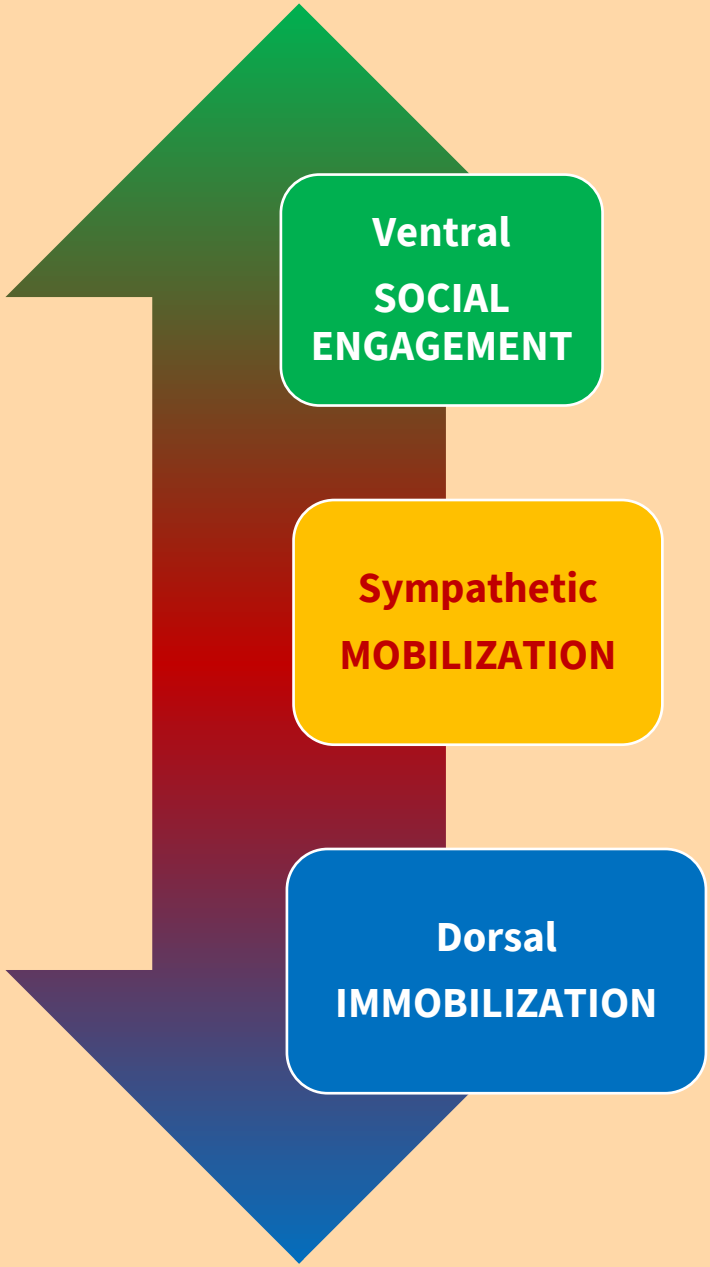
DORSAL VAGAL

immobilization

Attending to The Hierarchy

Love, joy, peace, connection, engagement, patience, logic

Motivation, passion, creativity, curiosity, energy



Impatient, irritable, nervous, fidgety, focus narrows

Anxious, angry outbursts, defensive, not thinking clearly, running away

Rage, panic, physical/verbal outbursts, tunnel vision

Paralyzed with fear, stuck

Shut down, unable to think/respond, motionless

Numb, hopeless, despondent, heavy

Trauma Defined

Any event, series of events, or set of circumstances that overwhelms the nervous system's ability to cope and has a profound, lasting impact on functioning.

- Physical/ emotional abuse
- Grief/Loss
- Community/ school violence
- Medical trauma
- Sexual abuse
- IPV
- Racial trauma
- Neglect
- Military/ war/ terrorism
- Historical trauma
- Disasters/ pandemic

SINGLE EVENT

An acute or singular experience of trauma

COMPLEX

Repeated exposure to the same trauma and/or multiple exposures to different traumas

Developmental Effects of Trauma

Attachments and Relationships
Physical Health (Body and Brain)
Emotional Responses
Behavior
Thinking and Learning
Dissociation
Self-Concept and Future Orientation

Problems with **appetite, sleep, temperature regulation, digestion, memory, focus, illness, headaches, chronic pain**

Difficulties **establishing** and **maintaining relationships**

Poor ability to discern and respond to **social cues**

Negative beliefs about self and the world

Anger, irritability, impulsivity, avoidance, hypervigilance, easily startled, psychomotor agitation, hopelessness, despair, feelings of detachment, numbness

Co-morbidity of **depression & anxiety**, mood swings, **emotional dysregulation**

What We See

Angry outbursts/irritability
Disregard for rules/authority
Unhealthy relationships/isolation
Risk-taking
Affective numbness
Depression
Low self-esteem
Substance use

Avoidance
Impulsivity
Difficulty concentrating
Poor sleep
Shame
Memory disturbance
Distrustful
Sexual acting out

Befriending the Nervous System

Befriend

Attend

Shape

Integrate

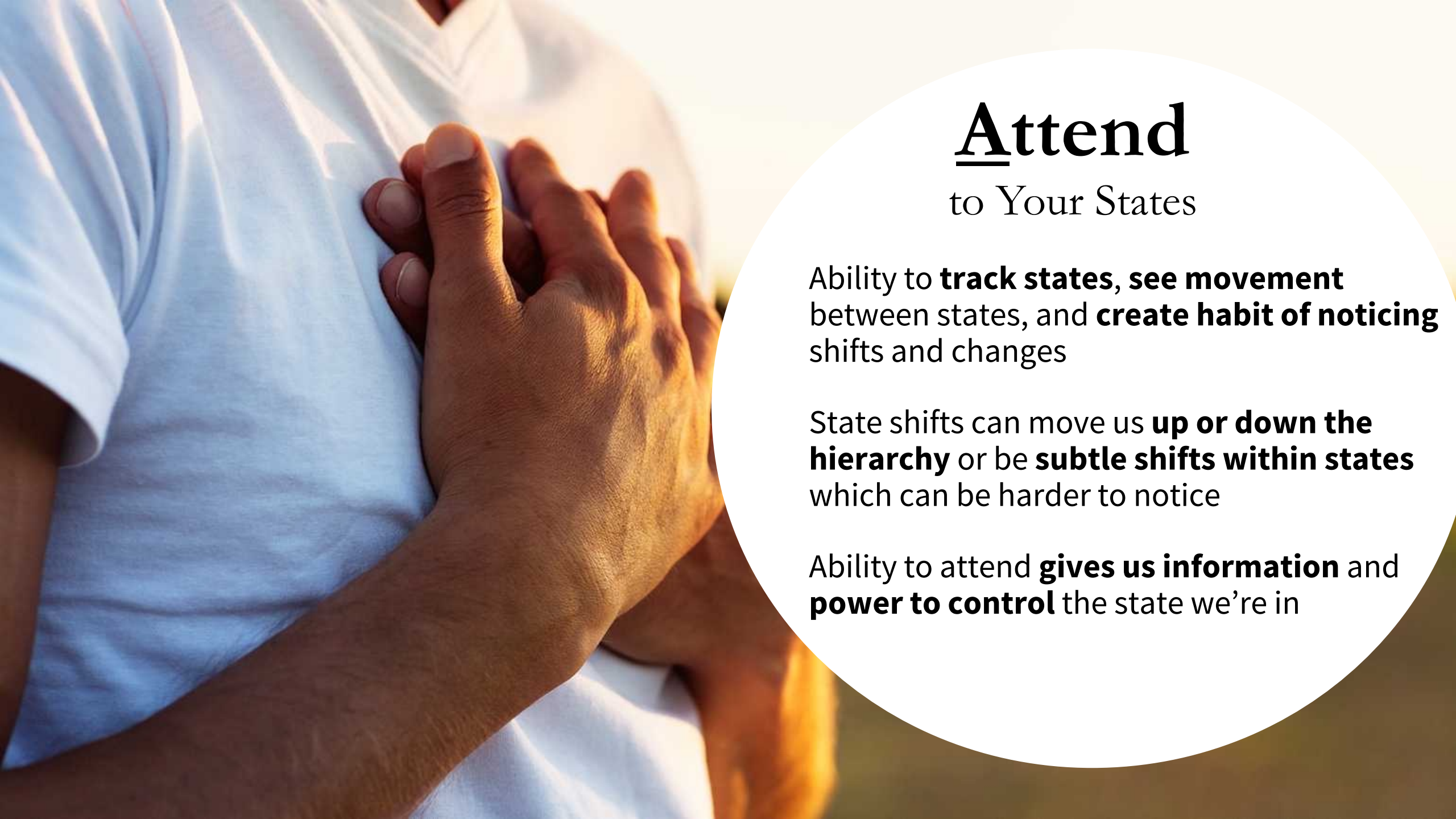
Connect

Befriend

Your Experiences

Befriending is learning to *tune in and tune toward* autonomic states with **curiosity and self-compassion**

Recognizing that fight, flight and freeze are **adaptive and functional** survival responses reduces intensity and feeling that your body is working against you



Attend

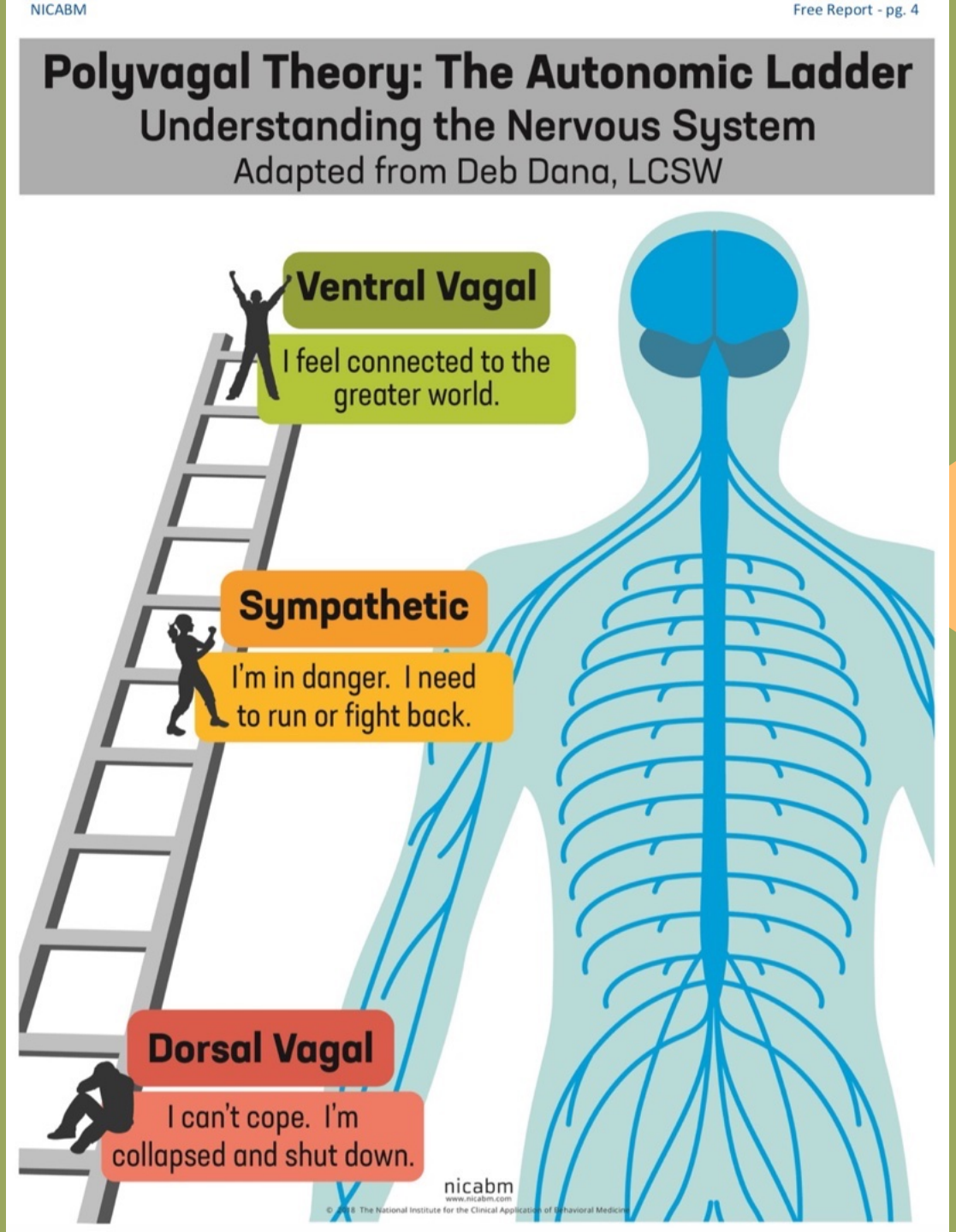
to Your States

Ability to **track states**, **see movement** between states, and **create habit of noticing** shifts and changes

State shifts can move us **up or down the hierarchy** or be **subtle shifts within states** which can be harder to notice

Ability to attend **gives us information** and **power to control** the state we're in

Attending: The Autonomic Ladder




F.G.

Shape
Your Experiences

When state **of safety is missing**, life is an **exhausting** mix **of intense mobilization** and **withdrawal**

Sometimes **small steps** toward **mobilization** are what is needed. Other times it is an **intentional release of energy.**

Shaping
Through Breath

Autonomic **regulation** happens when **heart and breath are in harmony**

Breath practices can **increase HRV**, **decrease sympathetic** activation

Long exhalations and resistance breathing = **ventral** vagal tone

Fast, forced, or sharp inhalations and/or irregular breathing = **sympathetic** response

Matched inhalation/exhalation maintain **balance**

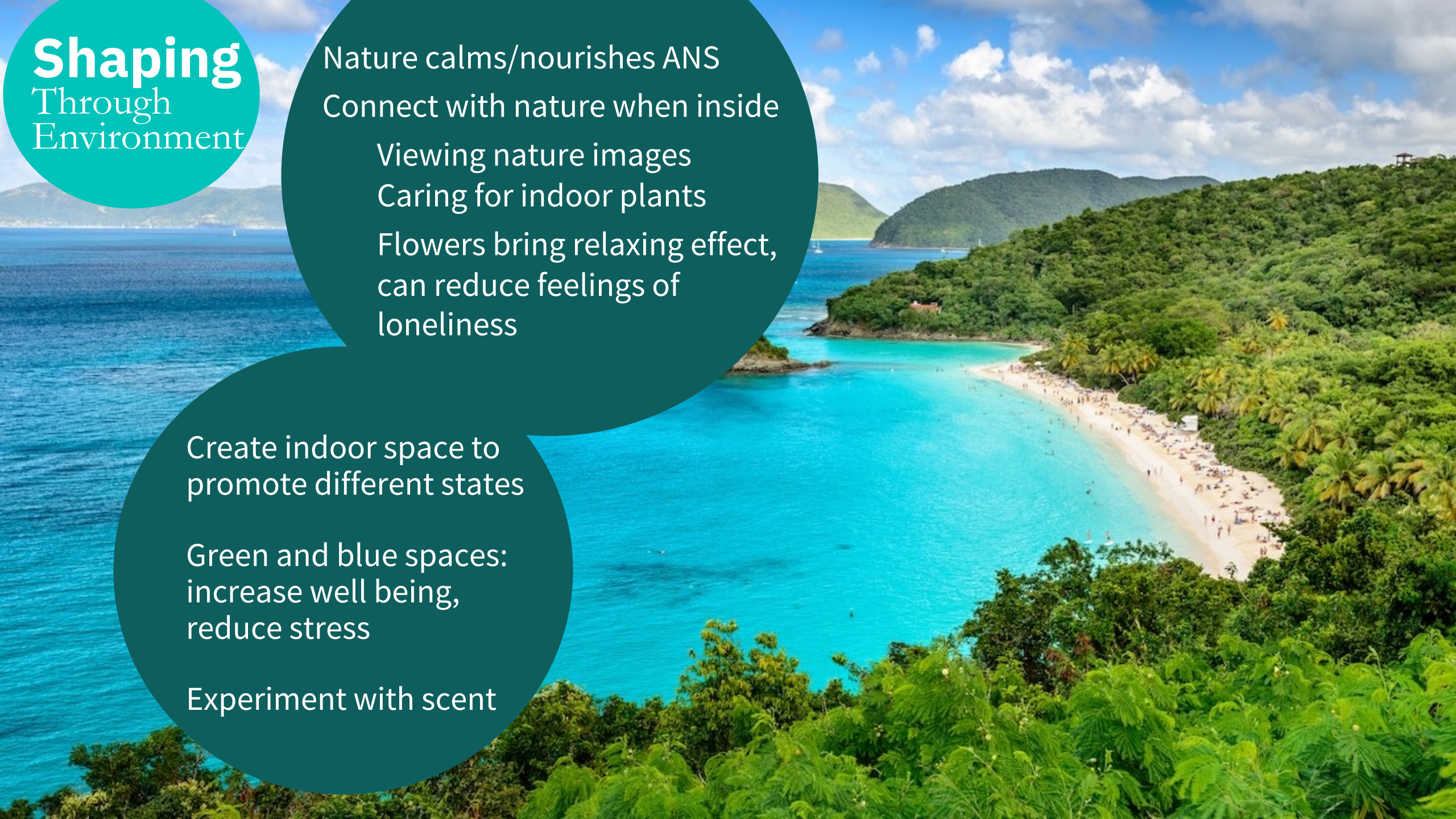
Shaping

Through Sound

Awareness and manipulation
of your voice
Music that takes you to
different places in your hierarchy

Through Movement

Make your own movement continuum
Engage with movement, nature, sound
Engage in various movements
depending on your hierarchy



Shaping Through Environment

Nature calms/nourishes ANS

Connect with nature when inside

- Viewing nature images
- Caring for indoor plants
- Flowers bring relaxing effect, can reduce feelings of loneliness

Create indoor space to promote different states

Green and blue spaces: increase well being, reduce stress

Experiment with scent

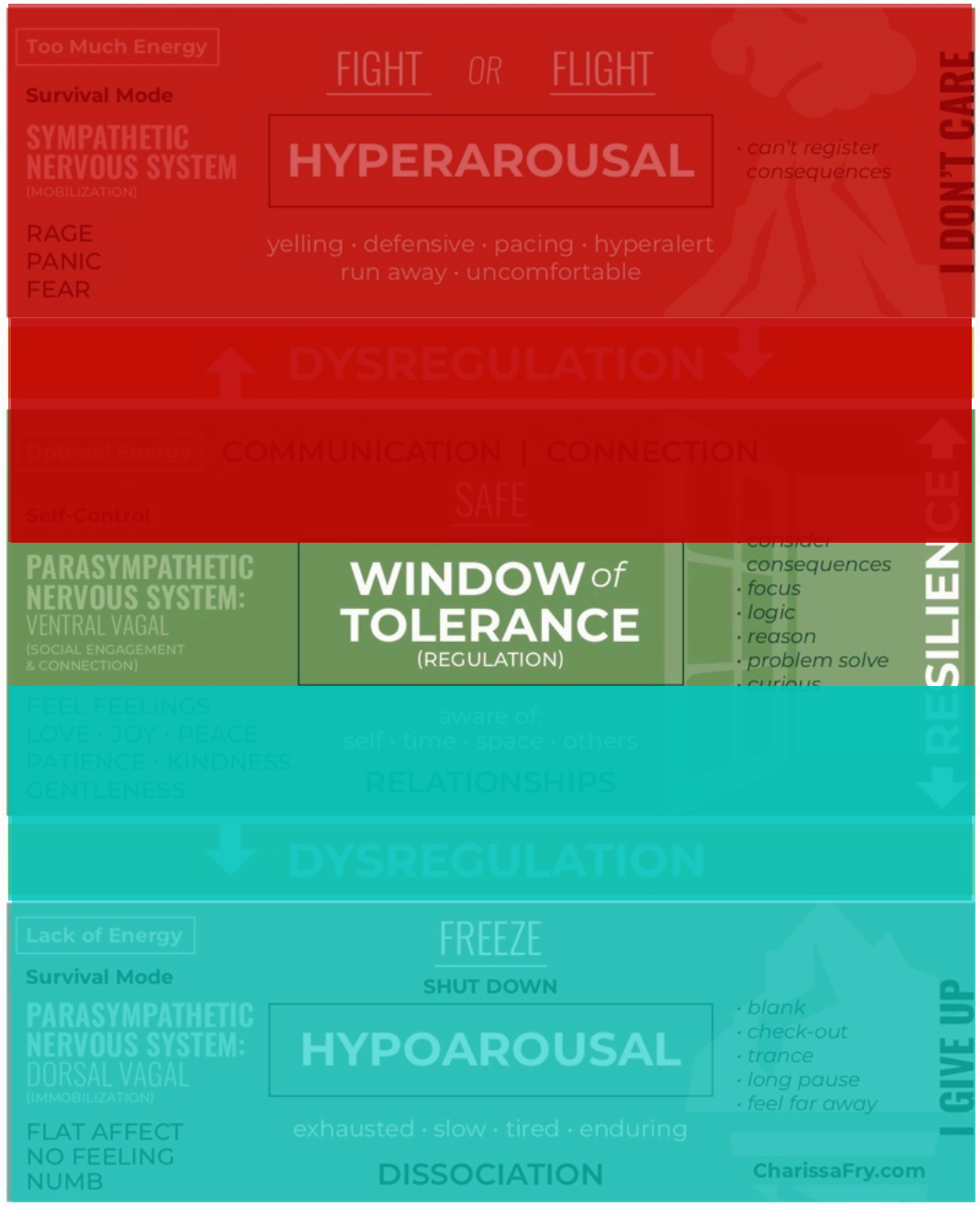
Integrate
New Autonomic Rhythms

We know **what's happening** and **how to change** how we feel → we use these skills to **increase flexibility** and **recovery**

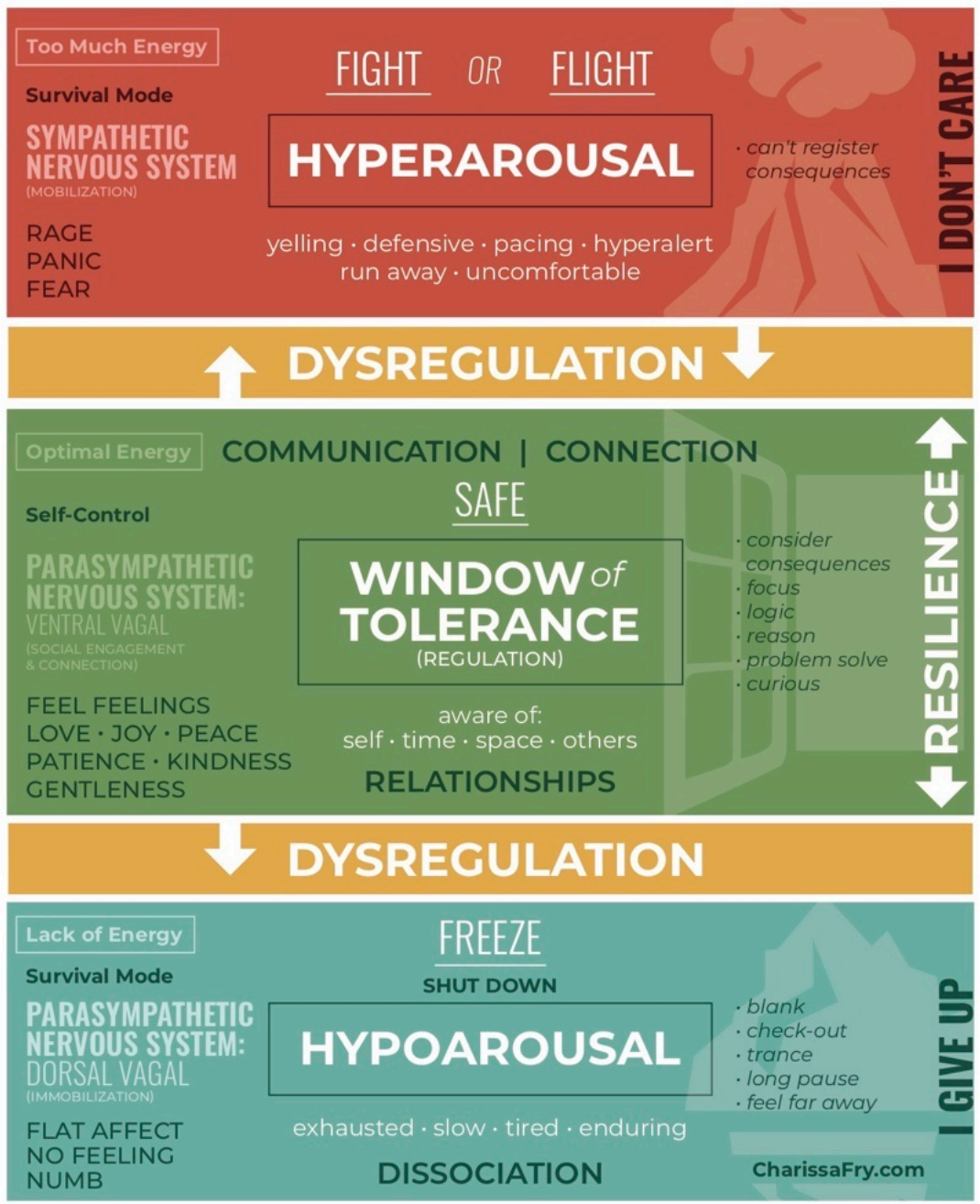
Increases signals of safety to our body, further **helps us to change** responses

Learn how to mobilize/activate **without being overwhelmed**

POLYVAGAL THEORY



POLYVAGAL THEORY



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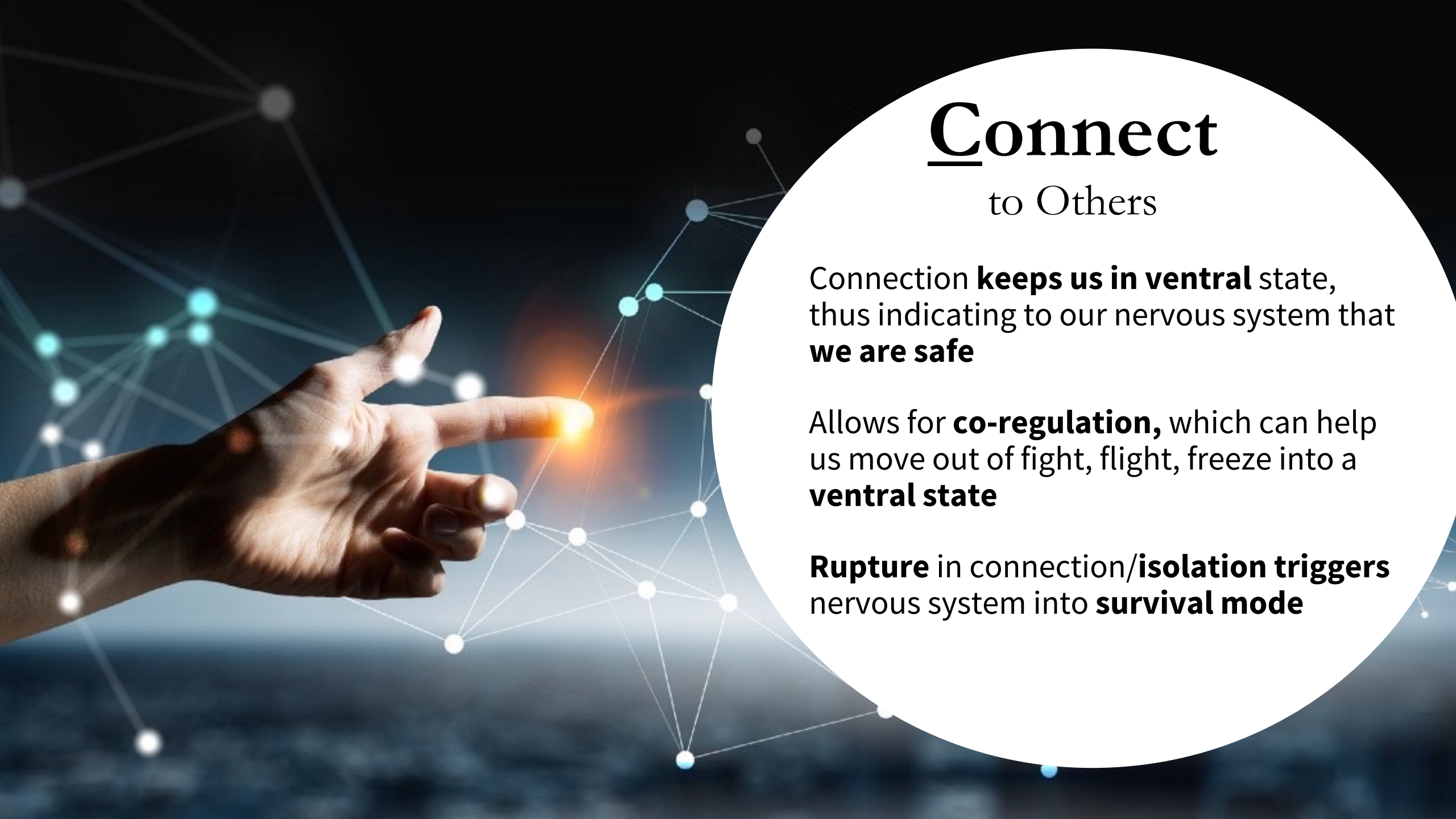


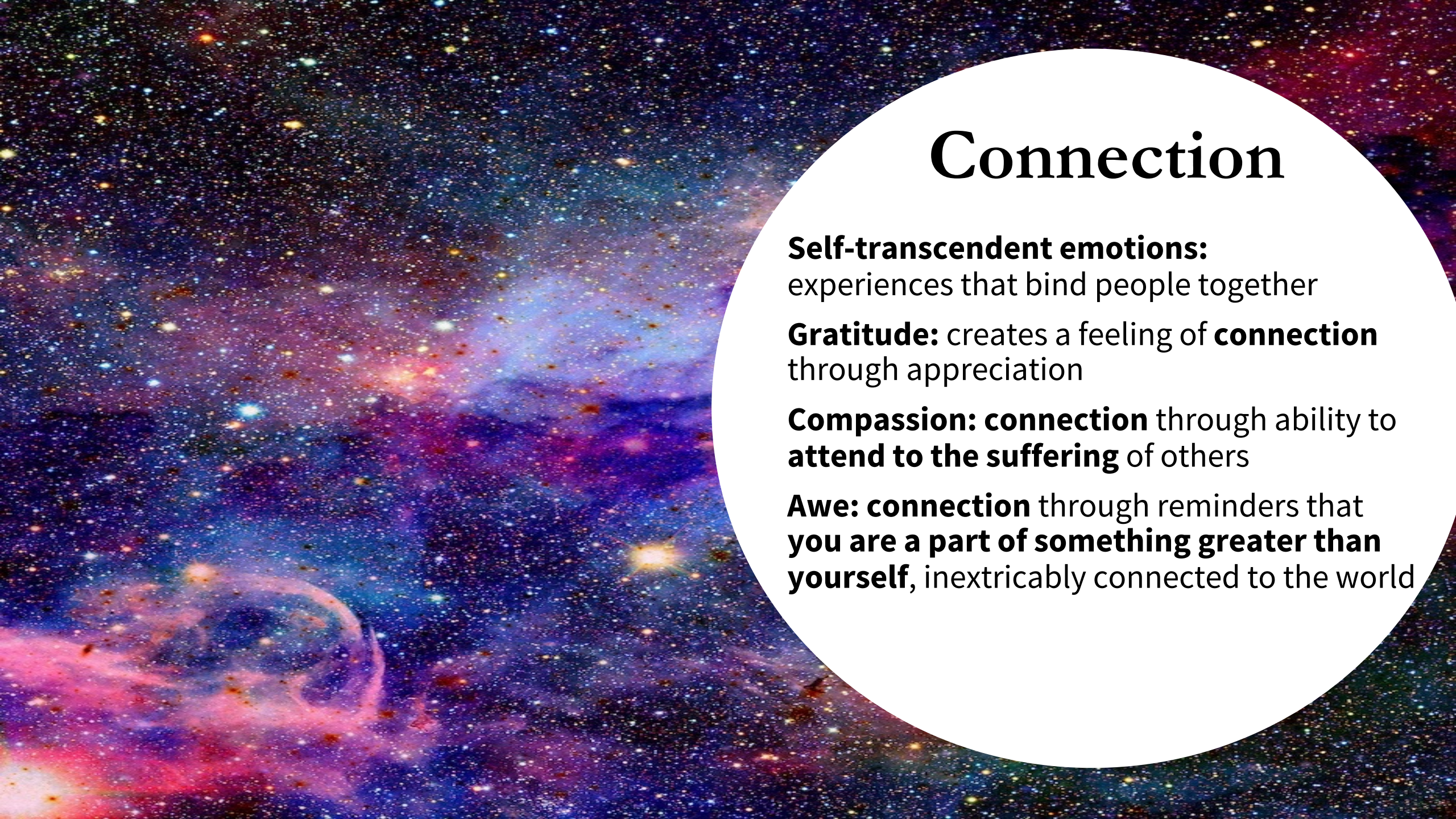
Connect

to Others

Connection **keeps us in ventral** state, thus indicating to our nervous system that **we are safe**

Allows for **co-regulation,** which can help us move out of fight, flight, freeze into a **ventral state**

Rupture in connection/**isolation triggers** nervous system into **survival mode**



Connection

Self-transcendent emotions: experiences that bind people together

Gratitude: creates a feeling of **connection** through appreciation

Compassion: connection through ability to **attend to the suffering** of others

Awe: connection through reminders that **you are a part of something greater than yourself**, inextricably connected to the world

We help youth **BEFRIEND** their nervous system by recognizing that it is working exactly as it is supposed to.

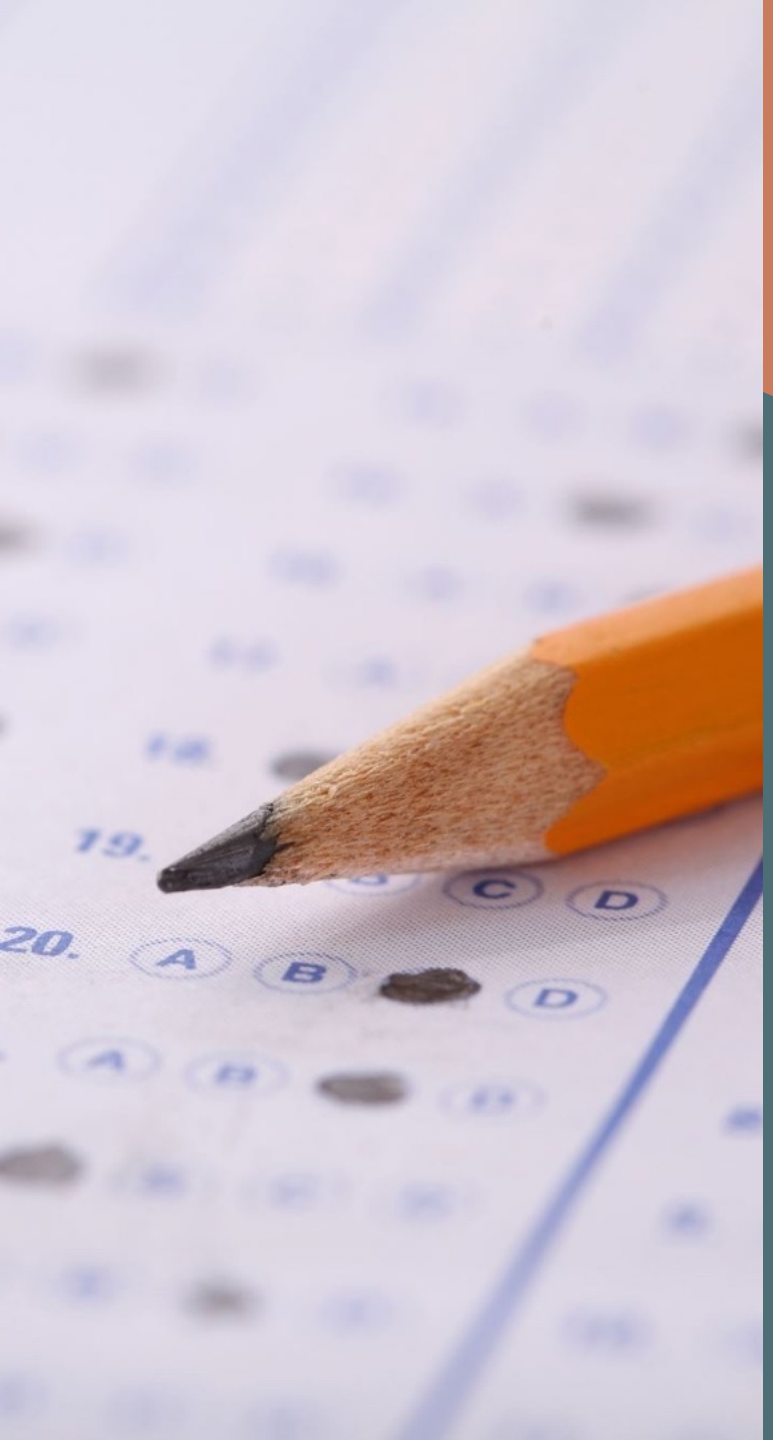
We teach them to **ATTEND** to the information it gives them to learn more about how and why their body responds the way it does.

They can then **SHAPE** how they respond, how long the response lasts, how often they respond, and how intensely they experience the response.

By practicing this, they can **INTEGRATE** a new rhythm of responses, creating more resilience, flexibility, and awareness, and allowing more time in a regulated state.

Now they are better able to **CONNECT**, which further improves their ability to regulate and feel safe.

Resources



Trauma Screeners

Adverse Childhood Experiences (ACE)
https://www.acesaware.org/learn-about-screening/screening-tools/

Trauma Symptom Checklist (TSC)
https://www.une.edu/sites/default/files/Trauma-Symptom-Checklist.pdf

PTSD Checklist, DSM-5 (PCL-5)
https://www.ptsd.va.gov/professional/assessment/documents/PCL5_Standard_form.PDF

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Thank you!