

# Polyvagal Theory

## Polyvagal Theory developed by:

Dr. Stephen Porges. It is a neurobiological theory that explains how the vagus nerve plays a key role in regulating our physiological and emotional responses to stress and social interactions. According to the theory, the vagus nerve has two branches, the ventral vagal and dorsal vagal pathways, which regulate different emotional and physiological states.

**The ventral vagal** pathway is responsible for promoting rest, digestion, and healing in the body.

**The dorsal vagal** pathway is responsible for triggering the body's "freeze, shutdown, and dissociation" response.

### Associated with feelings of:



Safety



Social Engagement



Emotional Regulation



Fear



Anxiety



Disconnection

## The core components of the Polyvagal Theory

**The vagus nerve:** The theory emphasizes the importance of the vagus nerve in regulating physiological and emotional responses to stress and social interactions.

**The hierarchy of the nervous system:** The theory proposes that the nervous system has a hierarchy of responses to stress, with different levels of activation depending on the degree of perceived threat.

**Neuroception:** The theory suggests that the nervous system is constantly monitoring the environment for cues of safety or danger, even below the level of conscious awareness.

**Co-regulation:** The theory highlights the importance of social engagement and co-regulation in promoting feelings of safety and regulating physiological and emotional responses.

# Polyvagal Theory

## Treatment Approach: Methods, Techniques and Coping Skills

The Polyvagal Theory suggests that mental health conditions like anxiety, depression, and trauma may cause dysregulated vagal responses, leading to chronic activation of the dorsal vagal pathway and disconnection from oneself and others. Clinicians can use interventions to regulate the nervous system and promote safety, social connection, and emotional regulation.

**Mindfulness:** Mindfulness practices such as meditation, breathing exercises, and body scans can help to promote self-awareness and regulate the nervous system by activating the ventral vagal pathway.

**Yoga and other somatic practices:** Somatic practices like yoga, dance, and other body-based interventions can help to regulate the nervous system and promote emotional regulation by activating the ventral vagal pathway and promoting interoception (awareness of bodily sensations).

**Talk therapy:** Talk therapies like cognitive-behavioral therapy (CBT), psychodynamic therapy, and other forms of psychotherapy can help to promote emotional regulation and social connection by providing a safe and supportive space for individuals to explore their thoughts and feelings.

**Attachment-based interventions:** Interventions that focus on attachment and interpersonal relationships, such as family therapy and group therapy, can help to promote social connection and regulate the nervous system by activating the ventral vagal pathway.

**Body-centered psychotherapy:** Body-centered psychotherapies like somatic experiencing and sensorimotor psychotherapy can help to promote regulation of the nervous system and emotional regulation by focusing on bodily sensations and exploring how past traumas are stored in the body.

## Treatment Plan Quick Reference

- |                       |                                      |  |
|-----------------------|--------------------------------------|--|
| • Mindfulness         | • Cognitive-behavioral therapy (CBT) | • Family Therapy                       |
| • Breathing Exercises | • Psychodynamic therapy              | • Somatic Experiencing                 |
| • Body Scanning       | • Talk Therapies                     | • Tension & Trauma Releasing Exercises |
| • Yoga                | • Group Therapy                      | • Grounding Exercises                  |
| • Dance               |                                      |  |

# The Vagus Nerve

The vagus nerve is a very important nerve in our body that helps us to relax and feel calm. It is one of the longest nerves in our body and runs from our brainstem to many organs in our chest and belly. The vagus nerve has two branches, called the ventral vagal and dorsal vagal pathways, which help to regulate our body's responses to stress and social situations.

## The ventral vagal pathway



### The Body's "Break Pedal"

The **ventral vagal pathway** is like a "brake pedal" for our body. When we feel safe and calm, the ventral vagal pathway is activated, which slows down our heart rate, helps us to breathe deeply, and promotes digestion and rest in our body.

### This pathway is activated by:

Positive social interactions, such as when we feel:



Loved



Heard



Understood

## The dorsal vagal pathway



### The Body's "Emergency Brake"

The **dorsal vagal pathway**, on the other hand, is like an "emergency brake" for our body. When we feel threatened or overwhelmed, this pathway is activated, which can lead to feelings of anxiety, disconnection, and even immobilization.

### This pathway is activated by:

Feeling unsafe and sensing danger, such as when we experience:



Trauma



Chronic  
Stress

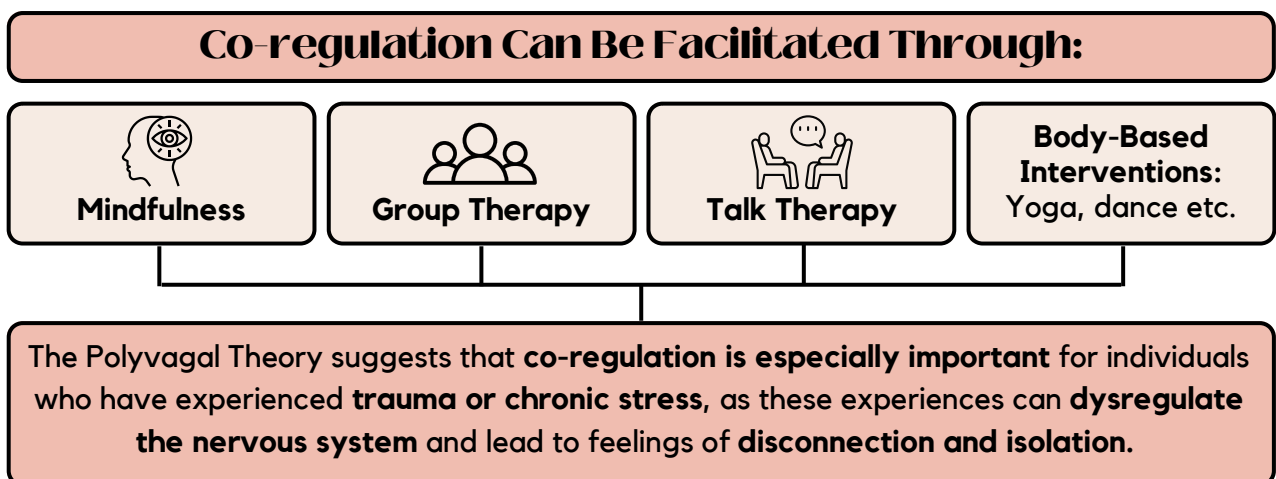
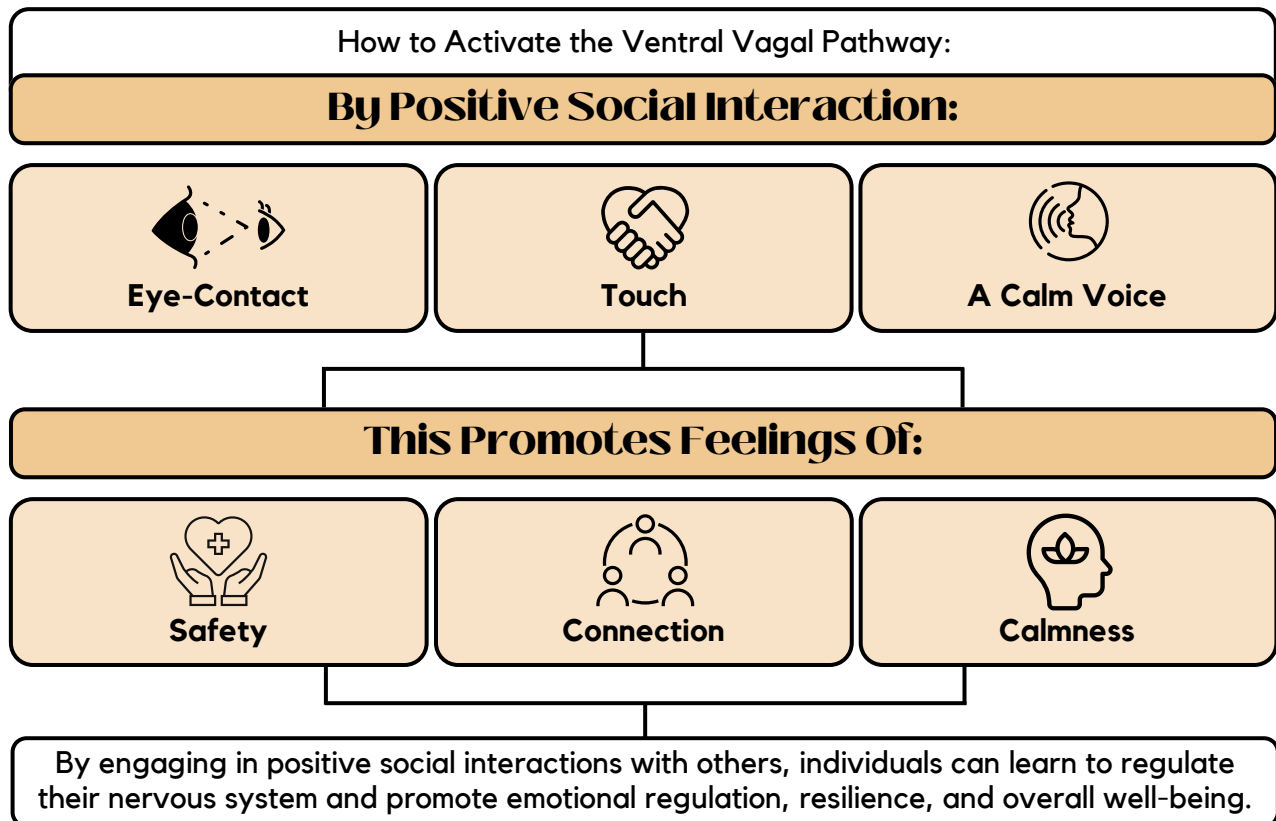


Prolonged  
Crisis

The Polyvagal Theory suggests that by understanding the vagus nerve and these different pathways, we can learn how to regulate our nervous system and promote feelings of safety, social engagement, and emotional regulation. Mind-body practices like deep breathing, mindfulness, and positive social interactions can help to activate the ventral vagal pathway and promote feelings of calm and connection.

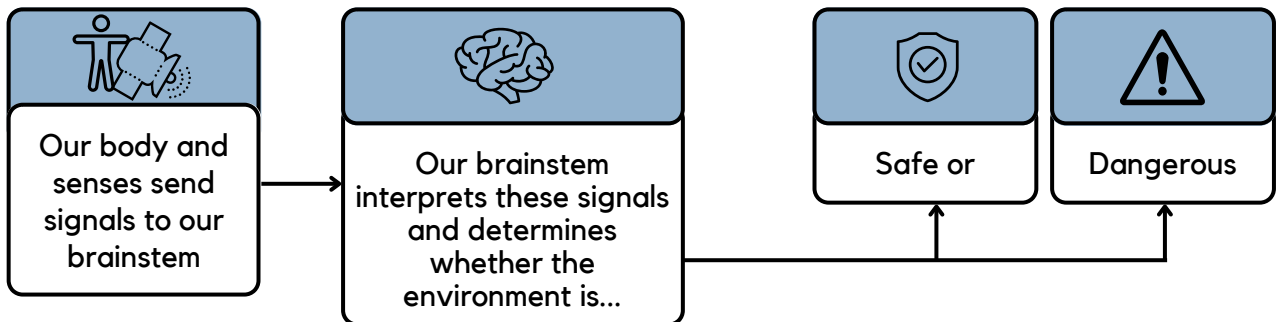
# CO-Regulation



Co-regulation is the process of regulating our nervous system through positive social interactions with others. The theory suggests that when we have positive social interactions with others our nervous system is more likely to activate the ventral vagal pathway, leading to feelings of safety, calmness, and connection.



# Neuroception

Neuroception is a term used in the Polyvagal Theory to describe the process by which our nervous system constantly monitors the environment for cues of safety or danger, even below the level of conscious awareness. This process helps to regulate our physiological and emotional responses to stress and social interactions.



 **This process happens automatically and without our conscious awareness, as it is part of our primitive survival instincts.** 

## For example:

### We encounter a loud noise or sudden movement



Our nervous system may interpret this as a threat and activate the dorsal vagal pathway, leading to feelings of anxiety or immobilization.

### We encounter a familiar and safe environment



Our nervous system may activate the ventral vagal pathway, leading to feelings of calm and relaxation.

  
Mindfulness

  
Become aware of our bodily sensations

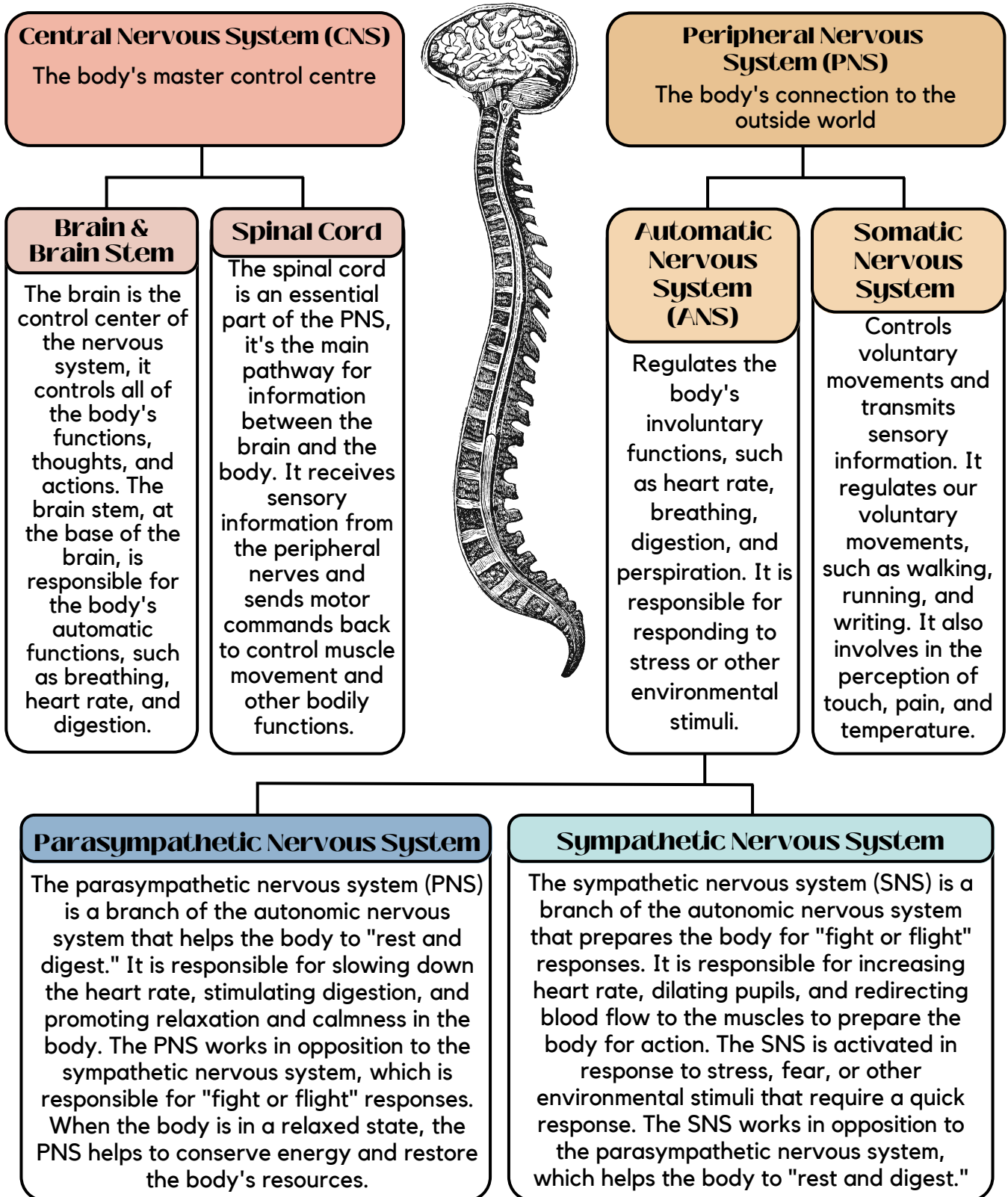
  
Become aware of our emotions

  
Positive social interactions

**By regulating our neuroception, we can promote emotional regulation, resilience, and overall well-being.**

By becoming more aware of our neuroception and the cues that activate different pathways in our nervous system, we can learn to regulate our responses to stress and social interactions.

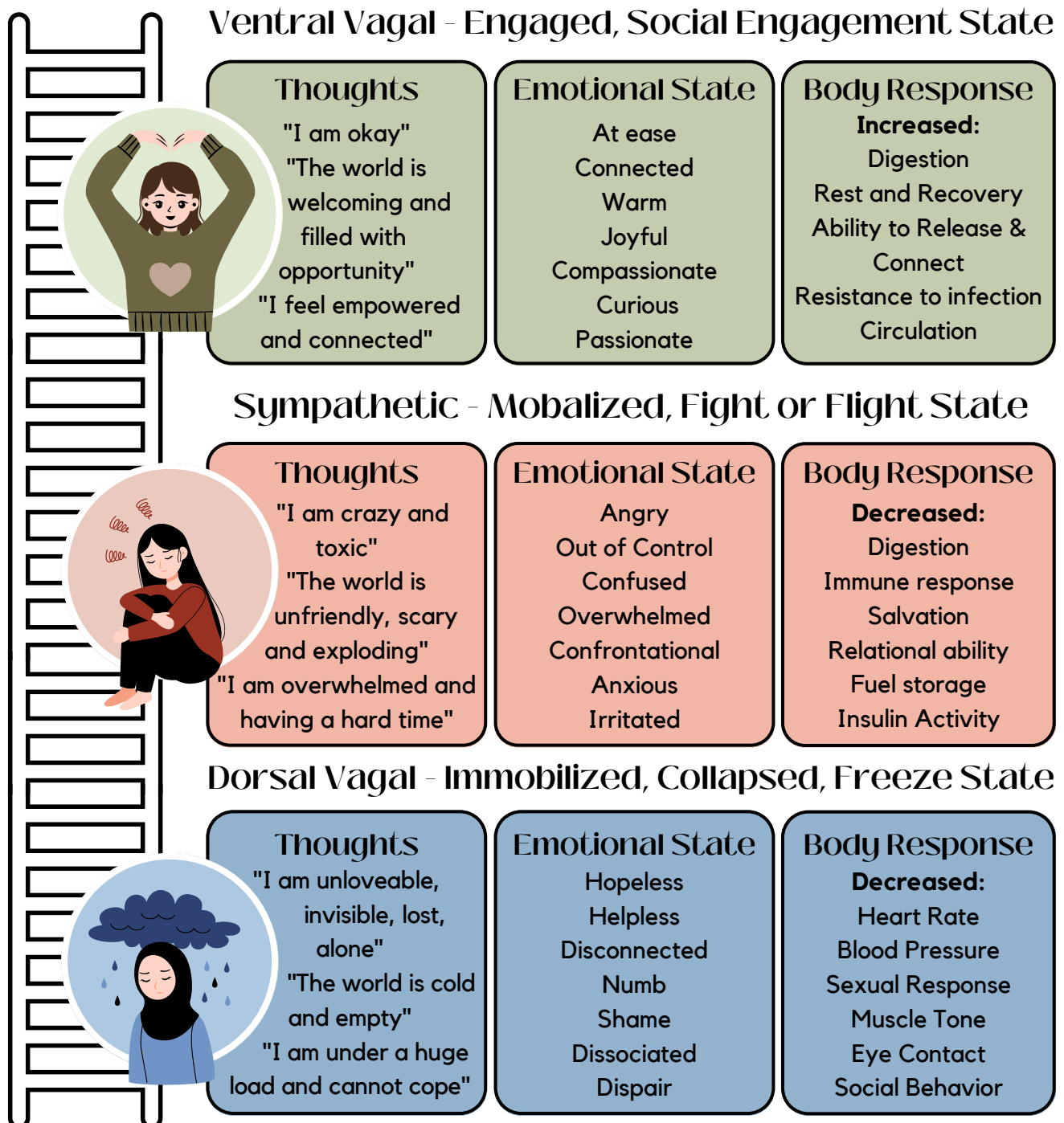
# The Human Nervous System



# Automatic Nervous System

## *Hierarchy Ladder*

The vagus nerve is a major component of the ANS and plays a critical role in regulating many bodily functions. It is divided into two branches: the ventral vagal and dorsal vagal pathways.



# Your Personal Profile

## Ventral Vagal - Engaged, Social Engagement State

# Thoughts

### Emotional State

# Body Response

## Sympathetic - Mobilized, Fight or Flight State

# Thoughts

## Emotional State

## Body Response

## Dorsal Vagal - Immobilized, Collapsed, Freeze State

# Thoughts

# Emotional State

# Body Response



# 6 Stages of Trauma Responses



Freeze

**Freeze:** In a freeze response, an individual may feel paralyzed or numb and have difficulty moving or speaking. This response can be a way of conserving energy and avoiding further danger.



Fight/Flight

**Fight/Flight:** In a fight or flight response, an individual may feel a surge of energy and adrenaline, and either choose to confront the perceived threat (fight) or try to escape from it (flight).



Fright

**Fright:** In a fright response, an individual may feel overwhelmed by fear and unable to take action. This response can be similar to a freeze response, but with more intense feelings of terror.



Fawn

**Fawn:** In a fawn response, an individual may try to appease the perceived threat by becoming compliant or submissive. This response can be a way of avoiding further harm and maintaining social connection.



Flag

**Flag:** In a flag response, an individual may feel defeated or resigned to the perceived threat. This response can be a way of conserving energy and avoiding further harm.



Faint

**Faint:** In a faint response, an individual may lose consciousness or become physically immobilized. This response can be a way of conserving energy and avoiding further harm.

# Dorsal Vagal: Parasympathetic

## Decrease

Heart Rate  
Blood Pressure  
Temperature  
Muscle Tone  
Facial Expressions  
Eye Contact  
Social Behavior  
Immune Response  
Sexual Behavior

## Emotional State

Helplessness  
Hopelessness  
Depression  
Numbness  
Dissociation  
Shame  
Shut-Down  
Conserve Energy  
Prepared for Death



## Freeze State

"I can't"

"I can"



## Sympathetic

## Fight State Flight State

Movement Towards Movement Away

• Connection • Safety • Orientation toward the environment

Deactivation

## Decrease

Fuel Storage  
Insulin Activity  
Relational Ability  
Immune Response  
Digestion  
Salivation

## Increase

Heart Rate  
Blood Pressure  
Adrenaline  
Pupil Size  
Blood Clotting

## Increase

Digestion  
Intestinal Mobility  
Immune Response  
Rest & Recovery  
Oxytocin  
Ability to Relate



## Social Engagement State

• Connection • Safety • Orientation toward the environment

## Emotional State

Joy  
In the Present  
Groundedness  
Curiosity  
Openness  
Compassion  
Mindful

# Ventral Vagal: Parasympathetic

# Window of Tolerance

The Window of Tolerance is the space where we are comfortable, and feel safe. You are able to deal with the daily stressors of life without anxiety, exhaustion, or feeling out of control. Hyper-arousal comes from the fight or flight response which can make you feel bursts of anger or could make you shut down completely. It's important to know when you start to feel dysregulated so that you can use coping skills and return back to your Window of Tolerance.

## Hyper-arousal



Feelings of extreme anxiousness, anger, and overwhelm. You may feel out of control. It feels like your body wants to fight or run away – these feelings are almost uncontrollable.

## Dysregulation

You start to feel increasingly agitated, irritable, and frustrated. It feels uncomfortable, as if you are being revved up but not quite out of your control



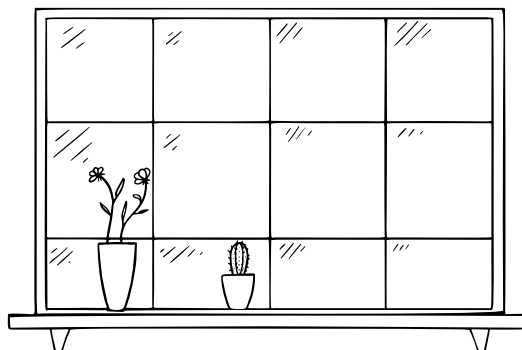
**Stress, trauma and anxiety can shrink your**

### **WINDOW OF TOLERANCE**

If your window shrinks you may find it harder to stay calm and make good decisions



You feel present, calm and safe. You are able to cope and feel in control



**Relaxing activities, exercise, grounding, mindfulness and help from your support system can expand your**

### **WINDOW OF TOLERANCE**



## Dysregulation

You start to feel spacey, as if you want to zone out and not be in the moment. It's almost like daydreaming – exiting the here-and-now.

## Hypo-arousal



Your body wants to shut down completely. You may feel physically numb and frozen. You feel distant or disconnected from people with little to no energy. This feeling is out of your control and it just happens to your body

# Window of Tolerance

When you can start to recognize yourself feeling dysregulated you can take action.

The first step to returning to your window of tolerance would be to recognize the symptoms of hyper-arousal. This awareness will act as your sign that a coping skill is needed to return to calm. Look at the signs of hyper-arousal below and tick the symptoms you start to experience when you feel dysregulated.

## How I feel or act when I am hyper-aroused

- ☐ Tight Muscles   ☐ Irritated   ☐ Anger   ☐ Anger Outburst   ☐ Throwing objects
- ☐ Damaging valuables   ☐ Feeling out of control   ☐ Impulsive   ☐ Argue easily
- ☐ Struggling to concentrate   ☐ Can't sleep   ☐ Sweating   ☐ Heavy breathing
- ☐ Wanting to run   ☐ Tight Fists   ☐ Fight

What other signs can you think of?

## Coping skills I can use when I feel hyper-aroused

When I feel hyper-arousal coming on I can try...

- ☐ Tighten muscles and ease into the relaxation as you release your muscles
- ☐ Use calming affirmations/self-talk   ☐ Communicate your feelings and ask for a break
- ☐ Step back and allow your mind and body to regulate   ☐ Shift your focus
- ☐ Drink a glass of water   ☐ Take a deep breath   ☐ Return to your senses

What other signs can you think of?

## How I act and feel when I am in my Window of Tolerance

I know that I am in the Window of Tolerance when...

# Window of Tolerance

## How I feel or act when I am hypo-aroused

Tick or write down any of the signs or feelings you feel when you start to feel hypo-arousal

- ☐ Empty    ☐ Rattled    ☐ Tense    ☐ Jumpy    ☐ Jittery    ☐ Knotted  
☐ Tired    ☐ Numbness    ☐ Blank Slate    ☐ Emptiness    ☐ Sleepy  
☐ Don't feel like talking    ☐ Can't concentrate    ☐ Shut down    ☐ Frozen  
☐ Memory Loss    ☐ No Energy

What other signs can you think of?

## Coping skills I can use when I feel hypo-aroused

When I feel hypo-arousal coming on I can try...

- ☐ Engage in and liven your senses - light a scented candle, watch a nature documentary, listen to upbeat music, or eat a textured snack    ☐ Look for and play with different textures  
☐ Roll a pencil between your palms    ☐ Exercise - get your heart beating  
☐ Go for a sensory walk - walk in nature and take 3 minutes to concentrate on your different senses and list what you are experiencing    ☐ Dance to music

What other coping skills can you think of?

## What did you learn from this exercise?

# Nervous system Regulation

## Coping Skills

Overall, these coping skills aim to promote regulation of the nervous system and enhance feelings of safety, social connection, and emotional regulation by activating the ventral vagal pathway and promoting co-regulation with others. Experiment with different techniques and find what works best for you. It may also be helpful to work with a therapist or mental health professional to develop a personalized plan for regulating your nervous system and promoting overall well-being.

### Deep Breathing

Taking slow, deep breaths can help to activate the ventral vagal pathway and promote feelings of calmness and relaxation. Try taking a deep breath in through your nose, holding it for a few seconds, and then slowly exhaling through your mouth.

### Mindfulness

Mindfulness practices like meditation, body scans, and mindful breathing can help to promote self-awareness and regulate the nervous system by activating the ventral vagal pathway. Try finding a quiet space to sit or lie down and focus on your breath, noticing any thoughts or bodily sensations that arise without judgment.

### Somatic Practices:

Somatic practices like gentle yoga, expressive dance, and other body-based interventions can help to regulate the nervous system and promote emotional regulation by activating the ventral vagal pathway.

### Positive Social Interactions

Positive social interactions like spending time with loved ones, engaging in meaningful conversation, or receiving a hug or comforting touch can help to activate the ventral vagal pathway and promote feelings of safety, social connection, and emotional regulation. Try reaching out to a friend or loved one, joining a support group, or engaging in a hobby or activity that brings you joy.

### Self-Compassion

Practicing self-compassion and self-care can help to regulate the nervous system and promote emotional regulation by activating the ventral vagal pathway and promoting feelings of safety and self-soothing. Try engaging in self-care practices like taking a warm bath, reading a book, or engaging in a favorite hobby.

### Grounding Techniques

Focusing on your senses, using positive affirmations, or engaging in physical movement can help to regulate the nervous system and promote emotional regulation. Try focusing on a pleasant smell, repeating a positive affirmation to yourself, or engaging in gentle movement like stretching or walking.

# 63 Coping Skill Ideas

Next time you feel big emotions try one of these coping skills listed below  
- repeat them until you feel calm

- Have a cup of tea
- Find a new hobby
- Do nothing all day
- Watch a movie
- Lay in the sun
- Listen to music
- Laugh out loud
- Go for a walk
- Think about past good times
- Start a collection
- Spend time with friends
- Eat something special
- Look at beautiful scenery
- Color in a coloring in book
- Practice yoga
- Think of loved ones
- Declutter / clean
- Take care of plants /garden
- Play with slime or putty
- Hug soft stuffed animals
- Play with a fidget toys
- Daydream
- Make a gift for someone
- Go outside
- Watch a TV Show
- Take a nap
- Think "I accept myself"
- Play with a pet
- Have some alone time
- Journal
- Dance around the house
- Meditate/pray
- Dress up for no reason
- Do something new
- Light candles
- Arrange flowers
- Sing around the house
- Take a warm bath
- Listen to an audio book
- Blow Bubbles
- Build a small puzzle
- Shake a glitter jar
- Look at the moon/stars
- Say "I love you"
- Camp in the backyard
- Play a video game
- Listen to sound of nature
- Complete a task
- Create a vision board
- Do one act of kindness
- Practice mindful breathing
- Write a compliment list
- Write a letter to future self
- Go hiking
- Write a poem
- Read a book/magazine
- Try Origami
- Reflect at past kindness
- Exercise
- Create art
- Rub soft fabric or a blanket
- Pop bubble wrap
- Small calming scents like candles, sprays and/or lotions)