Attorney Wellness During the Pandemic

Brain Health + Mental Strength = Resilience

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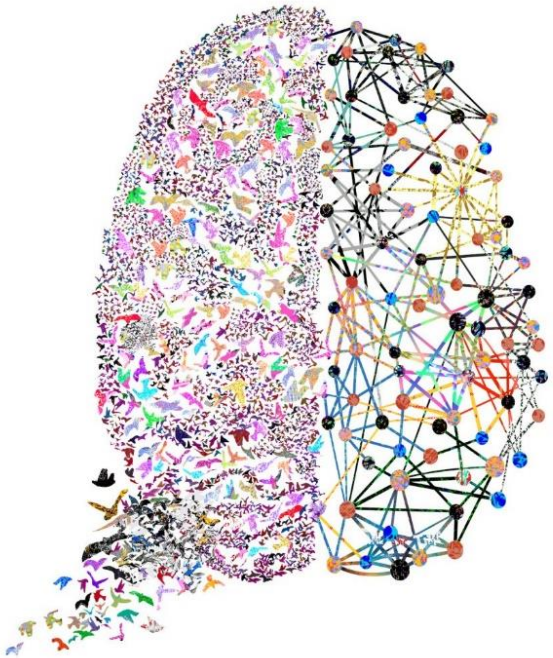
Lawyer Wellbeing Research

- Survey 12,825 licensed & employed lawyers (Krill, Johnson & Albert 2016)
  - 23% qualify as problem drinkers
    - 11.8% other highly-educated professionals
  - 28% experience depression
  - 19% have anxiety
  - 23% are stressed



- Lawyers 4th in suicides (doctors, dentists, pharmacists)

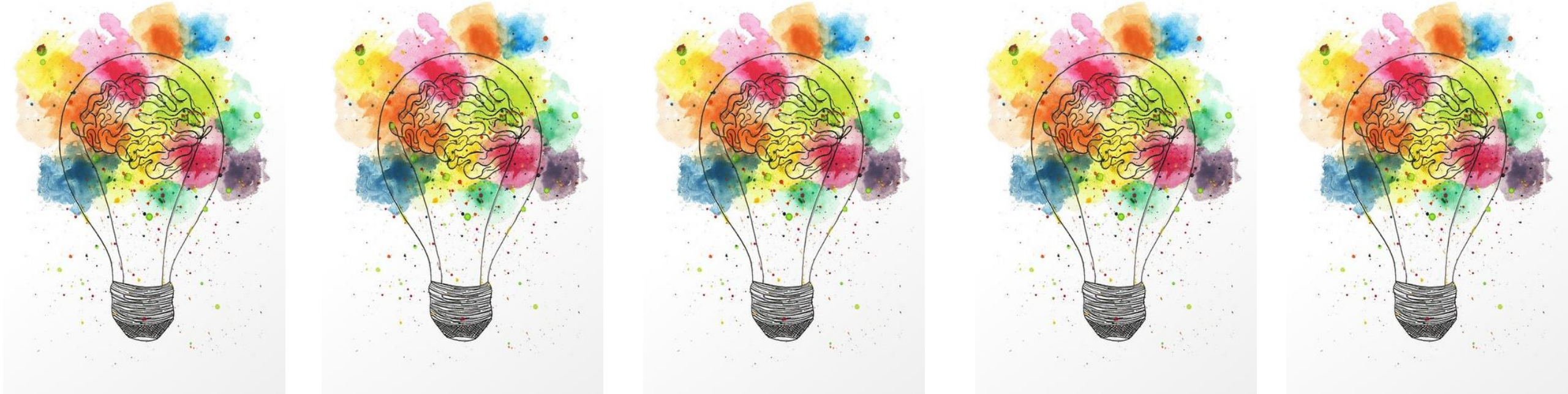
(Flores & Arce 2014)

ABA *The Path to Lawyer Well-being Report**

- Enhance the Effectiveness of Legal Organizations;
- Improve the Professional and Ethical Behavior of Lawyers; and
- Help Individual Lawyers Thrive in 6 Domains
  - Physical
  - Emotional
  - Intellectual
  - Occupational
  - Social
  - Spiritual

*(ABA 8-14-17)

- **Physical**
  - Exercise, Diet, Sleep & Minimize Addictive Substances
- **Emotional**
  - Manage Emotions to Support Mental Health, Achieve Goals & Inform Decision-making
- **Intellectual**
  - Monitor Cognitive Well-being & Foster Ongoing Development



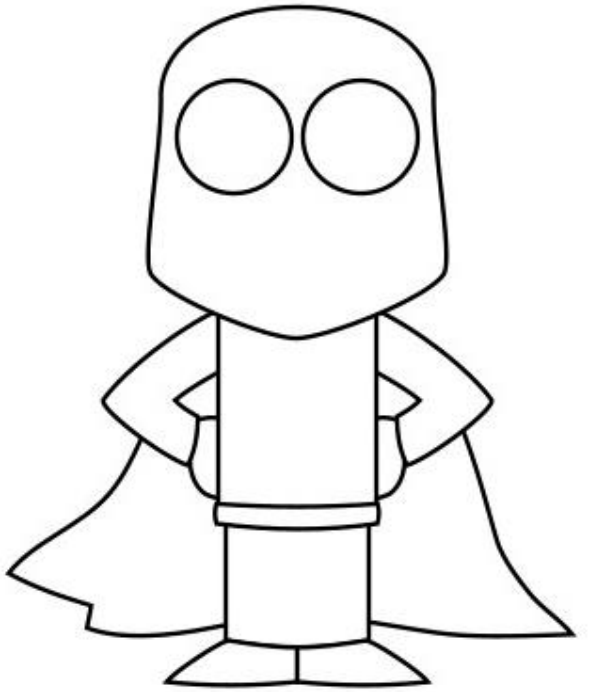
Teaching Well-being Skills Enhances Student Performance

- Standardized Tests
- Study Habits, Homework Submission, Grades, and Adult Education Attainment, Health & Wealth
  - **Self-Regulation Skills**
  - **Social & Emotional Training**
  - **Decision-Making & Critical Thinking**

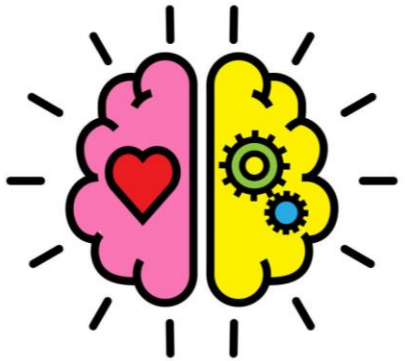
- Teaching Well-being Skills to Law Students and Lawyers will likely improve performance in school, on the bar, and in practice

- Adler, A. & Seligman, M. E. P. (under review) "Increasing Well-being Enhances Academic Performance in Bhutan." *American Education Research Association Open*.
- Adler, A. & Seligman, M. E. P. (under review) "Well-being and Academic Achievement: A Call for Research Action." *International Review of Education.*

Public & Panel Defenders

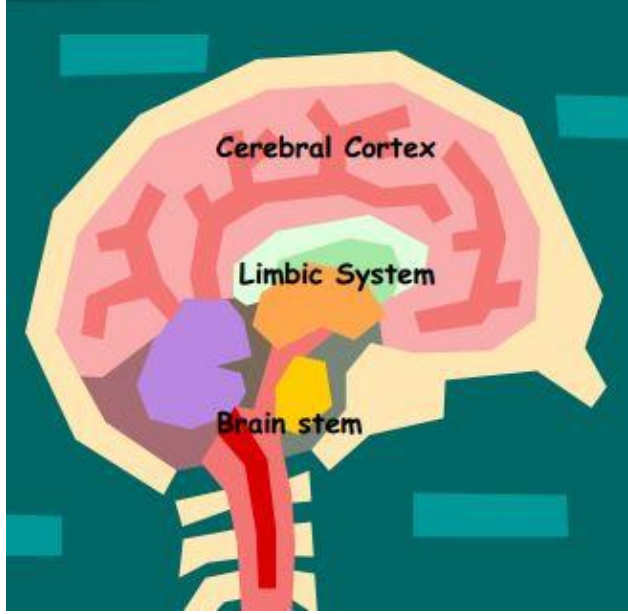


- First Responders in the Criminal Legal System
- Client's lives may not be valued by others in the system
- Client's rights may be harder to protect
- Client's families are afraid of the heightened risk of COVID-19
- Stress, frustration, anger, grief, guilt, fear, and loneliness
- Amplified absence of compassion, empathy, equity, and humanity
- Lawyers are inevitably leaders in all positions they hold due to their privilege, power, prestige, and responsibility.
  - ~ Randall Kiser, Soft Skills for the Effective Lawyer, 226



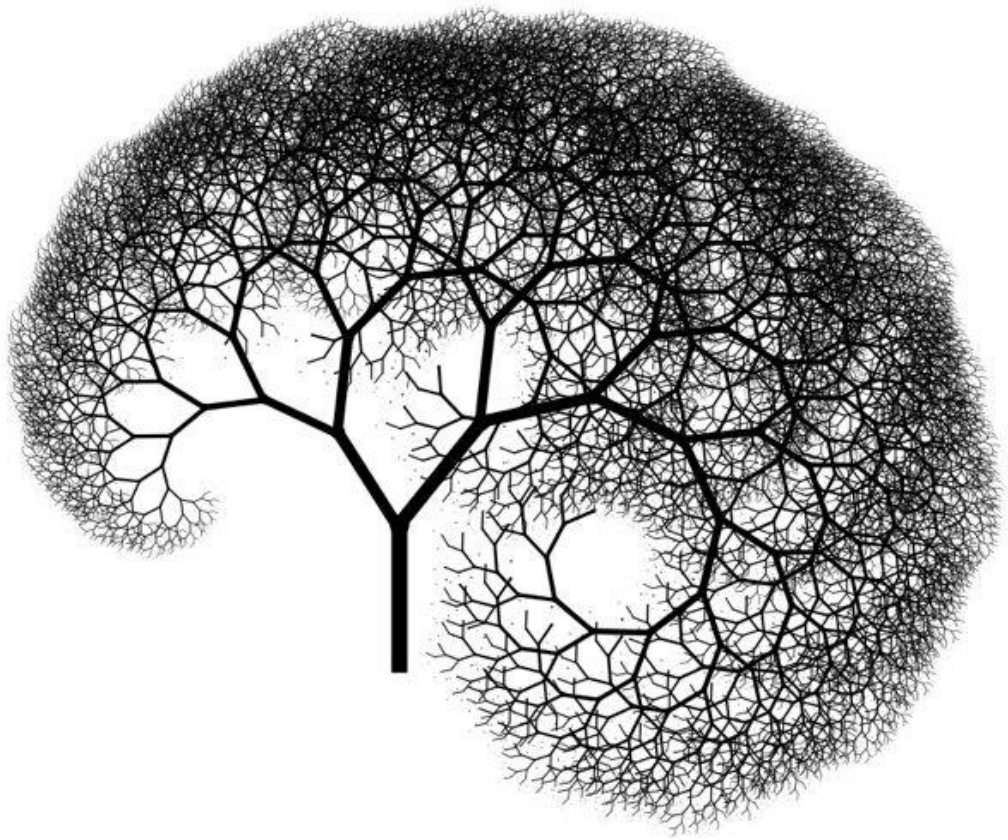
Neuroscience Research: Brain Health
Psychology Research: Mental Strength

Materials



- PDF of Powerpoint
- Recommendations Handout
- Assessments: Complete Individually as Relevant and Helpful
  - Stress Assessments
  - Mindset Assessment
  - Perfectionism Assessment

Brain is Most Important Tool



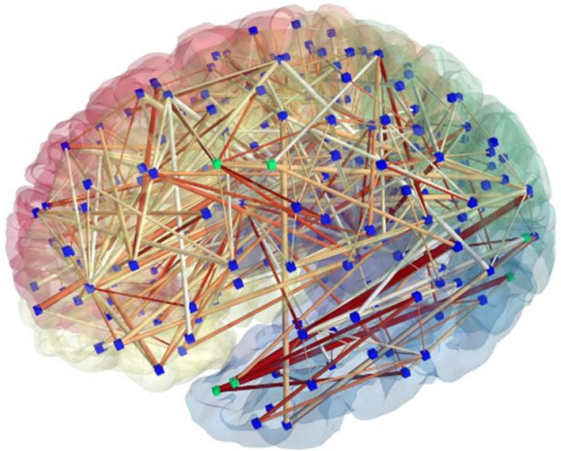
Brain Structure & Memory Formation

Human
(Homo sapiens)
sagittal view

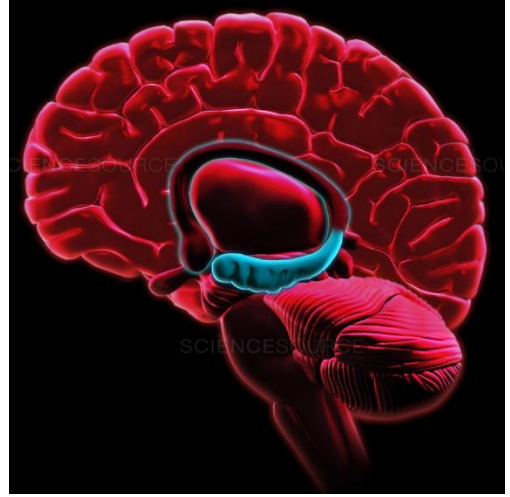
Human
(Homo sapiens)

Brain Superpowers

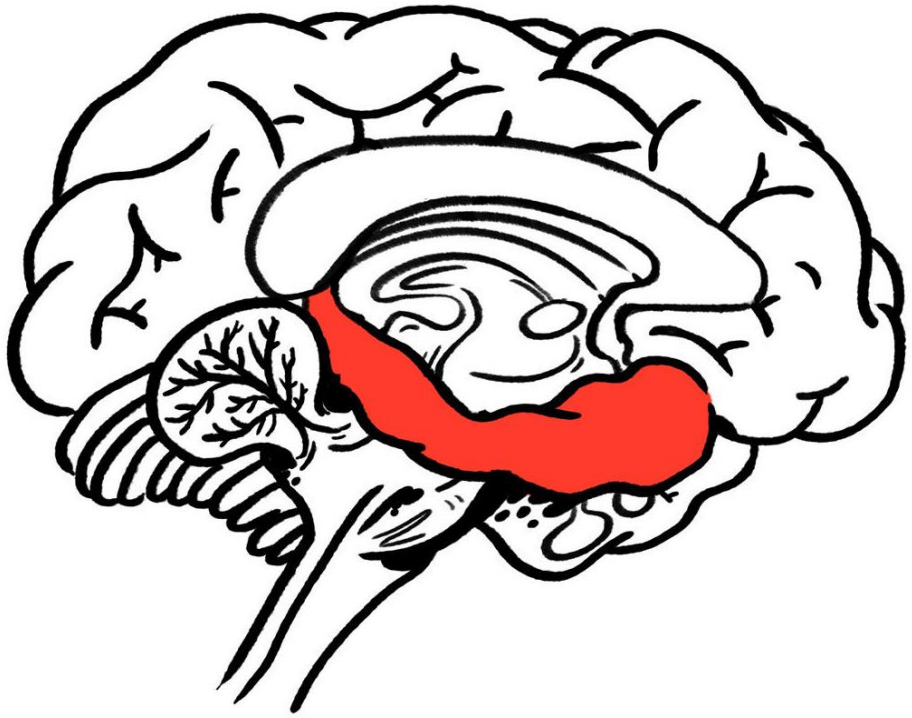
- **Neuroplasticity**
  - Constant change in neural network
  - Experience, Action & Thought



Brain Superpowers



- **Neurogenesis**
  - Birth of new brain cells in **hippocampus**



Greek word for seahorse

Brain Facts

- 3 lbs
- Size of Coconut
- Consistency of Jell-O, chilled butter, tofu
- Requires
  - 25% of calories consumed
  - 20% of oxygen breathed
  - 25% of body's total blood flow

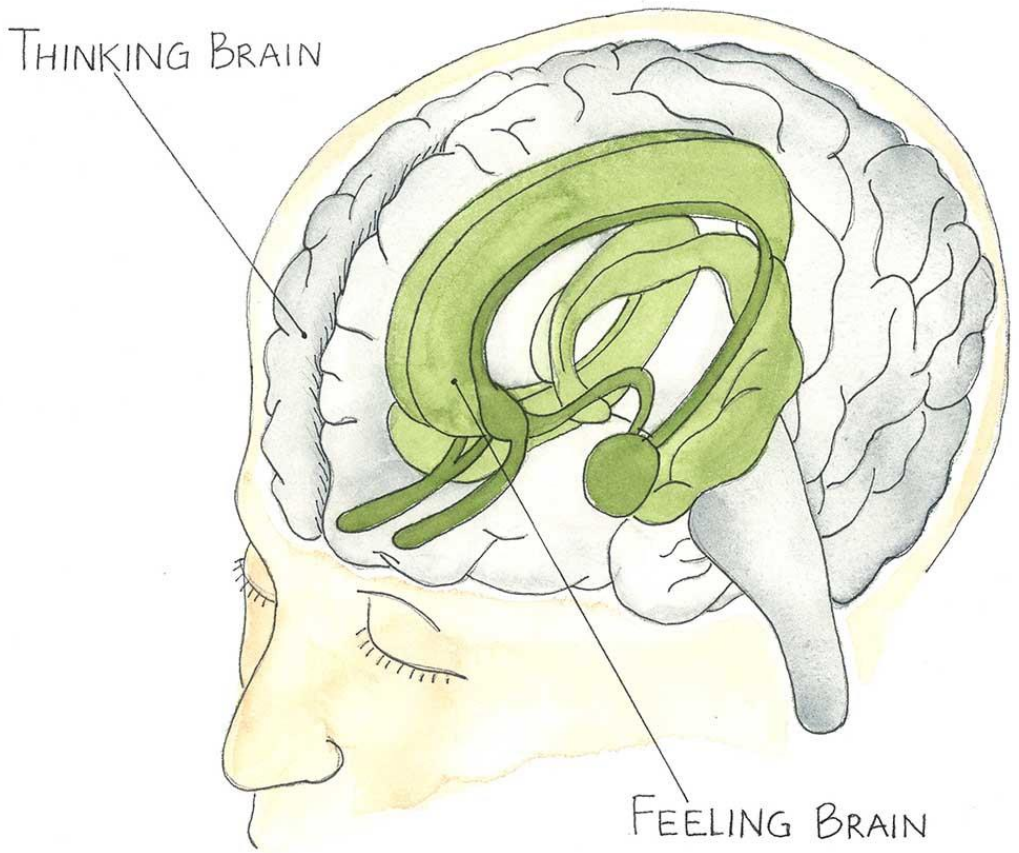
Thinking

Emotional

Primitive

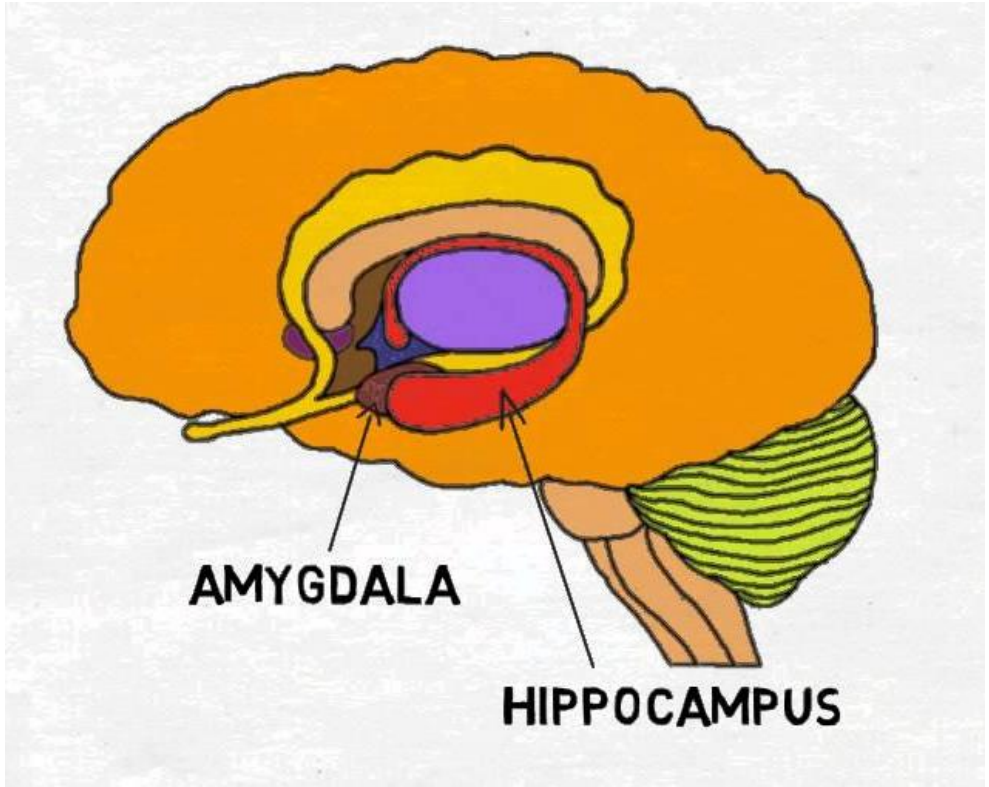
Thinking & Emotional Brain

- Fight-or-Flight Stress Response
- Rest-and-Digest Recovery System
- Memory Formation
- Habits & Addictions



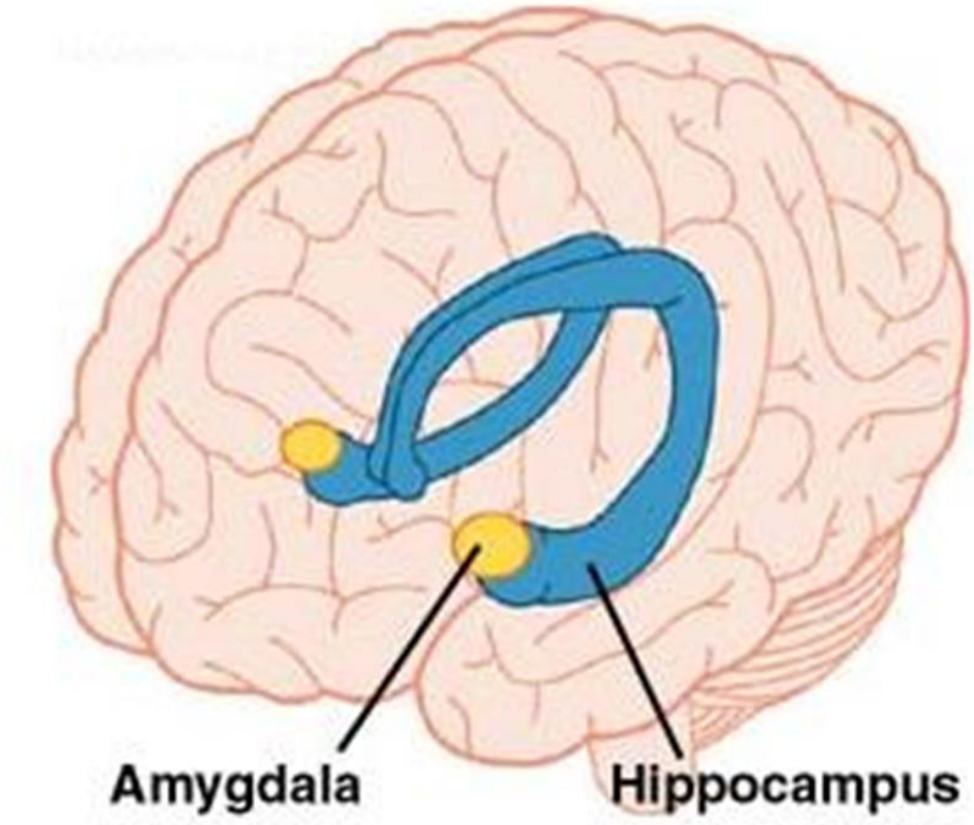
Emotional Brain

- Limbic System
- Manages circadian rhythm, hunger & emotions
- Emotional response, threat evaluation, or creating new memories



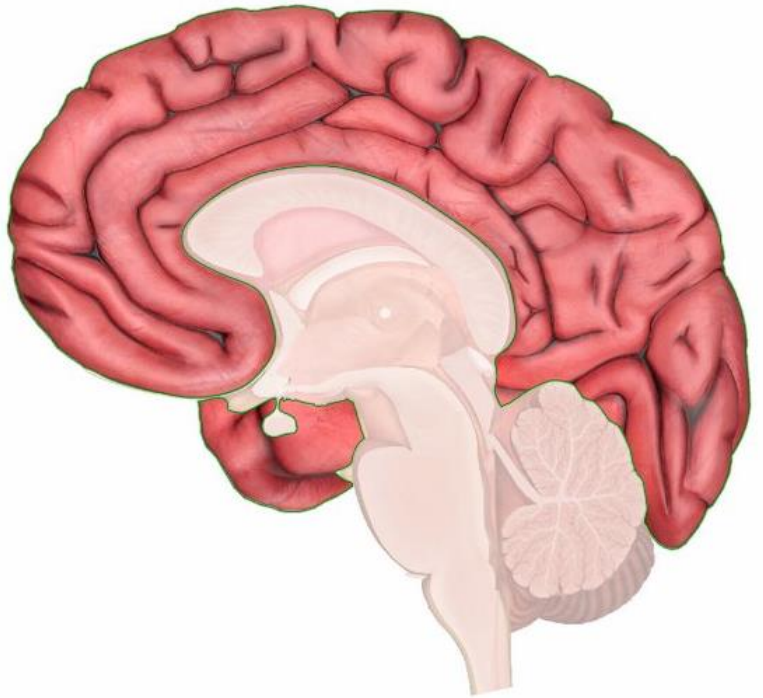
Key Parts of Emotional Brain: Emotional Response & Memory

- Hippocampus
  - Memory Processor
  - Can grow new cells
- Amygdala
  - Panic Button



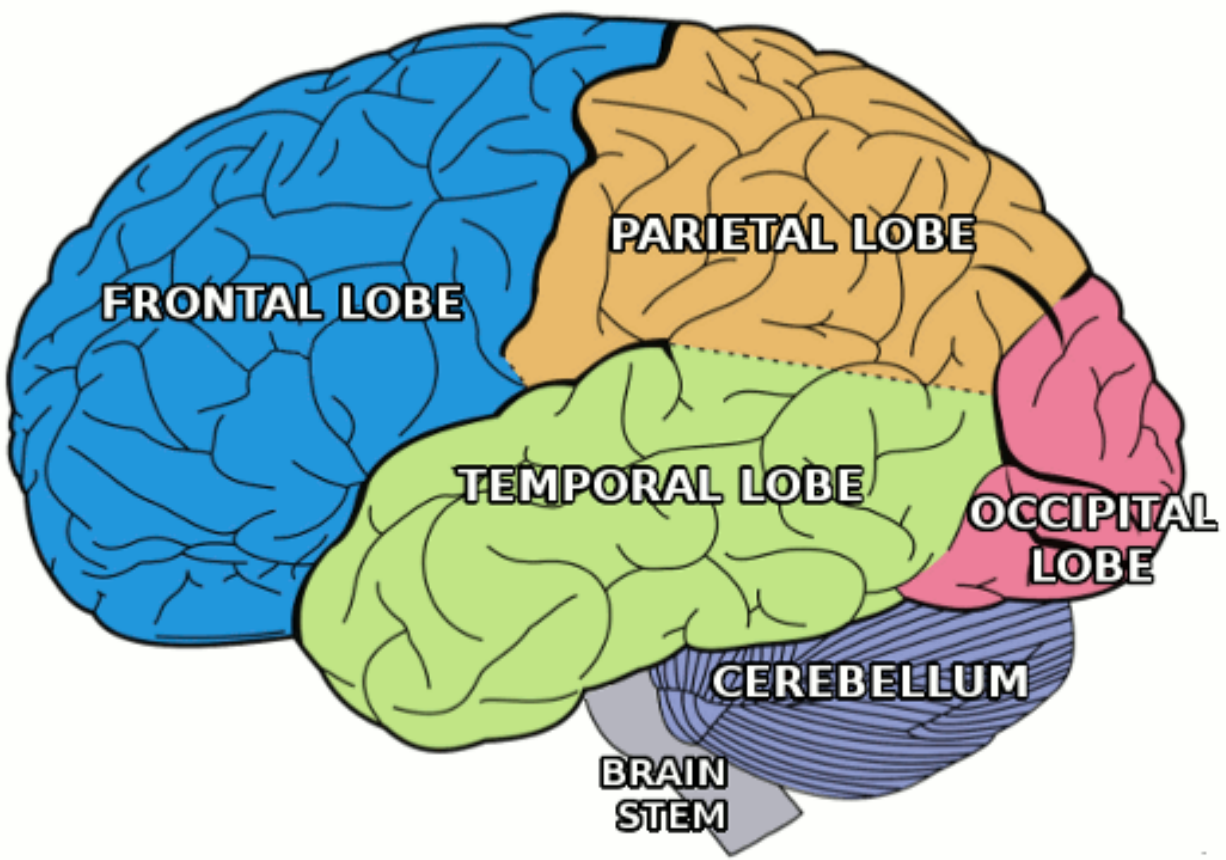
Thinking Brain

- Cerebral Cortex
  - If flattened, the size of a baby blanket
  - Two hemispheres
  - Four Lobes
- Reasoning, Logic, & Higher-Order Thinking



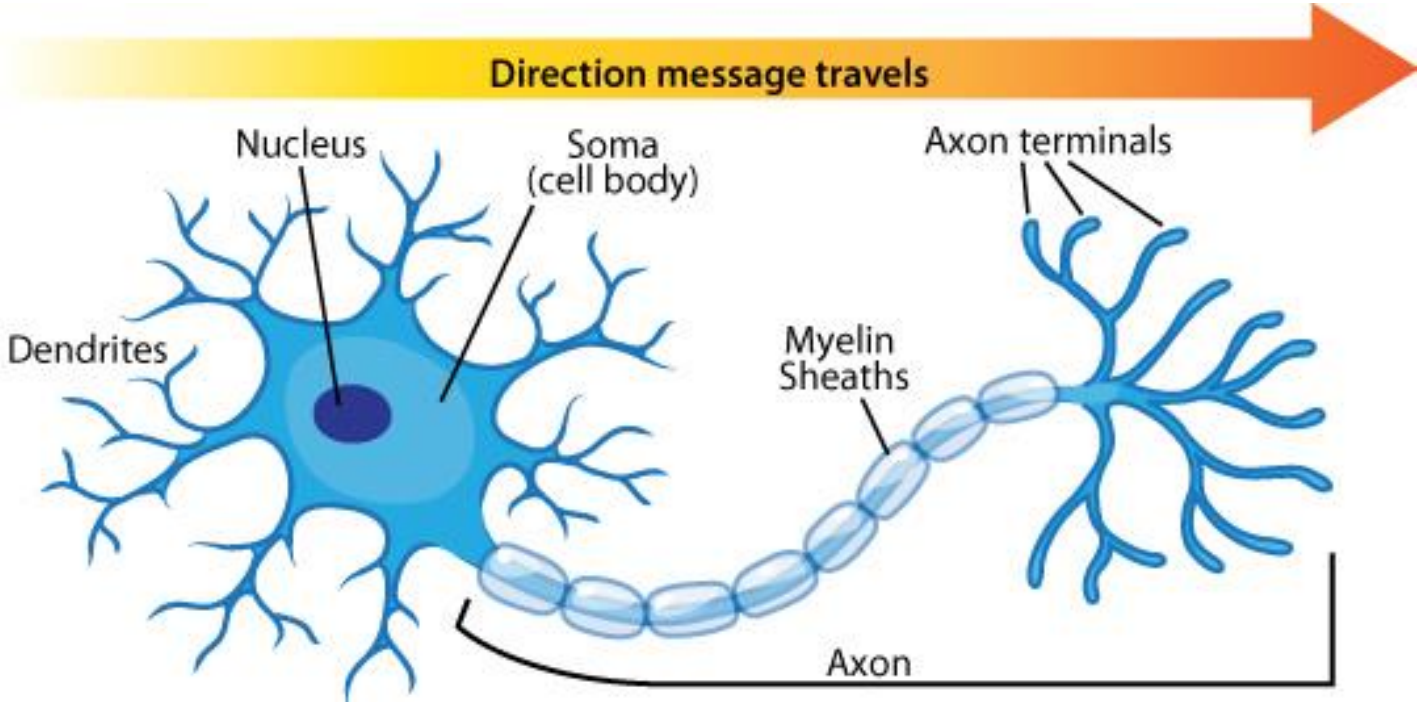
Thinking Brain

- Frontal: Language, Reasoning, Movement
- Parietal: Taste, Temperature, Touch
- Occipital: Vision
- Temporal: Hearing

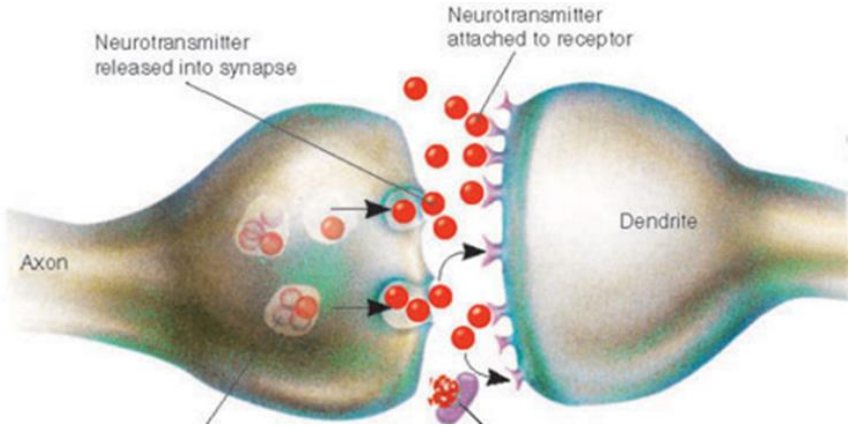


Neurons: Communication Brain Cells

- Dendrites > Axon > Synapse
- Neurotransmitters
- Electrical-Chemical-Electrical



Over 100 Neurotransmitters



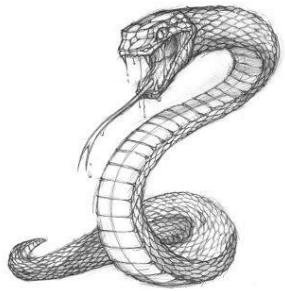
- Dopamine: motivation, associative learning
- Endorphins: reduce pain, increase pleasure
- Serotonin: mood, anxiety, sleep
- Glutamate: learning, memory
- GABA: slows system, induces calm

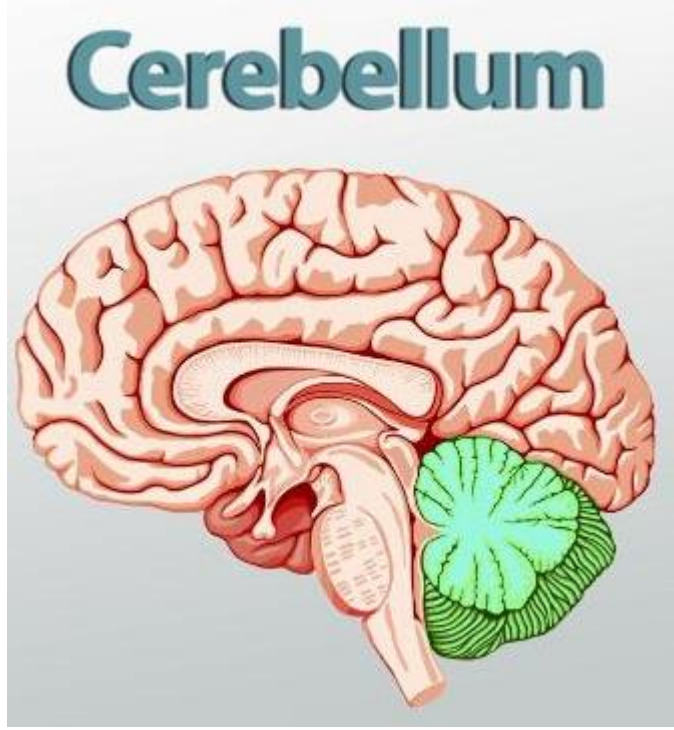
Nondeclarative Memories

- Cannot be experienced in conscious awareness

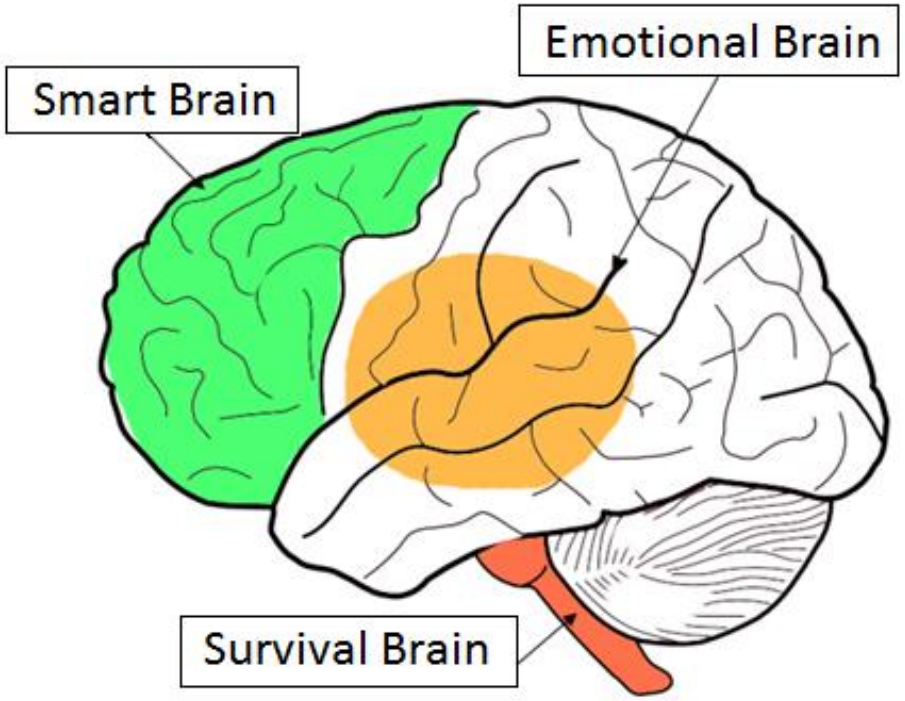
- Procedural Memories
  - Stored in **cerebellum** (Primitive Brain)
  - Skiing, dancing, driving

- Fear Memories
  - Stored in **amygdala** (Emotional Brain)
  - Flashbacks and phobias
  - Trauma





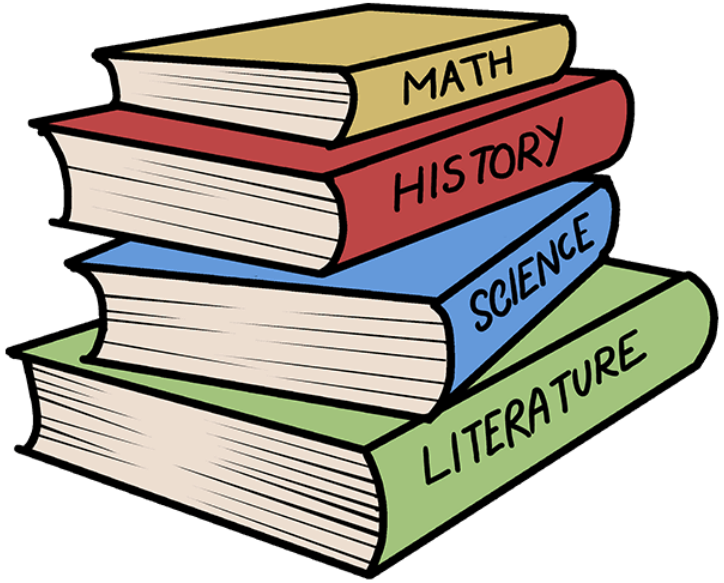
Declarative Memories



- Require conscious thought to be recalled
- Stored in **Emotional** & **Thinking Brain**

- Episodic Memories
  - Autobiographical personal experiences

- Semantic Memories
  - Learned Knowledge: facts, concepts & words



Learning Brain: Laying Down a Memory

- **Encoding**
  - Thinking Brain
    - Memory traces via senses
  - Emotional Brain
    - Amygdala
      - Quick and Dirty Route
      - Survival decision
    - Hippocampus
      - Analytical Route

Learning Brain: Memory Consolidation Loop

- Consolidation: Memory Traces to Long-Term Memory
  - Neural loop: Thinking Brain to Emotional Brain/Hippocampus
  - During Sleep
  - 2-10 years

- Consolidated Memories
  - Hippocampus release
  - Memories distributed in Thinking Brain

PARIETAL	Intelligence, language, reading, sensation
FRONTAL	Behavior, intelligence, memory, movement
OCCIPITAL	Love, vision
TEMPORAL	Behavior, hearing, speech, vision, memory

Enhance Brain Health

- Strengthen the Hippocampus: Exercise

- Enhance Memory: Adequate Sleep
- Improve Cognitive Function: Good Nutrition

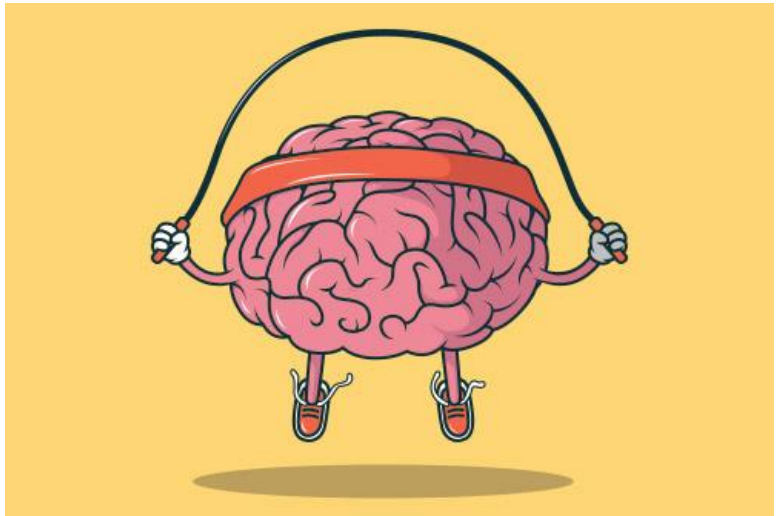
- Protect Memory: Limit Alcohol

Exercise

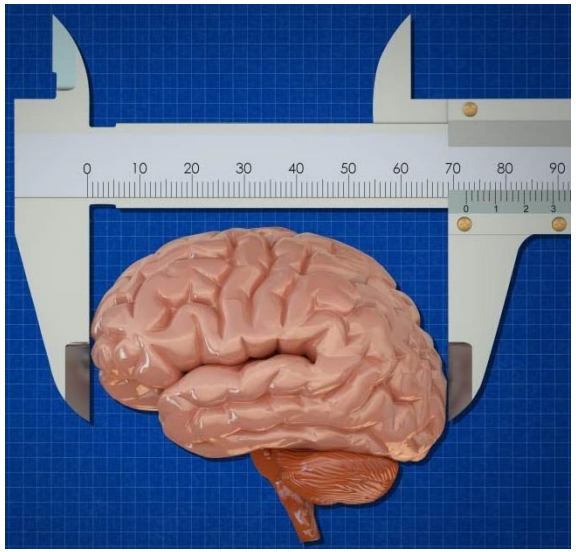
- Enhances blood and oxygen flow
- Increases and balances neurotransmitters
- Stimulates Brain Derived Neurotropic Factor (BDNF)

Exercise & Resilience

- Exercise can make it easier to cope with stressful experiences. Researchers called over 2,000 participants, ages 33 to 84, every night for eight days. On days when participants were active, stressful work and personal events were less taxing.
- Research requiring active adults to reduce their physical activity resulted in impaired mental well-being. Participants experiencing forced periods of inactivity reported increased fatigue, anxiety, hostility, and depression, as well as a decline in life satisfaction.



Exercise & Brain Volume



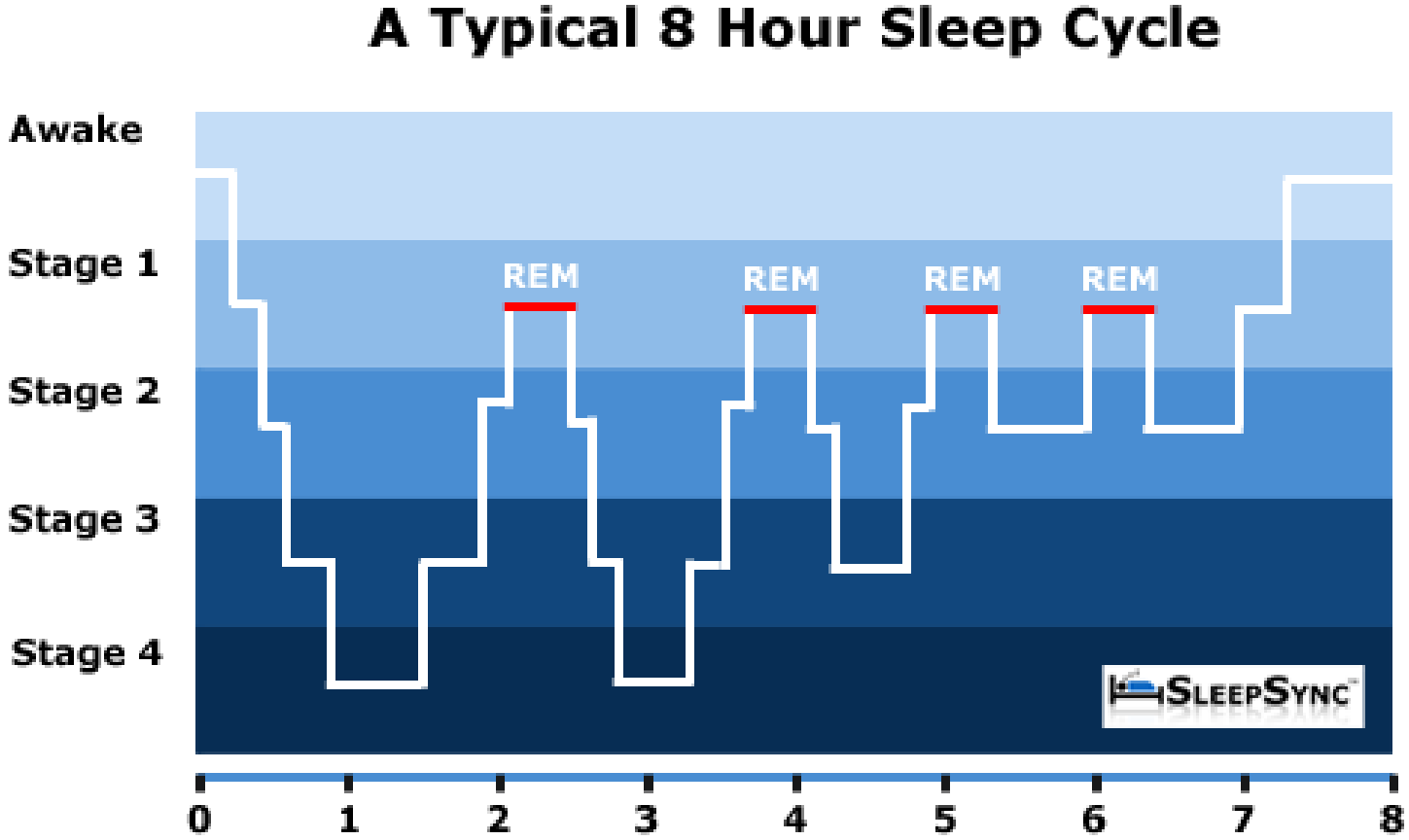
- Active older adults have bigger brains than inactive folks, which helps to explain how it defends against cognitive decline..
- Researchers divided 1,557 multi-ethnic participants, with an average age of 75, into three groups. They collected information on leisure time physical activity and conducted MRI scans on the participants. When they compared the brain volume of the most active third to that of the least active third of participants, they found that the active group had larger brains, and that was equivalent to a reduction in between 3 and 4 years of aging. Activities reported by the participants included walking, gardening, swimming, and dancing.

Exercise & Cognitive Capacity

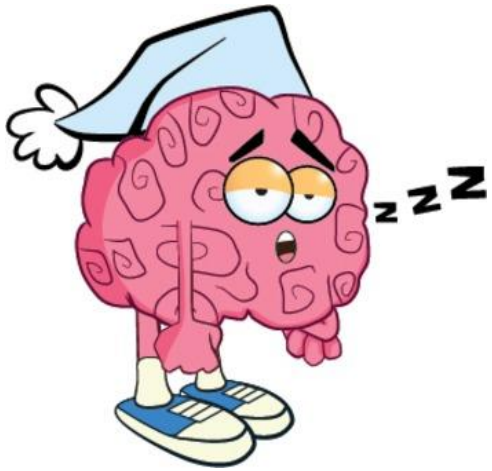
A 2011 meta-analysis of 1,603 articles on the relationship between cognition and exercise found that exercise can prevent cognitive decline and heal cognitive impairment. Exercisers had larger hippocampus volumes (the structure where memories are processed and stored) and greater synaptic connections (the links between brain cells that are vital for thinking and memory).

Sleep

- **Hippocampus** & **Amygdala:** active during REM
- Communication between neurons: equal to or higher than when awake
- Memory consolidation genes activated during REM: synapse formation
- 90 Minutes to 1st REM Cycle



- Sleep Deprivation
  - Diminishes attention, working memory, executive function, quantitative skills, logical reasoning ability, mood, and fine & gross motor control
  - Accelerates Aging Process
  - Impairs ability to use fuel/food creating risk of diabetes & obesity
- Naps Improve Cognition
  - 26-minute nap improved NASA pilot performance by 34%
  - 45-minute nap improved cognition for at least 6 hours



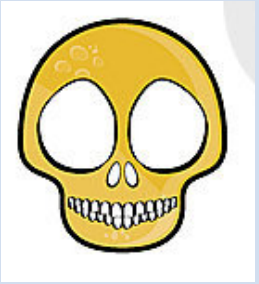
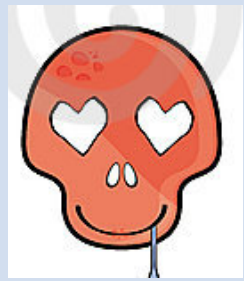
Sleep Deprivation & Decreased Brain Volume

- A study on the sleep quality and brain atrophy of 147 middle-aged adults found that poor sleep quality was correlated with reduced brain volume. Difficulties falling asleep or staying asleep have been linked to cognitive decline and an increased risk of Alzheimer's disease.
- The areas of the brain that shrank are responsible for reasoning, planning, and language processing (frontal); hearing and memory (temporal); and movement, taste, and touch (parietal). These areas of the thinking brain process information and conduct higher-order reasoning.

Neurobiology of Emotion

Emotion

- An unconscious and automatic response to an emotional stimulus that results in physical changes
  - Increased heart rate & blood pressure
  - Sweaty palms
  - Blushing
- Six Primary Emotions

Fear	Anger	Sadness	Disgust	Surprise	Joy
					

Feelings

- Emotions are experienced as feelings
- Feelings are the conscious perceptions of physical emotional responses

Survival Emotions: 4 of 6 Primary Emotions

- Ignite Stress Response
- Anxiety involves fear of anticipated negative circumstances. Anxiety triggers the stress response, which impairs our brain, as well as our cardiovascular and immune systems.

Fear

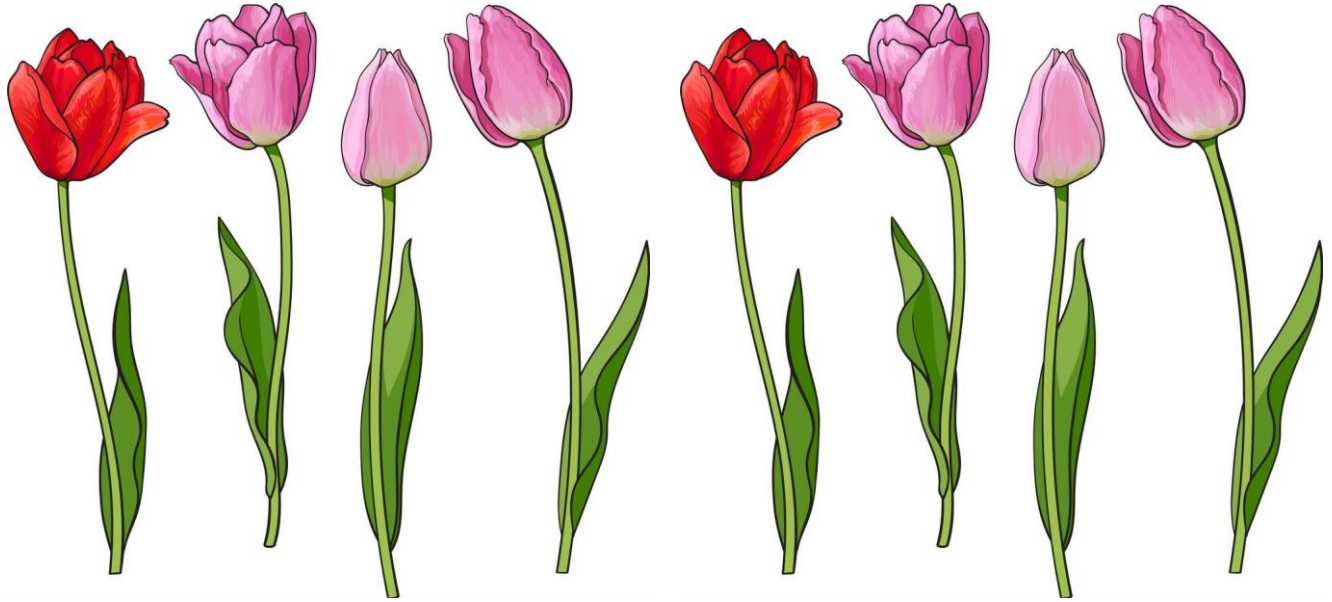
Anger

Sadness

Disgust

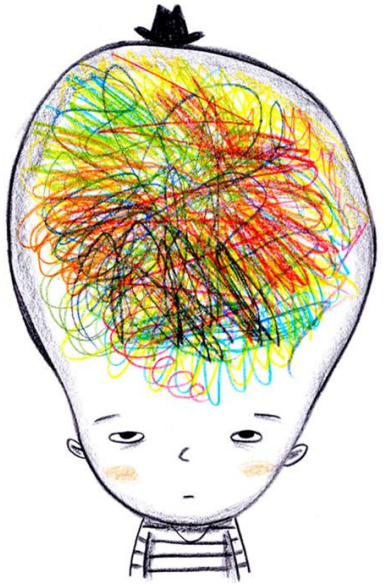
Environmental Sensitivity

- Three Sensitivity Levels (study of 906 adults)
- 31% Highly-Sensitive Orchids
- 40% Medium-Sensitivity Tulips
- 29% Resilient Dandelions



Stress and Cognition

Types of Stress



- Acute Stress: Short-lived
- Chronic Stress: Long-lasting
- Post-Traumatic Stress (PTS)
  - Normal & Adaptive Responses to experiencing stressful or life-threatening events that may trigger some of the symptoms of PTSD in almost anyone who experiences them
    - Reexperiencing: flashbacks or nightmares
    - Avoidance: staying away from certain places
    - Hyperarousal: being on high alert or startling easily
    - Memory Loss

"AUTONOMIC NERVOUS SYSTEM RESPONSE"

Arousal
Defense
Escape

Nourishment
Brain-Body Equilibrium

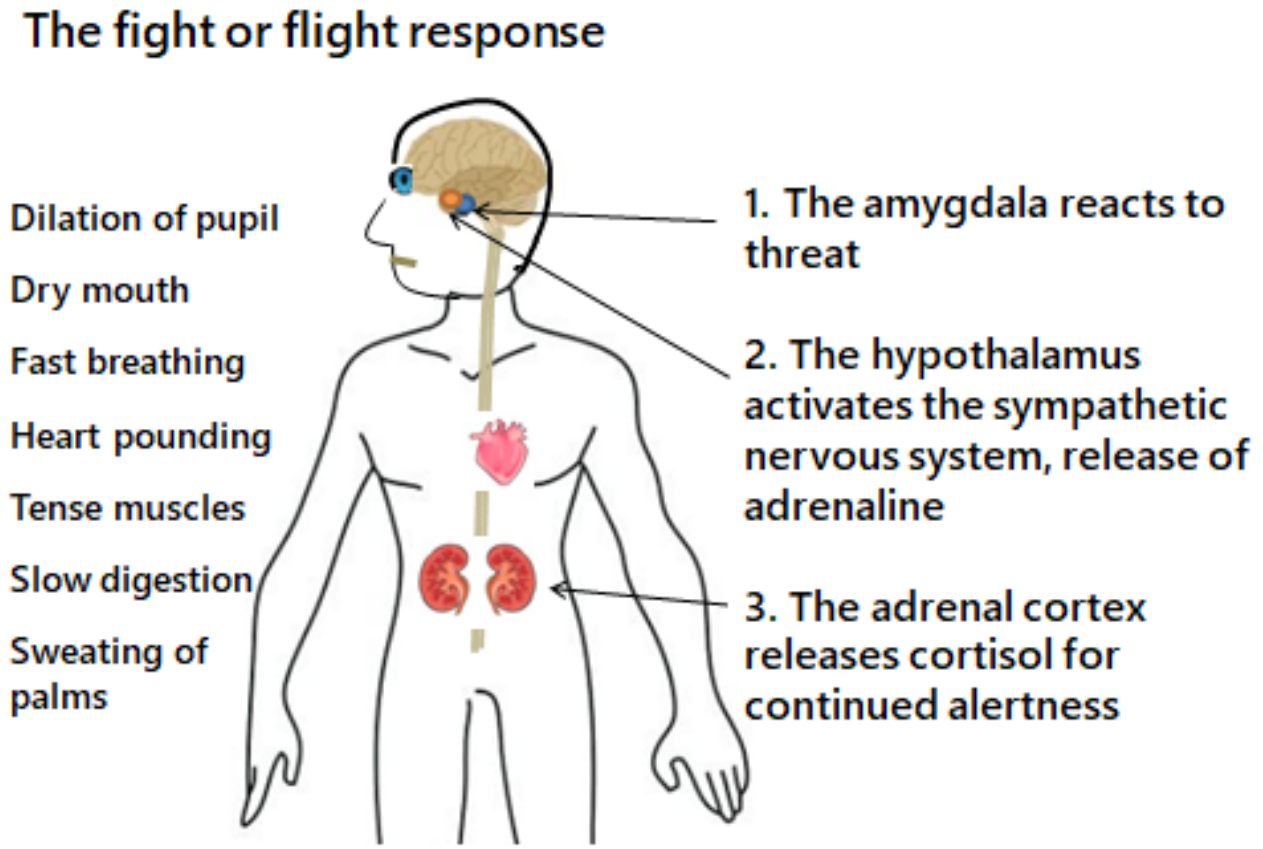
Triggering Fight-or-Flight Sympathetic Nervous System

- Glucocorticoids tell System to
  - Elevate heart rate & blood pressure
  - Mobilize energy
  - Slow digestion
  - Suppress immune system

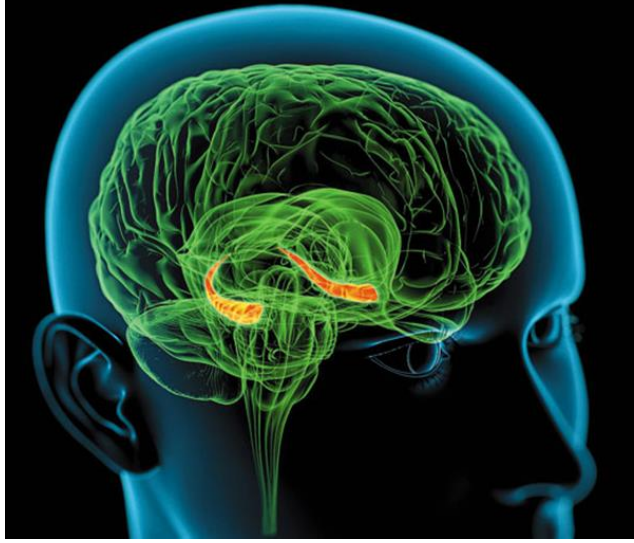
- Evolutionary Purpose: quick response to ensure survival
- **Current Threats: Psychological & Physical**

Fight-or-Flight Overdrive

- Physical
  - Impaired Immune Response
  - Increased blood pressure, heart palpitations, breathlessness, dizziness, chest pain, digestive problems, and muscle tension.
- Emotional
  - Increased
    - Mood Swings, Irritability & Anger
    - Anxiety & Depression



Brain on Stress Hormones



- Suppresses Brain Cell Birth
- Kills or Harms Hippocampus Neurons
- Damaged Hippocampus releases Stress Hormones

- Secures survival memory & obstructs other memory
- Impairs learning new material & retrieving learned material

Stress and Cognition

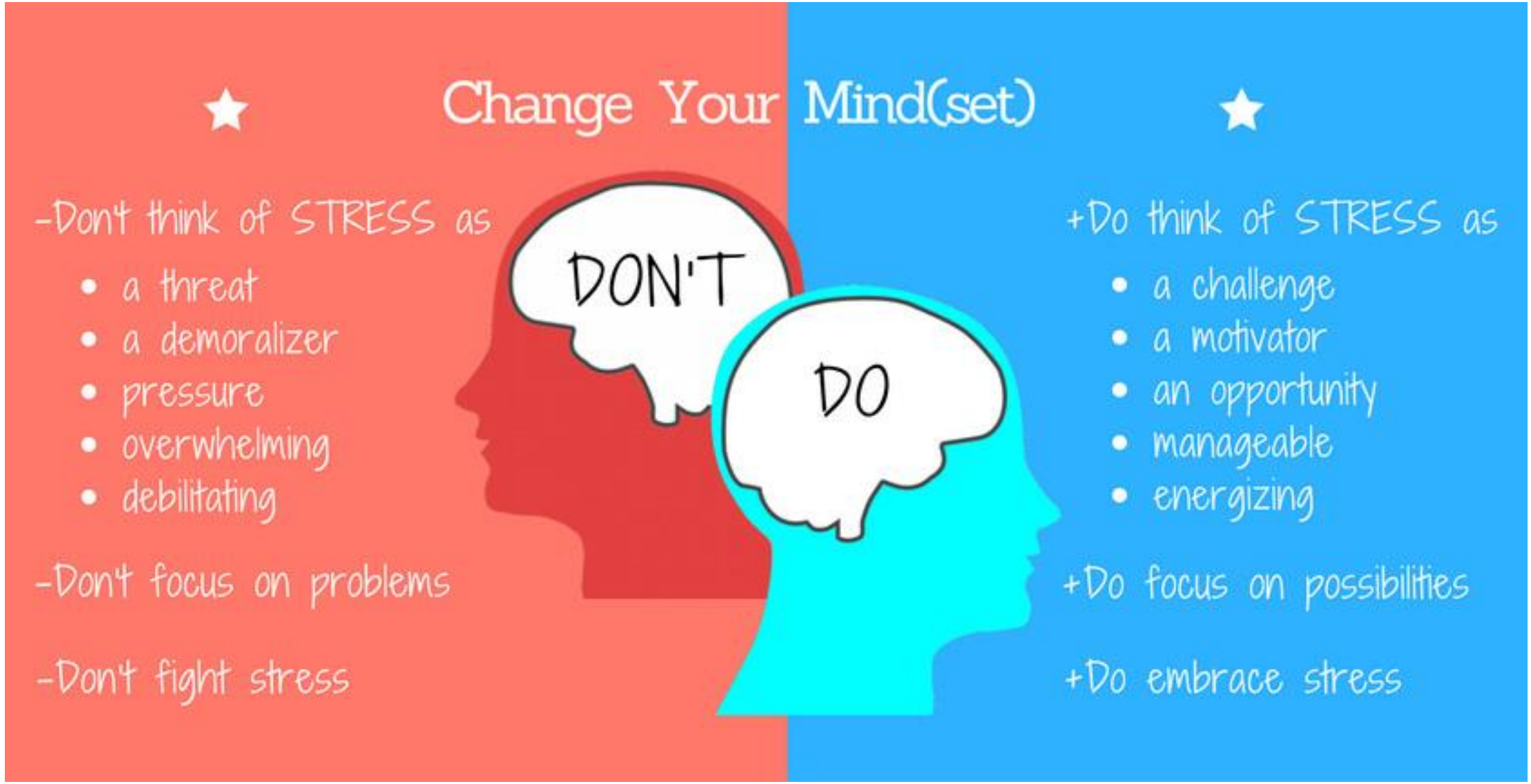
- Impaired
  - Memory, Concentration, Problem-solving
  - Math performance & Language processing
  - Curiosity, creativity, and motivation

- **Hippocampi Shrink in Size**
  - Depression & PTSD
  - Low Self-Esteem
  - Repeated jet lag
  - Alcoholics & young chronic cannabis users
  - **Shrinkage and memory loss directly proportional to elevations in stress hormones**

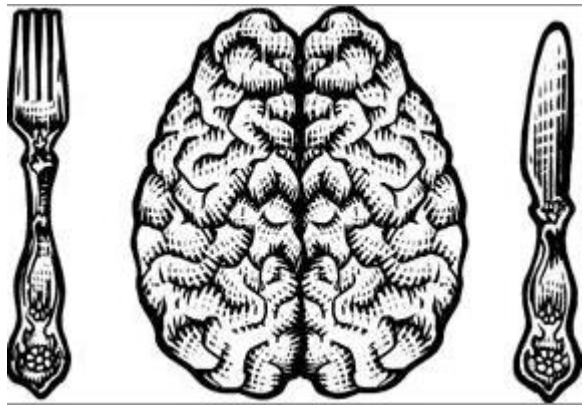
Stress Reduces Brain Volume

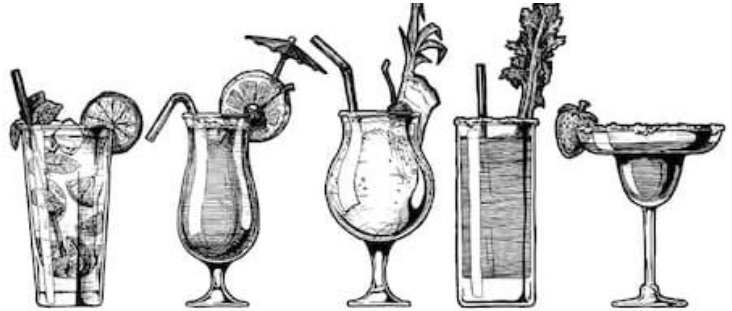
- 2,018 Framingham Heart Study participants, of an average age of 48
- Increased stress hormones resulted in smaller brain volume and lower cognitive capacity: reduced memory & visual perception

Reframe Stress: Change Mindset

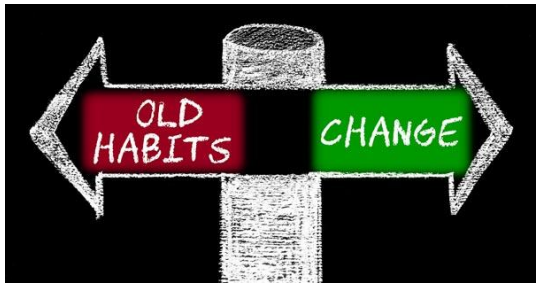


Self-Medicate



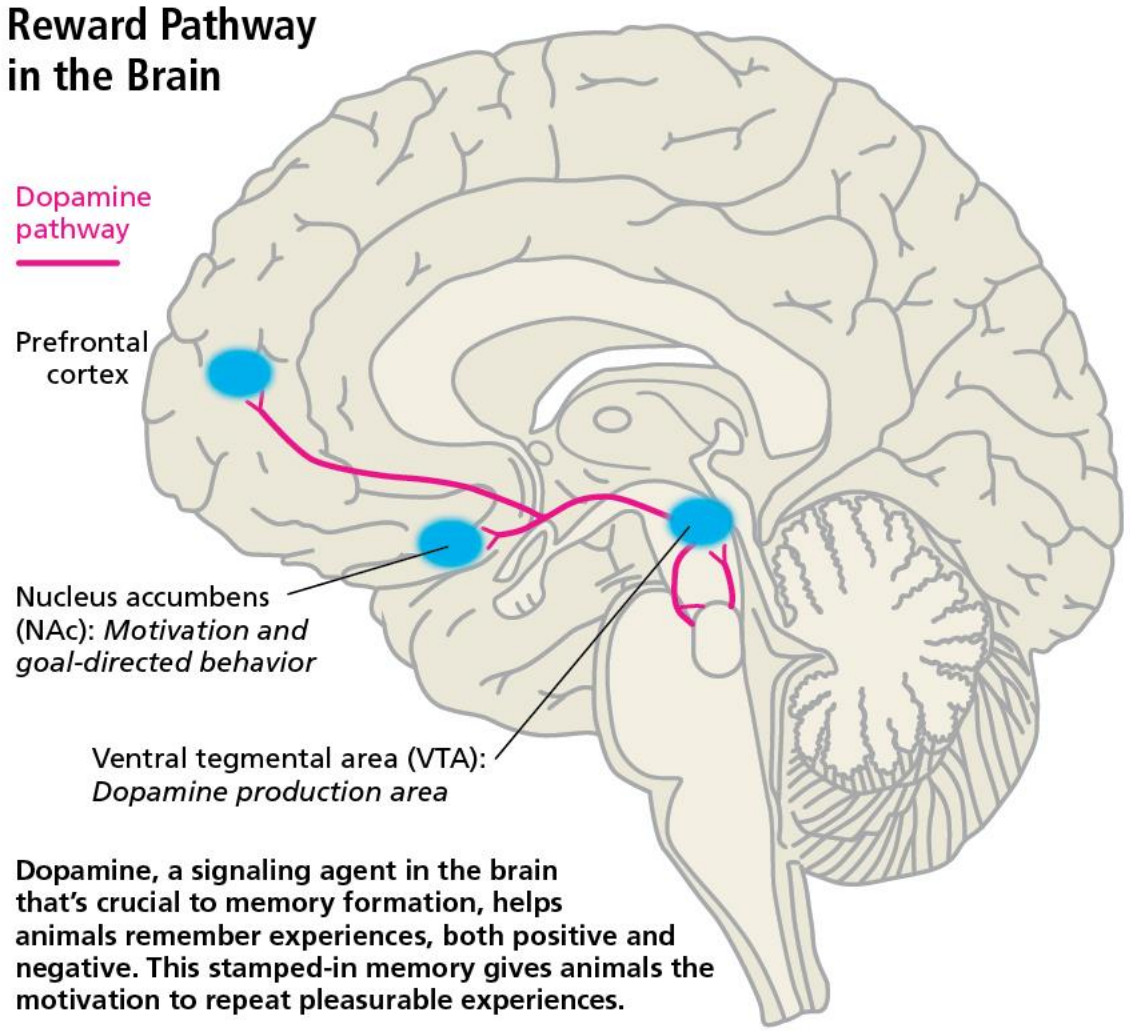


Habits: Automated Motivation & Reward System



Key Parts of the Emotional Brain
Habit Learning & Reward System

- Ventral Tegmental Area (VTA)
  - Produces Dopamine
  - Reinforcer of Habits/Learning
- Nucleus Accumbens (NAC)
  - Target of Dopamine
  - Pleasure Hot Spot



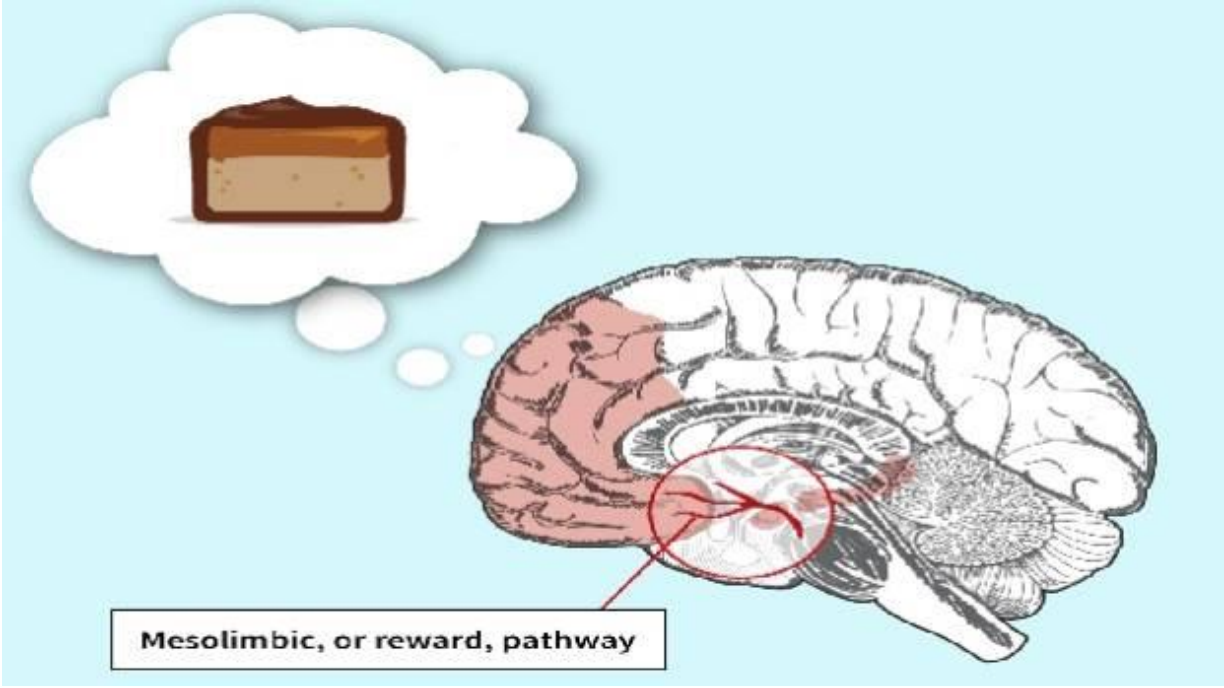
Motivation & Reward

Habit Learning System

- Need/Desire > VTA
- VTA Releases Dopamine
- Dopamine > arousal, activity

- Acquire Incentive

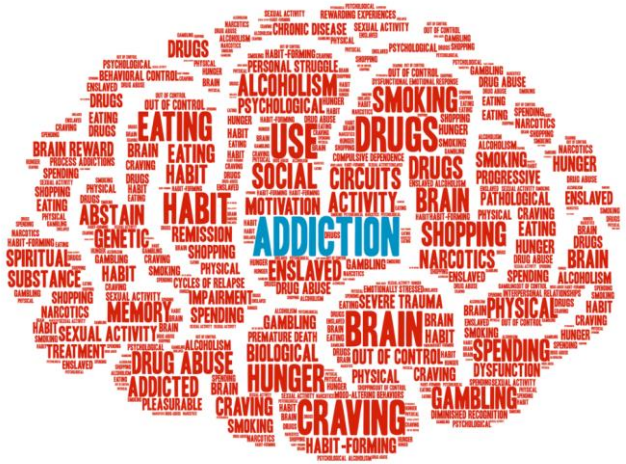
- Incentive Salience
- Activates Dopamine System

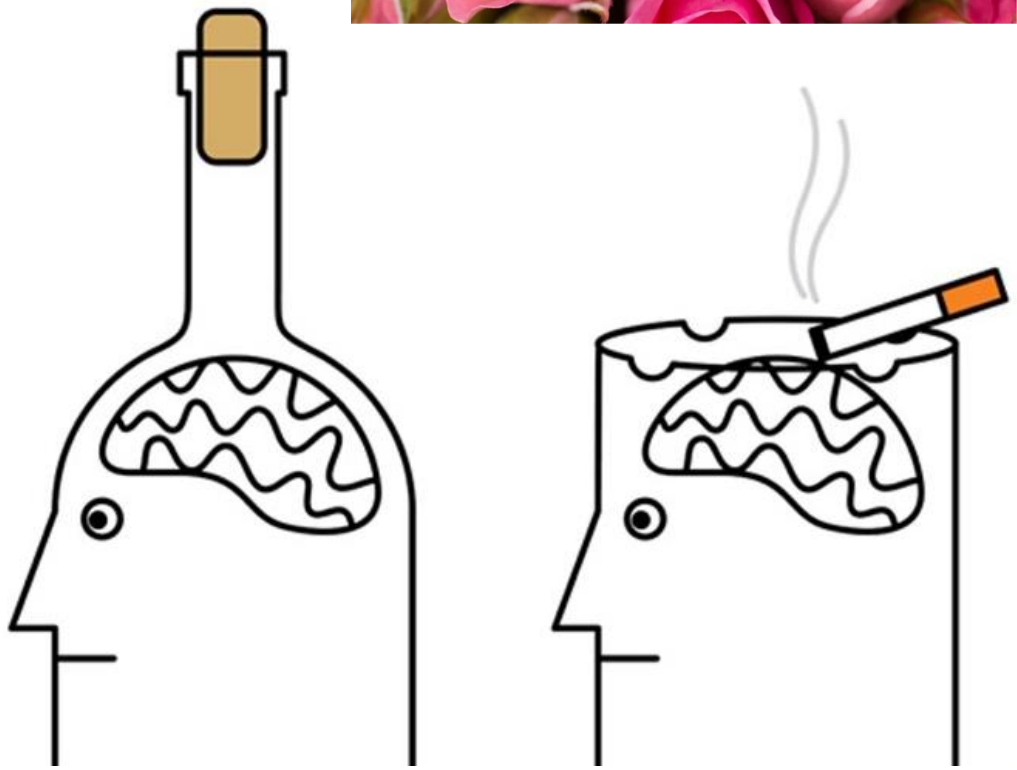


Motivation v. Reward

- Motivation & Associative Learning
  - Dopamine
  - Incentive Salience
- Reward & Pleasure
  - Tiny Hedonic Hotspots
  - Opioid & Endocannabinoid Receptors

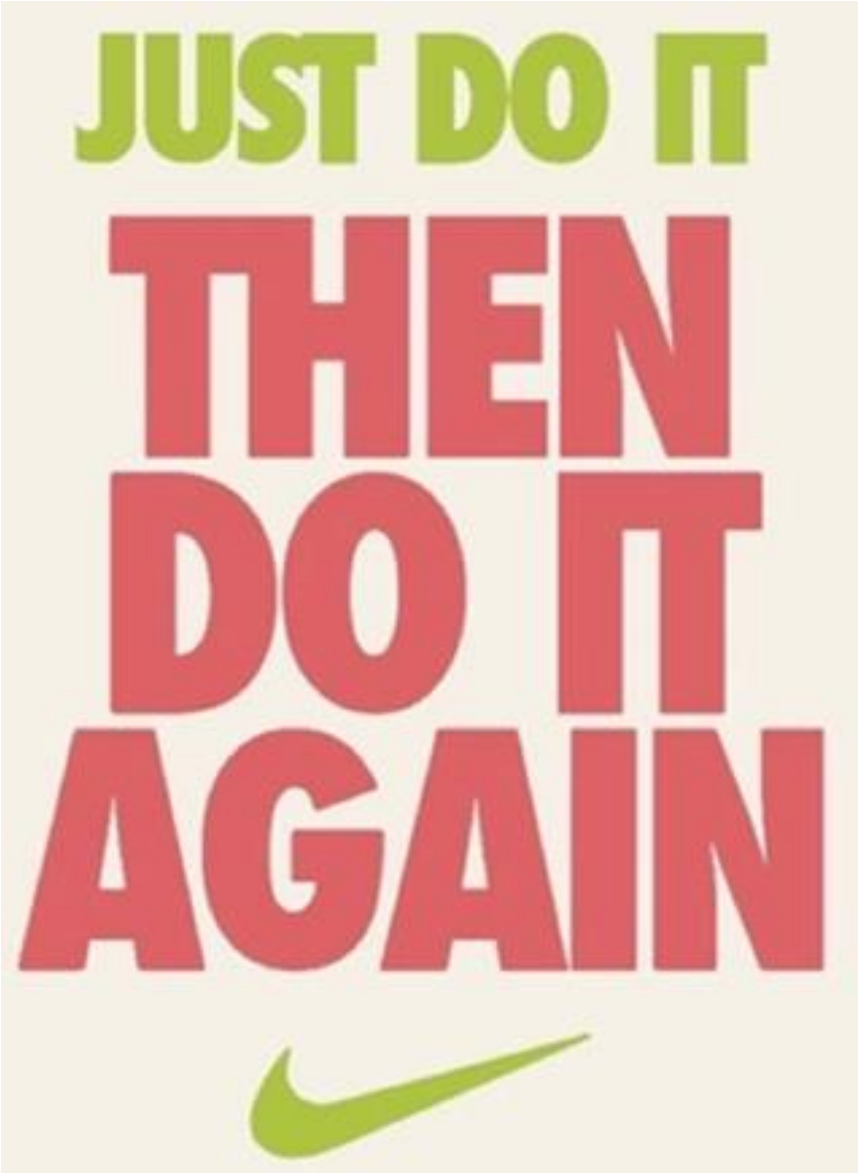
Motivation & Reward Pathways in Brain
Habits are Hard to Break



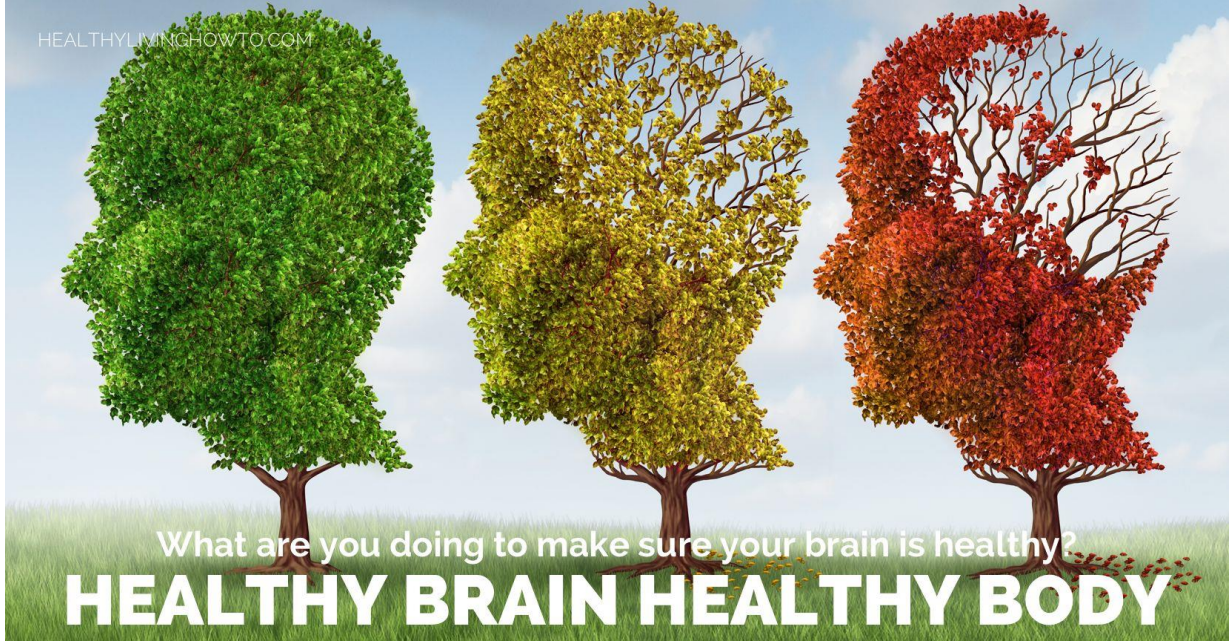


Dopamine Stimulators

- Stimulants
  - Caffeine – 1st most widely used
- Mixed Action Drugs
  - Alcohol – 2nd most widely used
  - Nicotine – 3rd most widely used
- Comfort Food: Sugar & Unhealthy Fat



Brain Benefits Improved Diet



- Improved
  - Neurotransmitter Production
  - Synaptic Connections
  - Neurogenesis
- Reduced Risk of
  - Inflammation & Oxidation

Mediterranean Diet

Ancel Keys 1960s

Eat

- Fish
- Monounsaturated fat: mainly olive oil
- Fruit, vegetables, beans, nuts, non-refined cereals

Limited

- Milk, dairy products, and red wine
- Meat and poultry

Mediterranean Diet Improves Brain Function

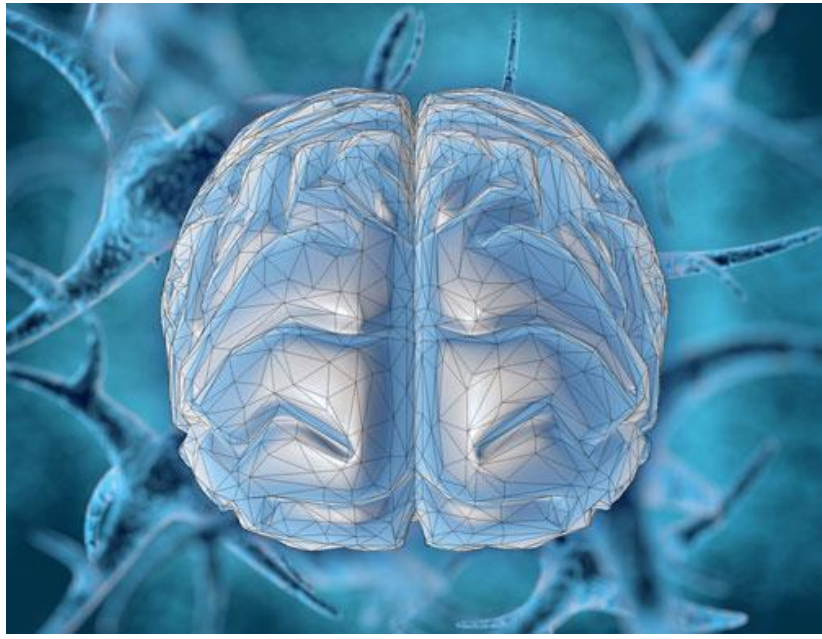
- MedDiet for a year reduced frailty and improved cognitive function in 323 elderly participants (age 65-79) from the UK, France, Netherlands, Italy and Poland. A high adherence resulted in enhanced global cognitive ability; improved immune function, blood pressure, and arterial stiffness; and reduced bone loss in individuals with osteoporosis.
- MedDiet can reduce the risk of diabetes, heart disease, stroke & some cancers.
- For 3rd year in a row, the MedDiet was ranked 1st in US News and World Report's "best diet" rankings.
- Large variety of fruits and vegetables
- Nuts, beans, olive oil and fish
- Some eggs and dairy
- Very little red meat, sugar and saturated fats.

Invest in Brain Health

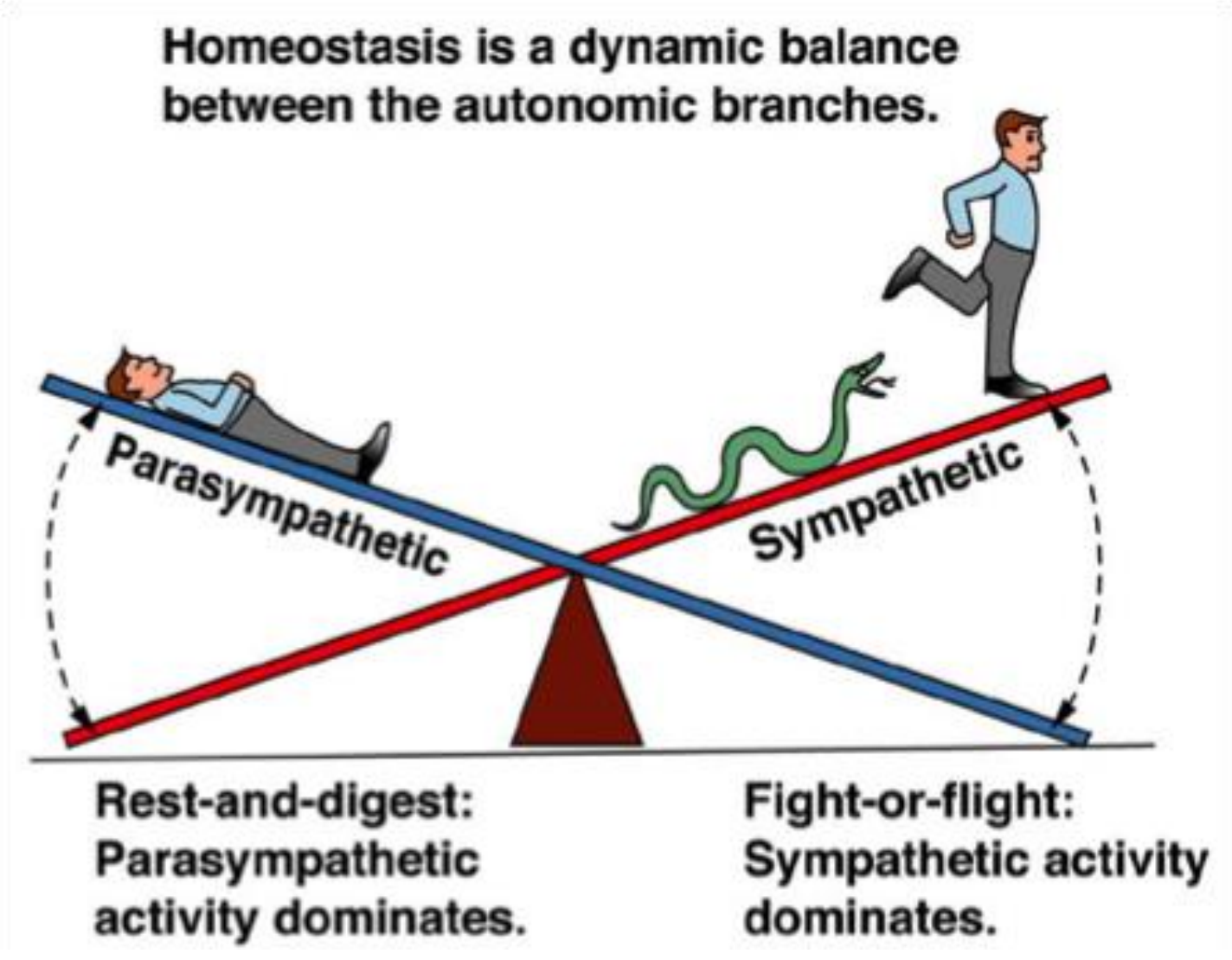
- 160 sedentary adults over 55 & at risk for cognitive decline (December 2018)
  - Aerobic exercise improved cognition
  - A combination of aerobic exercise and heart-healthy Dietary Approaches to Stop Hypertension (DASH) diet improved cognition even more
    - Vegetables, fruits, whole grains, fat-free or low-fat dairy products, fish, poultry, beans, nuts, and vegetable oils
    - Limit salt, sugar, and saturated fat

Alcohol

- Law Students: 43% binge-drinking once & 22% binge-drinking at least twice in the past 2 weeks
- Lawyers: 23% of licensed, employed attorneys qualify as problem drinkers
- Decreases Glutamate
  - Impairs learning & memory
  - Prevents neurogenesis in hippocampus
  - Even in social drinkers at BAC .03%
- Increases
  - GABA: Causes sedation
  - Dopamine: Inspires Repeat Behavior
  - Endorphins: Pleasure



Balance - Homeostasis

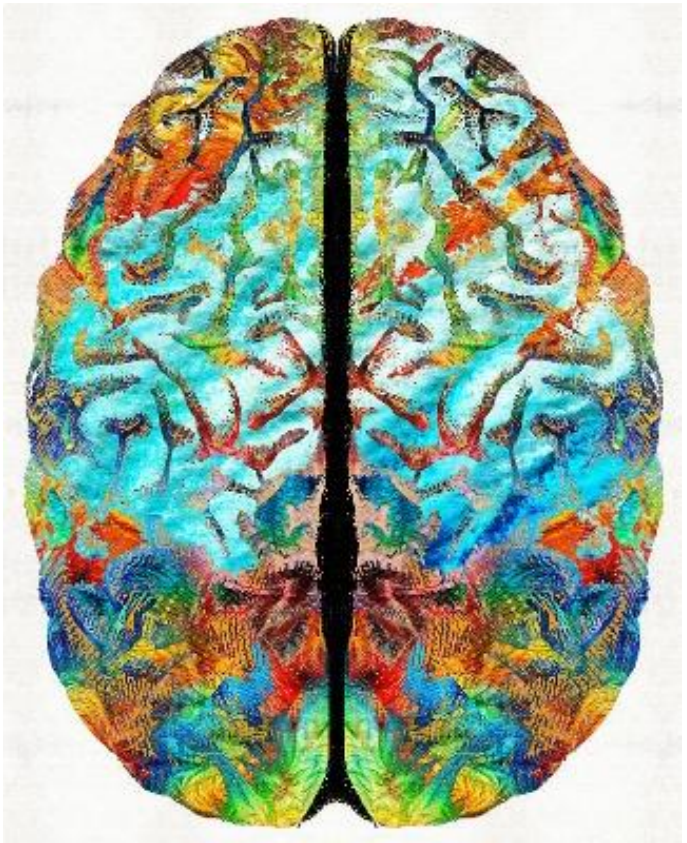


Rest-and-Digest

- Conserves energy
- Promotes digestion & nutrient absorption
- Slows heart rate
- Lowers blood pressure
- Curbs the release of stress hormones
- Produces feelings of calm & contentment

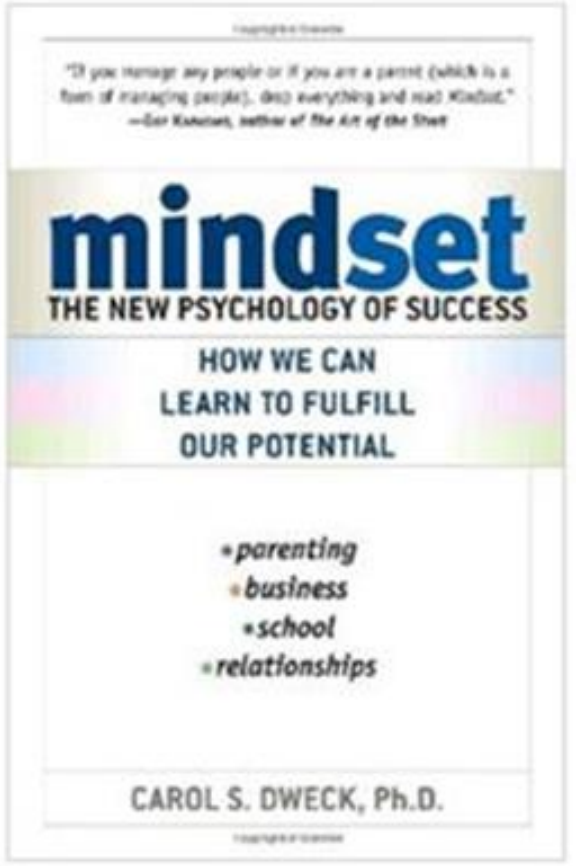
Build Mental Strength

- Become an Amygdala Whisperer& Dampen Fight-or-Flight
  - Growth Mindset
  - Mindfulness
  - Meditation
  - Optimism
  - Priming Performance
  - Gratitude
  - Yoga/Tai Chi
  - Nature Therapy



The Research

- Stanford Psychology Professor Carol Dweck
- Mindset: The New Psychology of Success

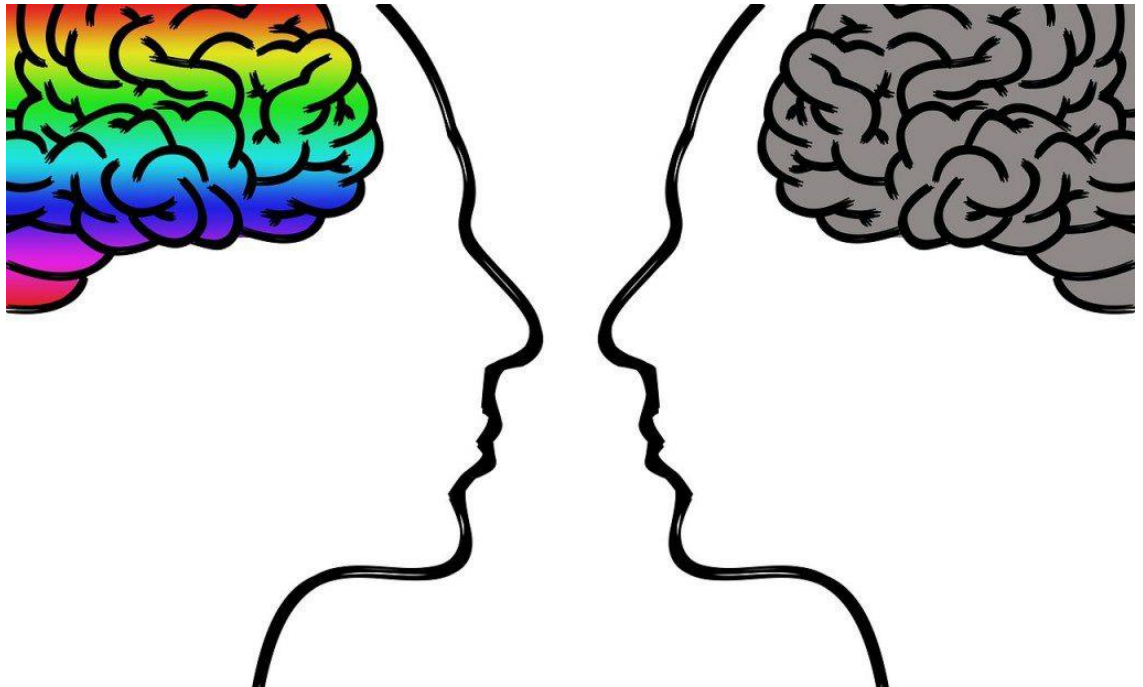


Growth Mindset

- Improve aptitude, talents & character with practice and experience
- Value learning & crave feedback
- Seek challenges & focus on improvement
- Motivated, resilient & more successful
- Healthy striving: *How can I improve?*

Fixed Mindset

- Intelligence & Personality Stable
- May over-estimate abilities& dislike feedback (attack on key traits)
- Work & relationships are zero-sum, where goal is proving oneself to look smart, gain acceptance & win



Growth Mindset

- Growth Mindset outperforms Fixed Mindset
- Neuroplasticity: Abilities can be developed
- Leadership
  - Focused on Human Potential & Development
  - Support Autonomy, Purpose & Mastery

Perfectionism: Obstacle to Mental Strength

- Perfectionists
  - Maintain unrealistic expectations
  - Aim to meet idealistic standards of others
- Risks
  - Fixed Mindset: Claim they are not capable of responding to challenges or limit efforts due to fear of failure
  - Avoidance Coping: Dodge activities where one might fail
  - Procrastination
  - Burnout

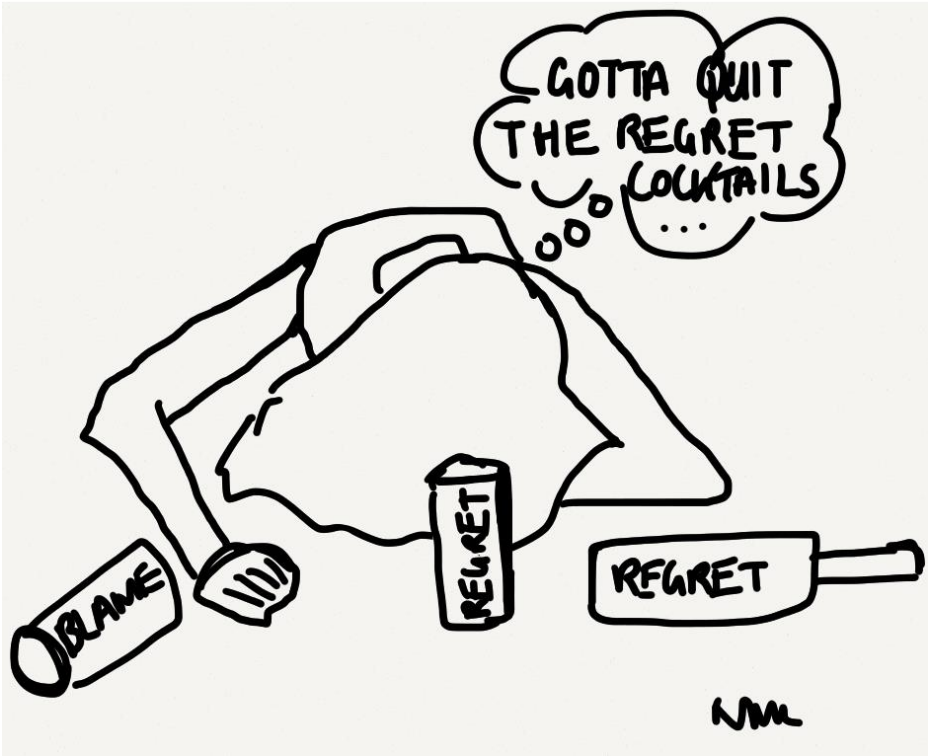
Perfectionism
Dare to Lead by Brene Brown

- Perfectionism is self-destructive simply because perfection doesn't exist. It's an unattainable goal.
- Perfectionism is not the key to success. In fact, research shows that perfectionism hampers achievement. Perfectionism is correlated with depression, anxiety, addiction, and life paralysis, or missed opportunities.
- Perfectionism is, at its core, about trying to earn approval. Most perfectionists grew up being praised for achievement and performance (grades, manners, rule following, people pleasing, appearance, sports). Somewhere along the way, they adopted this dangerous and debilitating belief system: *I am what I accomplish and how well I accomplish it. Please. Perform. Perfect. Prove.* Healthy striving is self-focused: *How can I improve?* Perfectionism is other-focused: *What will people think?* Perfectionism is a hustle.

Worry about the Future

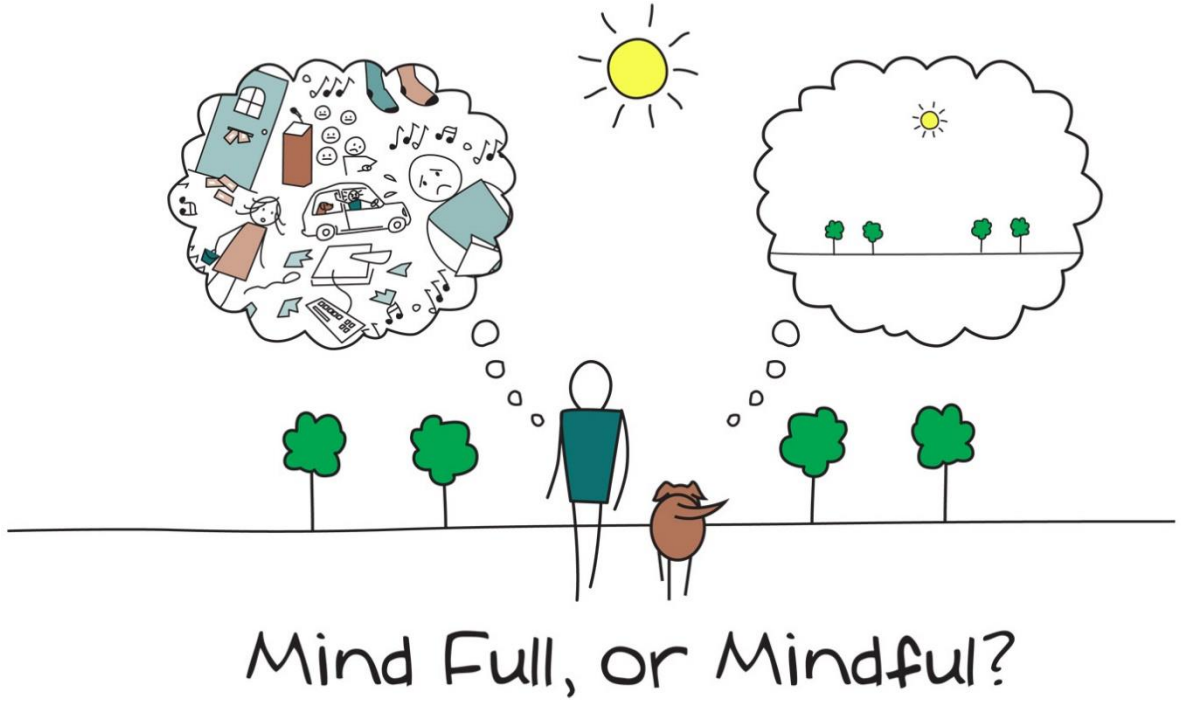
Regrets about the Past

Not Mindful



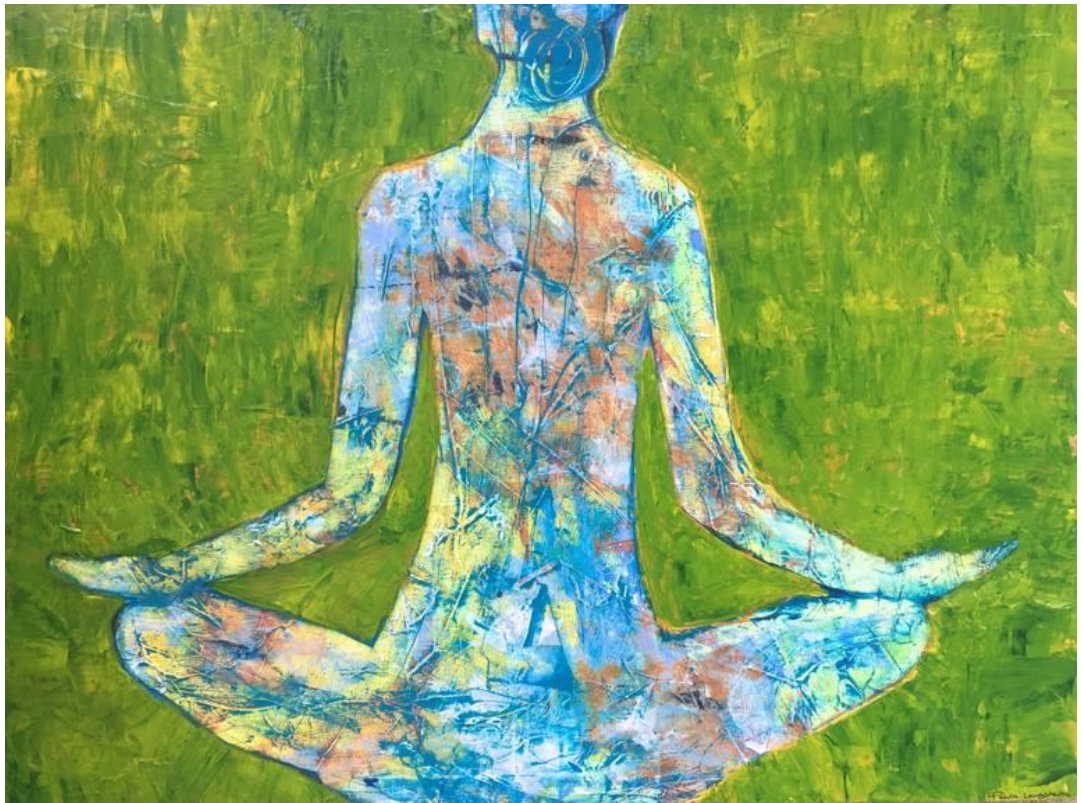
Mindfulness Defined

- Being fully aware of something and paying attention to the moment, with acceptance and without judgment or resistance. ~ Chade-Meng Tan ~
- Paying attention in a particular way, on purpose, in the present moment, nonjudgmentally, as openheartedly as possible. ~ Jon Kabat-Zin ~
- An Outcome (Mindful Awareness) and a Process (Mindful Practice)~ Shauna Shapiro ~



Objectives of Mindfulness

- Calm Racing Mind
- Develop Poise & Capacity to Respond rather than React
- Cultivate Flow & Achieve Optimal Performance
- Joy



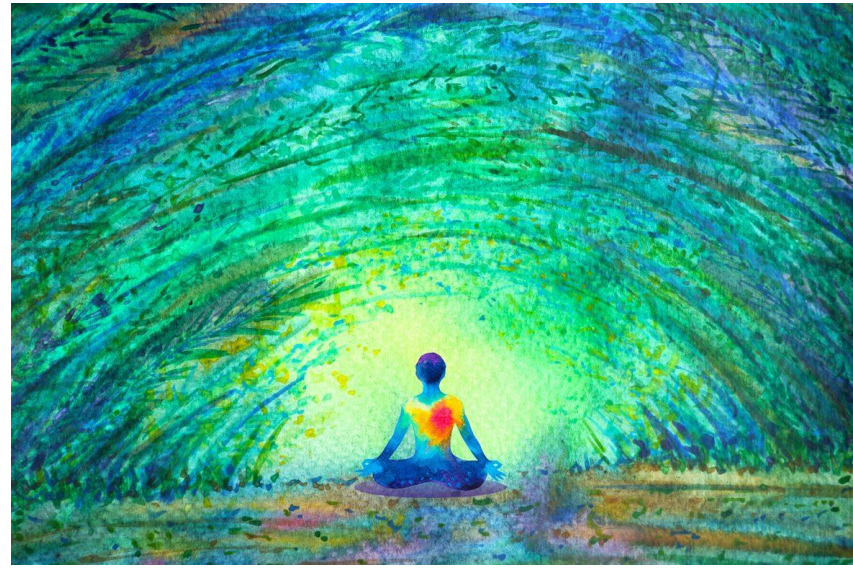
Research on Mindfulness

- Improves
  - Information processing
  - Decision-making
  - Concentration
  - Productivity
- Increases gray matter & connections between brain regions
- Improves immune function
- Promotes emotional intelligence
- Decreases distraction
- Reduces stress & anxiety

Meditation for Attention & Focus

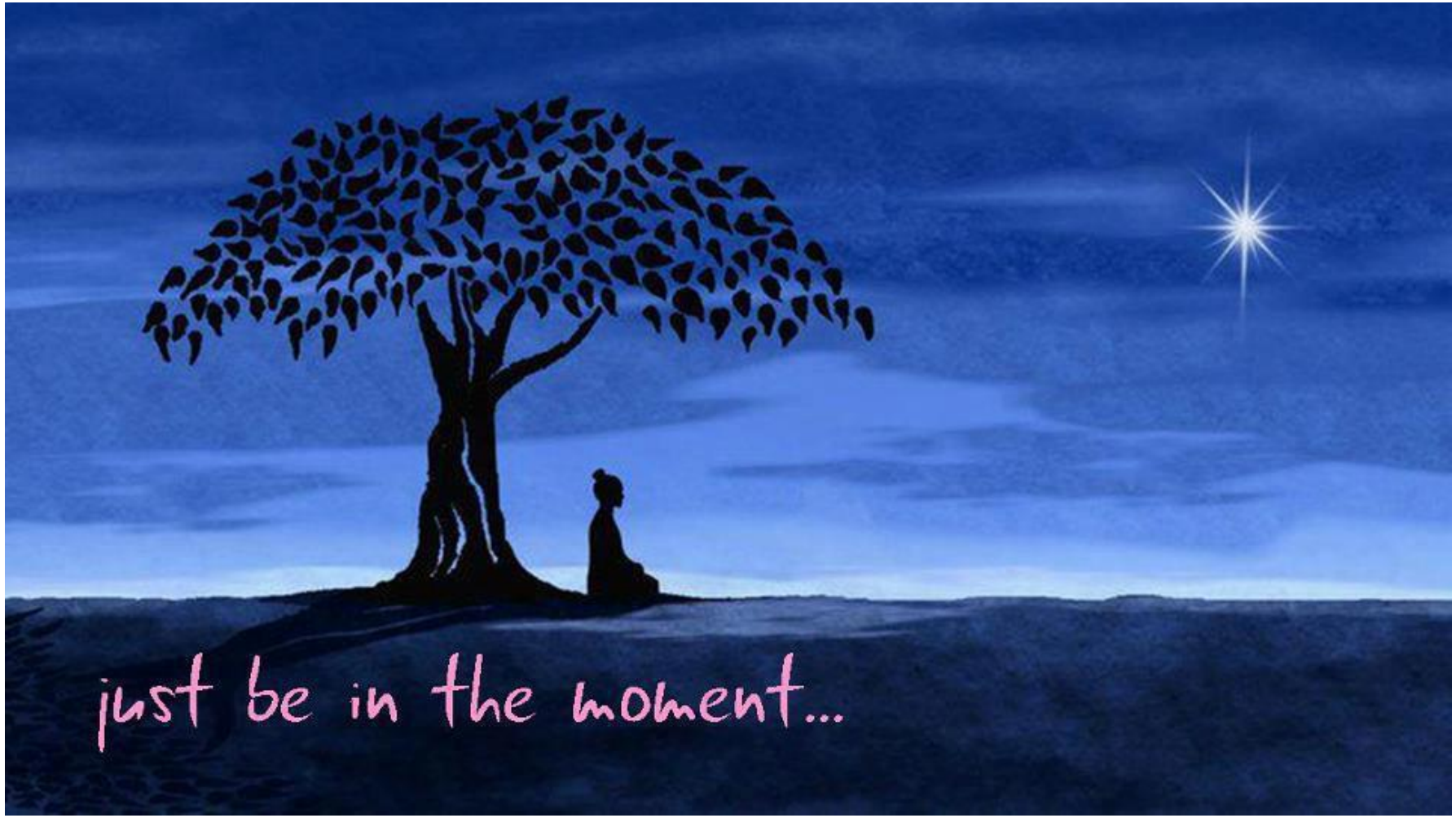
- Easy Way
  - Bring gentle and consistent attention to your breath for 2 minutes, and when your attention wanders, bring it back
- Easier Way
  - Sit without an agenda for 2 minutes, shift from doing to being

Research on Meditation



- Enhances productivity, attention, mood & compassion
- Increases gray matter in thinking & emotional brains
- Strengthens immune system
- Decreases stress-related cortisol
- Improves disease & disorders
  - Cardiovascular, Asthma, Type II Diabetes, PMS, chronic pain, insomnia, anxiety
- Students who practiced for 10 minutes per day for 2 weeks improved GRE scores (2013)
- 15 minutes improved decision-making (2013)
- Experienced meditators changed gene expression, reduced pro-inflammatory genes (2013)

Apps: Insight Timer & Calm



Cultivate Optimism with Gratitude Practice

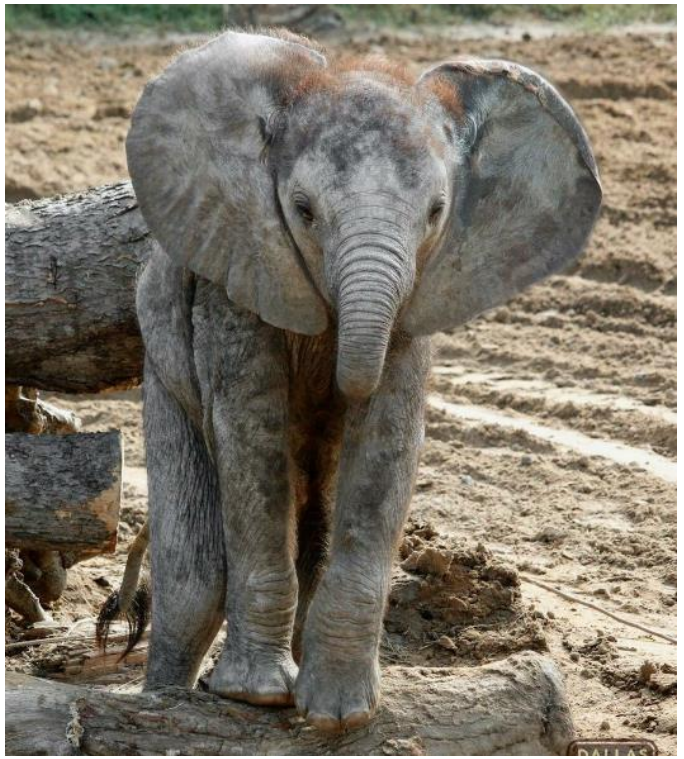
Martin E. P. Seligman, Flourish: A Visionary New Understanding of Happiness and Well-being (2011)

- **Journal** or **Reflect** on
  - Things I'm Proud of or Grateful for
  - Things that went well today and why
  - People you count on for help, mentoring, or support

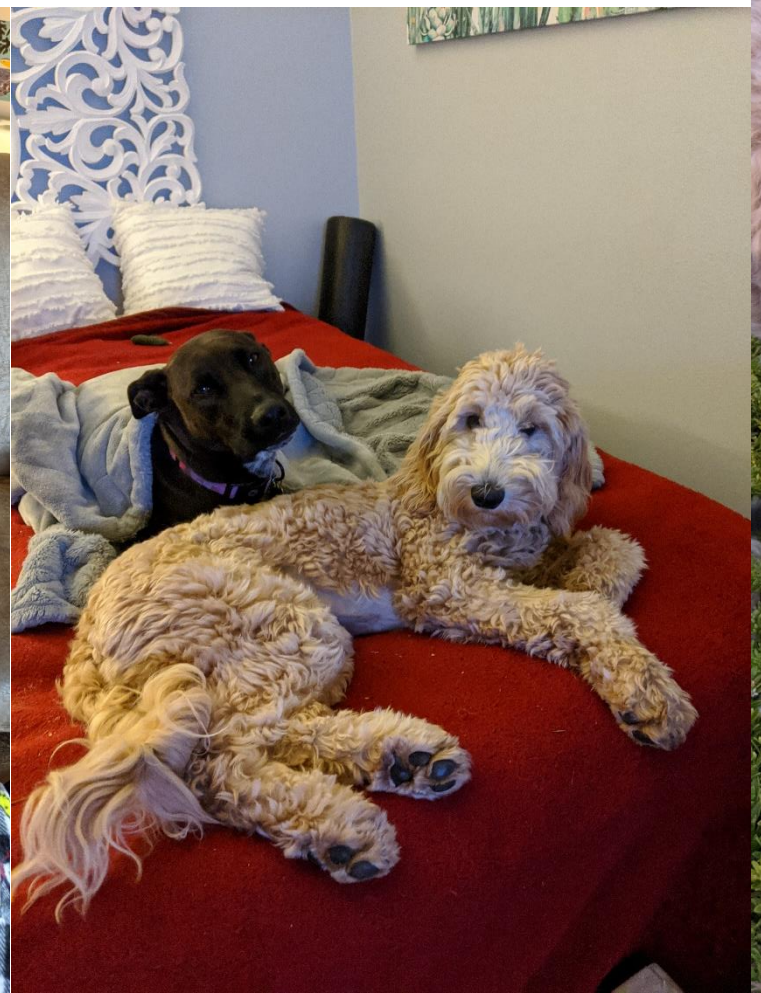
- Doubling down on optimism because the mind can't tell the difference between actual experience and reflection Shawn Achor

Notice Thin Slices of Joy

- Blue Sky
- Bird Song
- Online Comic Strips
- First Sip of Coffee
- Animal Videos



How can I enjoy today?



Research on Gratitude Practice

- Over 100 studies, grateful people
  - Have more positive emotions
  - Accomplish more personal goals
  - Sleep better & feel more alert, enthusiastic, and energetic
  - Have lower blood pressure, and live 7-9 years longer

Optimism & Super-Agers

Optimism may be the superpower of the super-agers (older people who are vigorous and dynamic, with high cognitive function), allowing them to be resilient and thrive. These positive individuals may be especially effective at counteracting the damage of toxic stress, which can slow the aging process.

Priming for Positivity Improves Performance

SHAWN ACHOR, THE HAPPINESS ADVANTAGE: THE SEVEN PRINCIPLES OF POSITIVE PSYCHOLOGY THAT FUEL SUCCESS AND PERFORMANCE AT WORK 46 (2010)

- Recall Best Day prior to Demanding or Challenging Activity

Yoga

- Mindful Movement
- Increases GABA
  - Induces Calm & Improves Mood
  - Depression linked to low GABA
  - Highest GABA: Most Experienced & Most Frequent Practice

Tai Chi

Tai Chi can provide the following health benefits: better balance, improved flexibility, enhanced muscle strength, improved mood, and decreased stress, anxiety, and depression.

Veterans with PTSD symptoms reported that Tai Chi improved their concentration and helped them manage intrusive thoughts.

Tai Chi improved insomnia, fatigue, and depression in breast cancer survivors.

In a small study, 6 healthy adults were given 12 weeks of Tai Chi training and scientists used brain scans to measure biochemical markers of brain health. Researchers found that Tai Chi may promote neuroplasticity, stimulate the birth of new brain cells, and/or protect brain cells against aging.

Nature Therapy



- Metadata research on 143 studies of over 290 million people reveals that exposure to greenspace lowers the stress hormone cortisol, heart rate, and blood pressure, as well as reduces the risk of type II diabetes, cardiovascular disease, and premature death. Greenspace includes both undeveloped land with natural vegetation and urban parks.
- In an effort to determine an effective dose of nature therapy, researchers reviewed 155 studies and included 14 studies in their analysis. Participants were age 15 to 30 from Japan, the US, and Sweden. The research revealed that 10-30 minutes of sitting or walking in nature decreased cortisol, heart rate, blood pressure, and anxiety, while improving mood and boosting the rest-and-digest recovery system.

Everybody talks about wanting to change things and help and fix, but ultimately all you can do is fix yourself. And that's a lot. Because if you can fix yourself, it has a ripple effect.

~ Rob Reiner

Debra S Austin, JD, PhD

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- Lawyer Well-being Newsletter & Articles at https://debraaustin.com