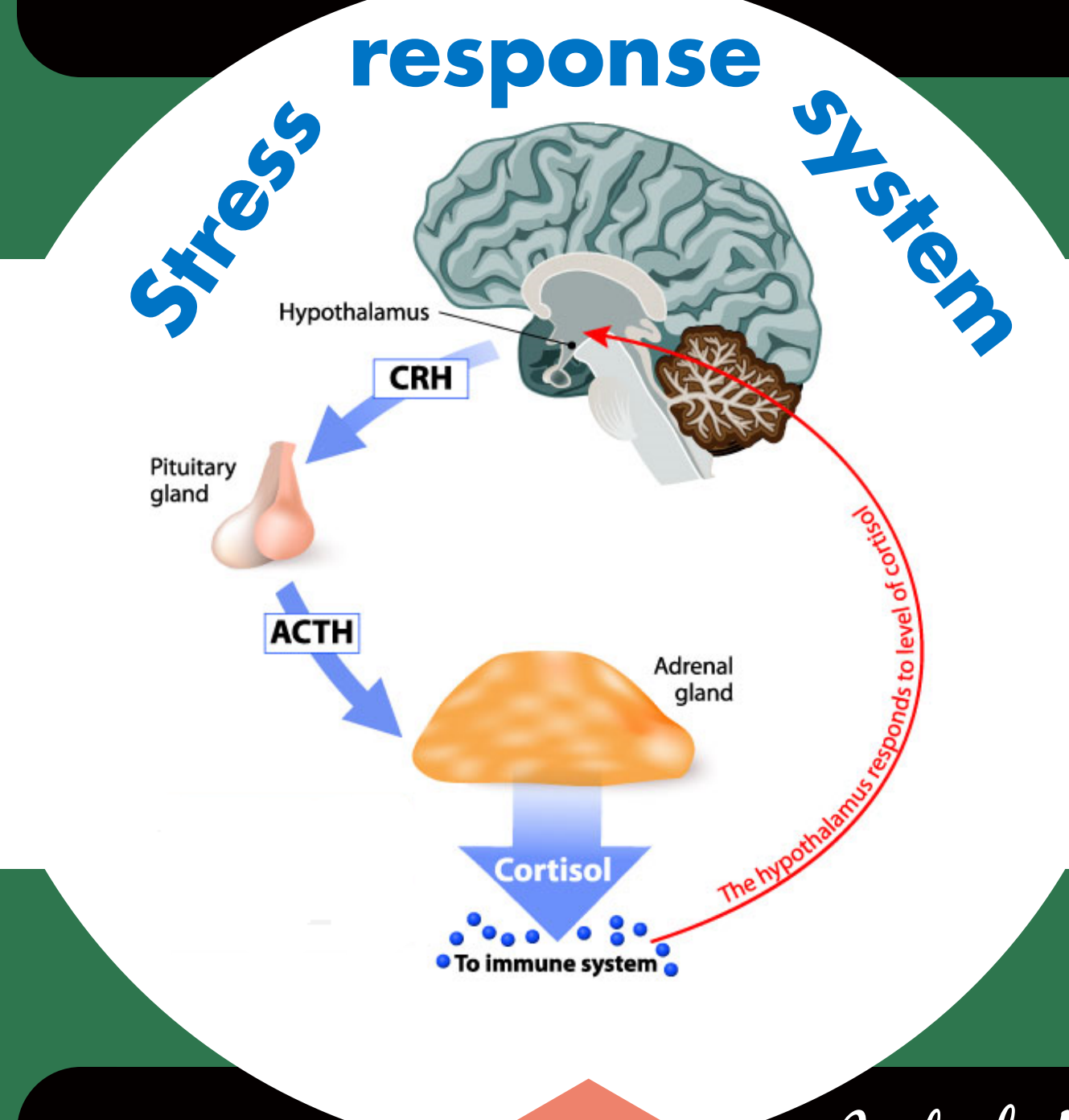
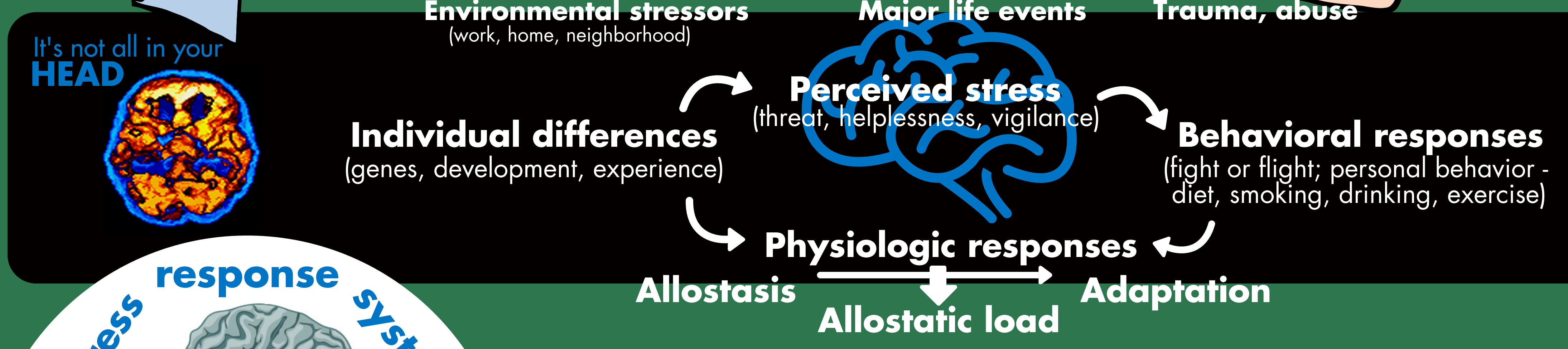




# how STRESS affects your BRAIN



effects of **cortisol** on the body:

arthritis hunger hostility acid reflux disease tunnel vision  
 migraines sleep deprivation chronic fatigue hypertension  
 depression decreased metabolism decreased immune system

## Your body's response to stress

Initial Adaptive Stress Response			Prolonged (Maladaptive) Stress Response		
Adrenalin (Ephinephrine), Cortisol	Stress Analgesia/Pain Tolerance	Immune Response	Immune Response	Pain Tolerance	
Glucose	Immune System	Memory and Learning	Memory and Learning	Skin Conductance (Dry Skin)	
Energy Mobilization and Use	Blood Clotting Factor	Sexuality: Impotence and Anovulation	Sexuality: Impotence and Anovulation		
Thinking & Performance	Blood Pressure				
Cardiovascular Tone (Heart)	Skin Conductance (Sweat Glands)				
Cardiopulmonary Tone	Muscle Tone	Insulin Resistance and Weight	Depression	Digestive illness	
	Brain Activity (Beta)*	Fatigue	Bone Decalcification	Strokes	
Digestion	Reproductive Hormones	Stress Hypertension	Addictions	Heart Failure	
Sexuality	Growth/Healing	Respiratory Problems	Somatic Syndromes	Kidney Failure	
	Extremity Temperature	Opportunistic Infections	Autoimmune disorders		



Mental health and associated addiction problems often begin **early in life** - many during childhood and adolescence.

## What to do?

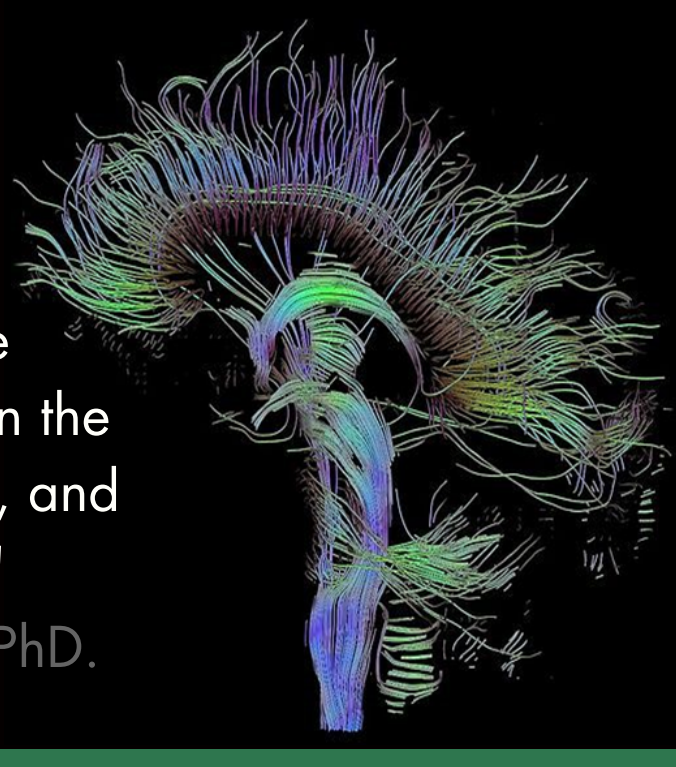
- Identify mental health needs as early as possible
- Provide coordinated and high-quality programs and services in school and social environments



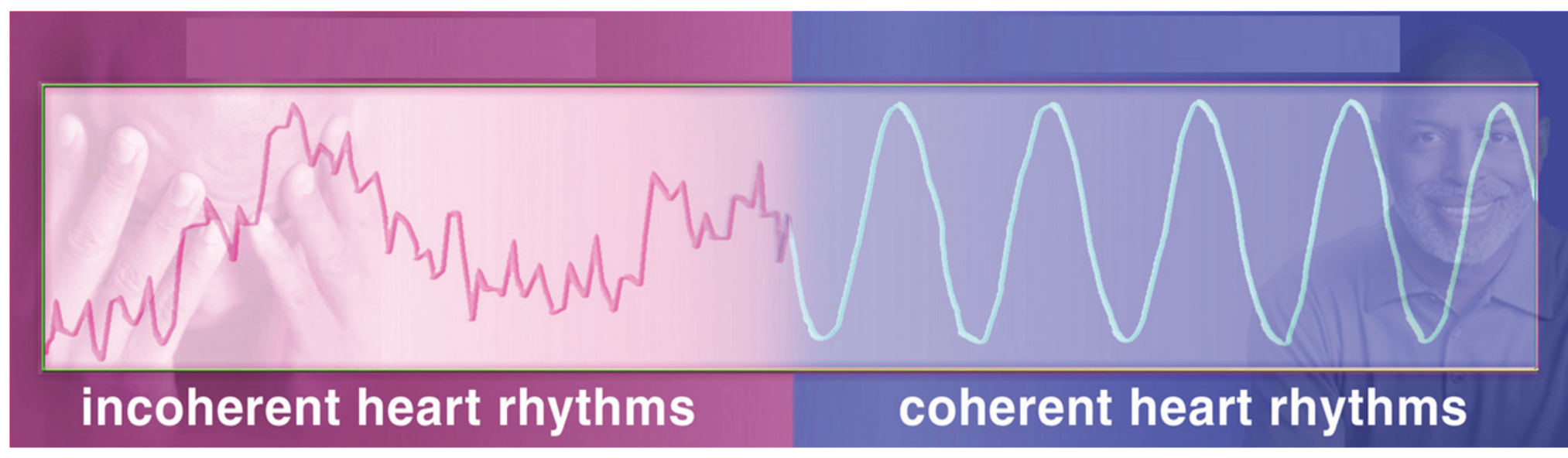
## Mindfulness

"...after eight weeks of a mindfulness-based stress reduction class, participants exhibited increased gray matter in four regions of the brain: the left-hippocampus, the posterior cingulate cortex, the left temporoparietal junction, and the cerebellum. So, in the hippocampus and cerebellum, more gray matter contributes to coordination, memory, and emotional regulation, while in the amygdala more gray matter contributes to stress..."

Sara Lazar, PhD. & David Vago, PhD.



**MRI of MINDFULNESS**



## strive for coherence

Coherence is marked by smooth, balanced heart rhythms and the harmonious function of the body's mental, emotional and physical systems.

As coherence levels increase, so do energy levels, mental clarity and the ability to perform under routine or unusual conditions. The Navy's Coherence Advantage training emphasizes a take-charge attitude. Trainees learn to shift into coherence on command, increasing confidence for successful missions.