Caring for Our Nervous Systems

Navigating the Neurobiology of Political Relationships

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Key Points

- All human cultures develop beautiful practices that make us feel good, therefore regulating our nervous systems.
- When we do things that feel good and are good for us, restorative drugs (neurotransmitters) circulate through our bodies—this is nature's pharmacy.
- When our nervous systems spend more time in restoration and regulation than in stress, we increase access to very cool prefrontal cortex functions.
- Those cool prefrontal cortex functions are necessary to create a just world.
- Some people get stuck in an amygdala-dominant state which decreases prefrontal cortex function. This is bad for them and others around them.
- Amygdala activation releases stressful neurotransmitters that can make people feel like they are under threat. Feeling under chronic threat changes perception. While defending against this perceived—and frequently inaccurate—threat, aggressive, brutal behavior becomes justified in the service of gaining power and resources for survival.
- That's part of what we're dealing with politically right now. Learning about neurobiology helps strategize against this oppressive, antisocial behavior and keeps us healthy individually and communally.

Introduction

As we face this brutal political moment, remember that acting from the loving and creative parts of our human nature is self-care and it makes us very strong. Engaging in behaviors that support our emotional health and our nervous systems is a form of activism. Cultivating a flexible nervous system that can transition out of stress and activation into restoration supports internal sustainability for the important tasks we have in front of us. Additionally, neurobiology is a potent lens of analysis when strategizing responses to the cruelty and incompetence of this presidential administration, other similar world leaders, their financial enablers, and corporations that abuse others in the insatiable pursuit of power and resources they don't even need for their own survival.

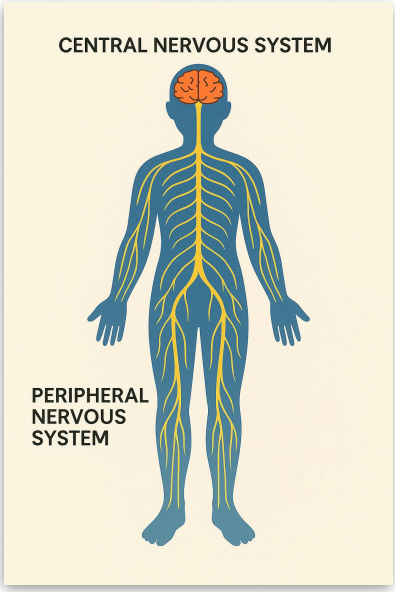
These antisocial behaviors, and the cognitive circumstances that allow justification of them, are catalyzed by a chronic, aggressive neurobiological survival response. This response, rooted in dominance and control, is driving behaviors that prioritize resource accumulation over mutual aid, interpersonal responsibility, and collective care.

However, there is good news. While it's true that human beings have the neurobiological wiring for aggressive survival responses, we are also deeply wired to survive through cooperation, and prosocial relationship building.

This moment calls for an organized, prosocial response rooted in nervous system awareness and collective resilience. If the people most invested in domination and extraction are stuck in survival responses, then those seeking justice must increase their ability to stay regulated and capable of community building and complex group decision-making under increasing pressure. The material in this guide serves that goal. Increasing conscious control of nervous system responses creates power, which can be used to infuse the world with justice. The beauty in the world and the experiences of the vulnerable inspire this work.

Basic Neurobiology

Nervous systems receive sensory input, interpret it, learn from it, and respond. The nervous system itself is created from billions of neurons that communicate with each other by releasing neurotransmitters.

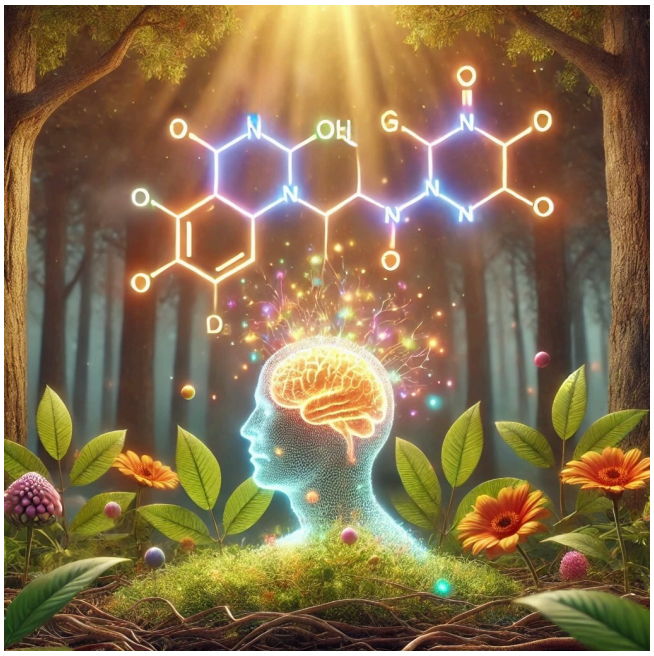


The Central Nervous System (brain and spine) processes information. The Peripheral Nervous System (sensory and motor nerves) transmits information to and from the Central Nervous System. This cycle of communication determines a person's physical, cognitive, and emotional state.

From birth to adulthood the brain culls about 200 billion neurons to about 86 billion as it processes external stimuli over time. This pruning process creates an individual nervous system, teaches us what we can expect from others, and forms our attachment systems. Nervous systems are always being rewired through experiences, this is the process of neuroplasticity. By refining awareness, and making intentional choices, an individual can shape their nervous system.

Neurotransmitters

Neurotransmitters are chemical messengers that carry signals between neurons and direct how different parts of the body and brain respond. Made by the body, they regulate functions such as mood, movement, digestion, heart rate, breathing, arousal, and immune activity. Over 100 neurotransmitters have been identified. They are nature's pharmacy, providing the body with its own set of powerful drugs. The primary neurotransmitters that drive the stress response include glutamate, which is excitatory and increases neural activation, and epinephrine, which fuels the fight-or-flight reaction by raising heart rate, blood pressure, and energy availability.

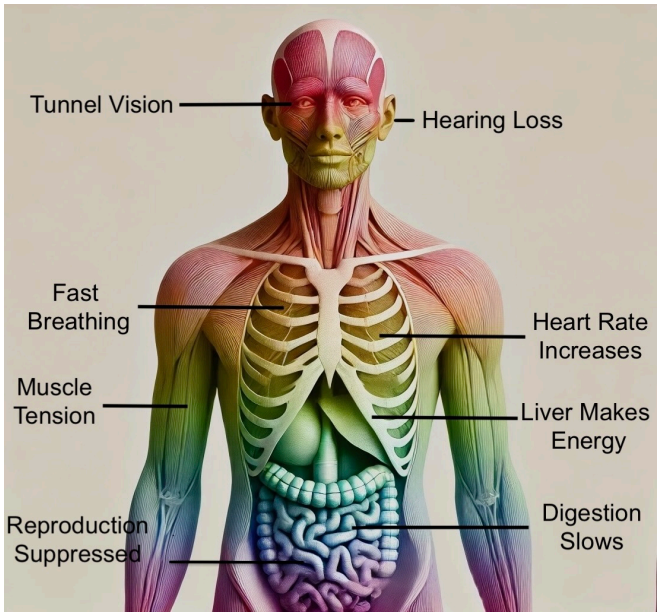


Neurotransmitters play important roles in regulating the body and brain. Dopamine is released in anticipation of reward and plays a crucial role in motivation and learning by encoding both positive and negative experiences, allowing the brain to adjust behavior based on outcomes (Bromberg-Martin et al., 2010). Serotonin supports mood balance and gut health. GABA is inhibitory and helps calm neural activity. Oxytocin promotes bonding, touch, and social connection by enhancing prosocial behavior toward individuals who are already trusted. When oxytocin is released in the presence of

unfamiliar or negatively perceived individuals, it can increase defensive and protective behaviors, such as those seen in a parent safeguarding a child. Oxytocin's effects depend on the specific social context and the nature of existing relationships rather than universally promoting affiliation (Bartz et al., 2011).

Stress Response

When the stress response gets triggered, the body prepares for survival. The nervous system shifts into action, flooding the body with stress hormones, including cortisol. Heart rate and breathing speed up, muscles tense, and blood flow moves toward areas needed for quick action. The brain focuses on the threat, and digestion, reproduction, and other functions not essential for immediate survival slow down.



The human stress response evolved to protect us from physical threats. However, a majority of modern stressors are interpersonal, and therefore our stress response can be maladaptive for current societal stressors. As Stanford neuroscientist Robert Sapolsky explains, "We turn on the exact same stress-response as do those mammals running for their lives or running for a meal, and we turn it on for psychological reasons. And if that occurs often enough, our disease risk increases, because that is not what the stress-response evolved for" (Sapolsky, n.d.).

The nervous system is built to cycle between stress and restoration. Physical and emotional health issues arise when we do not spend enough time in restoration. Chronic stress during development shapes default protective responses based on environmental and relational input, potentially creating lasting patterns of reactivity.

The **survival responses—fight, flight, freeze, collapse, and appease**—are exhibited by humans to cope with perceived threats. They are strategies that are unconsciously activated in the hopes that threat can be avoided. Recognizing and understanding these patterns is a useful step toward developing more prosocial coping strategies and fostering resilience.

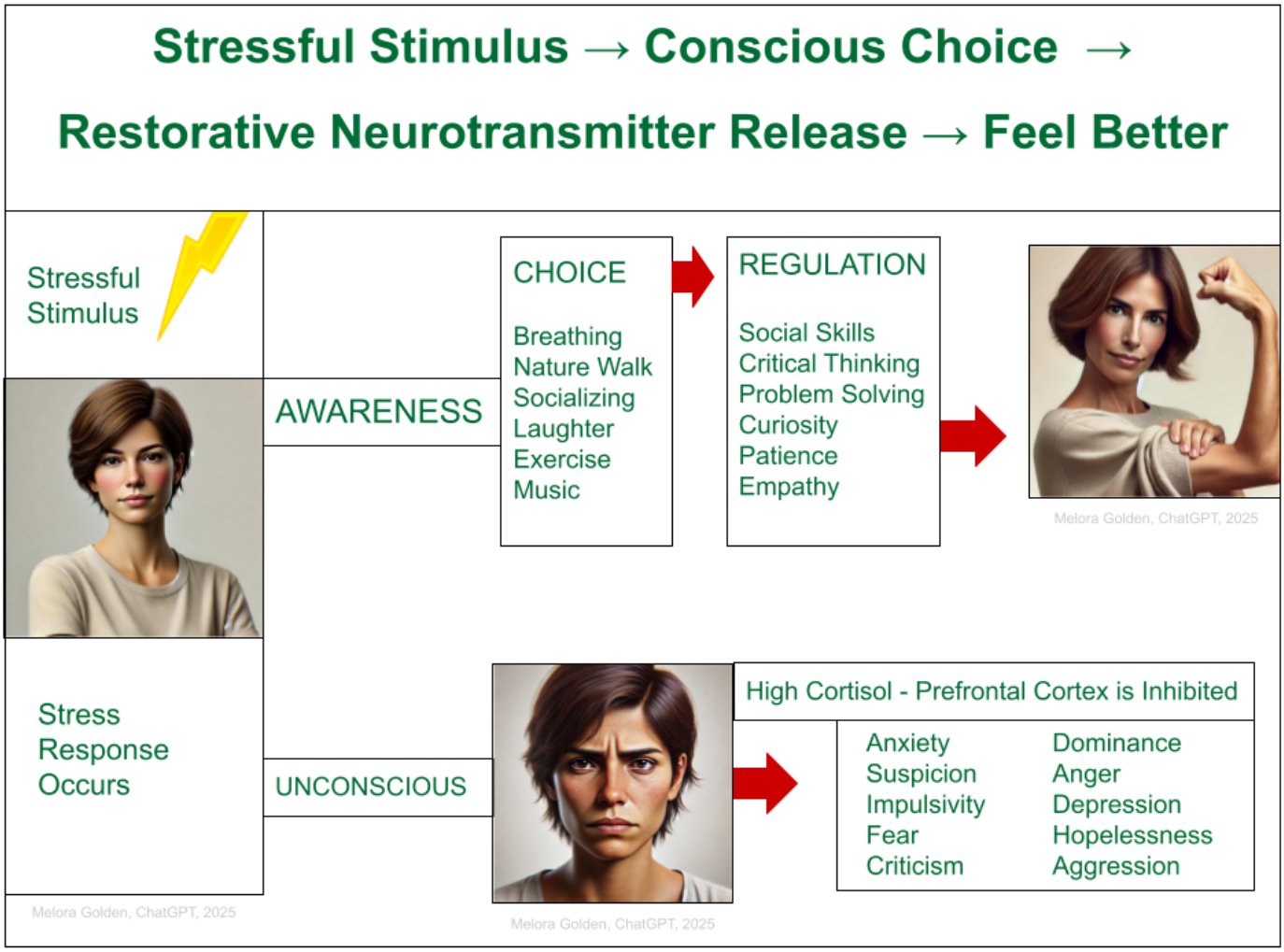
The survival responses—fight, flight, freeze, collapse, and appease—are not separate from the stress response but are distinct behavioral expressions that incorporate it. These responses are orchestrated by the autonomic nervous system, particularly the sympathetic branch, and are mediated by the hypothalamic-pituitary-adrenal (HPA) axis (Kozlowska et al., 2015). This system releases stress hormones such as adrenaline and cortisol, which prepare the body to respond to perceived threats. The specific behavioral outcome—whether to confront, flee, immobilize, submit, or appease—is influenced by individual factors, past experiences, and the context of the threat. The freeze response, for example, involves simultaneous activation of both sympathetic and parasympathetic systems, leading to a state of immobility despite heightened arousal (Schauer & Elbert, 2010). The collapse response, characterized by physical shutdown or fainting, is a parasympathetic-dominant reaction that occurs when neither fight nor flight is viable. The appease response involves submissive behaviors aimed at defusing conflict, often rooted in early relational experiences or trauma. Understanding these responses as integrated components of the stress response system highlights the nuances of human reactions to threat and the importance of context in shaping adaptive behaviors.

Prefrontal Cortex Amygdala Relationship

Under stress, the functioning of the prefrontal cortex diminishes, impairing our ability to regulate emotions, make decisions, and respond flexibly to challenges (Siegel, 2010). The prefrontal cortex supports key capacities that allow humans to navigate complex situations, including social skills, problem-solving, attention, adaptability, abstract thinking, risk assessment, emotional regulation, language production, working memory, emotional expression, creativity, and impulse control. As Sapolsky (2004) explains, “The frontal cortex makes you do the harder thing, when it’s the right thing to do.” This part of the brain allows individuals to pause, consider options, and choose actions that align with their values rather than acting on impulse. However, under conditions of stress, the amygdala—the part of the brain responsible for detecting threat—becomes more active, and this heightened amygdala activation can dominate brain functioning, further reducing the influence of the prefrontal cortex (Sapolsky, 2004).

The parts of the brain that get activated more often become stronger. Chronic amygdala activation strengthens the amygdala. The amygdala and the prefrontal cortex have a special relationship. A more dominant amygdala means a weak or atrophied prefrontal cortex. By consciously engaging in nervous system restorative behaviors, we can reduce amygdala over-activation and support the dominance of the prefrontal cortex. This allows us to spend more time accessing the capacities of the prefrontal cortex and applying them to respond thoughtfully and effectively to this political moment.

Physiologically Transitioning from Stress to Restoration



Sapolsky states, “By altering which stimuli we attend to, we can influence which neurotransmitters are released” (Sapolsky, 2017, p. 277). Increased knowledge of nervous system responses improves ability to choose restorative behaviors that shift a person out of a reactive state and toward prosocial actions and improved complex problem-solving. This shift happens on a physiological level, changing the neurotransmitters that are circulating through the nervous system.

Nervous system awareness is both a political act and a tool for collective care. It helps individuals move beyond suppression or antisocial discharge of stress and instead

achieve true shifts in their nervous system state through conscious attention and intentional behavior.

Restoration Practices and Tool Kit Development

Building a more resilient and flexible nervous system is a lifelong practice. Fortunately all human cultures have created wonderful ways to feel good. Increased understanding of how stress feels in the body and the mind helps. Awareness of stress symptoms signals when to consciously engage in a discharge or restorative practice. The discharge and restorative practices in a resilience tool kit will vary by individual and culture. Individuals can identify the restorative practices that work best for them and begin to apply them consciously and with increased understanding that the choices made affect neurotransmitter release. Which in turn shapes emotional experience, improves the functioning of the mind, and supports the ability to interact compassionately with others. These small, intentional actions over time, create meaningful change and greater capacity to meet challenges with the skills of the prefrontal cortex intact.

Begin to track how stress shows up in your body and in your thinking.
Learn your stress signals, awareness creates the possibility for choice.
Create your tool kit of restorative behavioral choices.
Develop your tool kit of discharging strategies. Sometimes we need to discharge anger or fear before we can regulate.
Tend to your attachment system—secure connection supports regulation.
Share and practice nervous system awareness with supportive communities.
This is a practice, every small act adds up.

Some Restorative Practices

Laughter
Exercise
Pets
Learning
Good food
Accomplishing goals
Hydration
Meditation
Taking a bath
Breathing practices
Walking
Prayer
Music
Massage

Reading
Being creative
Community engagement
Friendship
Singing
Dance
Sensory self-care
Belly breathing
Awareness practices
Consensual touch
Deep sleep
Regular rest

Breathing

Diaphragmatic breathing, often called “belly breathing,” uses the full range of your lungs by drawing air deep into the diaphragm rather than shallowly into the chest. As you inhale, your belly expands, and as you exhale—with the exhale slightly longer than the inhale—your diaphragm pushes up, gently massaging the vagus nerve. This action stimulates the parasympathetic branch of the autonomic nervous system, lowering heart rate and reducing blood pressure.

In contrast, shallow chest breathing tends to keep your body in a state of alert. Quick, high-chest breaths signal the sympathetic nervous system that “danger” is present, fueling the fight-or-flight response. By shifting to slow diaphragmatic breaths—with each exhale lasting a beat or two longer than the inhale—you send a clear “all is well”

message to your brainstem and heart via baroreceptor feedback and increased heart-rate variability.

Practicing gentle belly breaths for even a few minutes creates a window for your body to move out of survival mode and into restoration. Over time, regularly engaging in these longer breathing cycles trains your nervous system to favor parasympathetic activation—so that, in moments of stress, you've already strengthened the pathways that bring you back to balance.

Discharging Survival Response Activation

Restorative practices that regulate the nervous system are great. Additionally, when gripped by an activating survival response it can help to discharge the activation energy before shifting to restoration. These survival responses, fight, flight freeze, collapse, and appease diminish prefrontal cortex function. Discharging the activation helps restore access to important brain functions, allowing us to act in alignment with our values and best interests. When possible it's advisable to prioritize discharging and restoration before deciding how to respond to the event that triggered the survival response.

Fight: the body prepares to **confront the threat** and energy mobilizes for defense.

- Through movement, words, or visualization therapeutically complete a defensive response to discharge activation. This allows the body to safely complete protective impulses like striking, pushing, or setting boundaries, which may not have been possible at the time of threat. Physical movements should be slow if possible, this helps the nervous system integrate the discharge (Levine, 1997).
- Visualization and verbal expression can effectively discharge the surge of neurotransmitters that are triggered by the fight response. In the imagination it is OK to visualize hurting someone. Visualizing a physical defensive response to harm can free the nervous system, which includes the brain, and a person can regain some control over their response to the

threat. It's also useful while either alone or with a trusted friend or therapist to say out loud and unedited what we would like to say to the person responsible for the harm.

- Orienting: the process of using the senses, such as seeing, hearing, smelling, and feeling, to take in the environment, helping the nervous system recognize safety in the present moment and shift out of survival states (Levine, 2010).
- Safe, physical activities and exercises can help release pent-up energy.
- Belly breathing while exhaling longer than inhaling can activate the parasympathetic(rest and digest) nervous system.
- Movement practices such as yoga, tai chi or martial arts can help discharge activation. This is particularly useful when coordinated with belly breathing.

Flight: The nervous system **prioritizes escape**. Focus narrows on exit strategies.

- Orienting and discharge through movement can help. Orienting engages the senses to reassure the body that it is no longer in danger. Discharge through movement can satisfy the urge to flee in a safe and contained way, helping to release excess activation (Levine, 1997; Levine, 2010).
- Orienting: the process of using the senses, such as seeing, hearing, smelling, and feeling, to take in the environment, helping the nervous system recognize safety in the present moment and shift out of survival states (Levine, 2010).
- Rhythmic activities like walking or cycling, ideally letting the eyes scan the distant landscape.
- Sensory activities such as focusing on the feeling of feet on the ground or holding onto a textured object can anchor awareness in the present moment.
- Visualizations of expansive and safe places.
- Progressive muscle relaxation helps reduce tension by engaging and then very slowly releasing muscle groups.

Freeze: the system **becomes immobile**, often holding breath or reducing movement to avoid detection.

- Pendulation: the process of gently guiding attention between areas of the body that are activated or uncomfortable and areas that feel less bad, neutral, or good. This helps release restorative neurotransmitters and increases nervous system flexibility by alternating between different sensations. Experiencing this contrast of less activation, neutrality or even

comfort begins to create a destination in a person's body. This destination, when returned to over time, becomes easier to access when needed (Levine, 2010).

- Orienting: the process of using the senses, such as seeing, hearing, smelling, and feeling, to take in the environment, helping the nervous system recognize safety in the present moment and shift out of survival states (Levine, 2010).
- Gently stimulating the senses, such as holding a warm cup of tea, helps reconnect with the body.
- Small movements, like gently moving the jaw or wiggling fingers or toes, can begin to soften the freeze response.
- Looking around and identifying safety cues can assist in re-engaging with the present.
- Connecting with a trusted person for a low-stakes activity can provide co-regulation and help calm the nervous system.
- Verbalizing thoughts and feelings alone or to a safe person.

Collapse: the body shuts down into a **state of helplessness**, often due to prolonged or overwhelming threat.

- Therapeutic support can assist in safely exploring and processing recovery options.
- Titration and resource building support safe reactivation of energy. Titration helps prevent overwhelm by working with small amounts of activation at a time. Resource building provides inner or outer anchors of safety to stabilize the system as it begins to recover from shut down (Levine, 2010).
- Engaging in mild activities such as slow movement can gently move life force energy through the system.

Appease: The nervous system seeks safety by **deferring to other people's needs**. People may fawn, over-agree, or suppress personal needs to avoid or de-escalate conflict or gain favor with a perceived threat.

- Resource building and orienting are valuable. They strengthen internal cues of safety and self-support, helping reduce the compulsion to over-focus on others' needs or seek safety through appeasement (Levine, 2010).
- Journaling can help strengthen self-awareness of personal needs and desires.
- Practicing saying no in low-stakes situations builds confidence in setting boundaries.

- Attachment system work may address early experiences that contribute to appeasing behaviors.
- Self-compassion practices support non-judgmental awareness of personal feelings and needs.

Conclusion

Building movements and institutions that support nervous system health and collective care strengthens the campaign against systemic oppression. Prosocial behaviors, including regulation and co-regulation, create the conditions for collaboration, empathy, and resilience. Sapolsky identifies that “vagal tone, oxytocin, and positive social modeling can shift us out of the fear-driven state and into a state of relational openness” (Sapolsky, 2017, p. 593). A regulated nervous system supports prosocial behavior. “It’s not about nature versus nurture—it’s about what nurtures our nature” (Sapolsky, 2017, p. 627).

It is very helpful to cycle out of stress and into restoration on a regular basis. This improves individual health, group dynamics, working conditions, and keeps us connected to our prefrontal cortex and its powerful functions. Cycling out of stress into restoration is accomplished by regularly engaging in the restorative practices that human culture has created. Literally doing the good stuff keeps us strong. Acting prosocially creates more safety in the world and in activist communities. Increasing interpersonal security and deepening relationships creates a strong foundation for strategic action that will effectively disrupt oppression and forge a compassionate, creative global culture.

Video Links

Basic neurobiology playlist: https://www.youtube.com/playlist?list=PLG_DMo8UWe5P2S2nN3UsJHzsQMdMmtWxl

Neurotransmitters playlist: https://youtube.com/playlist?list=PLG_DMo8UWe5N-1hGGfpEvI3eZ4SkylKDX&feature=shared

School House Rock nervous system video: https://www.youtube.com/watch?v=ivk_irrH1WY

Flight Freeze Response: https://www.youtube.com/watch?v=jEHwB1PG_-Q

Dan Siegel attention and neuroplasticity: https://www.youtube.com/watch?v=PkLUia6csIM

Robert Sapolsky prefrontal cortex amygdala relationship: https://www.youtube.com/watch?v=7htlm3DQ_so&list=PLG_DMo8UWe5OoqQcgXNWt1qWIycLcOrQf&index=7

Andrew Huberman neuroplasticity video: https://www.youtube.com/watch?v=BCV8PCU8YGM

Andrew Huberman: How to Focus to Change Your Brain
Focuses on how **dopamine** dynamics underpin attention and neuroplasticity, offering practical tools to modulate drive and sustain motivation
https://www.hubermanlab.com/episode/essentials-how-to-focus-to-change-your-brain

Andrew Huberman: Optimize & Control Your Brain Chemistry to Improve Health & Performance
Covers how manipulating **dopamine** (alongside other neurotransmitters) can enhance mood, focus, and overall performance
https://www.hubermanlab.com/episode/optimize-and-control-your-brain-chemistry-to-improve-health-and-performance

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