Center for Instruction, Technology & Innovation

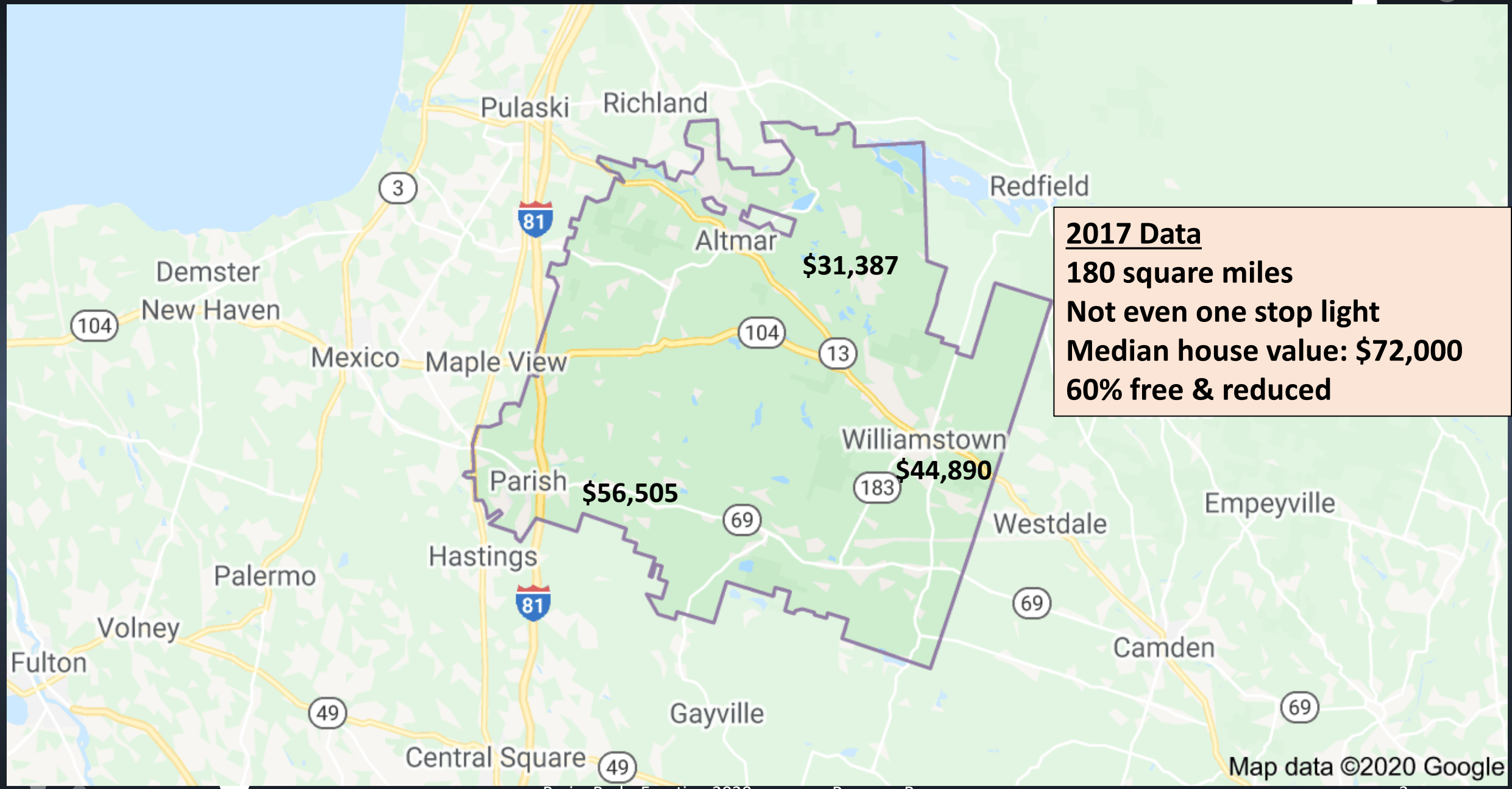
Brain, Body, Emotion Connection

Roseann Bayne

New York State
COMMUNITY SCHOOLS
Technical Assistance Centers
Central/Western Region,
Binghamton University

Center for Instruction, Technology & Innovation

Your education destination



2017 Data

180 square miles

Not even one stop light

Median house value: $72,000

60% free & reduced

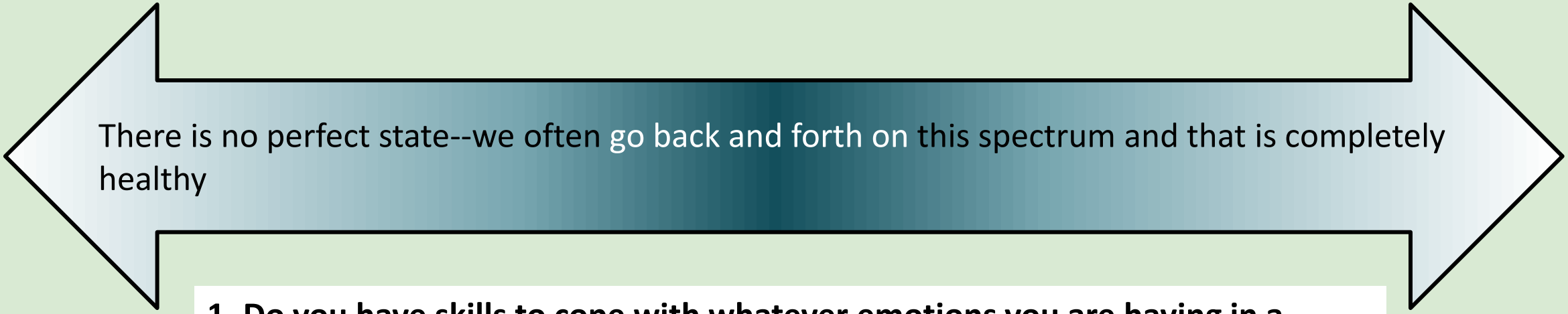
At the age of 43 I learned for the first time that my mom had 6 ACES.

Nonetheless, she raised 5 children who all have 0 ACES.

Burning Question: How was her resiliency developed?

Mental Health is not just the presence or absence of a disorder

Mental Health is a Continuum of Wellness



1. Do you have skills to cope with whatever emotions you are having in a healthy way?
2. How are we helping students to understand our mental health will ebb and flow, but we need to develop the skills to return to our stable self?

Humans are hard wired for some basic aspects of life, but we rely on caregivers for survival and development more than most creatures

blue wildebeest:

Walks within 30 minutes of birth, can outrun predators within 24 hours of birth

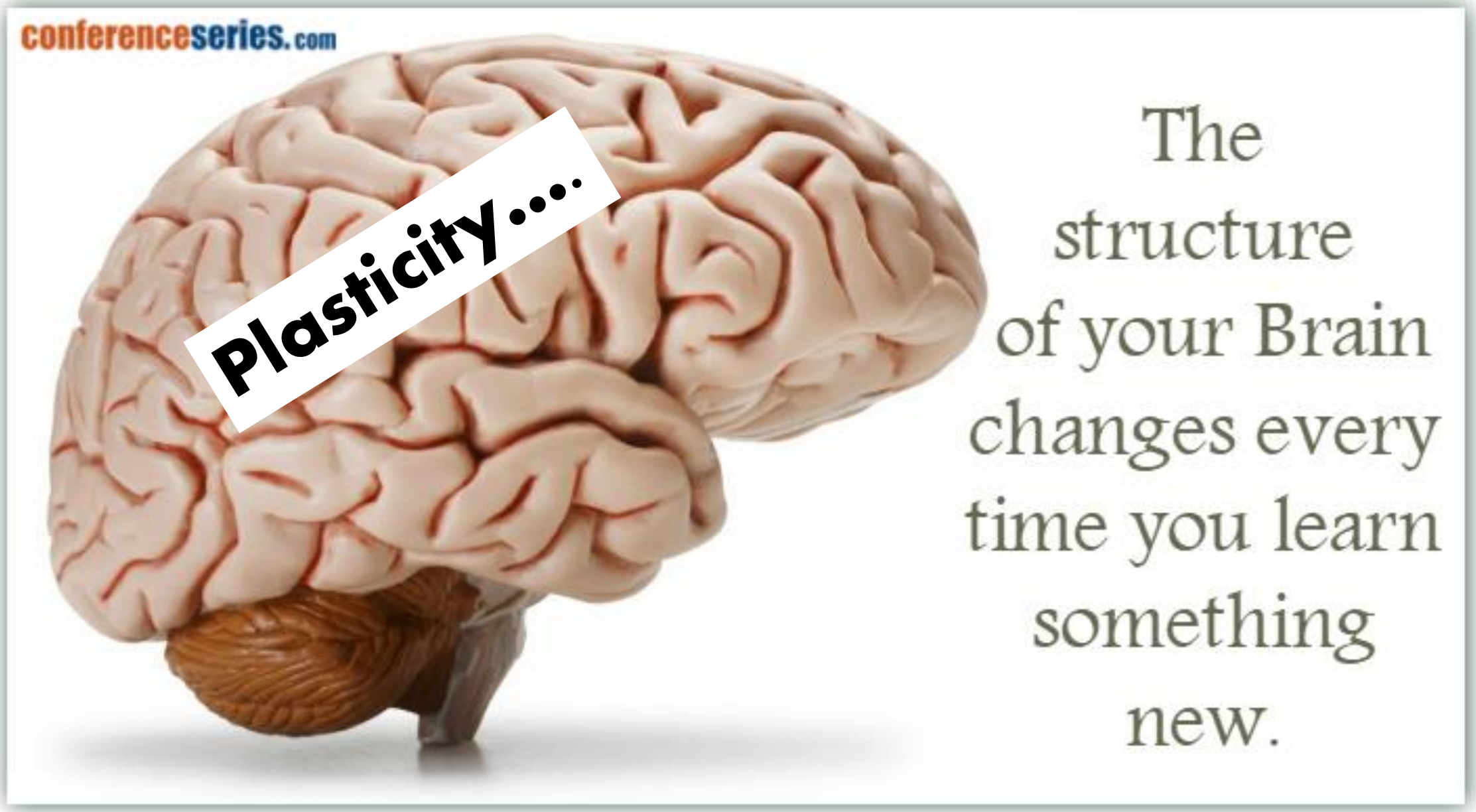
HARD WIRED

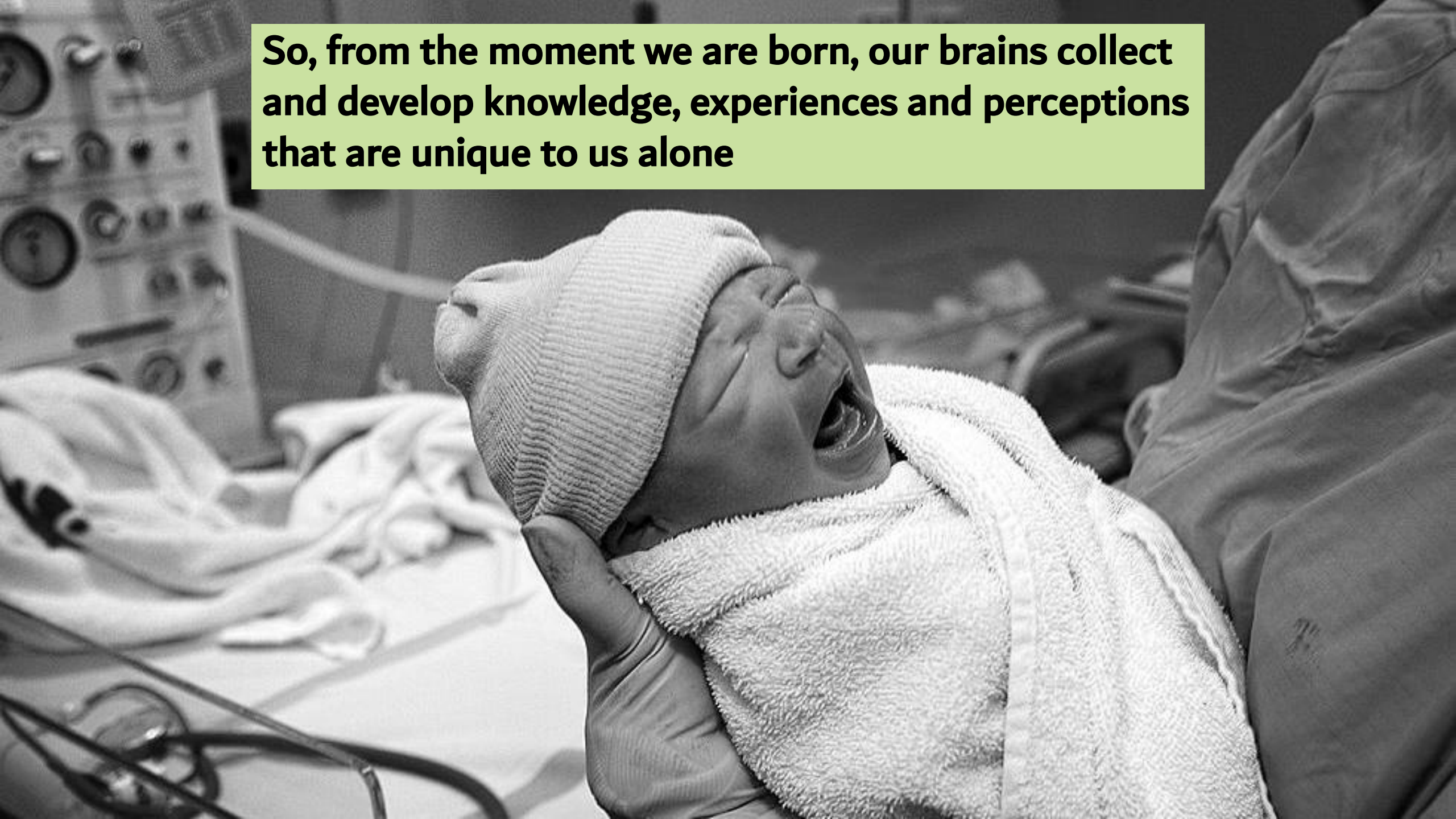
australian brush turkey: (megapode)

Born absent of parent, eyes open, feeds self, flies on day of hatching


In comparison, humans generally take 10-16 months just to learn how to walk
LIVE WIRED

Some of our uniqueness comes from genetics


conferenceseries.com
Plasticity….
The structure of your Brain changes every time you learn something new.



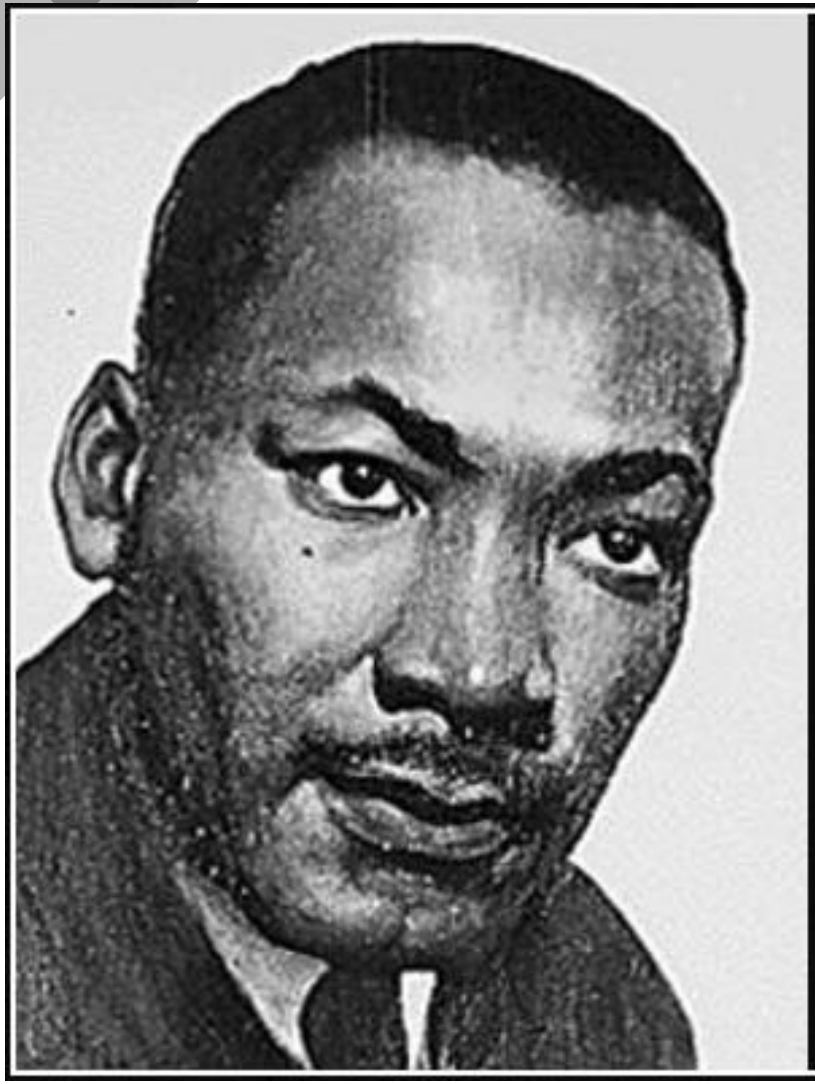
So, from the moment we are born, our brains collect and develop knowledge, experiences and perceptions that are unique to us alone

Our Brains Develop In Response To Many Things:

Heredity, Environment, Prenatal Care, Nutrition, Physical Stress, Mental Stress, Pharmaceuticals, Attachment, Attunement, Hormones—to name a few

SURVIVAL

Protect your perspective: including your positive and negative biases



Normal fear protects us; abnormal fear paralyses us. Normal fear motivates us to improve our individual and collective welfare; abnormal fear constantly poisons and distorts our inner lives. Our problem is not to be rid of fear but, rather to harness and master it.

— Martin Luther King —

AZ QUOTES

Dr. Karl Albrecht's

The 5 Basic Fears

Extinction (Physiological)

Mutilation (Safety)

Ego Death (Esteem)

Separation (Belonging)

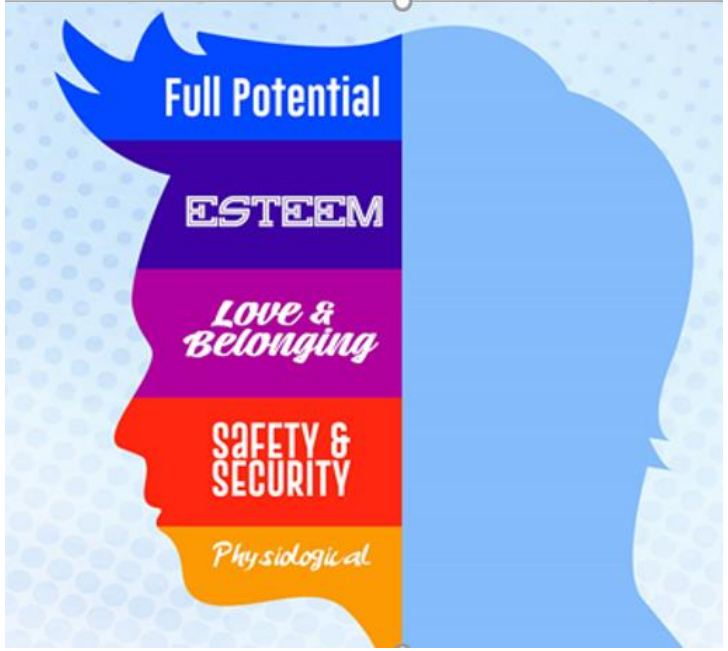
Loss of Autonomy (Self-Actualization)

Maslow's Hierarchy of Needs

Source: Karl Albrecht Ph.D. of BrainSnacks

Extinction (Physiological)

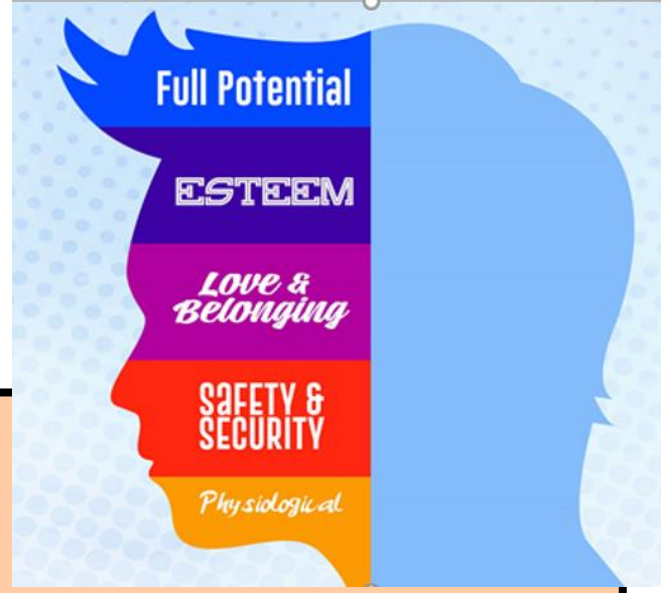
- Fear of no longer being



Adults and students may be more impacted by this category now….

- **Daily news updates on the number of deaths**
- **Increasing coverage on the viruses dangers to children**
- **Stories of people dying without loved ones at their side**
- **Less opportunity to grieve in traditional ways**

Mutilation (Safety)



Fear of losing any part of your body, breaking a bone, bleeding, being seriously ill, the thought of your bodies boundaries being invaded or weakened

Stories and sights of amputations and “covid toes”

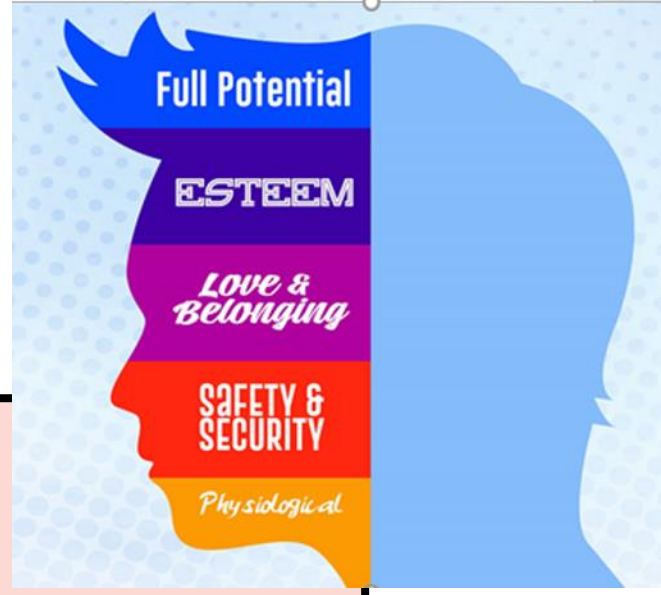
The sight of masks and gloves or Inadequate PPE

Food insecurity: Food banks seeing staggering increases in need News reports of food shortages, limitations on purchasing

It doesn’t feel safe anymore, when will it be safe?

Ego Death (Esteem)

Fear of humiliation, shame, worthlessness: loss of integrity of self



Esteem is significantly tied to our daily routine, be it school or work

<u>Average Weekly National Unemployment Claims</u>

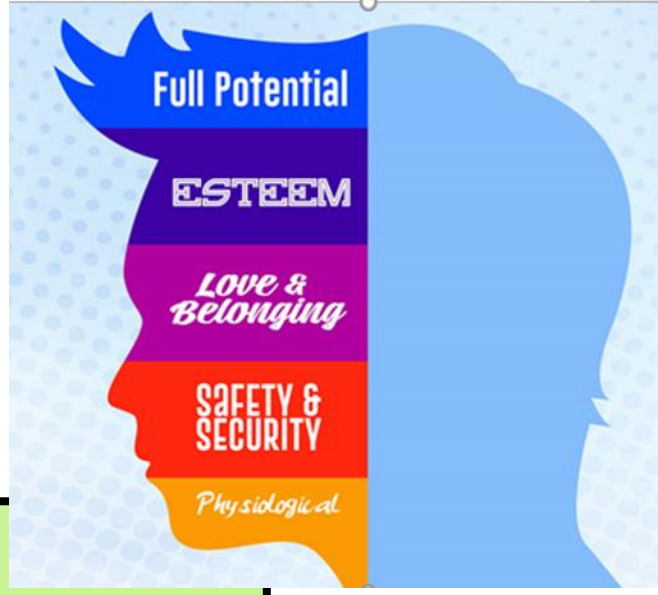
- **January 1 - March 20: 350,000 (11 weeks= 3.5 million)**
- **Since March 20: 4.7 million (7 weeks= 33 million)**

<u>School Buildings Closed: Up to 6 or more months</u>

- **No extracurricular activities, traditional end of the year ceremonies, proms, performances, hugs from educators**

Separation (Belonging)

Fear of abandonment, rejection, loss of connectedness or not being respected, wanted or valued



In the criminal justice system, solitary confinement is a form of punishment

Our need to connect is as fundamental as our need to eat

Social distancing has made many people feel separated and as if they do not belong-they have lost their "tribe"

Separated from family traditions

Loss of Autonomy (Self-Actualization)

Fear of being controlled by circumstances beyond our control, not having choice

Our opportunity to make decisions for ourselves has been reduced

The feeling that your "rights" are being denied

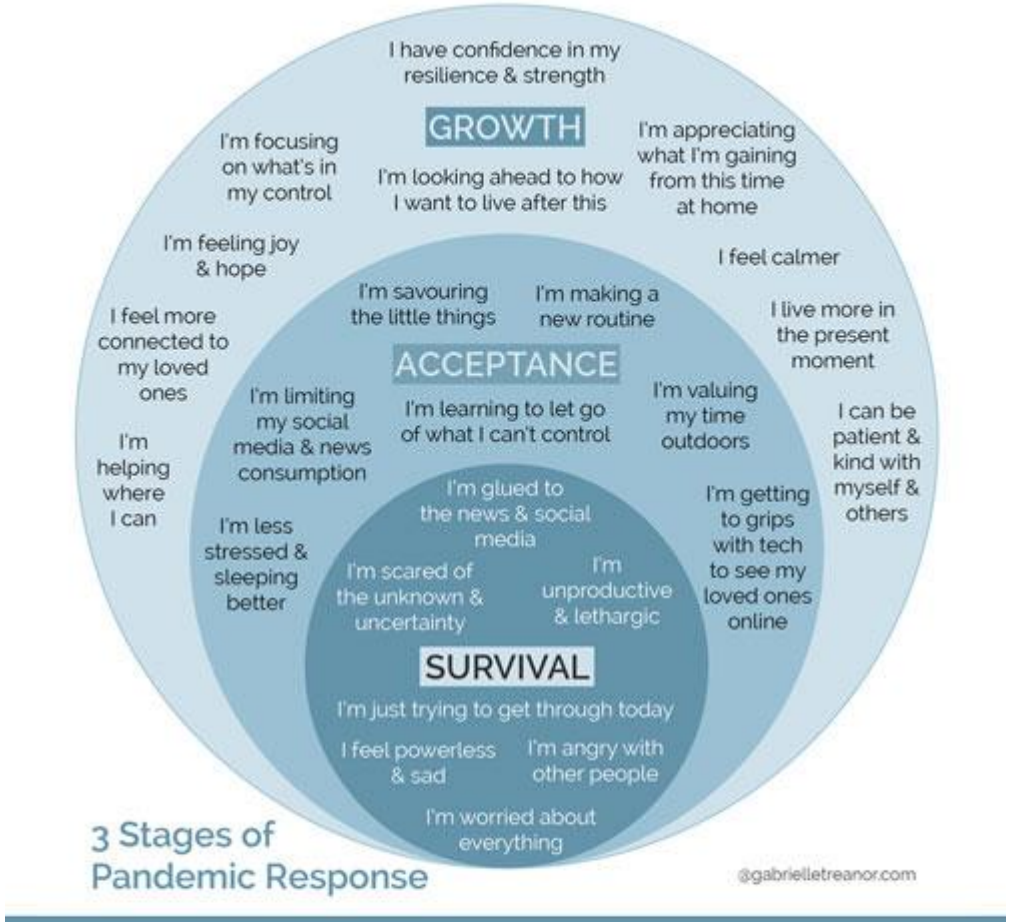
We cannot choose to go to a mall, gym, restaurant or hairdresser that's not open

We have been mandated to wear masks in many locations

We cannot visit loved ones in the hospital or nursing homes

Adults First!

Adults need to be self-aware and model self-management before we can expect the same behaviors from the children in our care

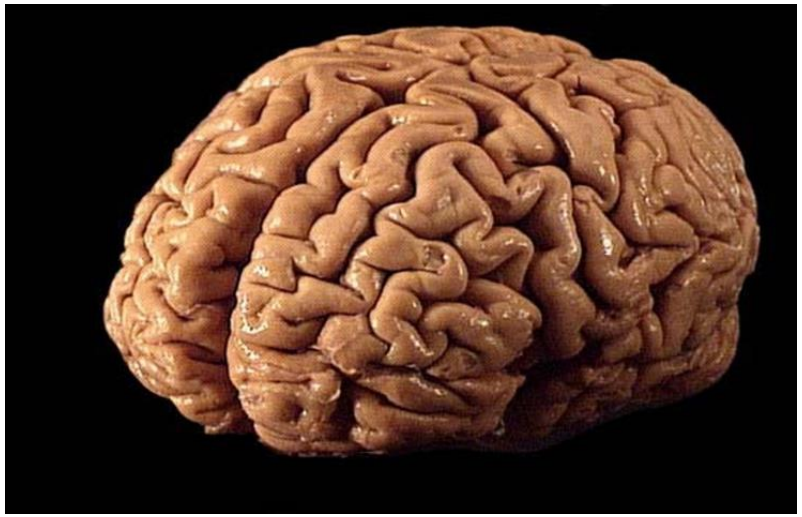


3 Stages of pandemic response

GabrielleTreanor.com

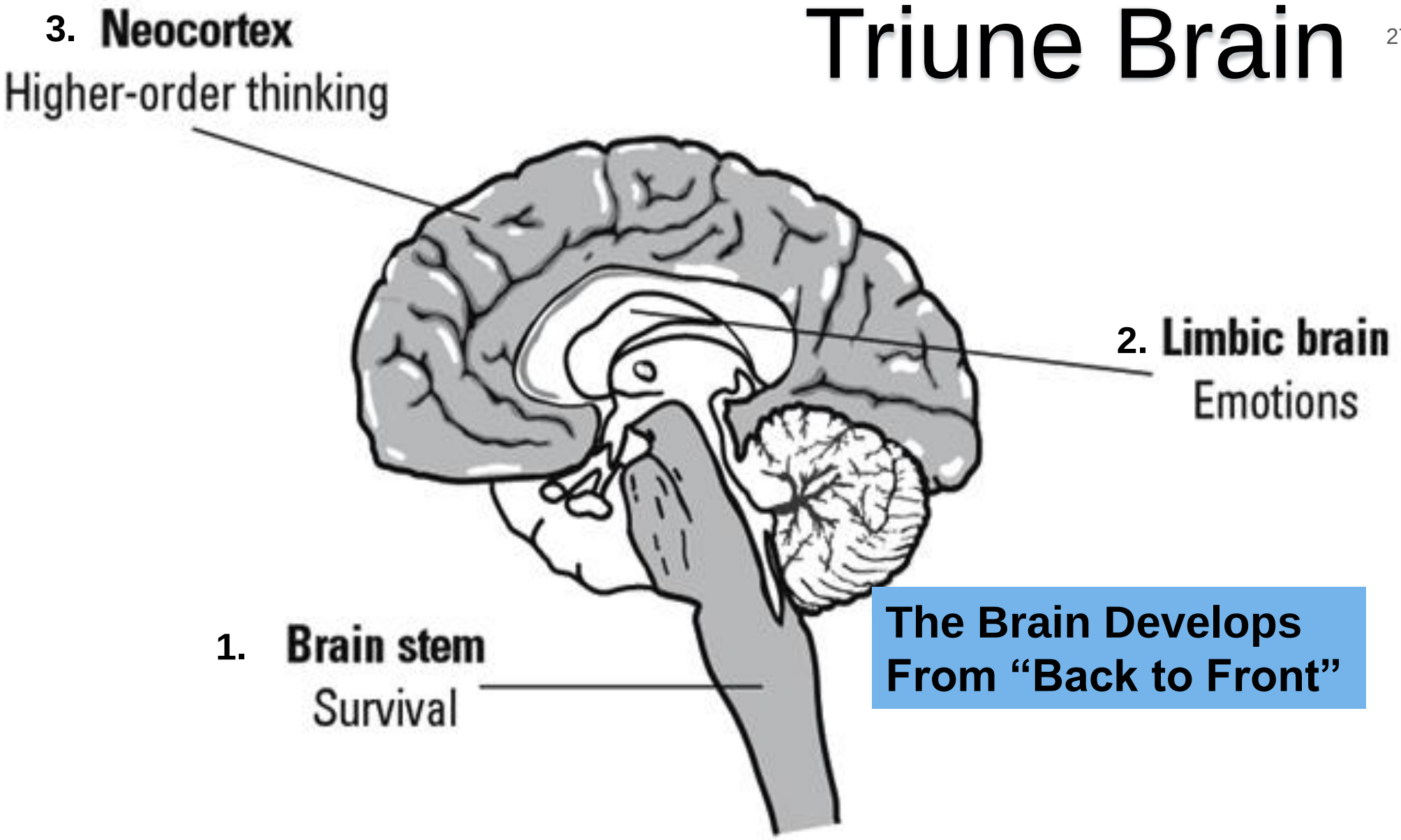
Triune Brain
Basic Functions

Although I am teaching the brain as the triune model, it is important to remember that the brain works as single unit



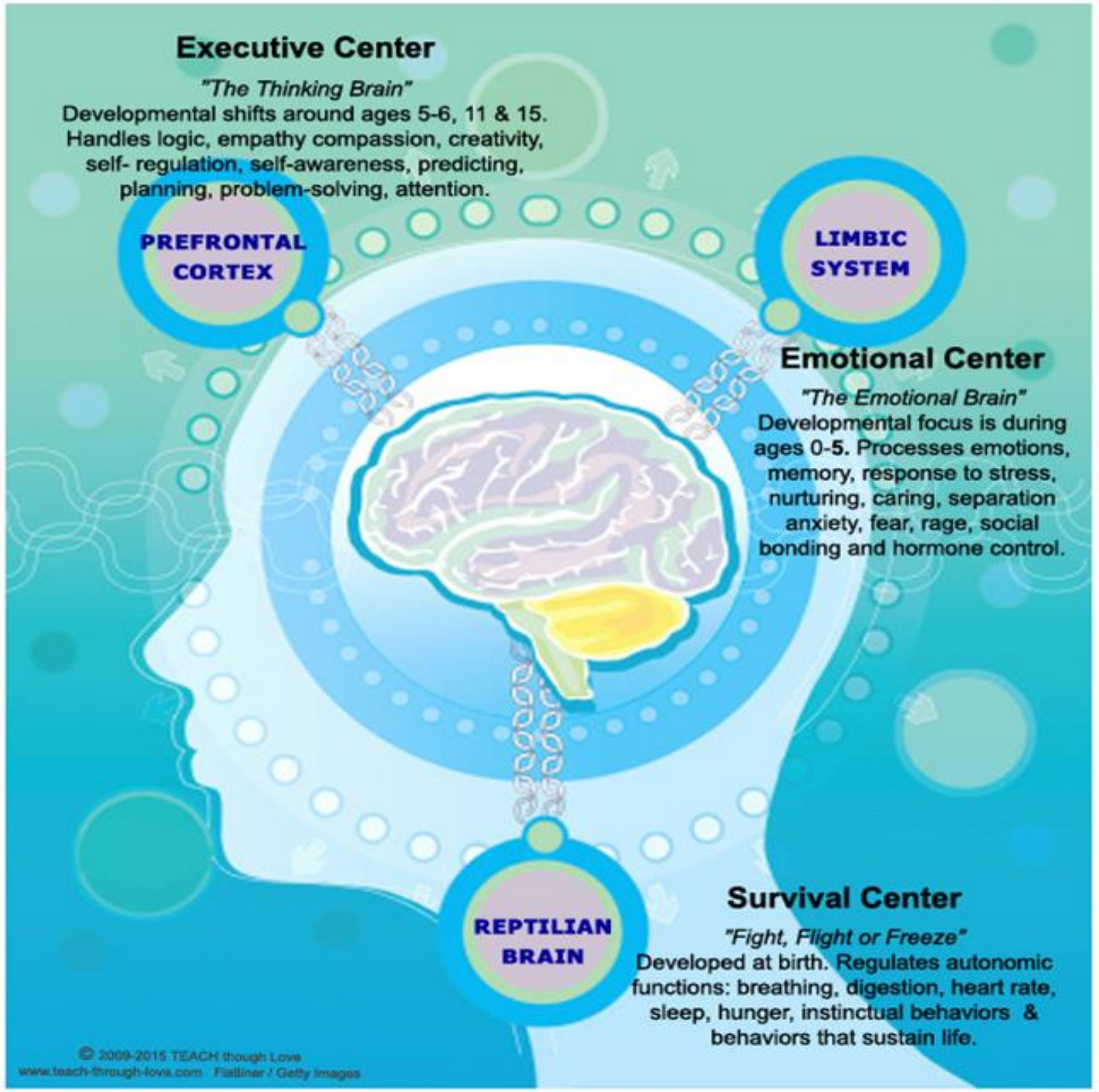
- A mature brain weighs only 2.7 pounds (12 ounces at birth)
- 75% of the brain's weight is water
- It consumes nearly 22% of the body's blood and oxygen in order to function properly

Triune Brain



The Brain Develops From "Back to Front"

http://bookofthrees.com/triune-brain/



Our <u>Emotional</u> Center Develops before our <u>Executive</u> Center

This makes our reward systems and need for autonomy very strong as toddlers and then again as teenagers

This
under

e you can
ut and why

What age range represents adolescence?
to

Neocortex-Complex Thinking Brain

Prefrontal Cortex (Does not fully develop until the average age of 25, women are 2 years sooner than men)

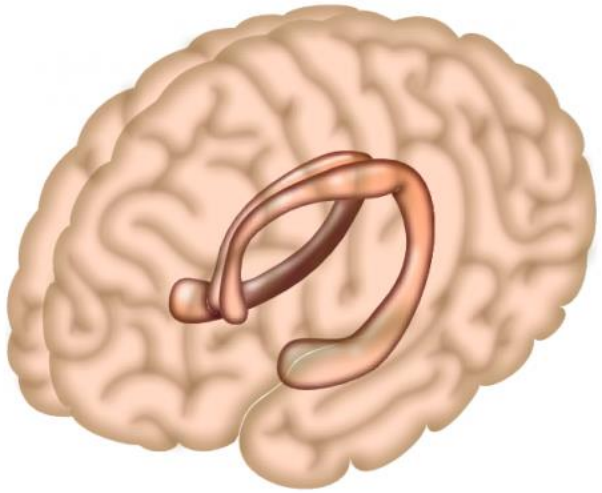
- Deep Thinking
- Decision making
- Forming Judgments
- Strategizing
- Prioritizing
- Big picture & future consequences

- IQ & Working Memory
- Language Center, Some Auditory
- Influential role in sleep and learning
- Procedural (walking, driving) and Declarative (numbers, facts) memory

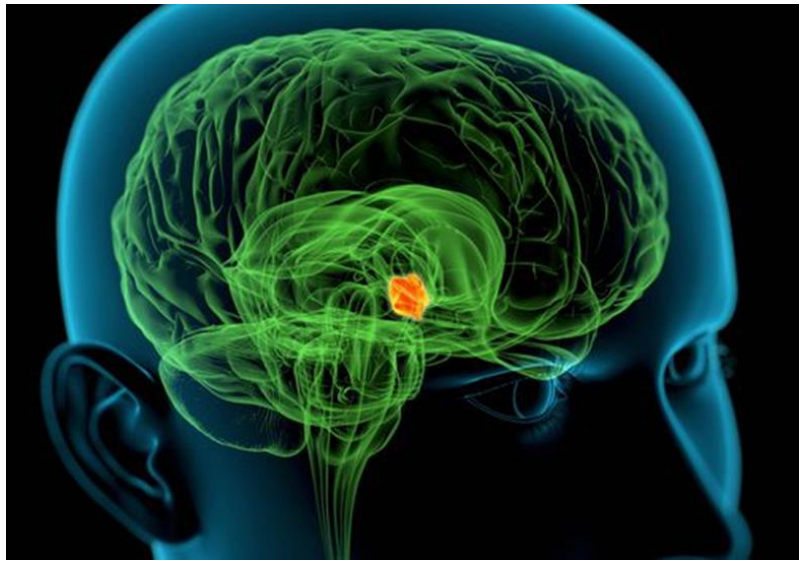
http://www.specialrisksbureau.co.uk/health-conditions/neurological-disorder

Decision making, reasoning and higher order thinking occur mainly in the neocortex and yet the neocortex is the first part of the brain to shut down when we feel threatened." - Leslie Hart

Limbic Brain-Hippocampus and Hypothalamus



- Regulates learning
- Memory encoding (converts short term memories to long-term)
- Memory consolidation
- Memory retrieval
- Spatial navigation



- Hormone Release
- Sensory Integration
- Memory Response
- Self-preservation: Eating Drinking
- Preservation of Species (sex)
- Circadian Rhythm (sleep)
- Pituitary connection

http://bookofthrees.com/triune-brain/

Amygdala: Hard

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2882379/

Performing Under Pressure: The Science of Emotional Intelligence

Scans for danger

Processes our emotions, memories and motivation. Also integral in sex, drug abuse, affiliation

- **It is part of our emotional and survival centers**
- **When the brain stem has initiated fight or flight in an autonomic response, the amygdala takes over the survival response**
- **It doesn't think—it responds based upon emotional learning and memories that are formed in our hippocampus**
- **Incoming info streams through the amygdala 1st so it can respond to threats (100x's faster than neocortex)**
- **It can have a strong negativity bias, associated with fear circuitry**

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2882379/

- A series of negative experiences make the amygdala more sensitive to the negative. The amygdala adapts and accepts the new sensitivity as normal (seeing tigers where they don't exist)

The Range of Amygdala Alertness:

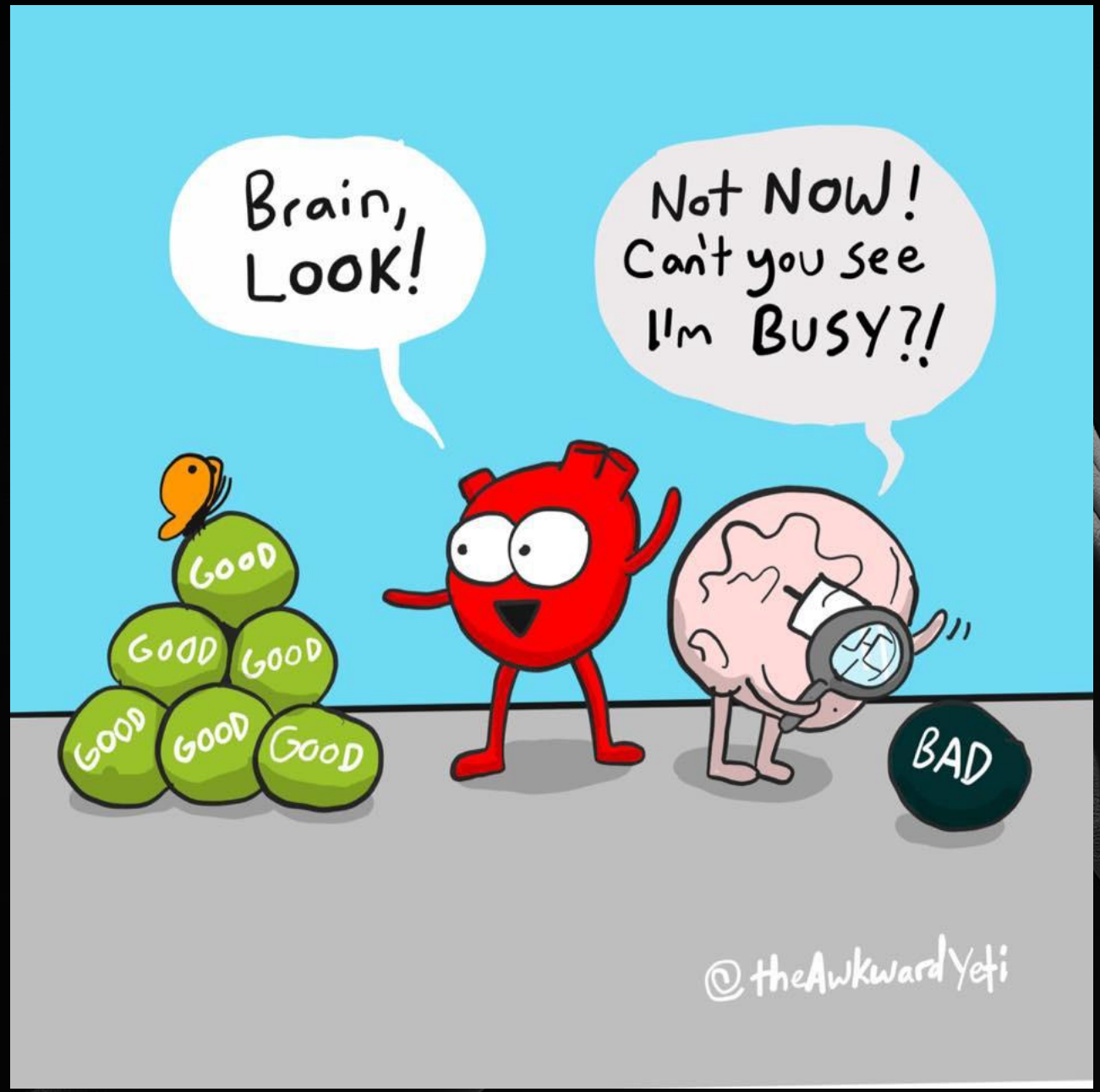
Mild Watchfulness
Caution
Apprehension
Unease
Anxiety
Obsession
Panic
Terror

Negativity Bias is Hard-Wired

Humans give more psychological weight to bad experiences than to good ones

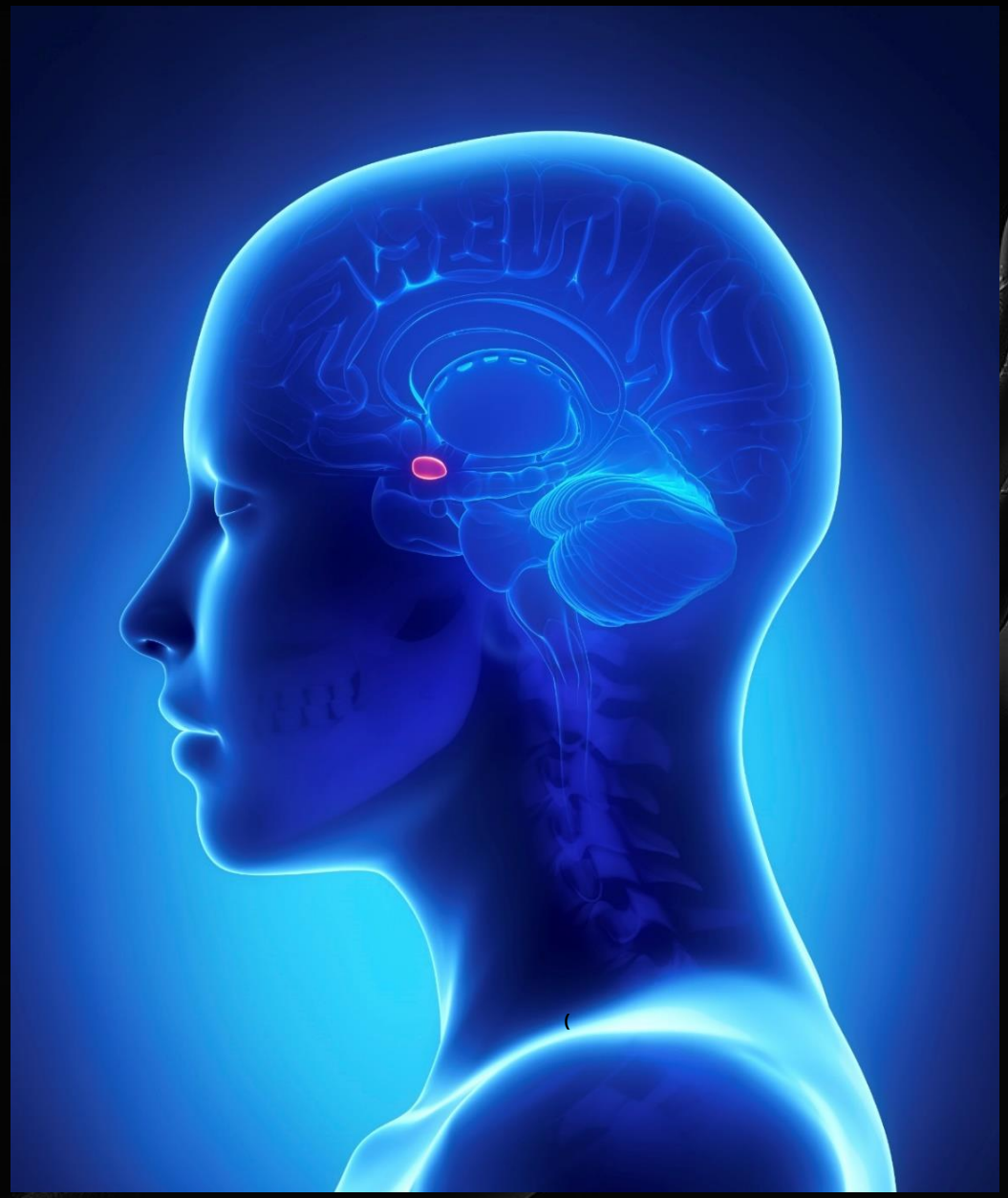
Our brains constantly scan for potential danger, disappointments and interpersonal issues

Fear protects us



We have 70,000 thoughts per day (on average 70% are negative)

Some thought, especially negative ones, "ruminate" like a record that is skipping, over and over again



hijack

An Emotional Hijack is an immediate and overwhelming emotional response that is <u>out of proportion</u> to the stimulus because it has triggered a more significant emotional threat

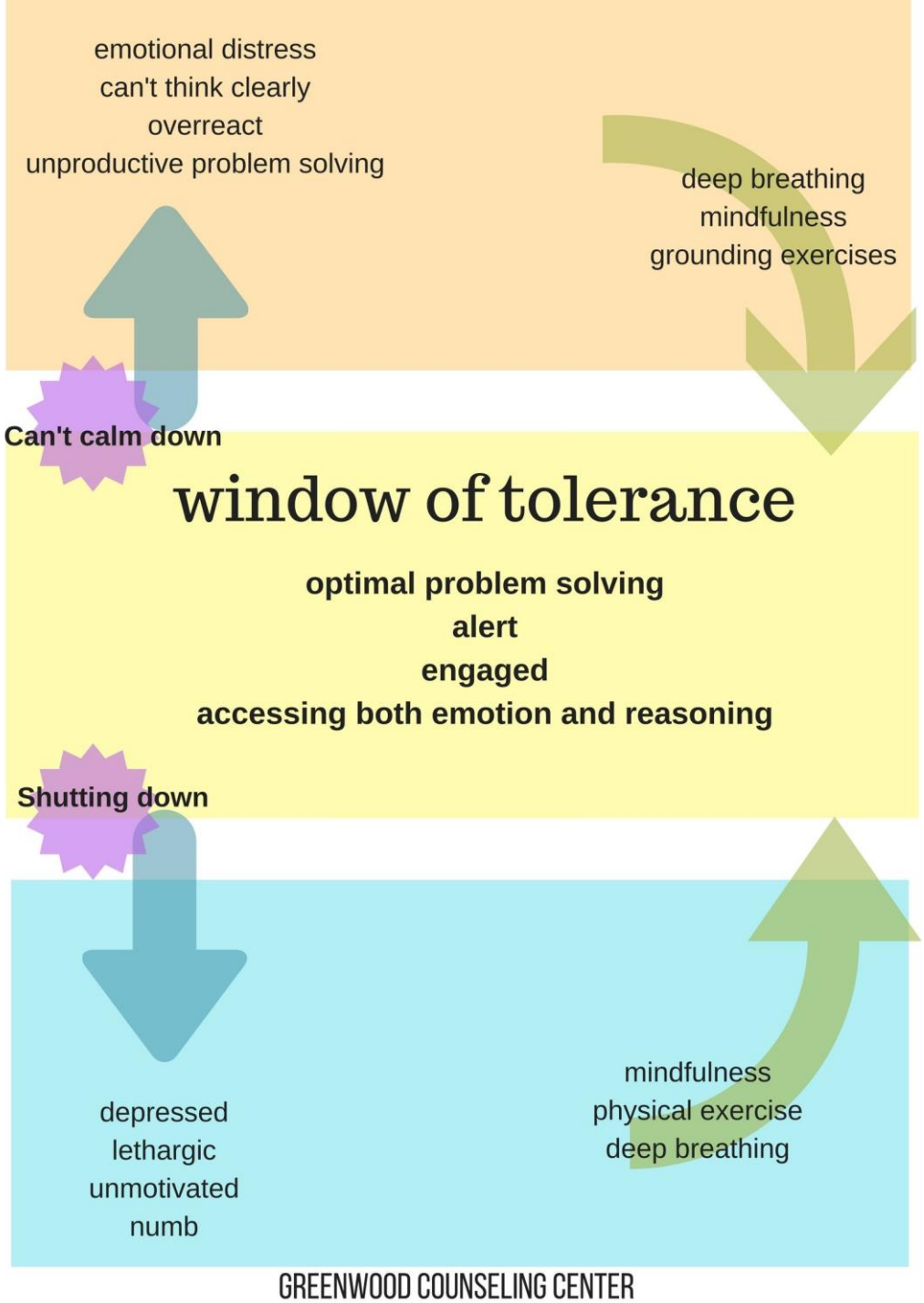
The Amygdala does not know the difference between a physical threat of imminent danger or a social or emotional threat

Abnormal or exaggerated fear & anger

Paraphrased from the work of Daniel Goleman, Emotional Intelligence, Why it matters more than IQ, 1997).

Hyper activation: Your brain views the threat as something you have the potential to defeat

Fight or Flight: Hard-wired



Hypo activation: Your brain views the threat as something too powerful to overcome

Freeze: More Live-wired

Leon F Seltzer Ph.D.

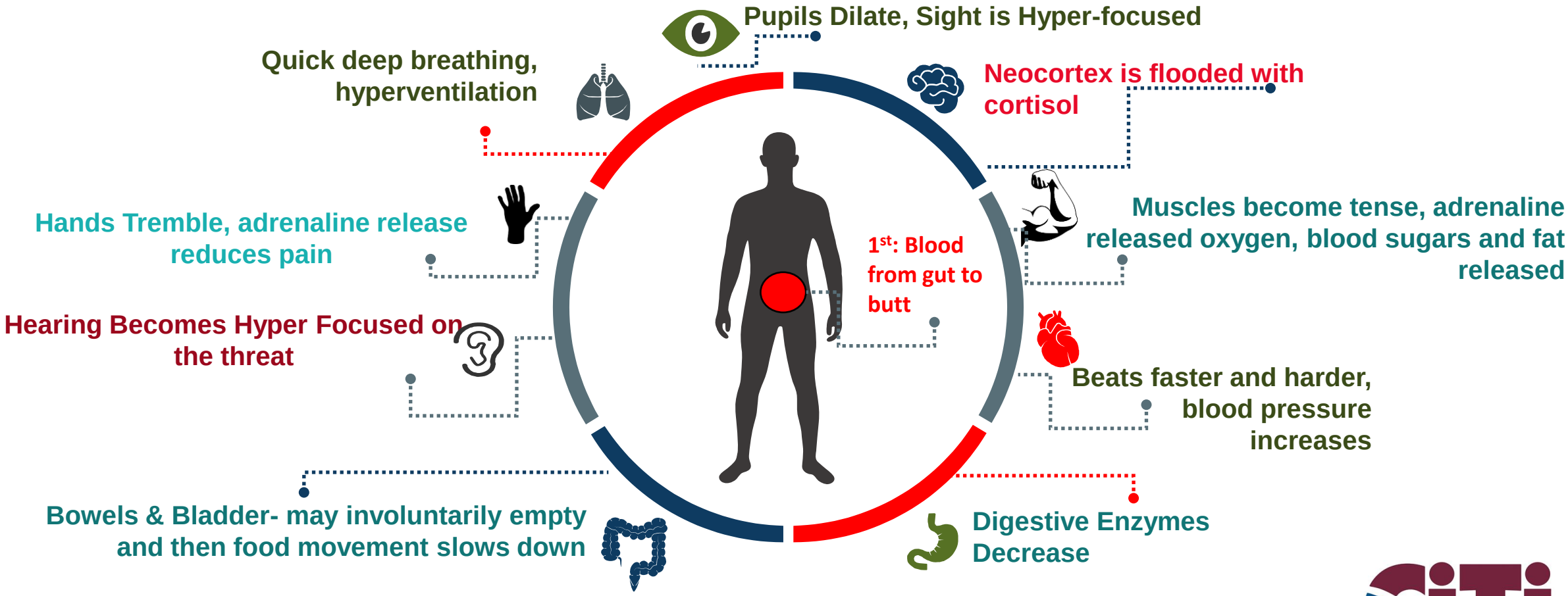
Hyper or Hypo Arousal of our Limbic System

Emotion	Brain Assessment	Hyper or Hypo?	Survival-Assisted Stress Response	Biological Impact
Fear and Anger	I can defeat this	Hyper	Fight	Hormone-assisted Strength
Fear and Anger	I cannot defeat this, but I can flee from it	Hyper	Flight	Anxiety and hormone-driven speed
Fear	I cannot defeat this and I cannot flee from it	Hypo	Freeze	Analgesic Immobility

Our 4 variables can be thought

- On average, our cortex is dealing with 4 distinct variables that can be combined, giving us lots of options when faced with decision making
- When our cortex is in the driver's seat we are able to use our experience, expertise and IQ to create theoretical options from our 4 variables
- 4 X 3 X 2 X 1 =24 theoretical options
- This translates into about 70,000 thoughts per day (on average 70% are negative)

physical effects of an hyper arousal of limbic system -Fight and Flight



Physical Effects Last an Average of 18 minutes for Each Activation

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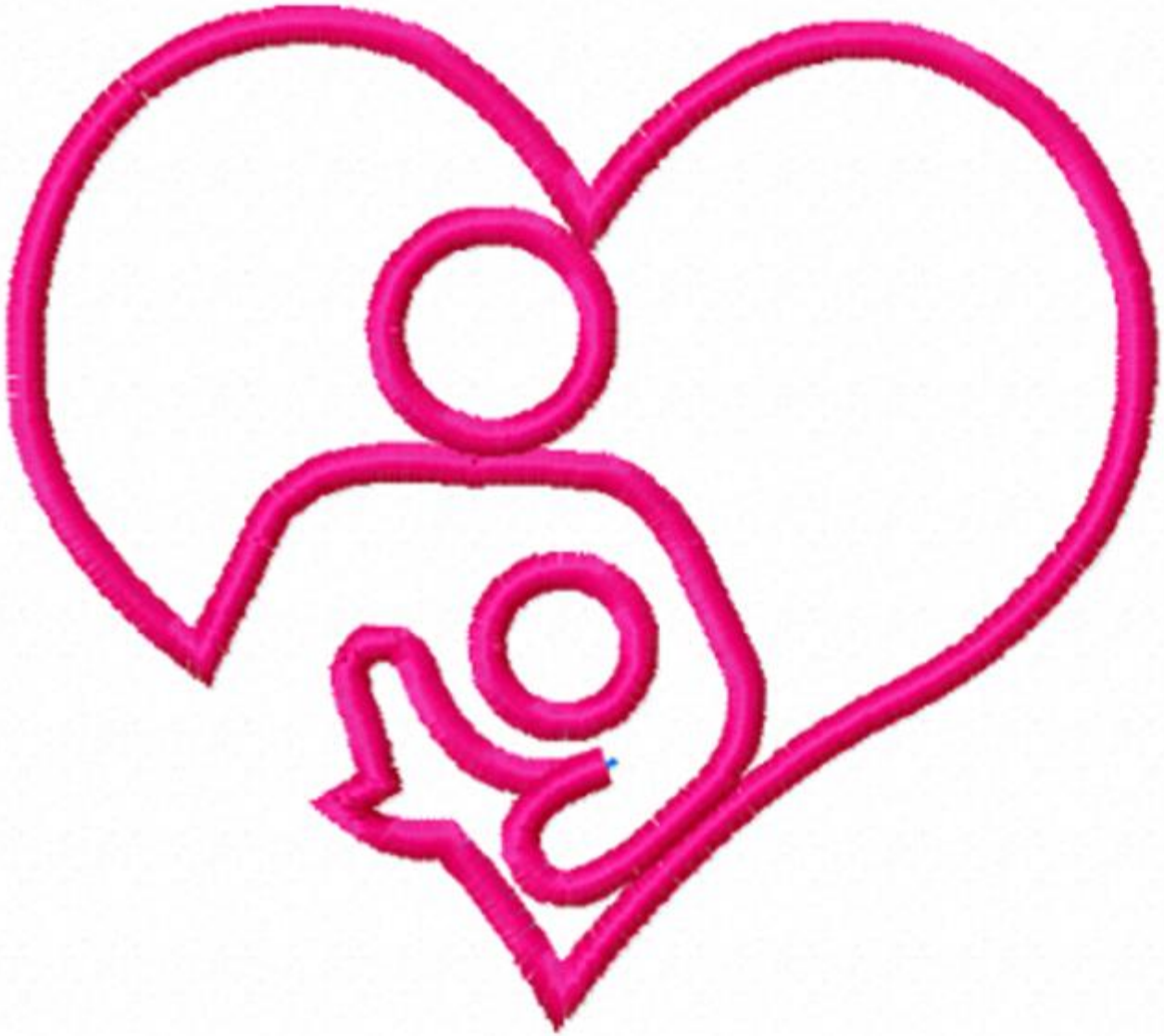
Anxiety and panic attacks occur when environmental or emotional stressors convince your amygdala that you are in danger

Hypoactivation

I felt so much, that I started to feel nothing.

As live-wired creatures, what renews or depletes us is completely individualized by our unique experiences, brain development, and memories



Our mother's heartbeat establishes some of our first connections about safety and fear (pre and post verbal)

We Are Shaped By Our Life Experiences

Humans are born helpless, we are totally dependent on those around us for survival

Memory of our experiences

ARE STORED IN OUR BRAINS (Hippocampus)

Whether We Want to Remember Them or Not….

The past can put negative imprints on our limbic system and then those imprints can impact the present…, This can make the small seem big.


Historical Negative
Experiences Can Trigger Hijacks:
Cologne, Tone, Word Choice
imgflip.com

emotional triggers

In order to increase protection, the amygdala maintains experiences that develop into triggers

A trigger is something (usually related to our senses) that causes our brain to go into protection or pleasure mode

Conditioning can account for many of our triggers.

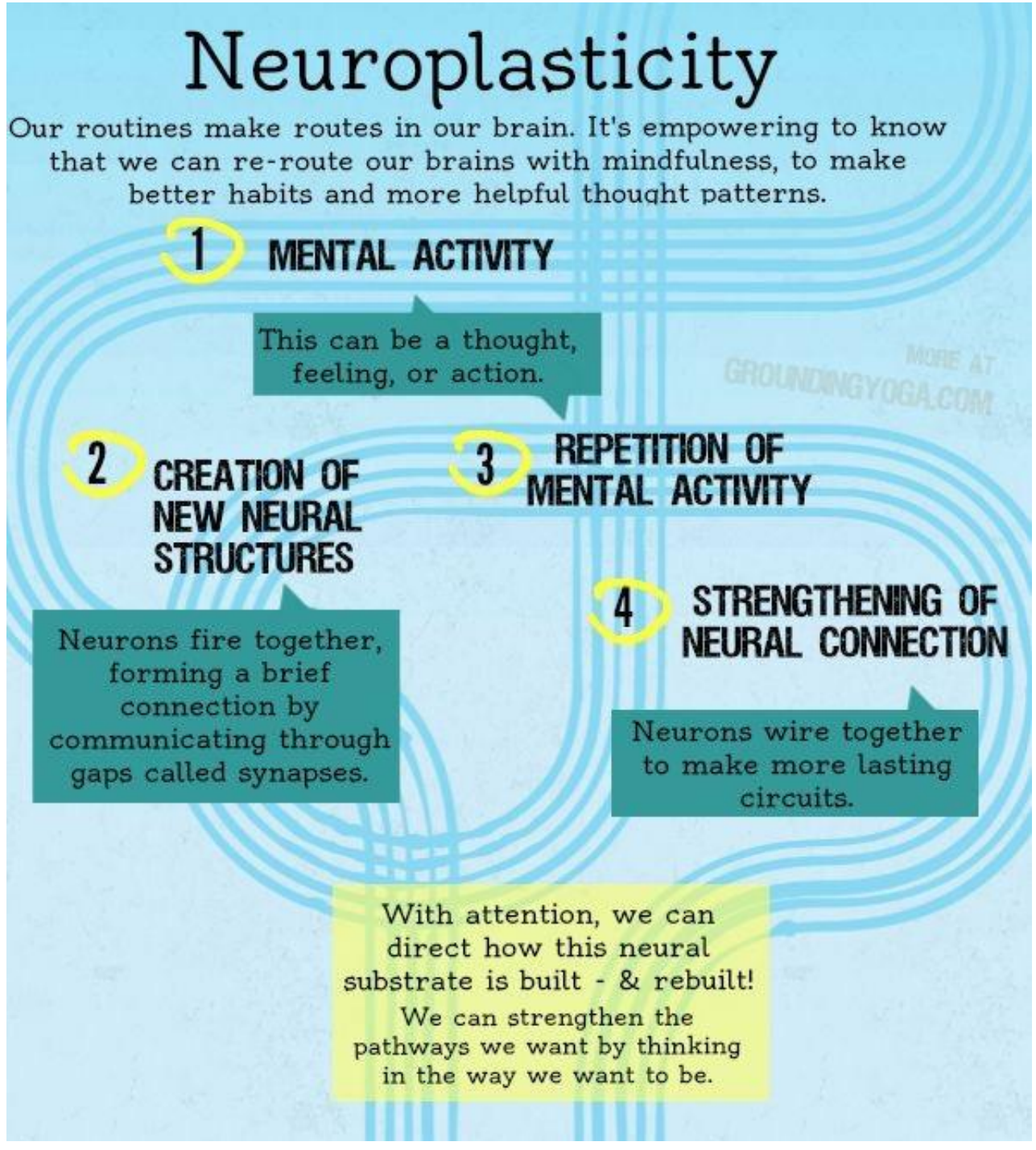
Conditioning occurs in many ways; What we personally experience, what we read, what we see happen to others, etc..

1. recognizing your emotions

+

2. understanding your emotions =

3. power to control your emotions


Neuroplasticity
Our routines make routes in our brain. It's empowering to know that we can re-route our brains with mindfulness, to make better habits and more helpful thought patterns.
1 MENTAL ACTIVITY
This can be a thought, feeling, or action.
2 CREATION OF NEW NEURAL STRUCTURES
Neurons fire together, forming a brief connection by communicating through gaps called synapses.
3 REPETITION OF MENTAL ACTIVITY
4 STRENGTHENING OF NEURAL CONNECTION
Neurons wire together to make more lasting circuits.
With attention, we can direct how this neural substrate is built - & rebuilt!
We can strengthen the pathways we want by thinking in the way we want to be.

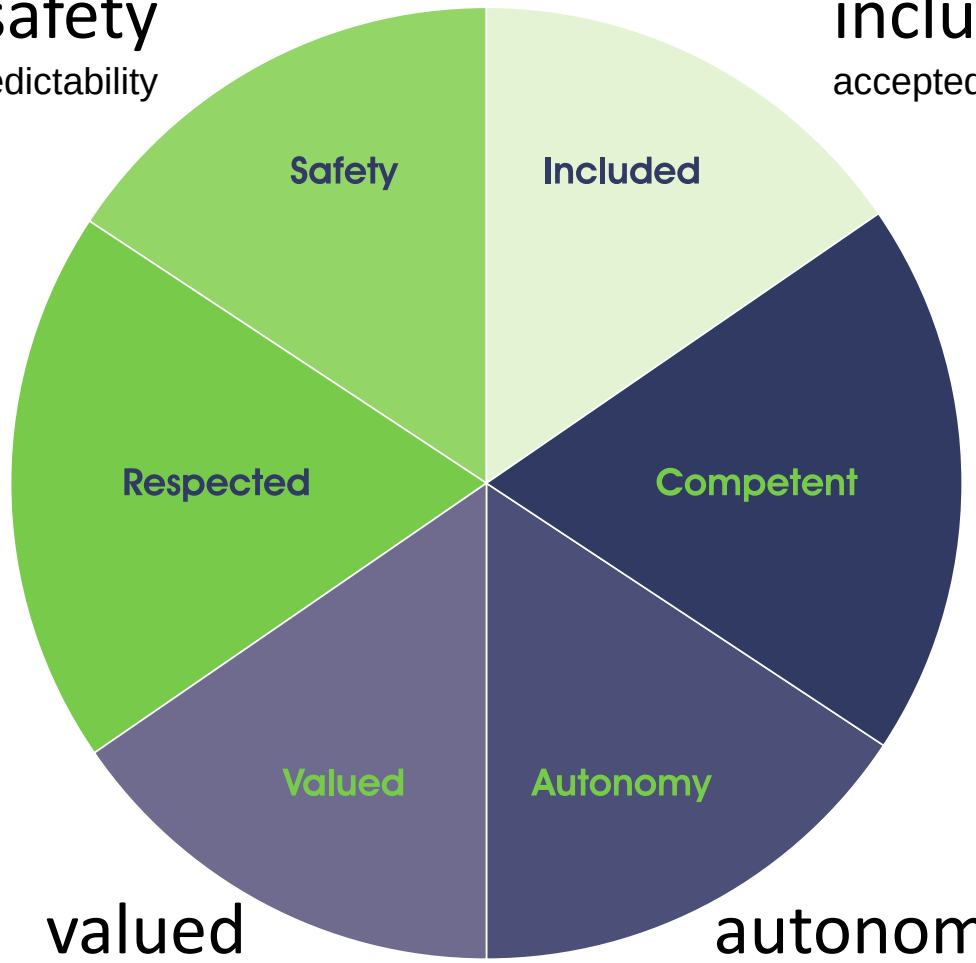
general emotional needs of the limbic system

safety

biologically | physically | security | predictability

included

accepted | liked | needed | paid attention to



respected

understood | treated fairly | dignity

competent

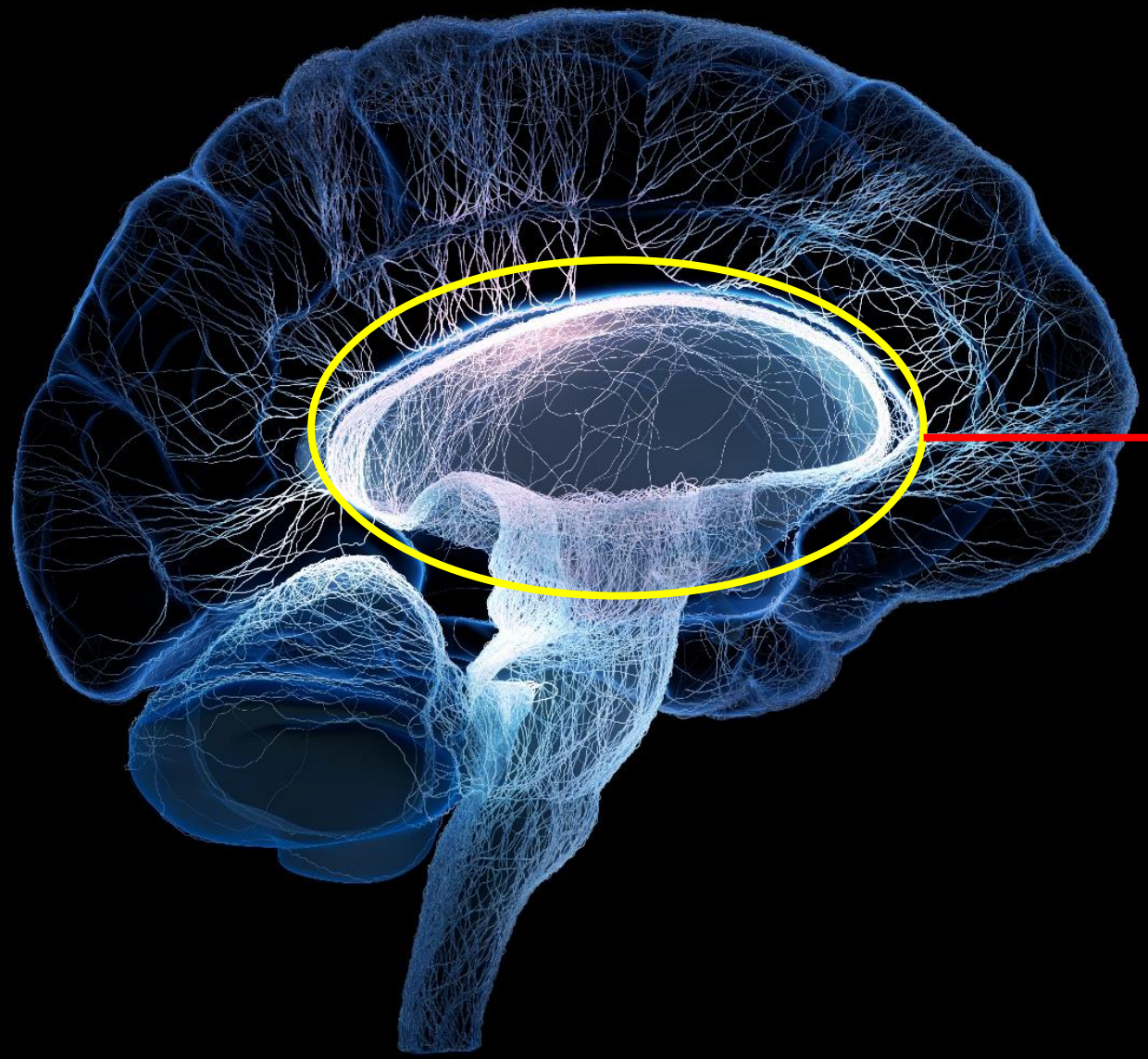
success/title | reputation | achievement

valued

appreciated | feels heard | significant | recognized | praised

autonomy

sense of control | choice | power voice | feels able to act



Understanding our positive and negative triggers will help us self-regulate to reach our full potential

Training	Trainer	Date & Time
Intent vs. Impact: Identifying My Triggers	Roseann Bayne	Thursday-5/21 @ 2:00
Overview of Mindfulness in Education	Liane Benedict	Wednesday-5/27 @ 2:00
Becoming a Mindful Teacher	Liane Benedict	Wednesday-6/3 @ 2:00
Small Adaptation, Big Impact! Becoming a Role Model for Social Emotional Behavior	Roseann Bayne	Wednesday-6/10 @ 2:00
Strategies for Mindfulness in the Classroom	Liane Benedict	Wednesday-6/17 @ 2:00

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