Nervous System Regulation: Somatic Experiencing® Building Blocks

A Body-Mind Approach to Healing Trauma & Increasing Resiliency

Trauma is helplessness in the face of danger.

If you want to do something really valuable with your life – treat unresolved trauma.

-Daniel Siegel, MD, Clinical Professor of Psychiatry, UCLA School of Medicine; Executive Director of the Mindsight Institute

Orienting & Felt Sense Exercise



1. Using your senses (sight, hearing, touch, etc.), identify 3 things you're drawn to in your environment.

2. Sensing internally, identify 1 sensation you're aware of from within your body.

3. Again, using your senses identify 3 things you're drawn to in your environment.

4. Notice what's happening now: *How do you feel overall?*

Orientation & Felt Sense

Exteroception ("Orientation")

Receiving direct information from the external environment

Detects and informs us of the external environment via:

- Sight
- Hearing
- Smell
- Taste
- Touch

Interoception ("Felt Sense")

Awareness of the internal states of one's body

Detects and informs us of such internal regulation responses as:

- Respiration
- Heart rate
- Body temperature
- Balance
- Hunger/Thirst
- Need for digestive elimination
- Emotions
- Pleasure/Pain

An Introduction to Somatic Experiencing® (SE™)

Somatic Experiencing® (SE) is a potent psychobiological method for resolving trauma symptoms and relieving chronic stress.

SE is a psychobiologically-informed treatment modality which offers:

- ✓ A comprehensive understanding of traumatic stress and human stress behavior
- ✓ A framework to assess where a person is “stuck” in the fight, flight and/or freeze responses
- ✓ Clinical tools to resolve these fixated states, transform old patterns, and strengthen resiliency

Peter A. Levine, PhD
Founder of Somatic Experiencing®

Dr. Peter A. Levine…

Devoted:

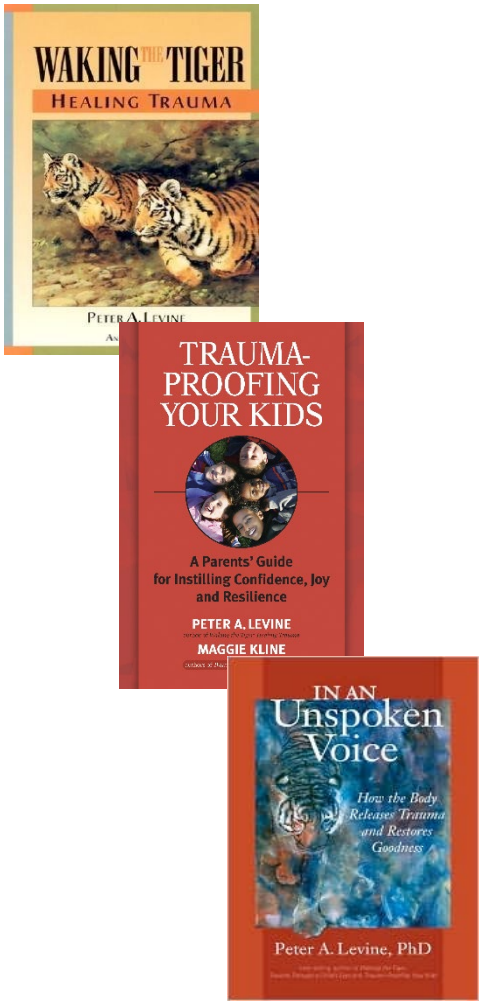
40+ years studying and researching the physiology of stress (fight, flight & “**freeze”**) responses

Asked the burning question:

Why is it that animals in the wild, *who are repeatedly exposed to life-threatening events, don’t develop the symptoms of PTSD like humans?*

Discovered:

All animals (including humans) have a natural “immunity” to the long-term, debilitating effects of trauma.



SE Informed by Animals In The Wild

Overwhelmed or threatened, animals go through predictable stages of responding to danger via fight, flight & freeze

In order to optimize chances for survival, the body:

- **Activates** implicit, hardwired survival sequences
- **Mobilizes** high levels of energy to defend itself
- **Shuts-down** unnecessary bodily functions

After threat has passed, animals return to normal functioning by:

- **Discharging** survival energy
- **Integrating** excess activated energy

SE Informed by Animals In The Wild

Understanding Freeze/Immobility

Freeze is an involuntary process that serves 2 purposes:

1. Last-ditch survival strategy/playing possum

2. Altered state/no pain

SE Informed by Animals In The Wild

Understanding Freeze/Immobility

- Physiologically, the intense speed associated with the flight response that suddenly results in a dead stop (freeze/collapse) is much like flooring the accelerator and hitting the brake simultaneously.

- Creating great turmoil in the body that must be re-negotiated/discharged

- If not, the residual energy persists in the body/nervous system often causing symptoms of anxiety, depression, PTSD, psychosomatic/chronic pain, and behavioral problems,

SE Informed by Animals In The Wild

Understanding Freeze/Immobility

For humans, freezing in the face of overwhelming threat is seen as weakness/cowardice

"Physiological evidence clearly shows that being able to go into and come out of this natural response is the key to avoiding the debilitating effects of trauma." (Peter Levine)

Completion of Survival Response

A short video of an impala demonstrating active completion of survival (fight/flight/freeze) responses.

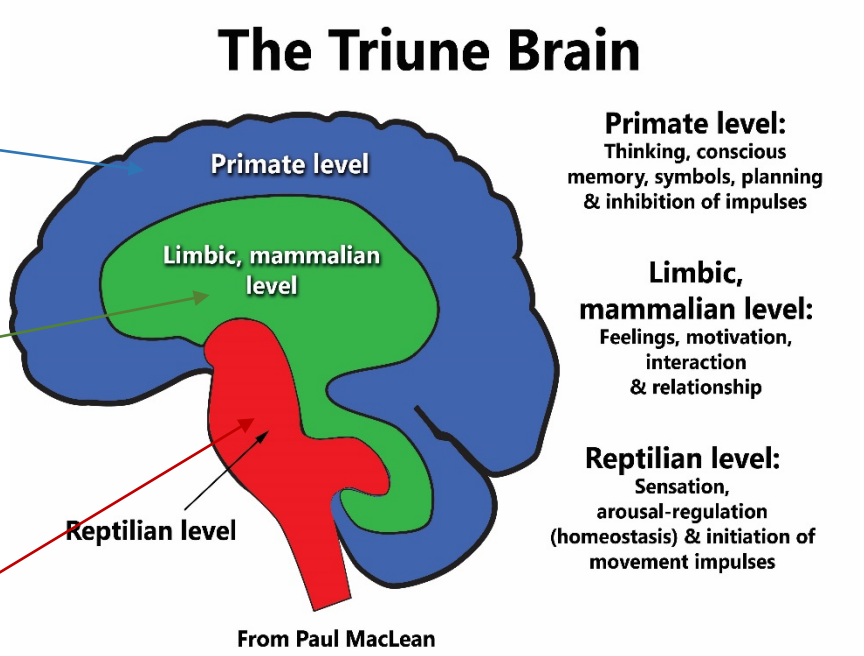
Unresolved trauma creates dysregulation within the nervous system:

- Dysregulation causes triggers/reactions that people often do not realize are connected to their past traumatic experiences
- Dysregulation affects the subcortical regions of our brain that aren't easily accessed by talk

Neocortex
"*Thinking*"
Cognition, Language, Speech,
Social and Regulatory Centers

Limbic/Mid-Brain (Amygdala)
"*Feeling*"
Memory, Emotions & Alarm Center

The Brainstem ("Reptilian Brain")
"*Sensing*"
Survival & Instinctual Centers (*fight, flight, freeze*)
Digestion, Reproduction, Circulation, Breathing, Sleeping



SE & the Subcortical Brain

Trauma is in the nervous system, not in the event.

Traditional therapies approach trauma resolution via the cortical brain systems (*language, conscious thought, explicit memory)*

Somatic Experiencing recruits the subcortical brain systems (*body sensations, unconscious dynamics, implicit memory)* to support safety and re-regulation in the nervous system

Somatic Therapies Broaden Traditional Approaches to Trauma Treatment

Cognitive Approaches:

- Focus on how thoughts influence emotions and behaviors (“top-down”)
- Help identify distorted cognitive beliefs and maladaptive behaviors
- Target reduction of symptoms
- Help create more adaptive self-beliefs and behaviors
- ***Rely on insight and behavior change***

Somatic Approaches:

- Focus on how the body influences thoughts, emotions, and behaviors (“bottom-up”)
- Help people become aware of body sensations and procedural memories
- Target underlying dysregulation in the nervous system that causes/maintains symptoms
- Help create a greater control over debilitating symptoms and unconscious dynamics
- ***Rely on body awareness & physiological regulation***

Next Wave of Evidence–Based Treatment Approaches

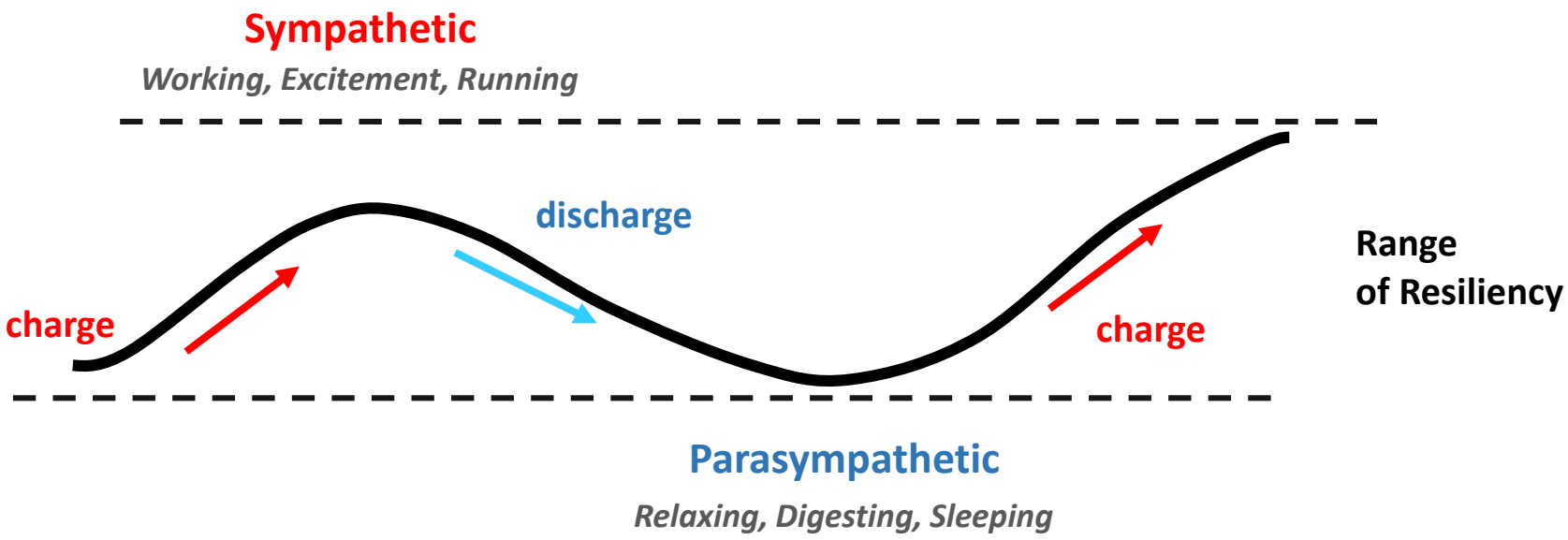
Somatic Approaches

- Recent neuro-scientific advancements are propelling a major growth of evidence in support of brain-body (somatic) approaches
- Promising research demonstrates that somatic approaches reduce symptoms ***short-term*** and show ***long-term effectiveness***
- **EMDR** (2010) was the first somatic approach recognized as an evidence-based treatment in the U.S.
- There are currently a number of research studies on Somatic Experiencing being completed in the U.S., Europe and Brazil
- There is one RCT on the efficacy of SE (Brom et al., 2017) with many more in the works

The Regulatory Process of the Autonomic Nervous System

(Sympathetic and Parasympathetic)

Activation – Deactivation Cycles



Somatic Experiencing Supports & Enhances Self-Regulation

Autonomic Branch of the Nervous System

During **emergencies**, the ANS employs four very important survival functions:

- **Social Engagement**
- **Fight**
- **Flight**
- **Freeze**

Autonomic Branch of the Nervous System

- SNS known as the “mobilization system” (fight or flight);
- PNS involves the “immobilization system” (freeze), as well as the social engagement system.

Physiological Responses of the SNS

SNS – Mobilization (Fight/Flight)
Increases heart rate, respiration, blood pressure
Moves blood from digestive system to muscles in the limbs in preparation for quicker movement
Constricts blood vessels and moves blood away from the skin (turning pale and cold) to prepare for potential injury; increased sweating/clammy
Dilates pupils to allow our eyes to focus

Physiological Responses of the PNS

PNS – Immobilization (Freeze) **Conservation**	**PNS – Social Engagement** **Stabilization**
Slows heart rate (bradycardia)	Lowers heart rate and blood pressure; slows breathing
Slows breathing or possible cessation of breathing (apnea)	Digestion and immune functioning increase
Reduced energy production	Enhanced engagement of muscles in the face and head for greater prosody, improved listening, and increased emotional expression
Possible loss of consciousness/dissociation	Increase in ability to engage in reciprocal social interactions

Nervous System Regulation
Polyvagal Theory

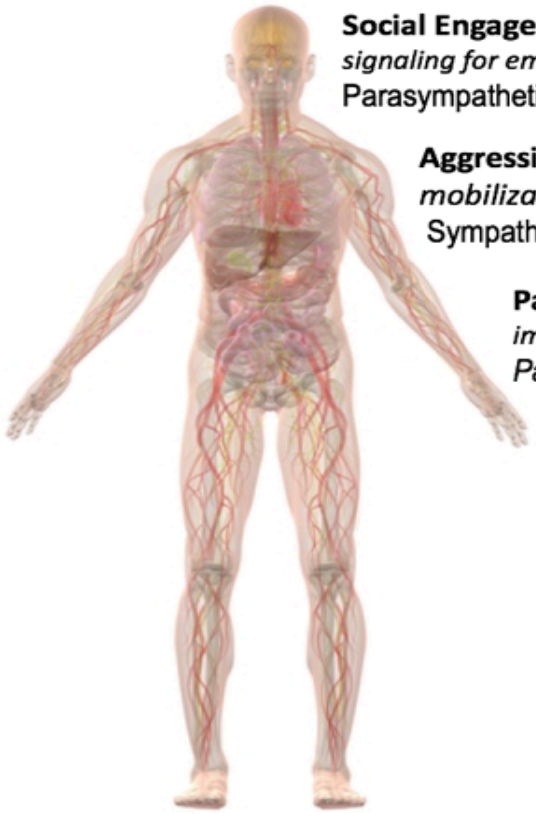
Porges (2005) developed the Polyvagal theory, which emphasizes the two branches of the PNS involving the vagus nerve – dorsal and ventral – each with its neurophysiological and neuroanatomical functions.

Nervous System Regulation
Polyvagal Theory

- Dorsal vagus – involves the immobilization system or freeze state during physical or emotional threat (emergency brake). When in resting state, responsible for "rest and digest"
  - Unmyelinated nerve fibers
  - Controls parasympathetic function below the diaphragm

- Ventral vagus – Porge's finding that suggest a more recently evolved social engagement system. Involved in the parasympathetic nervous system (PNS) related to calm behavioral states and safe social engagement with others.
  - Myelinated nerve fibers
  - Controls parasympathetic function above the diaphragm, including nerve supply to facial muscles and vocal center, both of which involved in social engagement

Nervous System Regulation



Social Engagement System
signaling for emotion, motion, communication
Parasympathetic Ventral Vagal Complex

SAFE
optimal relaxation & activation (*rest, digest, relate)*
eye contact, facial expression, voice

Aggressive Defensive System
mobilization for fight or flight
Sympathetic Nervous System

DANGER
↑ arousal, ↑ *heart rate, stress, muscle tension*
fear, anger, aggression, rage

Passive Protection System
immobilization for freeze or feint
Parasympathetic Dorsal Vagal Complex

LIFE THREAT
↓ arousal, frozen activation, ↓ *heart rate,*
dissociated, frozen, collapsed, limp

Poly Vagal Theory
by Stephen Porges PhD

Nervous System Regulation

- Self-regulation of the autonomic nervous system (ANS), including sympathetic nervous system (SNS) and parasympathetic nervous system (PNS) activation is linked to the ability to emotionally regulate.

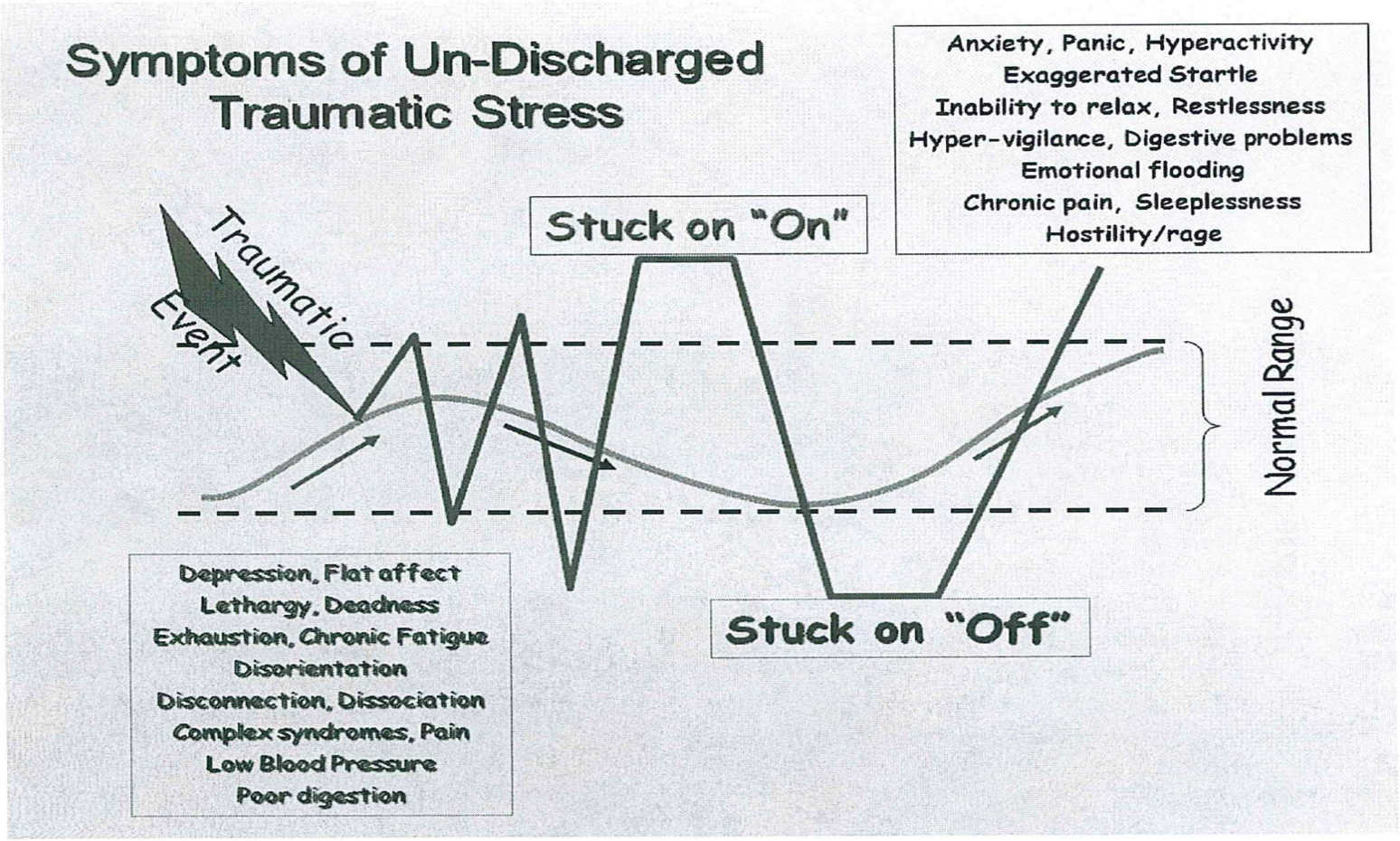
- Self-regulation occurs when the SNS and the PNS can physiologically engage when needed based on internal/visceral states, and external/environmental demands.(Porges, 2005, 2011).

Nervous System Regulation

- When traumatic stress is present, it can cause the systems (SNS & PNS) to work in a discordant way.
- This can cause:
  - SNS to turn on when there's no real threat

    OR
  - Fail to turn on when it needs to
- Thus, ANS cannot reset itself, impacting the body's ability to maintain internal homeostasis

Nervous System Regulation



A Few Basic SE Skills

- ✓ Orientation
- ✓ Felt Sense
- ✓ Tracking
- ✓ Resourcing

The Language of Sensation

Sensation Exercise

1. Think of an experience or person that makes you happy, brings a smile to your face

2. Identify 1 sensation as you bring this resource to mind

3. What is the size, shape, texture, movements, or even color associated with this sensation?

4. As you become aware of these qualities inside, notice what's happening now: *How do you feel overall?*

Resources

Anchors that help stabilize a client

EXTERNAL

- People, places or activities (in reality or in imagination) that are comforting, calming, settling
  - *Safe people, pets, places in nature, home, special rooms, music, exercise, travel, vacation, spiritual community*
- The therapist's engagement: capacity to track well, to be in resonance/attunement, to create a safe space in the office

INTERNAL

- When client experiences settling, less constriction, more breath, more presence, pleasure
- Positive sensations in the body:
  - *relaxed, more spacious, less tense, grounded, stable, connected, have a freer range of movement, tingling, more alive*

Overall SE Process

- No Regulation – Chaos/Rigidity
- Co-Regulation – Therapeutic Relationship
- Explicit Self-Regulation – top-down processes (mindfulness, CBT, DBT, yoga, etc.)
- Implicit Self-Regulation – bottom-up processes (the system is designed to regulate itself and is capable)

Thank you!

Recommended Reading

- *In an Unspoken Voice* – Peter Levine, 2010
- *Trauma Healing* – Peter Levine, 2004
- *Waking the Tiger* – Peter Levine, 1997
- *The Polyvagal Theory* – Stephen Porges, 2011
- *Accessing The Healing Power of the Vagus Nerve* – Stanley Rosenberg, 2017
- *The Body Keeps The Score* – Bessel Van der Kolk, 2014

References & Links

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David Baldwin's Trauma Information Pages: http://www.trauma-pages.com/