# POLYVAGAL THEORY

REGULATING THE NERVOUS SYSTEM



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## Polyvagal Theory

Polyvagal theory, developed by Dr. Stephen Porges, explains the autonomic nervous system's (ANS) role in regulating our physiological and emotional states, particularly in response to stress and social interactions.

The ANS consists of two branches: the sympathetic nervous system (SNS) and the parasympathetic nervous system (PNS). The PNS divides into two components: the ventral vagal pathway, which is associated with social engagement and connection, and the dorsal vagal pathway, which is linked to shutdown and conservation behaviors.



In summary, polyvagal theory provides a framework for understanding the autonomic nervous system's role in shaping our responses to stress and social interactions, and gives us valuable insights into developing strategies to shift from states of stress or shutdown to states of social engagement and connection.

### The Human Nervous System

The human nervous system plays a fundamental role in shaping our responses to the world around us. The Polyvagal Theory proposes three distinct states, each associated with different branches of the vagus nerve.



### The Vagus Nerve

The vagus nerve acts as a central component in the regulation of the autonomic nervous system. It significantly influences an individual's response to stress and emotional stimuli via two pathways:

### **VAGUS NERVE**

### VENTRAL VAGAL PATHWAY

The ventral vagal pathway is associated with the parasympathetic nervous system, which promotes rest, relaxation, and social engagement. It helps regulate the body's responses to stress and supports positive emotional experiences.

### Social Engagement:

Activation of the ventral vagal pathway is linked to social behaviors and connection. When engaged, it promotes feelings of safety, calmness, and the ability to connect with others.

### Calm and Connected State:

The ventral vagal pathway contributes to a state of calm alertness, allowing individuals to respond to stressors with flexibility and resilience. It enables effective communication and collaboration.

### Influence on Heart Rate and Breath:

Activation of the ventral vagal pathway slows the heart rate and promotes a regular breathing pattern. This physiological state is associated with emotional regulation and a sense of well-being.

### DORSAL VAGAL PATHWAY

The dorsal vagal pathway is associated with the parasympathetic nervous system, which regulates rest, relaxation, and self-preservation. It is linked to a freeze or shutdown response in situations of extreme stress or perceived threat.

Freeze and Shutdown Responses: Activation of the dorsal vagal pathway involves a state of immobilization or "freeze," where the body conserves energy. It's triggered when an individual perceives a situation as overwhelmingly threatening, leading to a shutdown of non-essential bodily functions.

### **Disconnection and Dissociation:**

The dorsal vagal pathway's activation can result in emotional and social disconnection, as the individual withdraws to protect themselves from perceived harm.

### **Trauma Response:**

The dorsal vagal pathway is particularly implicated in trauma responses, where individuals may experience a collapse or shutdown in the face of overwhelming stress or danger.

### The Polyvagal Ladder



# Sympathetic and Parasympathetic Nervous Systems

### SYMPATHETIC

FIGHT AND FLIGHT

Prepares the body for fight or flight in response to a perceived threat.

> Triggers release of adrenaline and noradrenaline for immediate energy.

Narrows blood vessels in non-essential areas to prioritize blood flow to critical organs.

Enhances mental focus, alertness and responsiveness.

Increases heart rate to deliver oxygen and nutrients to vital organs.

Promotes the release of glucose into the bloodstream for energy.

Redirects energy away from non-essential functions like digestion.

Dilates pupils to improve vision and alertness.



### PARASYMPATHETIC

**REST AND DIGEST** 

Slows down the heartbeat to conserve energy.
Counteracts the effects of stress by lowering adrenaline and noradrenaline levels.
Narrows air passages to maintain a more relaxed state.
Facilitates a state of calm, promoting overall well- being.
Redirects energy toward tissue repair and growth.
Supports stable blood sugar levels during rest.
Supports the absorption of nutrients and optimal digestive processes.

## Self-Regulation Strategies



**Body Awareness:** Pay attention to physical sensations, especially signs of tension or relaxation.



**Breathing Exercises:** Practice deep, slow breathing to activate the calming effects of the vagus nerve.



**Mindfulness and Meditation:** Cultivate a present-moment awareness to regulate emotional responses.

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**Physical Activity:** Engage in regular exercise to release built-up tension and promote overall well-being.



**Social Connection:** Prioritize positive social interactions to activate the ventral vagal state.



**Grounding Techniques:** Ground yourself in the present moment with activities like focused attention on the senses.

**Establishing Boundaries:** Recognize and communicate personal boundaries to maintain a sense of safety.

# The Polyvagal Hierarchy



### Ventral Vagal Anchor Exercise

Sit or lie down comfortably in a quiet space.

Pay attention to your breath. Notice the natural rhythm of your breathing.

Place one hand on your chest and the other on your abdomen. As you breathe in, allow your diaphragm to expand, feeling the hand on your abdomen rise. Focus on deep, diaphragmatic breathing rather than shallow chest breathing.

As you exhale, let the breath out slowly, perhaps even extending the exhalation. This longer exhale helps activate the calming influence of the vagus nerve.

Close your eyes if comfortable. Imagine a place where you feel completely safe, calm, and at ease. It could be a real place or one you create in your mind.

Bring your visualization to life by engaging your senses. What do you see, hear, smell, and feel in this safe place?

### Choose a specific anchor, such as placing your hand on your heart or holding onto an object. This physical anchor connects the calming sensations of the exercise with a tangible action.

Continue to focus on your breath and the sensations of safety and calmness. If your mind wanders, gently bring it back to the present moment.

When you're ready to conclude the exercise, gradually bring your awareness back to the room. Wiggle your fingers and toes, and open your eyes.

A Ventral Vagal Anchor Exercise is a mindfulness or grounding technique designed to activate and strengthen the ventral vagal pathway, which is associated with feelings of safety and social engagement. The ventral vagal system helps regulate the nervous system and promote a sense of calm and connection.

# **Co-Regulation**

Co-regulation is where individuals influence each other's nervous system states, especially in social interactions. It involves the mutual adjustment of emotions and stress levels between people, contributing to a shared sense of well-being. This process is supported by non-verbal communication, active listening, and attunement to each other's emotional cues. Co-regulation often occurs within the context of the ventral vagal state, promoting feelings of safety and connection.

### **Key Principles of Co-Regulation**



Reciprocal Influence Bidirectional where individuals impact each other's nervous system states.



Social Engagement System Occurs within the ventral vagal state, promoting safety and connection.



Non-Verbal Communication Facial expressions, body language, tone of voice, and other non-verbal cues.



Responsive Listening Actively listening and responding to others' physical and emotional cues.

### **Practical Strategies for Co-Regulation:**

Mindful Presence	<b>Regulated Breathing</b>	<b>Physical Contact</b>	<b>Boundaries</b>
Cultivate mindfulness	Synchronize breathing	Non-threatening touch,	Be mindful of individual
to remain present and	patterns with others,	such as a gentle hand	boundaries during co-
attuned to the	emphasizing slow	on the shoulder, can	regulation, ensuring a
emotional states of	breaths to promote a	enhance feelings of	comfortable and
others.	shared sense of calm.	safety and connection.	consensual interaction.
Active Listening Practice active listening by providing full attention and validating the emotions expressed by others.	<b>Empathy</b> Express empathy and seek to understand others' perspectives to create a supportive environment.	Facial Expressions Mirror positive facial expressions to convey warmth, understanding and affirmation.	In Groups Extend co-regulation principles to group settings, fostering a collective sense of safety and support.

### Benefits of Co-Regulation.

Enhanced Emotional Well-Being:

Stress Reduction Improved Social Connections

Increased Trust

## **Co-Regulation Glimmers**

Coregulation glimmers are activities or practices that support the co-regulation of nervous system states, fostering a sense of safety, connection, and emotional regulation within social interactions.

### **Key Principles of Co-Regulation Glimmers**

#### Reciprocal Influence

Involves a bidirectional influence where individuals mutually shape each other's nervous system states. Non-Verbal Communication Glimmers rely on non-verbal cues, such as expressions, body language, and tone of voice, to convey connection.

#### Social Engagement System

Glimmers aim to activate the social engagement system to promote feelings of safety and connection.

### **Examples of Co-Regulation Glimmers**



### **Applications in Daily Life:**

**Family** Use coregulation glimmers to create a positive and supportive family environment.

### Workplace

Incorporate these activities to improve communication and collaboration in a professional setting.

### Friends

Foster a sense of safety and connection in personal relationships through coregulation glimmers.

### Neuroception

Neuroception is our brain's automatic and unconscious ability to detect cues in the environment that signal safety, danger, or the need for further assessment. It plays an essential role in regulating our nervous system and shaping our responses to the world around us.



### Ventral Vagal Pathway Checklist

This Ventral Vagal Pathway checklist has been designed to help you explore and enhance your experience of the ventral vagal pathway. For each item on the checklist, reflect on your own experiences. Consider how each aspect aligns with your daily life and emotional state. For each item, mark whether it resonates with you or if it's an area you'd like to explore further. This will help you identify strengths and areas for growth.

- Able to engage in meaningful and reciprocal social interactions.
- Feels a sense of connection with others.
- Comfortable with eye contact and non-verbal communication.
- Breathing is steady and rhythmic.
- Generally experiences a calm and relaxed physiological state.
- Can regulate emotions effectively.
- Resilient in the face of challenges.
- Responds to stressors with adaptive coping mechanisms.
- Adaptive response to changes in the environment.
- Balanced reaction to stressors, neither overly reactive nor under-responsive.
- Demonstrates empathy towards others.
- Expresses compassion and understanding.
- Able to connect emotionally with the experiences of others.
- Seeks out social interactions for positive connection.
- Able to express needs and boundaries comfortably.
- Utilizes effective self-soothing techniques.
- Practices mindfulness and stays present in the moment.
- Able to navigate thoughts without becoming overwhelmed.

### Dorsal Vagal Pathway Checklist

This Dorsal Vagal Pathway checklist has been designed to help you explore and enhance your experience of the dorsal vagal pathway. For each item on the checklist, reflect on your own experiences. Consider how each aspect aligns with your daily life and emotional state. For each item, mark whether it resonates with you or if it's an area you'd like to explore further. This will help you identify strengths and areas for growth.

- Awareness of triggers that may activate the dorsal vagal pathway.
- Tends to withdraw or isolate in response to stress.
- Struggles with maintaining social connections during challenging times.
- Experiences muscle tension, stiffness, or a sense of being "frozen."
- Difficulty relaxing, even in non-threatening situations.
- Noticeable disruptions in digestive processes during stress.
- Difficulty expressing emotions openly.
- Tends to suppress emotional responses, even in appropriate situations.
- Engages in avoidance behaviors as a coping mechanism.
- May avoid confronting challenging situations or seeking help.
- Heightened sensitivity to potential threats in the environment.
- May have a tendency to be constantly on guard or excessively vigilant.
- Struggles with finding effective self-soothing techniques.
- Limited ability to bring oneself back to a regulated state after stress.
- Noticeable cognitive fog or difficulty concentrating during stress.
- Impaired problem-solving abilities in challenging situations.
- Struggles with offering self-compassion during challenging times.
  - May have difficulty accessing or enjoying activities that bring comfort.

## Sympathetic NS Checklist

This Sympathetic Nervous System checklist has been designed to help you explore and enhance your experience of the sympathetic nervous system. For each item on the checklist, reflect on your own experiences. Consider how each aspect aligns with your daily life and emotional state. For each item, mark whether it resonates with you or if it's an area you'd like to explore.

- Aware of triggers that may activate the sympathetic nervous system.
- Tends to respond to stress with a "fight" or "flight" reaction.
- Experiences a strong sense of urgency in stressful situations.
- May feel a racing heartbeat in response to challenging situations.
- Heightened alertness and increased sensory perception during stress.
- May experience a sense of hyperarousal and difficulty in relaxation.
- Experiences dilated pupils during stress or intense situations.
- Enhanced visual focus and attention in response to perceived threats.
- Rapid mobilization of energy for quick physical action.
- Feels a surge of energy to respond to immediate challenges.
- Heightened sensitivity to potential threats in the environment.
- Triggers the release of stress hormones (e.g., adrenaline, noradrenaline).
- Experiences an adrenaline rush in response to stressors.
- May experience digestive discomfort or reduced appetite.
- Increased sweating as part of the body's thermoregulation during stress.
- May notice changes in body temperature and perspiration.
- Constriction of blood vessels in non-essential areas.
- May experience cold extremities due to vasoconstriction.

## The Window of Tolerance



## The Window of Tolerance



### The Window of Tolerance



The Window of Tolerance helps us understand our optimal state of arousal for effective functioning. It involves recognizing when we are within a range where we can manage stress and emotions effectively. Use the following questions to reflect on your own experiences and identify your personal Window of Tolerance.

**Awareness:** Describe a recent situation where you felt calm, focused, and in control. What were the circumstances, and how did you feel during that time?

Now, recall a moment when you felt overwhelmed, stressed, or anxious. What triggered these feelings, and how did you react?

**Signs of Being Within the Window:** List physical sensations, thoughts, and emotions you experience when you are within your Window of Tolerance.

**Signs of Going Beyond the Window:** Identify physical sensations, thoughts, and emotions that signal you are moving outside your Window of Tolerance.

**Strategies for Staying Within the Window:** List healthy coping strategies or activities that help you stay within your Window of Tolerance.

# Strategies for Staying Within Your Window

Reflect on a challenging situation you've faced recently. How did you manage to **stay within** your Window of Tolerance, or what could you have done differently?

Consider **the people or resources** that contribute positively to your Window of Tolerance. How can you leverage external support during challenging times?

Reflect on situations where you may need to **set boundaries** to maintain your Window of Tolerance. What boundaries are necessary for your well-being?

Share one area in which you would like **to expand your Window of Tolerance**. How can you work towards this goal?



# Exploring the Ventral Vagal State (Safe and Social)

Take a moment to reflect on situations and experiences where you feel a sense of safety, connection, and social engagement. Use the prompts below to guide your exploration.

Identify recent positive interactions with friends, family, or colleagues that made you feel safe and connected. Describe the details of these interactions.

List activities that bring you joy and a sense of well-being. How do these activities contribute to your feelings of safety and connection?

Reflect on individuals or places where you feel the most comfort and support. What specific qualities contribute to this sense of safety?

Recall moments when you felt fully present and engaged in the present moment. What activities or practices help you achieve this state of mindfulness?

Identify strategies or practices that help regulate your emotions and keep you in a state of calm and connection.

# Exploring the Sympathetic State (Fight or Flight)

Consider situations that evoke a heightened alertness, stress, or the need for action. Use the prompts below to explore your experiences in the sympathetic state.

Identify specific situations that trigger stress or a sense of urgency. What aspects of these situations contribute to the activation of your fight or flight response?

Reflect on the physical sensations you experience during times of stress. How does your body react, and what signs indicate sympathetic nervous system activation?

List your typical coping mechanisms when faced with stress. Are these mechanisms effective in managing the fight or flight response?

Consider how your energy levels and focus change during situations that activate the sympathetic state. How does this impact your decision-making?

Explore strategies that help you recover from stress and return to a state of calm. What practices support your transition out of the sympathetic state?

# Exploring the Dorsal Vagal State (Freeze or Shutdown)

Reflect on moments when you feel overwhelmed, disconnected, or immobilized. Use the prompts below to explore your experiences in the dorsal vagal state.

Identify situations or circumstances that make you feel overwhelmed or lead to a sense of shutdown. What factors contribute to this response?

Describe the physical sensations associated with disconnection or immobilization. How does your body respond when entering the dorsal vagal state?

Reflect on patterns of avoidance or withdrawal in your life. Are there specific situations or interactions that consistently lead to shutdown?

Consider how you navigate challenges with self-compassion and understanding during moments of shutdown. What practices support your emotional well-being?

Explore strategies that help you reconnect after experiencing the dorsal vagal state. How do you initiate a return to a more regulated state?

## Journal Prompts DORSAL VAGAL: FREEZE

These Dorsal Vagal journal prompts guide you through moments of immobilization and fear, offering an opportunity to explore the times when withdrawal and disconnection are prevalent. Reflect on experiences that evoke a sense of shutdown, and consider strategies to navigate fear and foster self-compassion during challenging times.

Describe moments when you find it challenging to engage in self-soothing activities. What barriers prevent you from nurturing yourself during stress?

Think about your relationship with stillness and quiet. How do you respond when faced with a need for rest and relaxation, and how can you embrace these moments more fully? Reflect on your selfcompassion during difficult times. How do you navigate self-critical thoughts and promote a sense of understanding and care?

Describe situations where you tend to avoid confrontation or challenging interactions. How does this avoidance contribute to the dorsal vagal response? Think about your response to personal boundaries. How do you react when your boundaries are challenged, and how does it influence your state of arousal?

Explore your relationship with touch and physical contact. How does touch impact your sense of safety and connection?

Think about activities that make you feel immobilized or stuck. How do you navigate through these moments and encourage a sense of movement or flow?

Recall a recent experience where you felt overwhelmed and disconnected. How did your body respond in terms of numbness, dissociation, or other shutdown responses? Reflect on your digestive patterns during stress. How does your body respond, and do you notice any disruptions in digestive processes? Consider your experience with cold or hot temperatures. How does your body react, and does it influence your emotional state?

Describe situations where you find it challenging to engage socially or emotionally. What triggers these withdrawal responses?

Explore your relationship with rest and relaxation. How do you recognize when your body needs a break or downtime?

## Journal Prompts SYMPATHETIC: FIGHT OR FLIGHT

These Sympathetic Nervous System journal prompts will help you reflect on your experiences of heightened alertness, stress, and achievement. Explore how your body reacts in challenging situations and the strategies you employ to navigate stress.

Reflect on situations where you've effectively maintained focus and alertness. What practices or mindsets contributed to this heightened state? Consider your physical reactions to stress. How do you recognize the signs of increased arousal, and what coping mechanisms are most effective for you?

Describe a recent accomplishment achieved under pressure. How did the sympathetic nervous system contribute to your success?

Describe a time when you successfully channeled the energy from the fight or flight response into a positive outcome. What strategies did you use?

Reflect on your relationship with physical activity and exercise. How does exercise influence your energy levels and stress response? Explore your experience with competition. How do you react in competitive situations, and what emotions arise?

Think about your reactions to fear. How do you respond when faced with a perceived threat, and how do you manage these responses? Describe an activity or task that often leads to heightened stress and urgency. How do you typically cope with the pressure in these situations?

Explore your relationship with

caffeine or other stimulants.

How do these substances

impact your sympathetic

nervous system activation?

Consider your body's

response to the release of

stress hormones (e.g.,

adrenaline, noradrenaline).

When do you notice these

physiological changes?

Recall a recent situation that triggered a strong fight or flight response. How did your body react, and what emotions did you experience? Think about your response to time pressure and deadlines. How does a sense of urgency impact your stress levels and decision-making?

# Journal Prompts VENTRAL VAGAL: SAFE AND SOCIAL

This set of Ventral Vagal journal prompts invites you to explore moments of connection, joy, and safety. Reflect on positive social interactions, activities that bring you comfort, and the supportive relationships that contribute to your overall well-being.



## Ventral Vagal Pathway Activation

Here are 9 ways to promote a sense of calm and activate your ventral vagal pathway:



# Tracking Polyvagal States

Use this tracker to map out your experiences with the different polyvagal states.

### Date:

Time:	What I was doing	State
		Ventral Vagal
		Sympathetic
		Dorsal Vagal
		Ventral Vagal
		Sympathetic
		Dorsal Vagal
		Ventral Vagal
		Sympathetic
		Dorsal Vagal
		Ventral Vagal
		Sympathetic
		Dorsal Vagal

# Mapping Polyvagal States

Use this tracker to map out your experiences with the different polyvagal states.

Date:

Ventral Vagal
Sympathetic
Dorsal Vagal