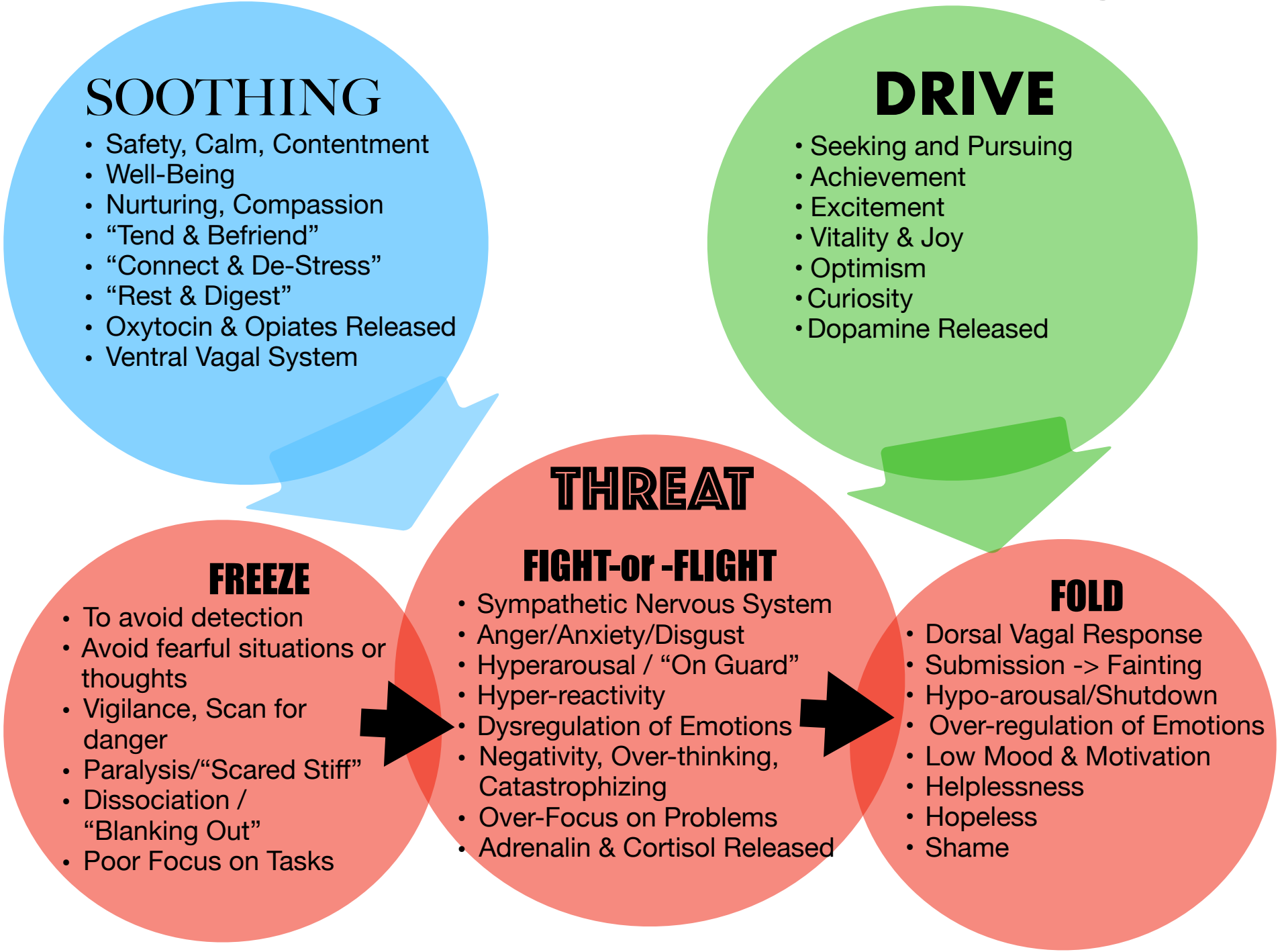
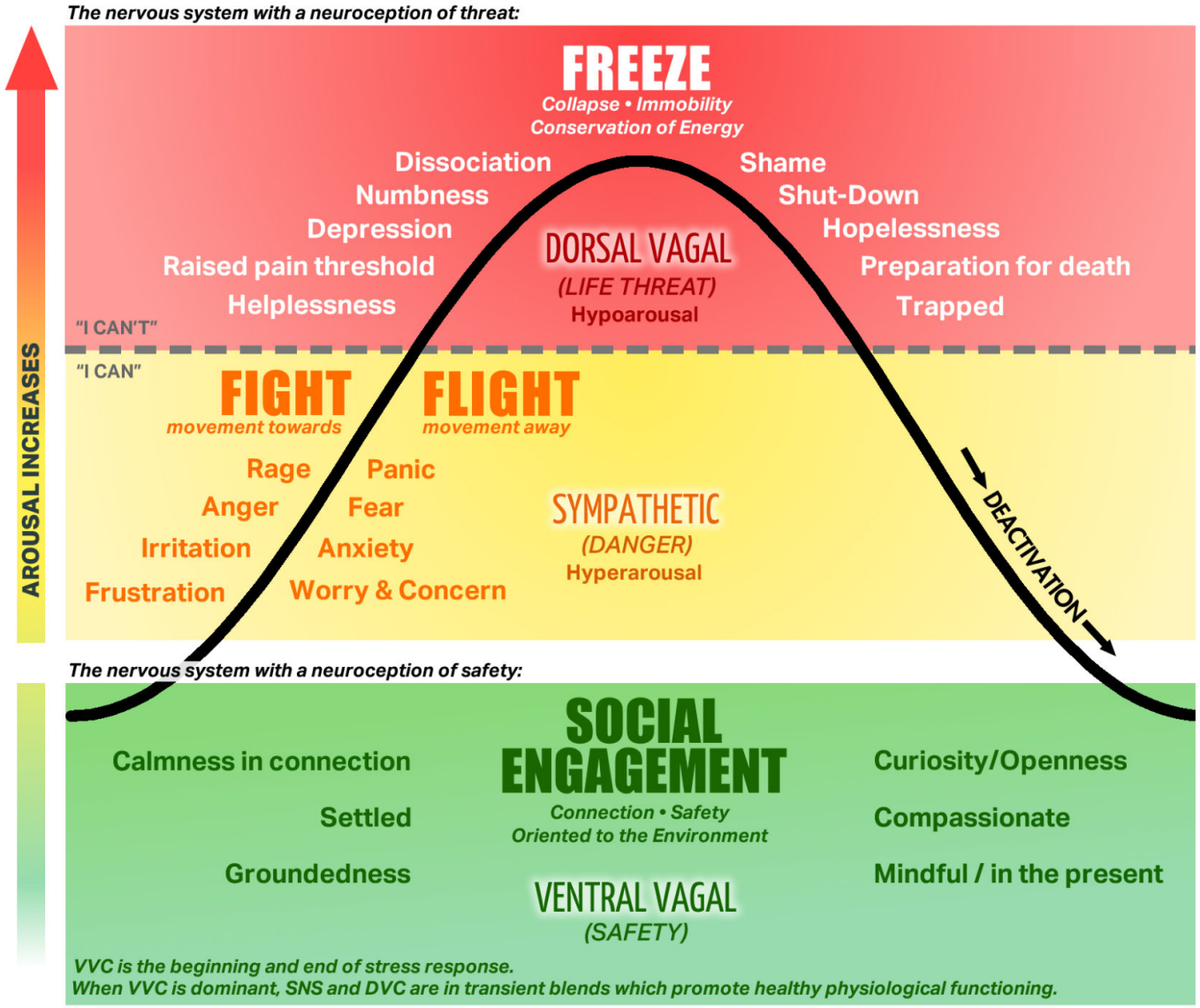
Goal: Balanced Emotional Responding



POLYVAGAL CHART



PARASYMPATHETIC NERVOUS SYSTEM
DORSAL VAGAL COMPLEX

Increases

Fuel storage & insulin activity • Immobilization behavior (with fear)
Endorphins that help numb and raise the pain threshold
Conservation of metabolic resources

Decreases

Heart Rate • Blood Pressure • Temperature • Muscle Tone
Facial Expressions & Eye Contact • Depth of Breath • Social Behavior
Attunement to Human Voice • Sexual Responses • Immune Response

SYMPATHETIC NERVOUS SYSTEM

Increases

Blood Pressure • Heart Rate • Fuel Availability • Adrenaline
Oxygen Circulation to Vital Organs • Blood Clotting • Pupil Size
Dilation of Bronchi • Defensive Responses

Deceases

Fuel Storage • Insulin Activity • Digestion • Salivation
Relational Ability • Immune Response

PARASYMPATHETIC NERVOUS SYSTEM
VENTRAL VAGAL COMPLEX

Increases

Digestion • Intestinal Motility • Resistance to Infection
Immune Response • Rest and Recuperation • Health & Vitality
Circulation to non-vital organs (skin, extremities)
Oxytocin (neuromodulator involved in social bonds that allows immobility without fear) • Ability to Relate and Connect
Movement in eyes and head turning • Prosody in voice • Breath

Decreases

Defensive Responses

Adapted by Ruby Jo Walker from: Cheryl Sanders, Anthony "Twig" Wheeler, and Steven Porges.

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Understanding Your Brain Modes of Fear, Soothing, Drive

This chart is a representation of some important emotions and modes of emotional responding.

All are healthy, functional responses. Fear alerts us to danger, helps keep us safe and is essential for survival. Soothing brings feelings of safety and relaxation that are essential for physical and emotional wellbeing and social caregiving. Drive is our internal motivation to seek care for ourselves and others.

The problem is they can become unbalanced or we can have rigid ways of reacting due to childhood acute or chronic trauma, such as poor parental emotional caregiving. The most common reaction is being hyper-vigilant to real or perceived threats, then hyper-reactive, often called “anxious.” This is often coupled with an inability to soothe or calm oneself. People identified as “depressed” may be in Fold mode and have decreased Drive responding and Soothing responding. Some people engage in a range of responses or may alternate, for example between “Fight-or-Flight” and “Fold,” which might be labeled as Bi-Polar Disorder under the current psychiatric diagnostic system.

These emotional and behavioral responses are learned in childhood due to family environments and relationships, traumas, and parent bonding or attachment patterns.

The key to good emotional wellbeing is to have flexible responding at appropriate levels using all our emotions depending on the situation. Rigid reactions cause problems for one’s emotional wellbeing and relationships.

EXERCISES TO HELP YOU LEARN:

1. Draw your brain mode circles. How big is each? Which way do the arrows flow between them? Is Fear overwhelming your Soothing mode? Are you in Drive excessively, with obsessive and compulsive behaviors of striving, over-achieving and perfectionism? Do you tend to Fold in response to threats?
2. In each circle list what puts you into that circle. What situations? What past or current trauma? What people or relationships? What thoughts you have about these experiences? What thoughts you have about yourself? Notice, especially, thoughts of self-judgment or self-doubt that may increase anxiety or threat.
3. Then take another paper and draw how you would like your circles to look. What would you need to do to make them look like that? What Soothing thoughts or behaviors would be helpful. Self-compassion is an antidote to fear, notably the fear of inadequacy.

Facts About the Fear Response

1. Brain and body are interconnected. When the brain detects a threat, the adrenal glands release hormones such as epinephrine (adrenaline) and cortisol. The body instantly responds with increased blood flow, heart rate, breathing, and sweating, all preparing the body to quickly retreat, shut down, or attack.
2. These hormonal responses can also affect emotions, usually by heightening them, which can feel overwhelming.
3. The fear response is instant and powerful, to keep us safe. But most of the time we do not need or want that instant reaction or for our "thinking brain" to be overpowered. Instead, we need to be aware that fear can take us away from logic, thoughtfulness and calmness, and into reactivity, illogic and poor judgment.
4. Neurobiology of Fear and Shame
    1. The Vagus Nerve extends from brainstem into chest and abdomen and influences the chest, lungs, heart, digestion and elimination and tells our brain how our body is feeling, notably if we feel safe or threatened. (Rosenberg, 2017)
    2. Three parts of the vagus nerve:
        1. Dorsal Vagal complex: Oldest, parasympathetic nervous system, immobilizes the body into "freeze" response when threat is sensed and there is no escape (Dana, 2018)
            1. = feelings of hopelessness, withdrawal, shutdown, apathy (Rosenberg, 2017)
        2. Sympathetic nervous system: next to evolve, Mobilizes body to take action "fight-or-flight" , increases cardiac input etc. Should return to calm quickly after threat has passed.
        3. Ventral Vagal complex: "Social engagement system", last to develop, mammalian, promotes social engagement when EMOTIONALLY and physically safe. Allows us to access openness positive expectations, trust. If we don't feel safe, we move "down" the ladder of the nervous system to sympathetic or dorsal vagal responses.
            1. Loss of social/emotional connection and co-regulation = misattunement/social rules violated —> neuroception of threat (Porges, 2017)
            2. Left brain thinks: "I'm not good enough to be loved." "What is wrong with me?" Shame is triggered, leading to fear/threat.
            3. Prefrontal cortex goes off line, amygdala (primitive threat assessment in the brain) goes into overdrive leading to cognitive distortions especially of shame.
        4. KEY: ACTIVATING THE VENTRAL VAGAL COMPLEX PROVIDES THE WAY OUT OF BOTH IMMOBILIZATION AND IMMOBILIZATION FROM FEAR
5. The fear response doesn't differentiate between physical and emotional or social threats. Humans, as social animals, put a lot of emphasis on the dependability and trust in our relationships and we especially fear rejection or social exclusion, because this was life threatening in ancient times. Responses are often the same for external threats or internal/mental threat of self-criticism.
6. The fear response doesn't differentiate between real danger (an actual tiger) or imagined danger (our brain worrying about a tiger). Or between actual rejection or worry about possible rejection.
7. Nowadays we mostly use our fear response to react to emotional threats, rather than physical threats.
8. By turning down the thinking brain, fear leads to cognitive biases:
    1. Catastrophizing: Imagine worst case scenarios, see problems (danger) where there are none

2. Negativity Bias: See only the negative, leading to low mood and lack of positivity
3. Helplessness: "Folding" and giving up in the face of risk, low motivation and drive
4. Excessive Problem Solving: Over-thinking, worry about the past and future, trying to prevent future problems and learn from past mistakes.
5. Demand for Certainty/Intolerance of Uncertainty: Increases problem-solving efforts to reduce risk and increase safety.
6. Over-Focus: Makes us see only the danger or problem, nothing else.
7. Difficulty Focusing: Alternatively, hyper vigilance may make us scan for problems, rather than focus.
8. Isolation and Anti-Social Behaviors: Fear makes us self-interested and selfish, worried only about our survival.

9. Cognitive biases are designed by evolution to keep us safe, but can distort our ability to think clearly and rationally and need managing by our "thinking brain."

SOLUTIONS:

Notice the three solutions of Mindful Self-Compassion track exactly as counter-actions to the fear response:

1. Mindfulness: Strengthening the executive/cognitive functioning of the brain to manage the emotional/fearful/reactive brain, helping us make wise choices, reduce reactivity, manage over-thinking.
2. Self-compassion: Engaging with soothing and self-calming in times of distress and struggle to calm our body and brain and make us feel safe.
3. Common Humanity: Recognizing we are not alone, but part of a larger struggle helps us feel less isolated and more like others.