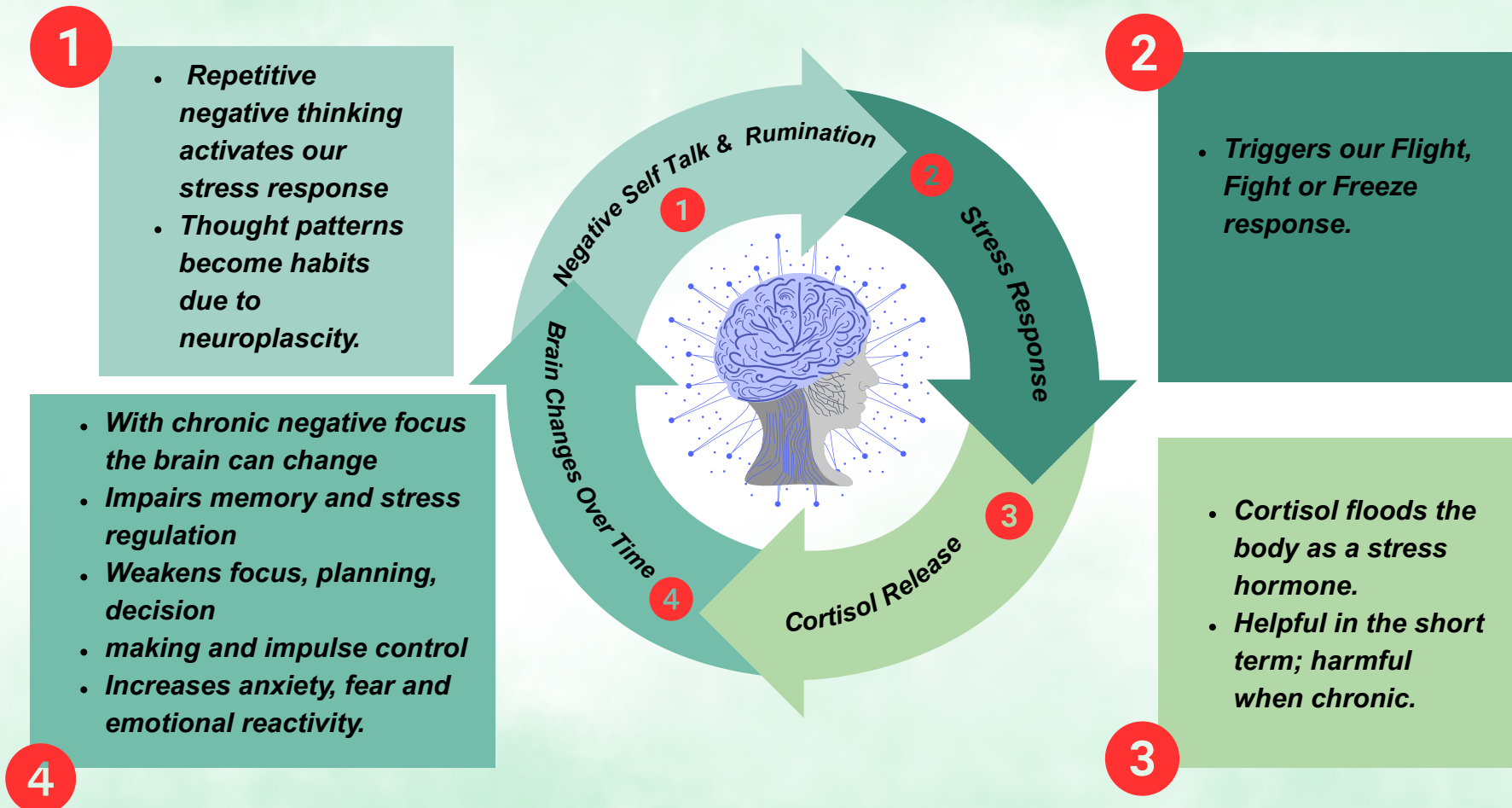


# WIRED FOR WORRY

## *Reclaim Your Calm*

*"The happiness of your life depends upon the quality of your thoughts."*

Marcus Aurelius



*The more we think negatively, the easier it becomes to keep doing it. The circuits get stronger through repetition. Good News! Neuroplasticity works both ways! Gratitude, mindfulness, cognitive reframing, and positive focus can rewire our brain in healthier ways. It's never too late to shift our brain's wiring toward resilience and calm.*

# WIRED FOR WORRY

## Reclaim Your Calm

*"The happiness of your life depends upon the quality of your thoughts."*

Marcus Aurelius

### Key Concepts in the Brain



**Neuroplasticity:** Our brains are constantly changing its connections (synapses) in response to experience. Repeated thoughts or behaviors strengthen certain neural pathways ("Hebbian learning", Dr. D. Hebb, "neurons that fire together wire together").

**Amygdala:** Part of the limbic system, important for fear, stress, and emotional learning.

**Hippocampus:** Critical for memory and context. It's sensitive to stress hormones, especially cortisol.



### Repetitive Rumination/ Complaining / Negative Talk

When we repeatedly engage in rumination, negative thinking, or verbal complaining this strengthens circuits. Similar to practicing a skill, repeatedly focusing on negative can strengthen neural pathways related to threat detection, rumination, or fear.

**Neuroplastic shift:** Over time, this can make our brain more prone to interpret neutral situations as negative or threatening. This is not the same as trauma itself, however, it can mimic some effects by making our stress-response circuits more active and easier to trigger.



### Cortisol & Stress Response

The HPA axis (hypothalamus-pituitary-adrenal axis) releases cortisol during stress. Cortisol helps us handle acute stress, however, with chronic stress or repeated surges of cortisol it can reduce our memory and ability to regulate during periods of stress (reduces dendrites in the hippocampus). This also strengthens the amygdala's fear and stress pathways, making us more reactive and dysregulated.

**Impaired prefrontal cortex function** (reducing impulse control and rational thinking). Chronic patterns of rumination, negative thinking or complaining, over weeks to months, does show measurable change to the brain in animal studies and human imaging studies.

**The kernel of truth is:** frequent, repeated negative focus can increase stress hormone levels, which over time affects brain structure and wiring.

**Bottom Line:** Occasional complaining = normal; unlikely to damage your brain. Habitual, repetitive negativity = strengthens stress circuits, weakens calm/regulation circuits over time. Positive habits (gratitude, mindfulness, reframing) = can reverse or balance these effects, building resilience.

