

Rewire the Anxious Brain

Using neuroscience to aid the treatment of
Anxiety, Panic, and Worry

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Disclaimer

- ▶ “Materials that are included in this course may include interventions and modalities that are beyond the authorized practice of mental health professionals. As a licensed professional, you are responsible for reviewing the scope of practice, including activities that are defined in law as beyond the boundaries of practice in accordance with and in compliance with your professions standards. “

Pro's & Con's of using Neuro-counseling

Pro's

- Evidence & Authority
- De-stigmatize

Con's

- Slip into teacher role
- Complex



Neuroscientific Concepts Helpful in the Counseling Room

Keep your goals as a therapist in mind:

- To engage and empower
- To assist clients in separating from their experience of anxiety
- To provide a new perspective
- To inspire hope and motivation

“How will this knowledge help the client”

Just because you can explain doesn't mean you should

Stay Person-Centered!!



Personalized Goals

Identify the situations in which anxiety interferes in your ability to live your life

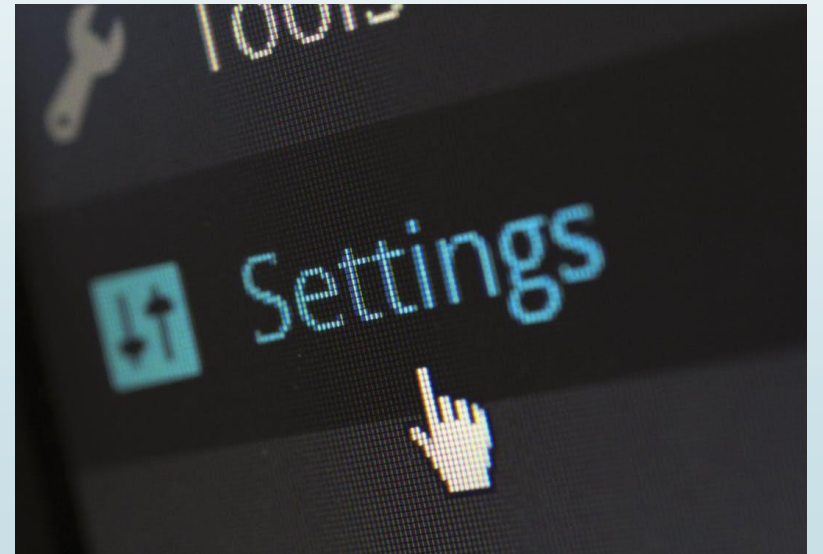
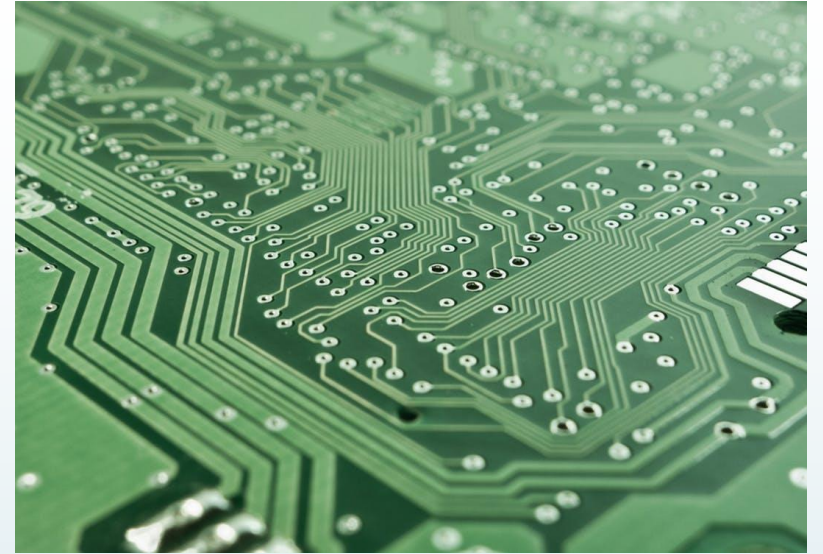
Short term goals: “ This month, I would like to...”

Long term goals: “Within a year, I would like to ...”

Focus on situations in which anxiety reduction will make a real difference

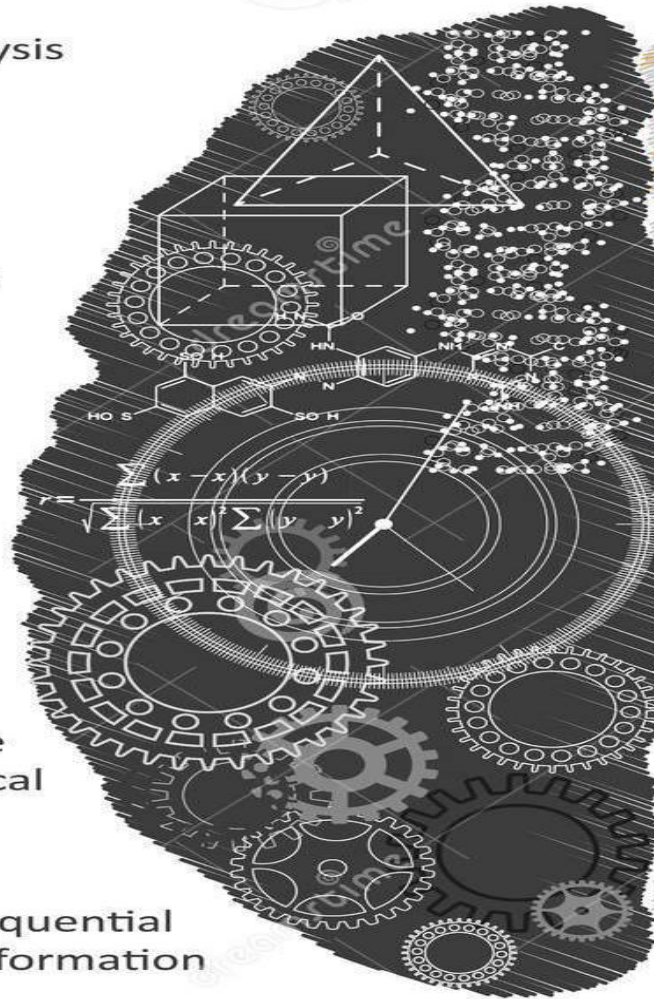
Brain vs. Mind

- ▶ Mind: mental processes (sensations, thoughts, emotions) that are created by the brain
 - ▶ Maintain a focus on sensations, thoughts, feelings
 - ▶ The mind is our focus and it can change the brain
- ▶ Brain: physical, visible, biological basis of the mind



LEFT HEMISPHERE

- Responsible for logical thinking
- Focused in analysis
- Responsible for language skills
- Controls speech
- Responsible for memorizing facts and names
- Controls reading and writing abilities
- Controls science and mathematical capabilities
- Specializes in sequential processing of information
- Controls right part of the body



RIGHT HEMISPHERE

- Focused in intuition
- Conceives the non-verbal information
- Responsible for spatial orientation
- Focused in synthesis
- Responsible for ability to draw pictures
- Responsible for imagination
- Responsible for musicality
- Creates emotions
- Produces dreams
- Specializes in multitasking and parallel processing of information
- Controls left part of the body



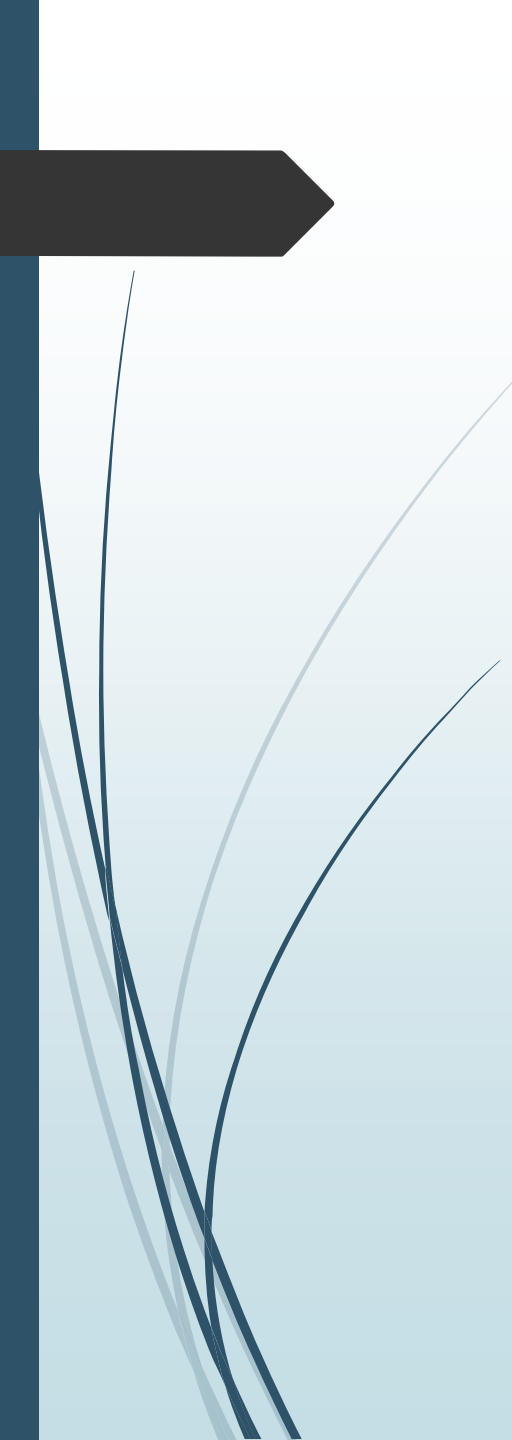
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My Stroke of Insight by Jill Bolte Taylor



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The Master and his Emissary” by Iain McGilchrist – A brain divided

- ▶ Two hemispheres pay attention in fundamentally different ways
- ▶ Left = detail oriented
- ▶ Right = whole oriented
- ▶ The left-brain should be the **servant** of the right brain. It is the right brain that sees the world as a whole.

Triune Brain

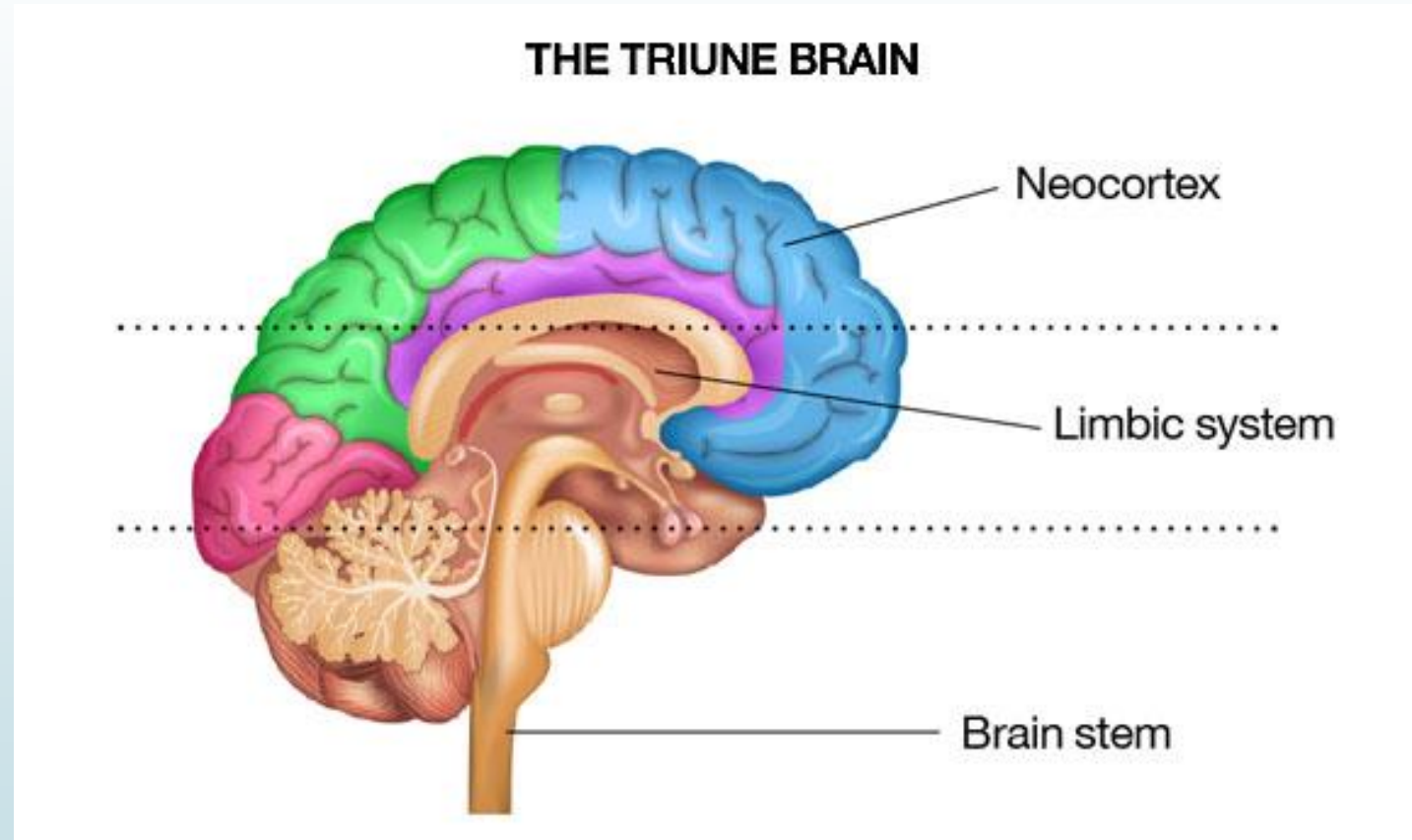
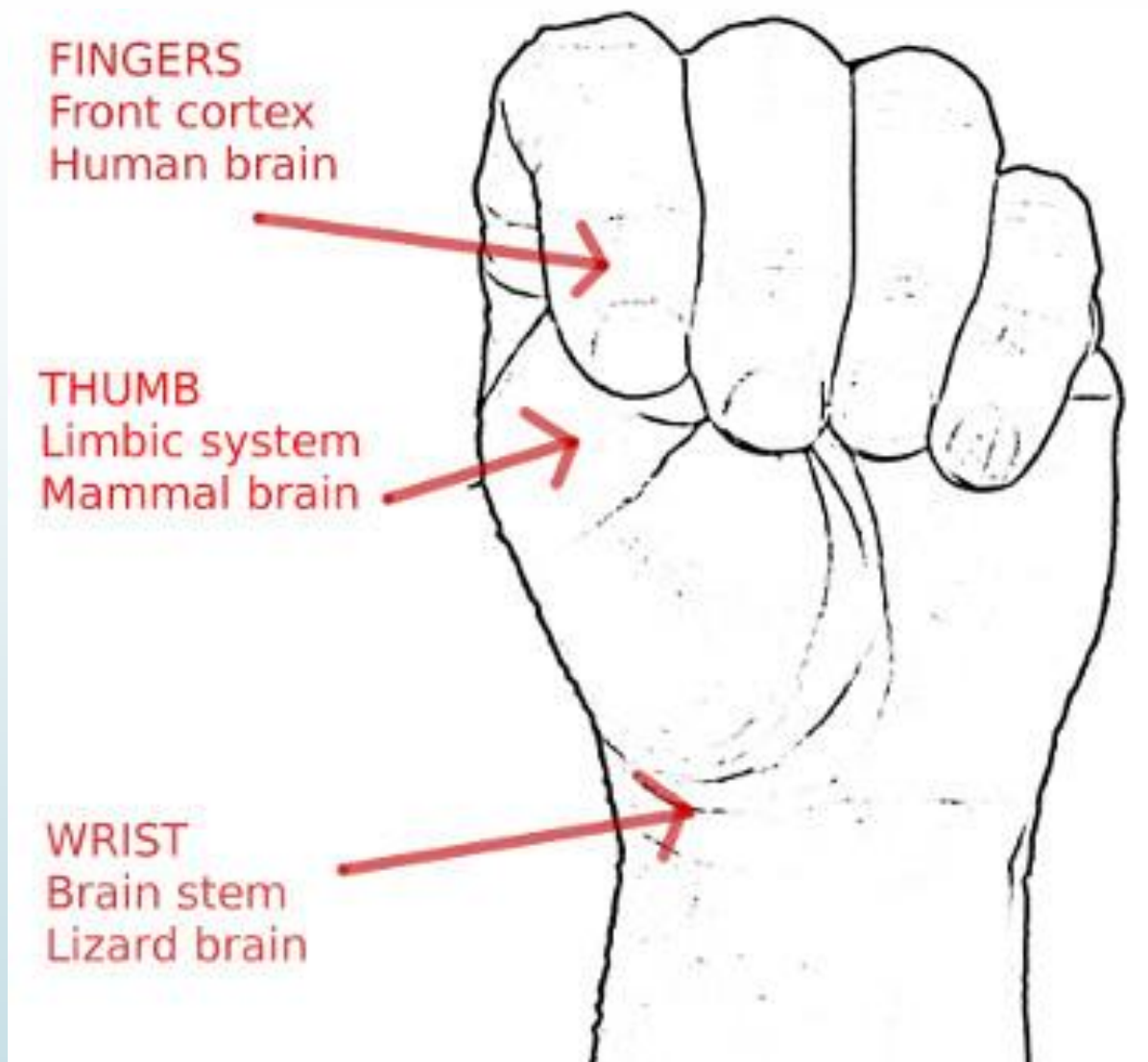


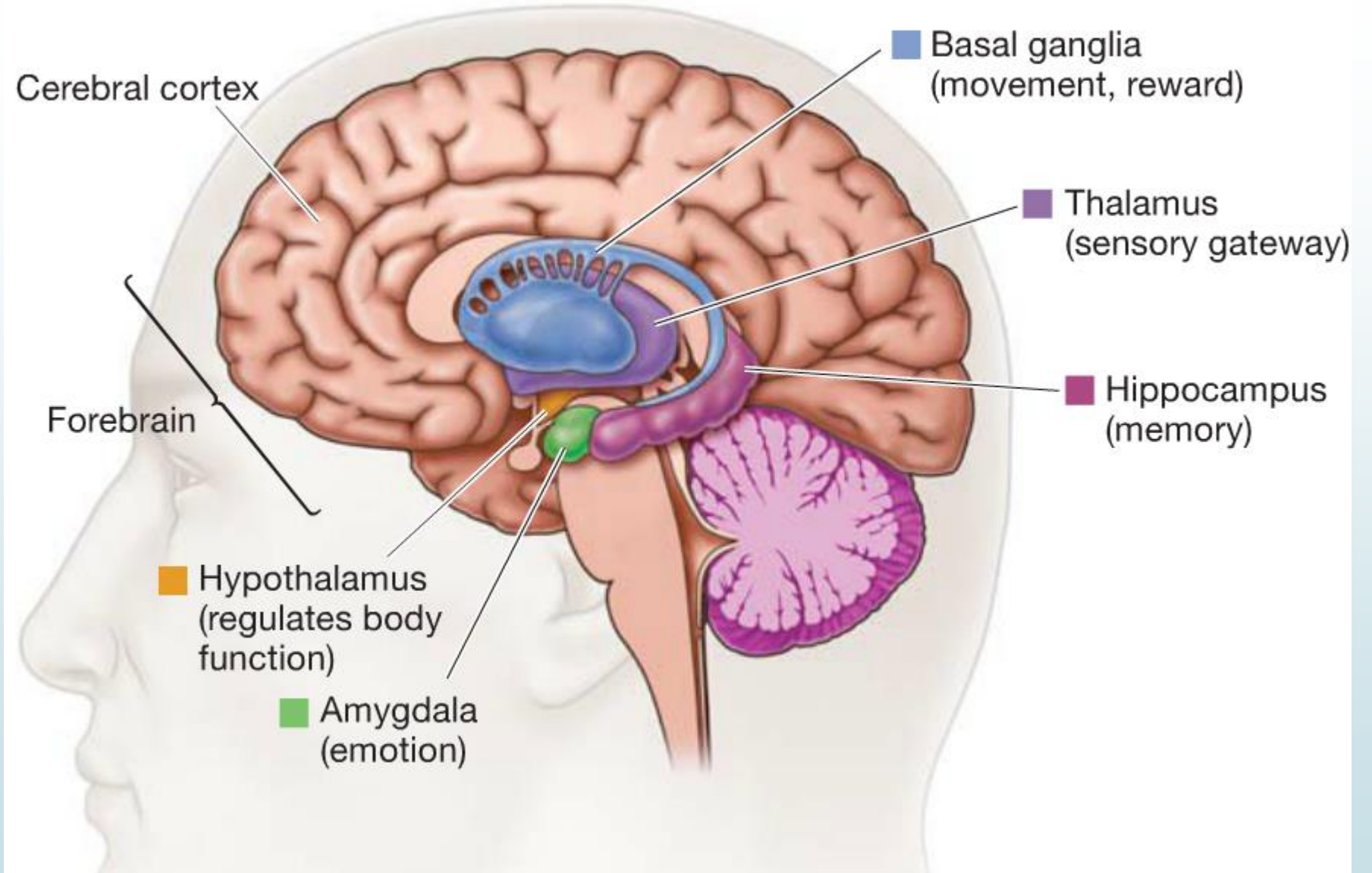
Image Credit: <http://www.vietnow.com/the-science-of-ptsd-the-triune-brain/>

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Dan Siegel's

- ▶ The Brain in the Palm of the Hand
- ▶ Preparing the Ground: Self-regulation
- ▶ Brain in the hand is based on work by Daniel J. Siegel, MD





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(Image Credit <http://www.studyblue.com>)

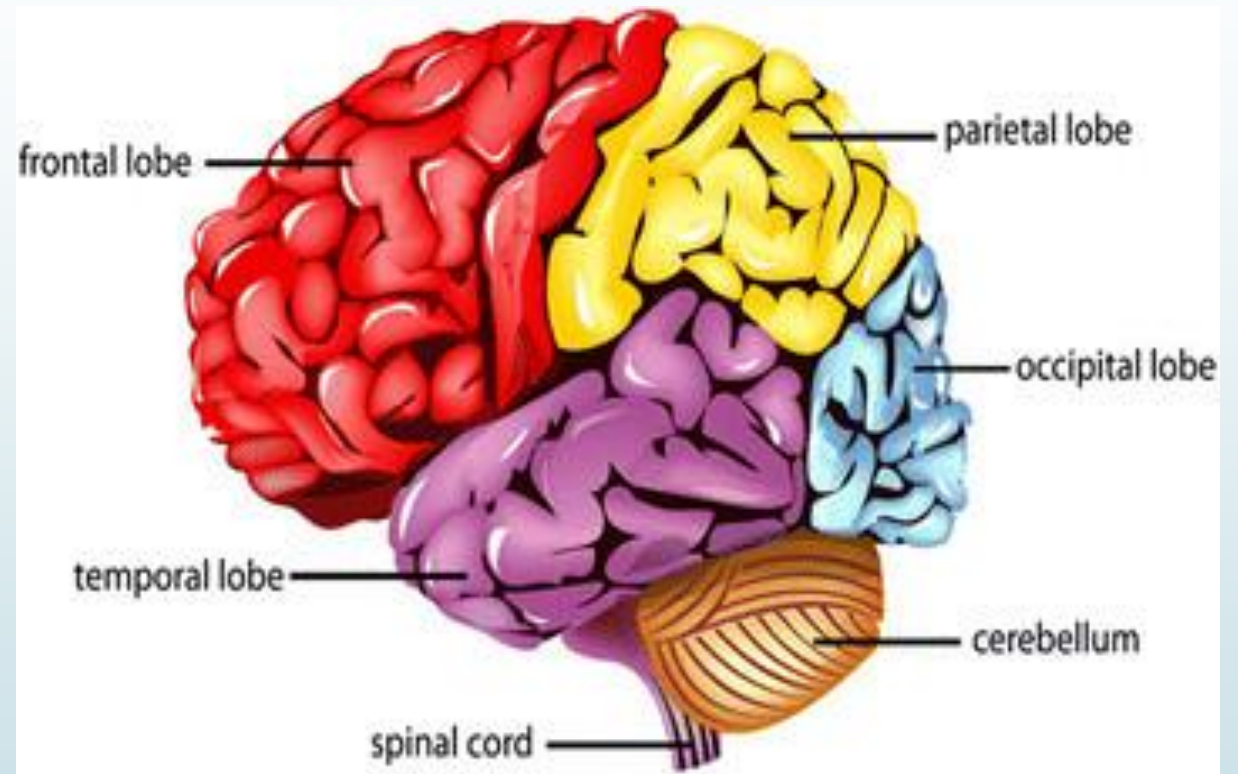
The Lobes

The Temporal Lobe controls memory storage area, emotion, hearing, and, on the left side, language.

The Parietal Lobe receives and processes sensory information from the body including calculating location and speed of objects.

The Occipital Lobe processes visual data and routes it to other parts of the brain for identification and storage.

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The **Frontal Lobe(s)** is the most recently-evolved part of the brain and the last to develop in young adulthood.

It's **dorso-lateral prefrontal** circuit is the brain's top executive.

It organizes responses to complex problems etc.

Ventrolateral = inhibition of emotional responses, and decision making.

Its **orbitofrontal circuit** manages emotional impulses in socially appropriate ways such as interpretation of facial expressions.

Stroke in this area typically releases foul language and fatuous behavior patterns.

Frontal Lobe

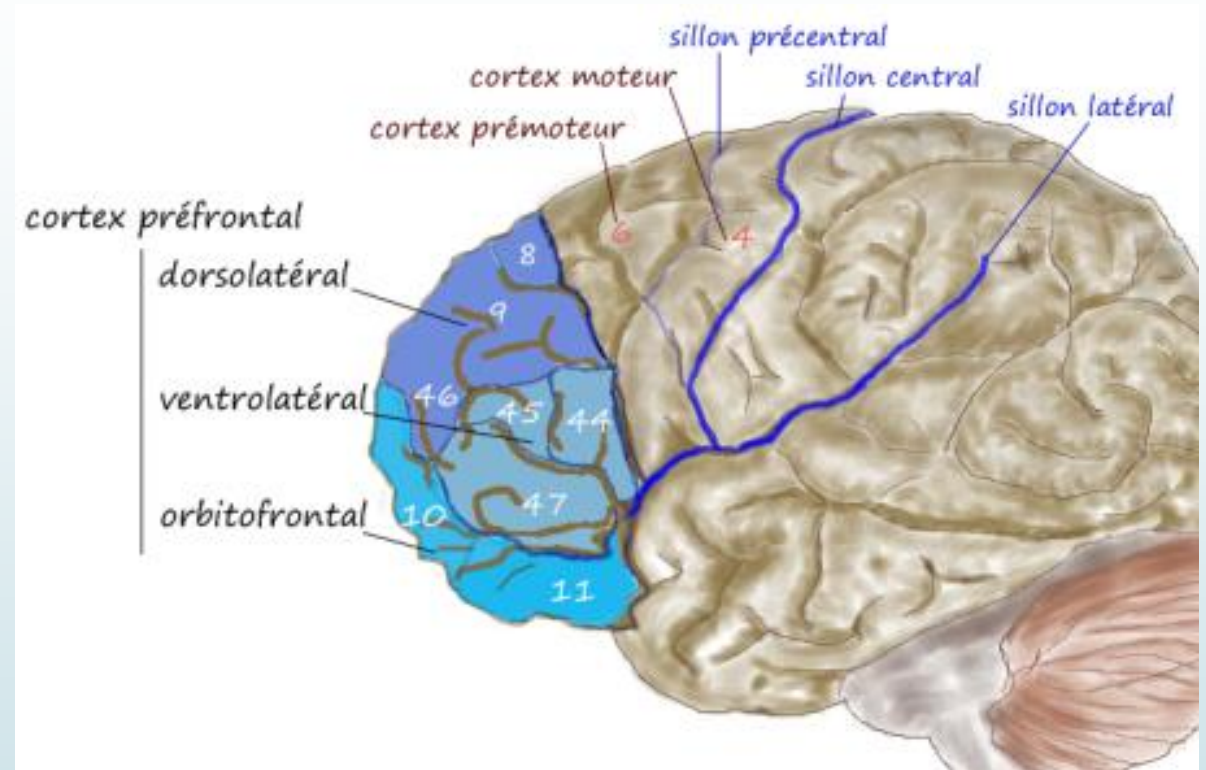
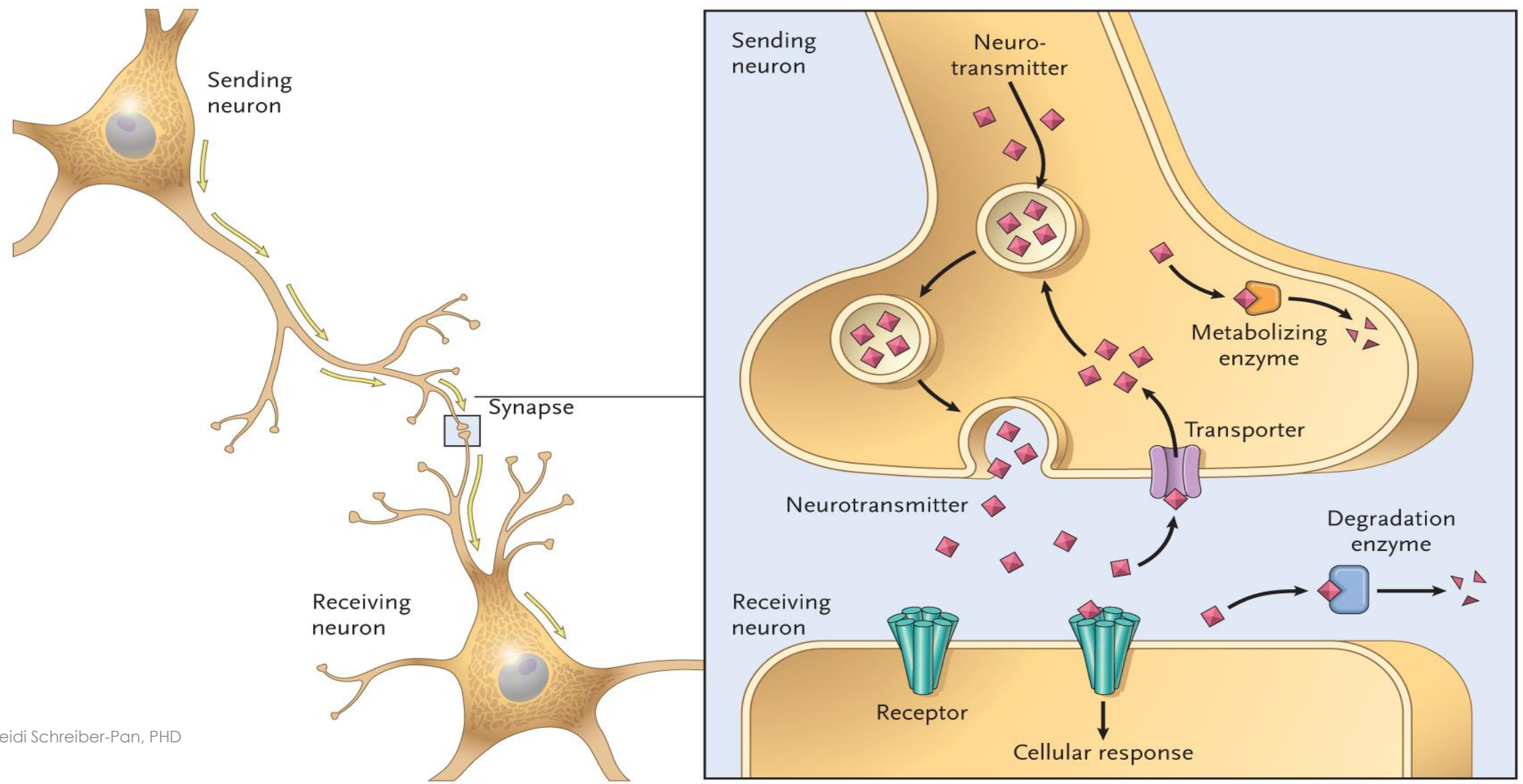


Image Credit
<https://ibpsych.themantic-education.com/2016/10/27/the-frontal-lobe-and-the-prefrontal-cortex/>

Generic Neurotransmitter System



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NEUROTRANSMITTERS

E

ADRENALINE fight or flight

produced in stressful situations. Increases heart rate and blood flow, leading to physical boost and heightened awareness.

GABA calming

Calms firing nerves in the central nervous system. High levels improve focus, low levels cause anxiety. Also contributes to motor control and vision.

E

NORADRENALINE concentration

affects attention and responding actions in the brain. Contracts blood vessels, increasing blood flow.

ACETYLCHOLINE learning

Involved in thought, learning and memory. Activates muscle action in the body. Also associated with attention and awakening.

Conditional

Conditional

DOPAMINE pleasure

feelings of pleasure, also addiction, movement and motivation. People repeat behaviors that lead to dopamine release.

GLUTAMATE memory

Most common neurotransmitter. Involved in learning and memory, regulates development and creation of nerve contacts.

E

I

SEROTONIN mood

contributes to well-being and happiness. Helps sleep cycle and digestive system regulation. Affected by exercise and light exposure.

ENDORPHINS euphoria

Released during exercise, excitement and sex, producing well-being and euphoria, reducing pain

E

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Connection Between Neurons

- Circuitry is shaped by specific experiences and can be changed due to continuing experiences
- Connection between neurons remains strengthened when used

Example: Some may continue to use multiplication tables to calculate math equations, and those neuron connections remain as strong as we were in school. The one that use calculators instead, don't regularly use the brain circuits storing the multiplication tables, and its memory weakens.

Oversimplification is Inevitable

- Dan's Hand Model
- Pathway Metaphor
- Paper Folding Exercise
- Bypass



Bypass of well-traveled area on a highway



Neuroplasticity: ability of the brain to reorganize its patterns of responding

In everyday language

- “Your brain doesn’t have to react this way.”
- “You can make your brain more resistant to anxiety.”
- “We can work together to change your brain to stop doing this.”
- “The circuitry in your brain can be rewired.”
- “Your brain is capable of changing your (thoughts, feelings, responses).”

Neurons that fire together – wire together

Hebb's axiom reminds us that every experience, thought, feeling, and physical sensation triggers thousands of neurons, which form a neural network.



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The Backwards Brain Bicycle - Smarter Every Day

<https://youtube/MFzDaBzBIL0>

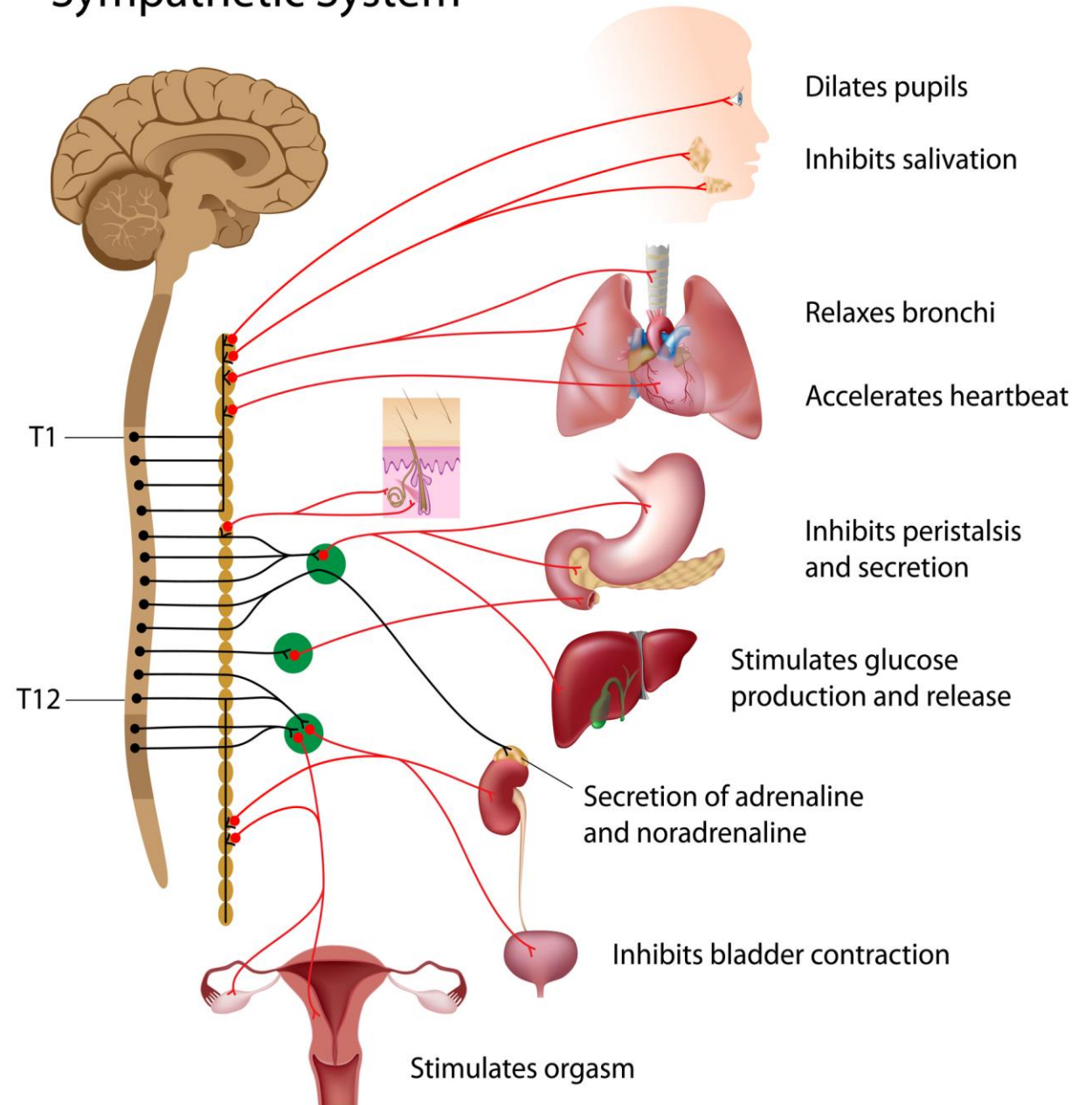
Brain & Body Connection

- Look no further than the Autonomous Nervous System



Autonomic nervous system
has two subdivisions

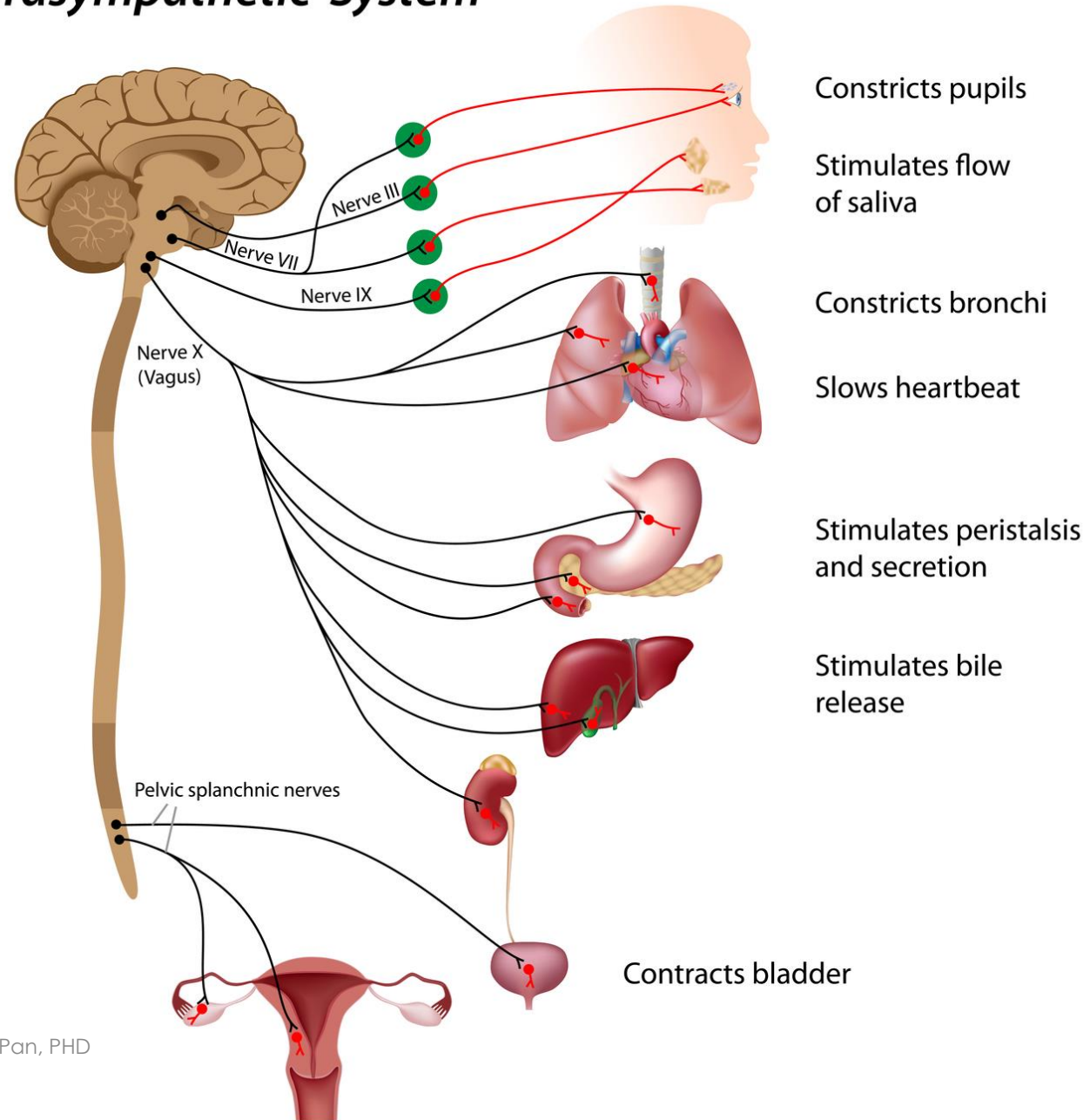
Sympathetic System



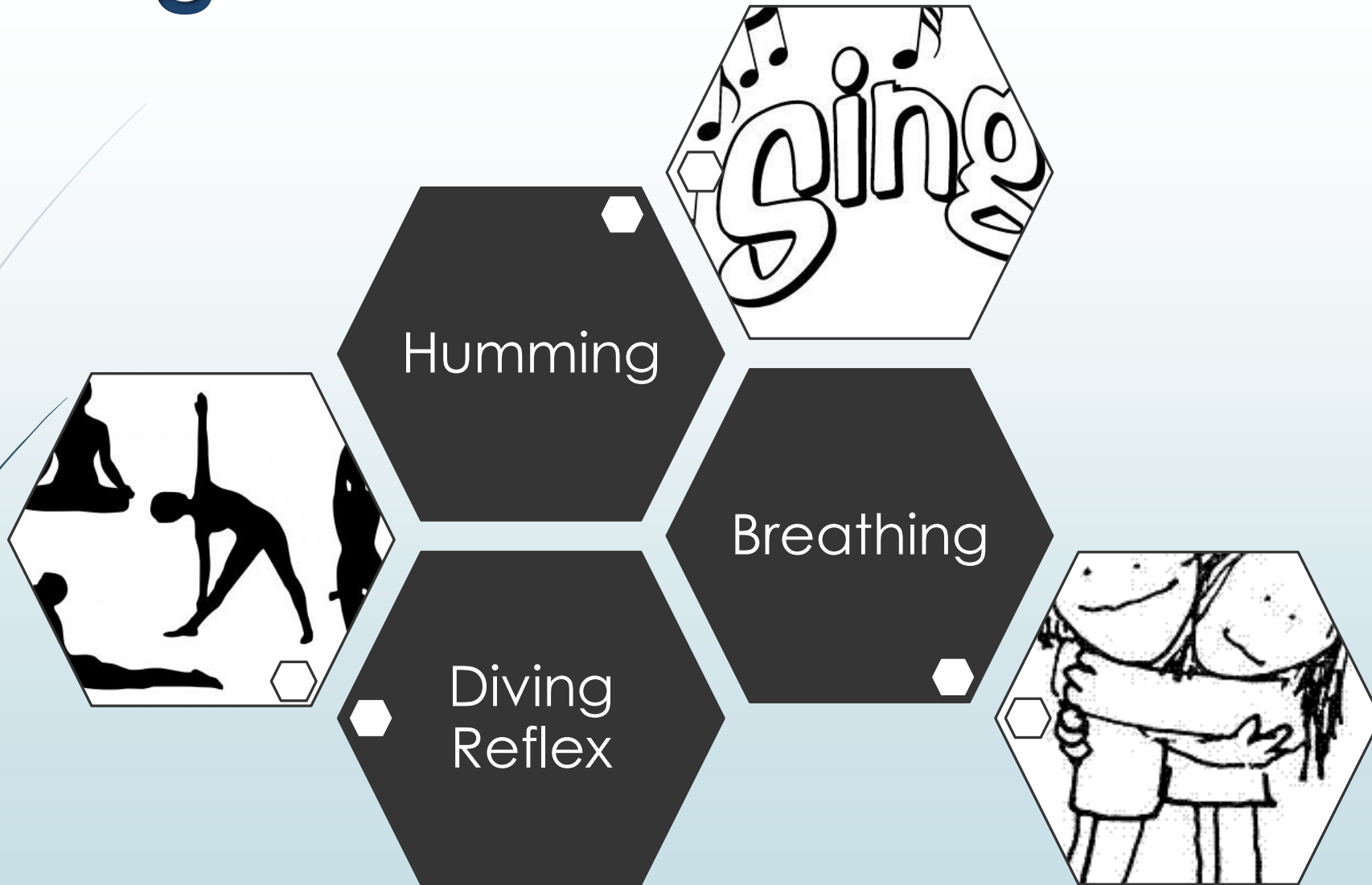
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Image Credit: <https://ageonicsmedical.com/medical-services/nervous-system-testing/>

Parasympathetic System



Vagus Nerve

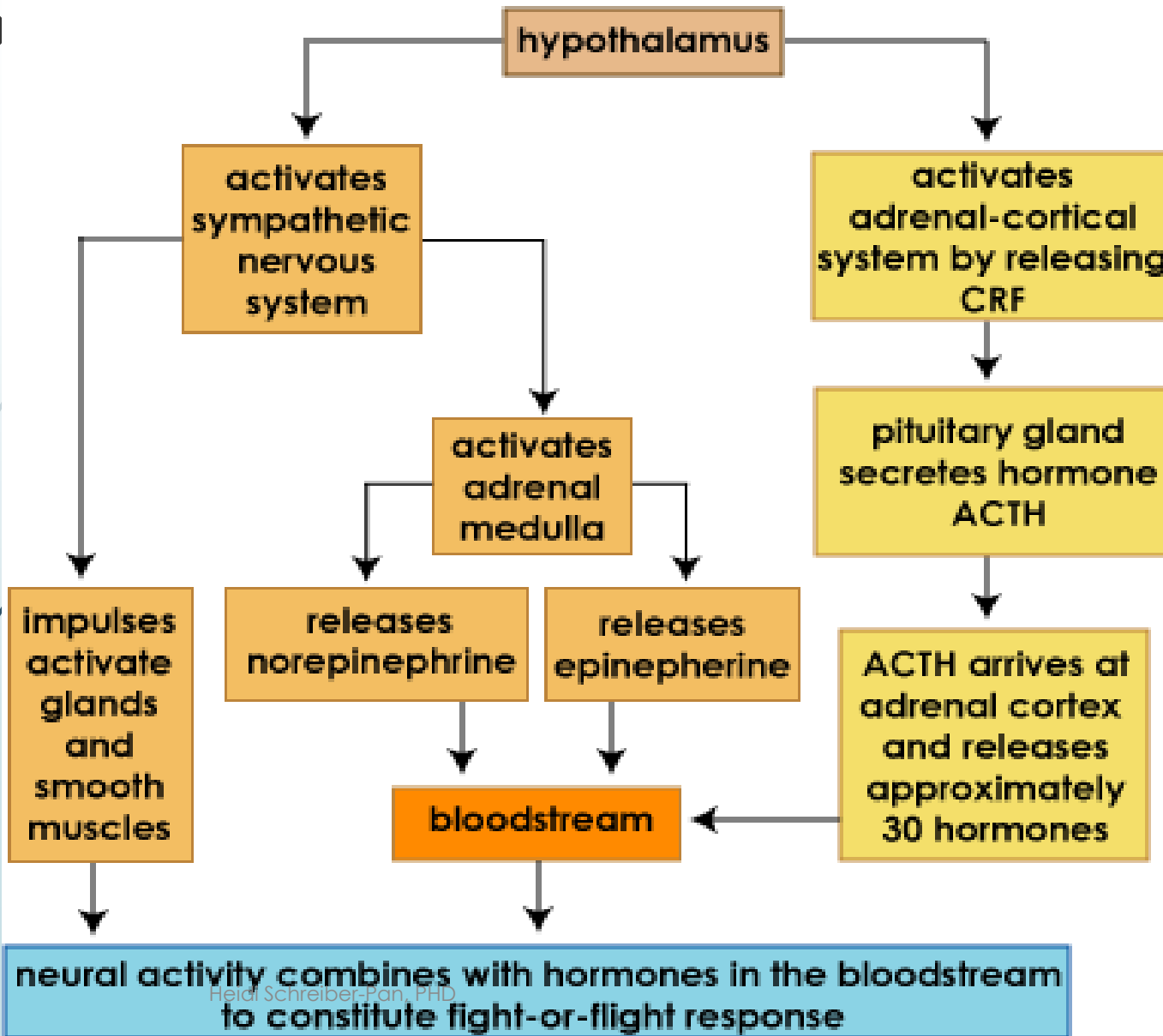


The Mammalian Dive Reflex

An Illustration



Fight-or-flight Response



Amy. starts it all

CRF = Corticotropin Releasing Factor
ACTH = Adrenocorticotrophic hormone

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What about the Freeze Response?

Collapsing

Playing
dead

Tonic
Immobility

Can't
move but
still stressed

What two populations more frequently go into the FREEZE Response?

Tonic Immobility

70% of female rape victims experienced tonic immobility.

These women were also three times more likely to develop PTSD and three and half times more likely to develop severe depression.

Body records its survival as a “success”.

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Möller, A., Söndergaard, H. P., & Helström, L. (2017). Tonic immobility during sexual assault—a common reaction predicting post-traumatic stress disorder and severe depression. *Acta obstetrica et gynecologica Scandinavica*, 96(8), 932-938.



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Peter Levine

- ▶ Freeze Response
- ▶ Trauma = Highly Energetic Response
- ▶ Trauma stored in the right hemisphere

- ▶ Slinky Metaphor



Stuck in the Sympathetic NS?

Immune Suppression

- Inflammation

Physical Consequences

- Headaches, Insomnia, etc.

Sympathetic Arousal

- Heart Disease



Six Principles to “let go” of SNS arousal

- Breathing Rhythmically
- Focused Attention
- Quiet Environment
- Accepting Attitude
- Relaxed Posture
- Observation & Labeling

Bottom up or Top down?

Meditation creates Resiliency

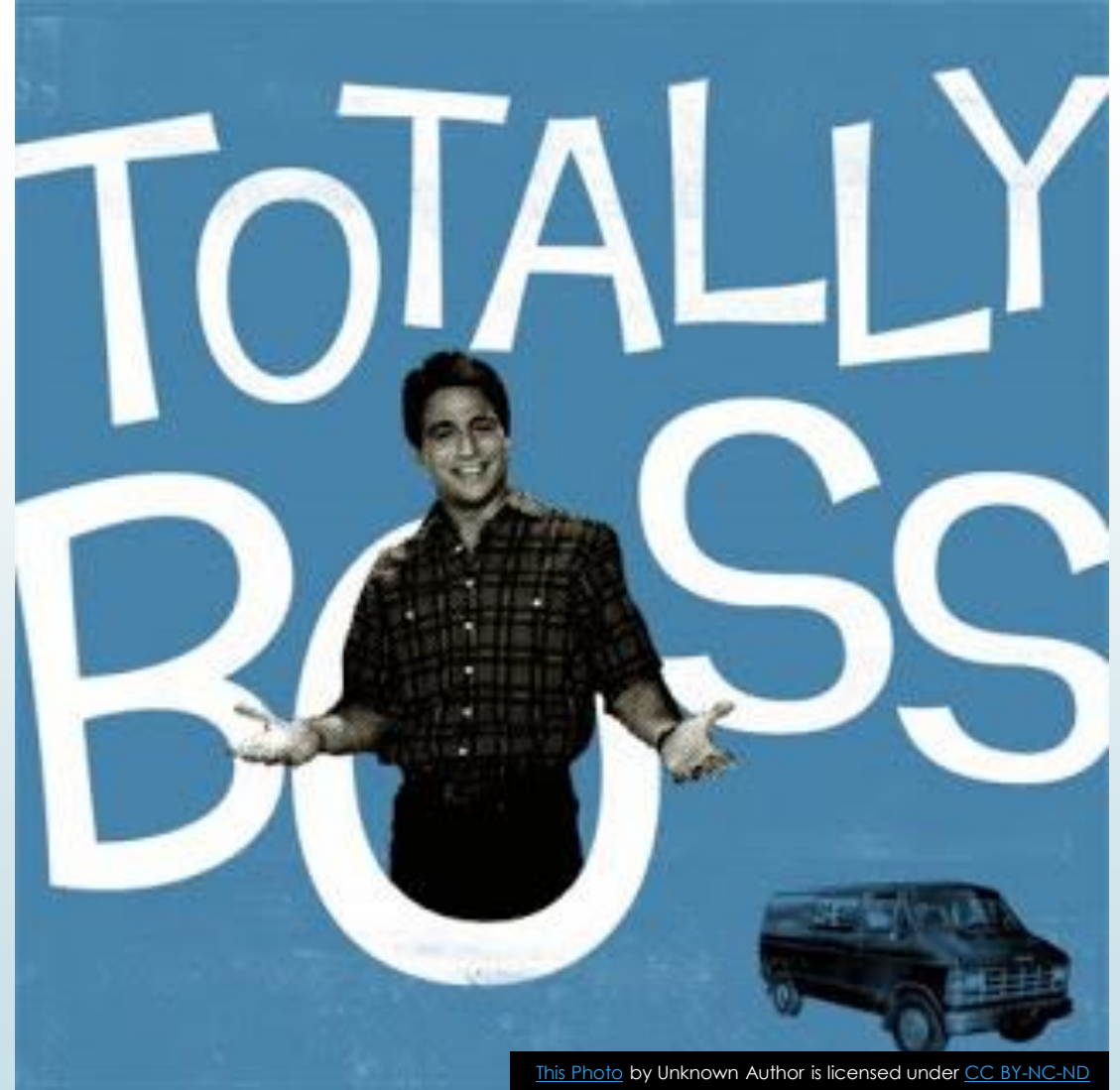
Dampen
Amygdala
Activity

Increase
Connection
with PFC



Whose the Boss?

- ▶ Amygdala is the decision maker
- ▶ Like the conductor of an orchestra, it controls many different reactions in both your brain and body.



Amygdala asks: Is this dangerous?

Yes

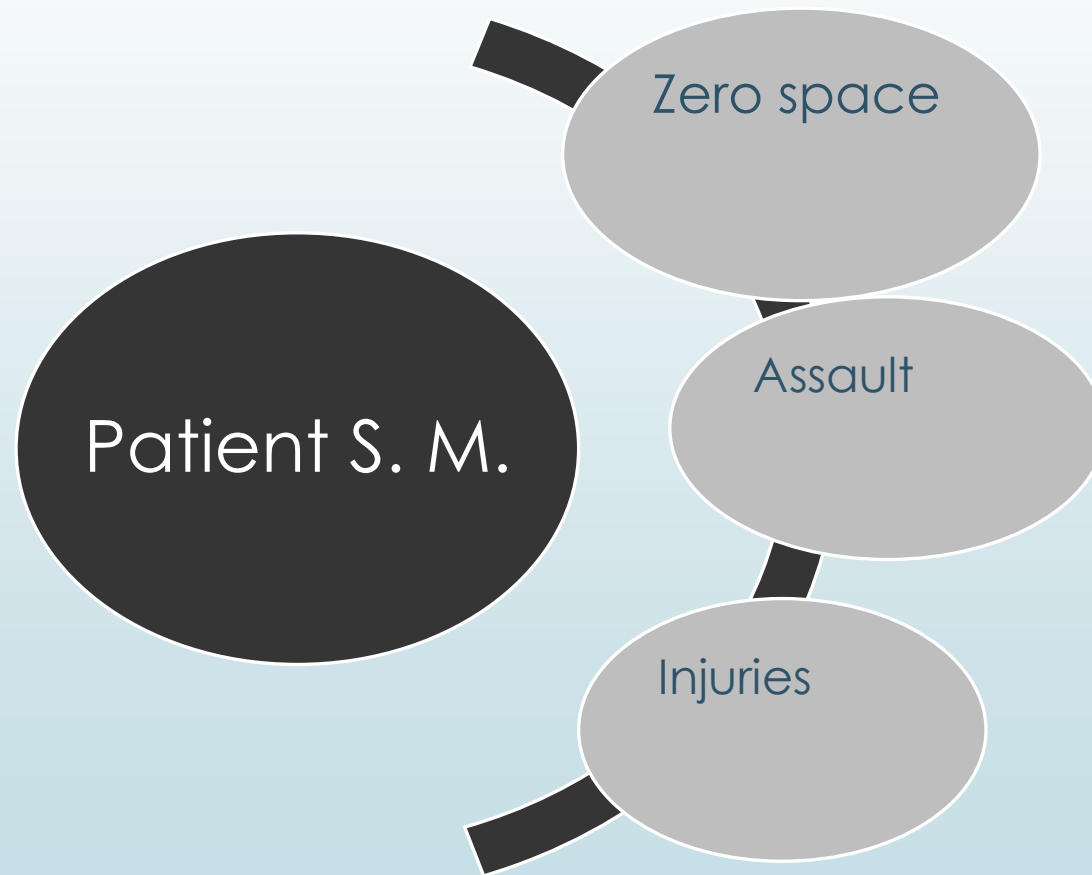
- Fire alarm (little to a lot)
- Suppress Cortex

No

- No Firing takes place
- All is Well

If you did not have an Amygdala

(Justin Feinstein Laureate Institute for Brain Research)



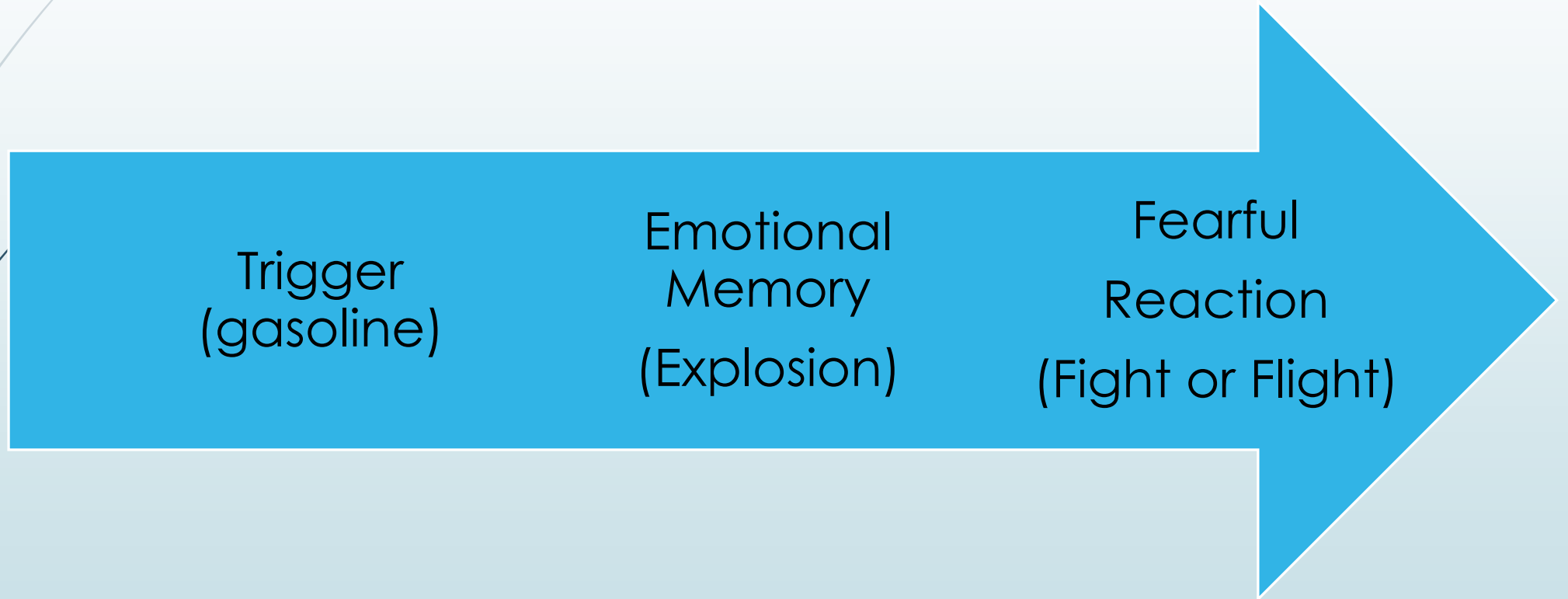
Language of the Amygdala

Wired for Survival NOT for Mental Health

- Association is an essential part of the language of the amygdala.
- The amygdala learns on the basis of pairings.
- The amygdala is not logical.
- Amygdala turns certain situations/objects into triggers for anxiety.
- Scientists have not only learned how and where triggers are created in the amygdala, but they have also learned how to train the amygdala to stop responding to triggers.
- The amygdala needs *experience* to learn.



Association – learned fear reaction



Amygdala says...

"Prove that you're not scared by behaving without fear and I'll buy it. Until then, my alarm bells are ringing".

You have to make peace with your amygdala being what it is by now- "*A highly sensitive brain part that triggers needlessly.*"



Exposure as a way of exercising/training the amygdala

“No Pain, No Gain”

- It's difficult to expose yourself to situations that distress you
- Don't try exposure until confident you'll follow through
- Possibility of strengthening anxiety if leave/avoid exposure situations before your anxiety decreases

Identifying Triggers

Situation that creates anxiety	Level of anxiety 1 -100	Frequency	Triggers
Performance review	75	Once / year	Email reminder from the boss
Presentations	95	Monthly	Meeting room



Exposure – Rejection Therapy

► Jiu Jiang's Ted Talk





Limitations & Potential Risk of Exposure Therapy

- ▶ availability of specialized training is limited
- ▶ if not implemented properly, exposure therapy's positive effects can wane
- ▶ ethical considerations

Neuroplasticity & Amygdala

- ▶ Some interventions have effects on the activation of the amygdala
 - ▶ Deep Breathing
 - ▶ Yoga / Movement & Meditation
 - ▶ Regular Aerobic Exercise
 - ▶ Mindfulness Based Meditation (breath, attention & acceptance)
- ▶ Some interventions rewire the circuitry in the amygdala, producing lasting change
 - ▶ Exposure



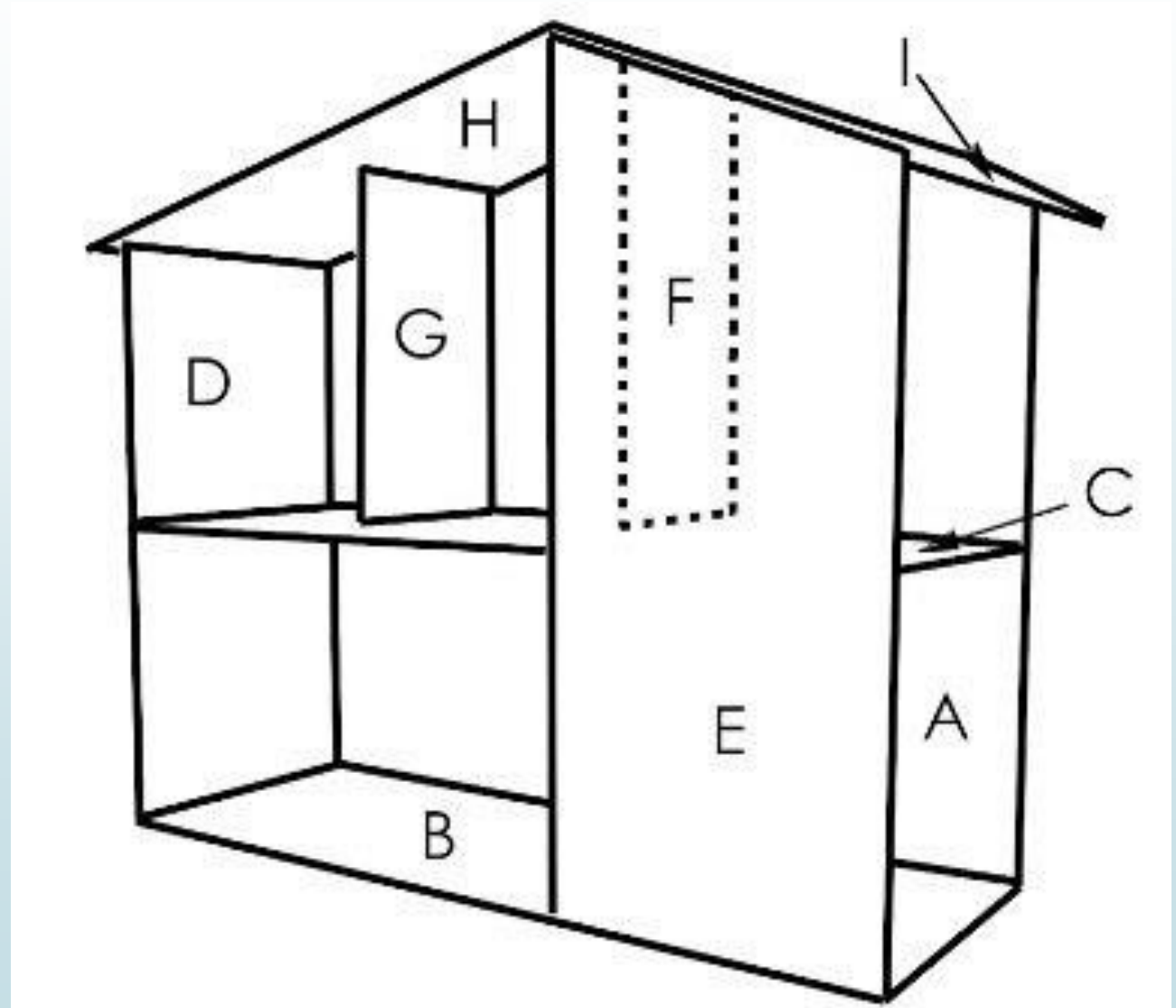
3-day Mindfulness Retreat (A. Taren et al.)

Relax

MBSR

**Decrease in Amygdala Size
Less Dense “trees that had been
pruned”**

The Brain House (Dan Siegel)





Internal Family Member: Anxiety

All parts are valuable

Re-negotiating it's role

Prevent Hijacking by this part



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Who is the Time Keeper?

► Hippocampus asks:
“Has this been bad before”

Takes Picture & Puts Time Stamp on it
Sees things in context

Trauma changes everything

Emotional Memories formed by the Amygdala

Emotional Memories made by experiences



Cortex

- May or may not remember
- More likely to forget information

Amygdala

- Longer lasting than cortex-based memory
- Stores emotional memories the cortex has no knowledge of

Two Anxiety Pathways

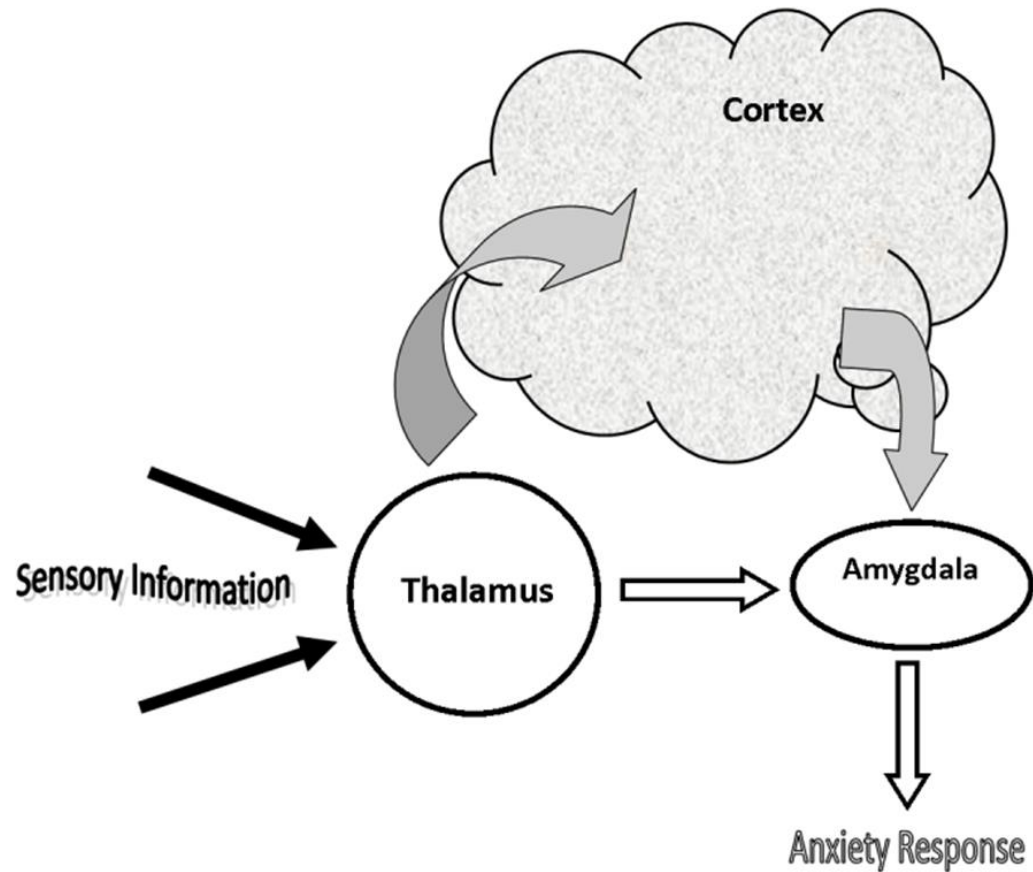
Dog growling → Amygdala

Anticipate phone call → Cortex

Amygdala-based anxiety

- ▶ out of no where
- ▶ strong physical symptoms
- ▶ Out of proportion to situation





Two pathway to anxiety

- The different pathways operate on different timetables
- with the amygdala pathway being more swift.

Fear Ladder

Step	Situation	Fear Rating
10	Drive on the highway alone in traffic	10
09	Drive on the highway alone in light traffic	9
08	Drive on the highway with spouse	8
07	Drive backroads	7
06	Ride as a passenger on the highway	7
05	Ride as a passenger on backroads	6
04	Sit in the car before driving to work	5
03	Listen to news reports about car accidents	4
02	Hear friends talking about commute to work	4
01	Drive around the block	3

Goal: Be able to drive to work via highway



How to Face Your Fears



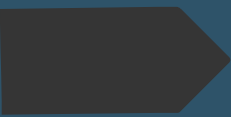
Practice

Step 1: Make a list of things that cause fear. Pick one fear for your fear ladder.

Step 2: Build a Fear Ladder which means arrange the steps from least to most scary.

Tip: items on the fear ladder should be broken down into smaller, manageable (small) steps. For example, if the fear is going to the mall, having a friend go, may be less scary.

Step 3: Start with the situation that causes the least anxiety then continually and repetitively engage in that activity UNTIL you feel the anxiety decreasing.



When it
comes to
treating
anxiety

Enemy # 1



Escape



Avoid



Procrastinate

Neuroscience & Attachment Theory

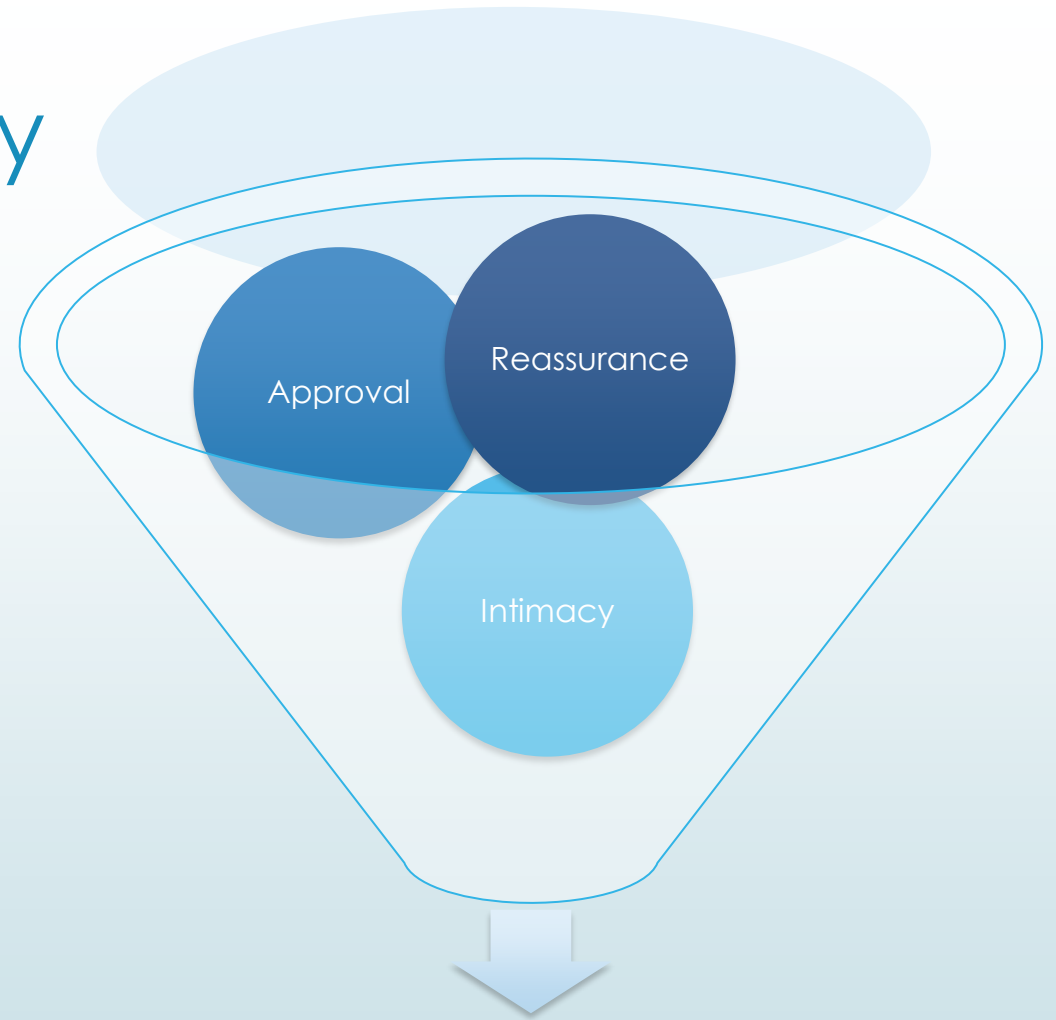
- ▶ Our earliest relationships actually build the brain structures we use for relating lifelong
- ▶ Experiences in those early relationships **encode the neural circuitry** of our brains
- ▶ Attachment patterns begin forming by **12-18 months of age, entirely in implicit memory** outside of awareness
- ▶ These patterns of attachment **become the “rules”, templates, schemas, for relating that operate lifelong**
- ▶ The brain is a social organ, developed and changed in interactions with other brains





Attachment Anxiety

Unreliable or emotionally unavailable attachment figures



Unmet Attachment Needs

1. Limbic region neurons are NOT fully connected at birth
2. Our brains are genetically primed to **FORM SYNAPTIC CONNECTIONS THROUGH RELATIONAL EXPERIENCES**
3. Caregivers activate the growth of those regions of the brain – through emotional availability and reciprocal interactions.
4. Experience dependent maturation of the brain

The Neuroscience of Psychotherapy
Book by Louis Cozolino

**As Cozolino says, we are not
the survival of the
fittest; we are the survival of
the nurtured.**



Healing Attachment

Secure
Attachment

Stable
Amygdala

Pruning of
Neurons in
Amygdala

Insecure
Attachment

Hyperactive
Amygdala

Sense of
unsafe
environment

Attachment in Therapy

Clients
experience
something new
about themselves

Positive
experience is
repeated and
reinforced

Develop new
neural circuits that
store the new &
positive self

“How do you
imagine I am
experiencing you?”

“How do you
experience this
relationship?”

Attachment
patterns stored in
the mode of right
hemisphere

Right brain to right
brain therapy

Sensations,
images, emotions,
present moment

Attachment Therapy tools

AAI

- Adult Attachment Inventory
- AAI Protocol – 20 Questions

Bibliotherapy

- Attached: New Science of Adult Attachment by A. Levin

The
Neuroscience
of Attachm.

- Accelerated Experiential Dynamic Psychotherapy (AEDP) Diana Fosha

Limitations and Potential Risks of Attachment Therapy (Erin J. Lee)

- ▶ The first limitation is "model attachment is based on behaviors that occur during momentary separations (stressful situations) rather than during non-stressful situations. A broader understanding of attachment requires observation of how the mother and infant interact and what they provide for each other during natural, non-stressful situations" (**Field, 1996, p. 543**).
- ▶ Another problem with the attachment model is that "the list of attachment behaviors is limited to those that occur with the primary attachment figure, typically the mother. However, other attachments are not necessarily characterized by those same behaviors" (Field, 1996, p. 544). Children have attachments to other people other than their mothers, but they do not show this attachment the same way.
- ▶ The last limitations to the attachment model is that the mother is viewed as the primary attachment figure, when in fact, a father or sibling can have the same type of attachment with the infant at the same time.



Hand on the Heart – Linda Graham

- ▶ Self-directed Neuroplasticity
- ▶ Harness the capacities of the brain to rewire itself for greater resilience
- ▶ Oxytocin is the neurochemical basis in our body for the felt sense of safety and trust, of connection and belonging, which reassures us “everything is OK;
- ▶ The very fast-track way to release oxytocin and calm down stress, even extreme stress, is through safe touch and warmth in a safe, soothing relationship.
- ▶ Neuroscientists have demonstrated many times that even remembering or imagining someone we love, with whom we feel loved, is enough to release small but regular doses of oxytocin.

Havening, Self-Holding Techniques, Figure 8 Rock



The 5 Step Self-Holding Exercise

for Self-Regulation of Anxiety and PTSD



1. HEAD SIDES

Place your hands on either side of your head. Think about how you are creating edges for your thoughts. You are creating the sides of a container that contains your thoughts. Feel the sensation between your hands.



2. HEAD FRONT - BACK

Place one hand on your forehead and one hand on the back of your head. Feel the container around your thinking. Feel the sensations in your hands and head.



3. FOREHEAD - HEART

Place one hand on your forehead and one hand on your heart. See if you can sense some sensations in your hands. Then sense some sensations in your body where your hands are located.



4. HEART - BELLY

Place one hand on your heart and one hand on your belly. See if you can sense some sensations in your hands. Then sense some sensations in your body where your hands are located.



5. SOLAR PLEXUS - BASE OF HEAD

Place one hand on your solar plexus - the point above your belly and right below your rib cage - and the other hand behind the base of your head - halfway covering the base of your head and halfway onto your neck. Focus your attention on the sensations in your hands and body.



Self-Compassion & Neuroscience

triggering the
release of oxytocin.

decreases our
cortisol levels

physical touch
releases oxytocin,
and calms
cardiovascular
stress

Physical touch
reduces cortisol

Oxytocin increase =
trust, calm, warmth

How To of Self-Compassion



Check the
Storyline



Allow the Pain
to be there



Community of
(unseen) Others



Physical
Representation

EXERCISE: SMILE



Mirror Neurons

- Aka Gandhi Neurons – “I feel what you feel”
- Neurons in the brain show mirroring quality
- Emotion center of the brain has MN's
- Eye contact, touch & sound = activation of MN

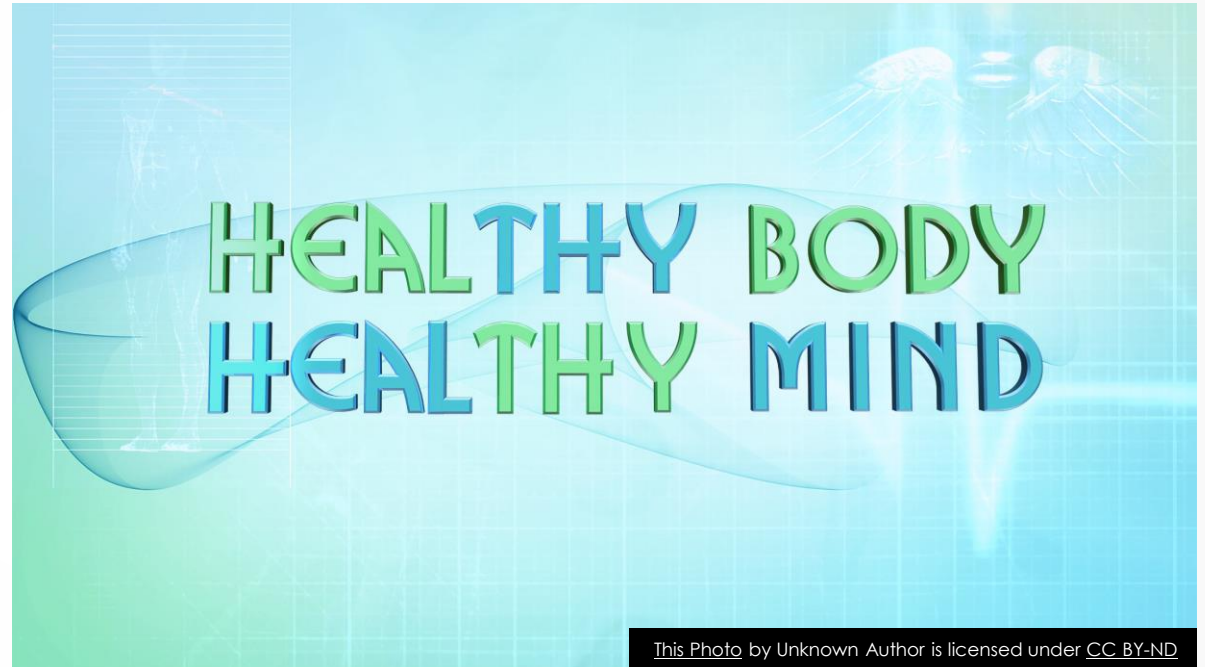
- Dark Side?

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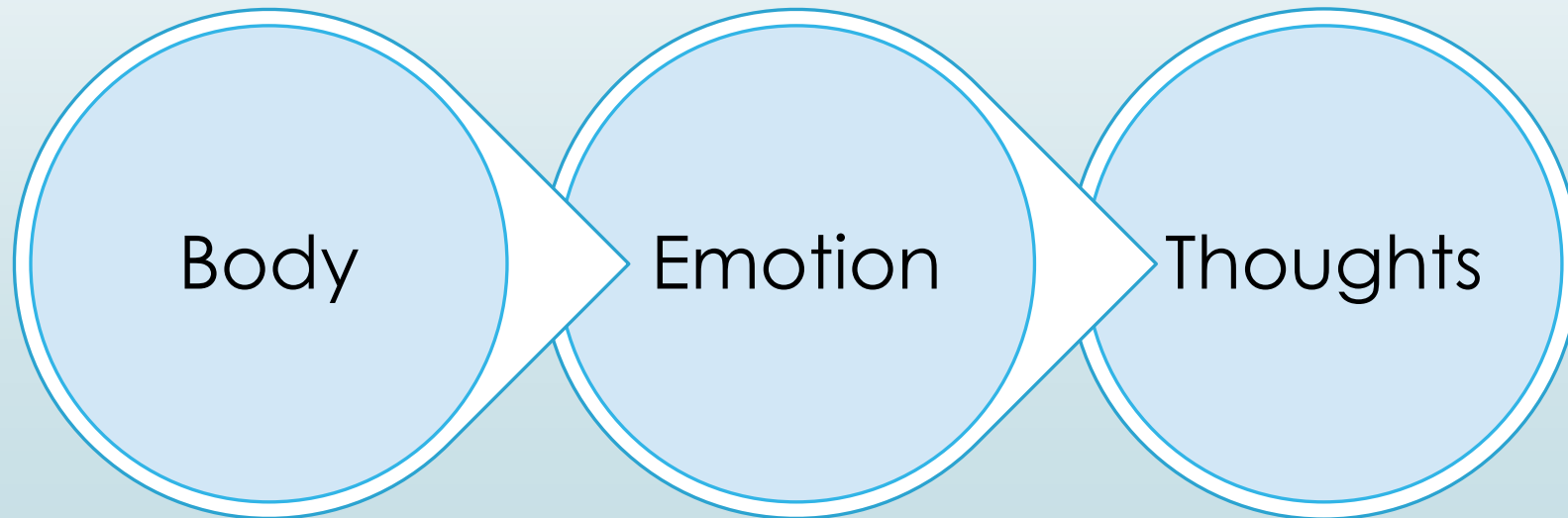
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Bottom Up and Top Down - Practices



Examine Your Internal Landscape

- ▶ Focus inward = Lower Arousal
- ▶ Bottom Up & Top-Down (Meditation & Mindfulness)



	Monday	Tuesday	Wednesday	Thursday	Friday
*Breathing Exercises (see examples below) 3 x daily					
Progressive Muscle Relaxation / Body Scan					
Guided Meditation					
Visualization Techniques					
Music-Stimulated Relaxation					
Exercise - Cardio					
Yoga, Tai Chi or Qigong					
Baths, Massages, Nature Time – Body Relaxation					

Taming Amygdala

Weekly Routine to Calm Sympathetic Nervous System

<http://www.dartmouth.edu/~healthed/relax/downloads.html>

**Do any of these breathing techniques 3 x daily for 3-5 minutes.*

- *Alternate Nostril Breathing*
- *Deep Breathing*
- *4-5-6 Breath*
- *Full Body Breathing*
- *Movement & Breath*

Alternate Nostril Breathing



Image Credit: Banyan Seed

Exercise: Exploring Tension vs. Relaxation

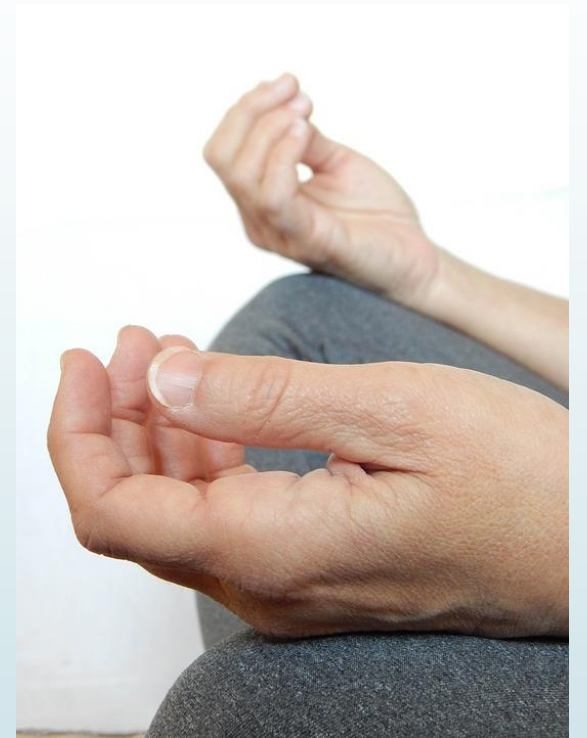
Compare the feeling of tension (fist clenching) to the feeling of relaxation (muscles are loose)

→ Do you recognize a difference?

Also, compare the tightened and relaxed hand to the other hand

→ Does it feel more relaxed than the other?

Often, tensing and releasing muscles creates a feeling of relaxation in those muscles.



Cortex-based Intervention: Behavioral Experiments



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Identified Belief: “My friends don’t want to spend time with me and decline my invitations”

Discuss/Role Play ways to talk with/meet friends

Clearly define expectations for experiment and write them on a note card:

- What will you try?
- What will you think/feel if they agree?
- What will you think/feel if they don’t agree?
- What will you do in each case?

Identify potential obstacles to carrying out plan
Prepare to **accept discomfort** that comes rather than waiting for discomfort is over to do the experiment.

Panic Attack vs Panic Reaction

A.W.A.R.E

Acknowledge and Accept

Wait and Watch (panic journal)

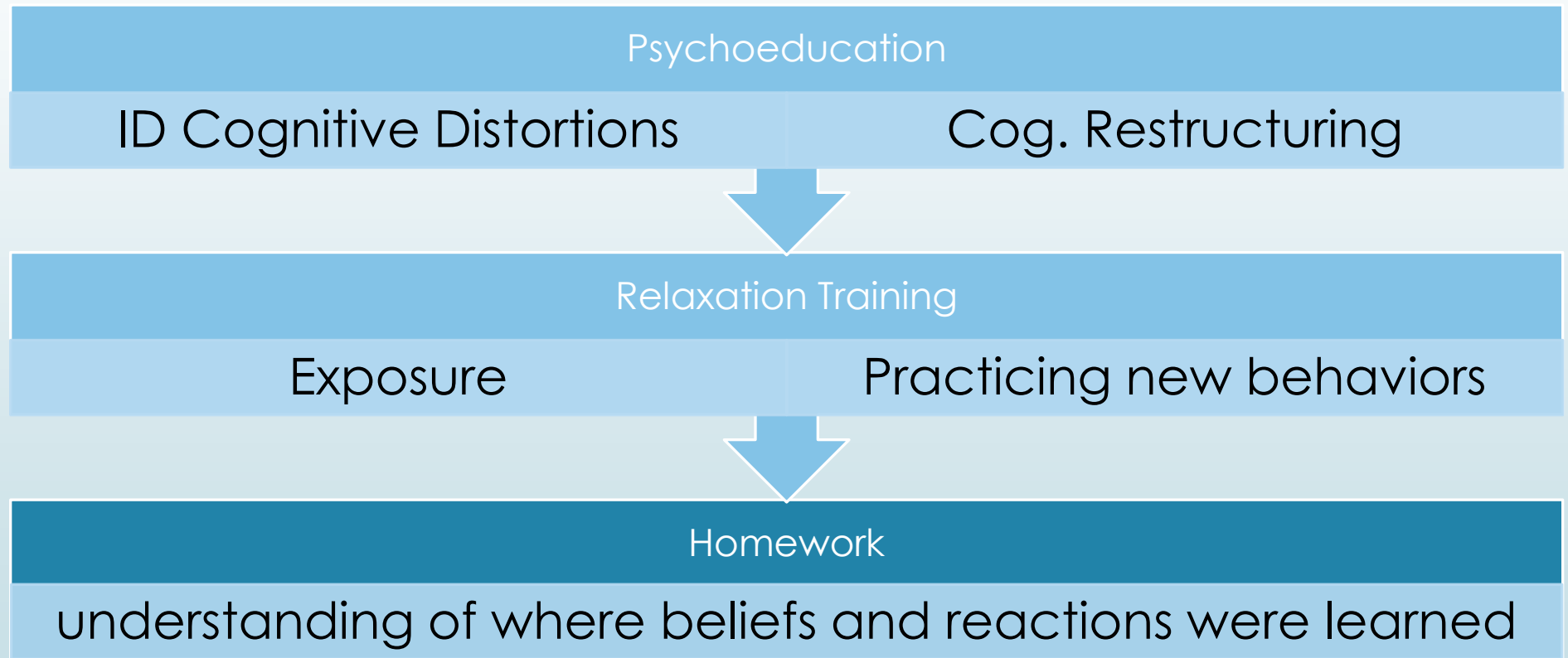
Action (Breath, Move, Be Present)

Repeat

End



Neurologically Informed CBT – Top Down





Internal Family System



Internal Family Member: Anxiety

All parts are valuable

Re-negotiating it's role

Prevent Hijacking by this part

Core of Suffering

- “I am not good enough”
- “Something is wrong with me”
- “Now is not okay”
- Underlying disapproval of our lives
- “I am less than...”



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Tara Brach, 2003

Cortex-based Coping Thoughts

“You can’t erase– You must replace.”

(E.g., Don’t think about pink elephants.)

Learning Coping Thoughts to replace worries

- My anxiety always goes away eventually.
- “I expect my fear to rise, but I can manage it.”
 - No one is perfect.
- “I’m activating my fear circuits to change them. control.”
 - Anxiety is a feeling, it doesn’t mean anything.
 - This “feeling” has been wrong before.
- “Stay focused on this situation. This is all I have to manage.”

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You can't erase – You must REPLACE

Client's view: "I am a horrible parent because I have thoughts of harming my child."

Alternate view: "I'm a loving parent who gets worried about thoughts of harming my child."

Client's view: "I am contaminated by germs and will get sick and die."

Alternate view: "I am a healthy person who is afraid of getting contaminated and sick."



The Good – The Bad & The Ugly

1. Make a list of all that causes you stress
2. Label each stressor with:
P (past) C (current) F (future)

List Your Stressors





Strategies for Cognitive Defusion

Heidi Schreiber-Pan, PHD

Cognitive Fusion = believing in the truth of thoughts

- ▶ Rigid belief: thoughts and emotions are treated as though they reflect an ultimate reality

Activity: White Room Exercise



“De-fusion” Exercises

- ▶ Leaf in the Stream
- ▶ Ocean Waves
- ▶ Clouds passing





Cognitive De-fusion

I am having
the thought...

Here is my
mind ...

The Art of Tidying UP

Narrative/Default network

Thinking Mind

I am angry

I am a loser

**Mind wandering
Day Dreaming
Rumination**

Observing Mind

This is what
anger feels
like

There is that
thought that
I am a loser

Direct Experience Network

**Present Moment
Concentration
Meditation**

Most of our psychological and emotional stress happens because our Thinking Mind and Observing Mind are “fused” and we don’t recognize the difference.



Is this thought/ worry useful?

Is there a problem in my life right now?

Worry
(out loud)

Plan/Limit

Action
Steps



You experience discomfort – brain tricks you into thinking it's dangerous

Scary Movie



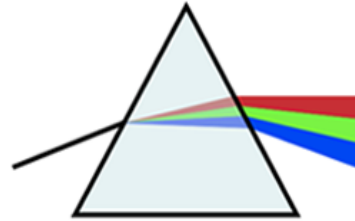
Heidi Schreiber-Pan, PHD

Unhelpful Thinking

In your manual, see list of unhelpful thinking styles

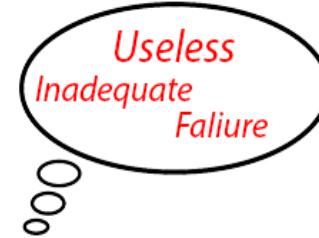
Heidi Schreiber-Pan, PHD

Selective abstraction



Drawing conclusions on the basis of just one of many elements of a situation.

Minimisation



Downplaying the importance of a positive thought, emotion or event.

Personalisation

"this is my fault"

Attributing personal responsibility for events which aren't under a person's control.

Arbitrary inference



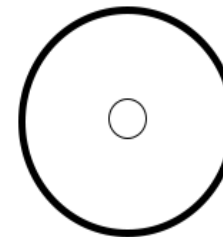
Drawing conclusions when there is little or no evidence

Magnification



"Making a mountain out of a molehill" - blowing things out of proportion.

Overgeneralisation



Making sweeping conclusions based on a single event.

What Glasses are
You wearing
Today?





How to Work with the *Ruminating Mind*

- Schedule Worry-Time
- Identify the underlying fear
- Play out Worse-Case-Scenario
 - What is the worst that can happen
 - How would I handle it
- What can I control vs What can I not control
- Make use of the Silver-Lining Technique
- Change of Scenery

A decorative graphic on the left side of the slide. It features a dark blue vertical bar at the top left, a black arrow pointing right, and several thin, curved lines in shades of blue and grey that sweep across the page from the left edge.

Negativity Bias & Gratitude Practice

- ▶ Get into Groups of 2 or 3
- ▶ Spend a few minutes listing on paper:
 - ▶ 3 Good Things that happened today
 - ▶ And why they happened

Share with your group members what your list included
Discuss reasons for writing about the “why”

Positive Neuroplasticity

- Rick Hanson
- Taking in the Good



Power of Awareness



Metta Practice / Loving Kindness





Increase in Positive Emotions

(Fredrickson et al., 2008)

Increase in vagal tone

(Kok et al., 2013)

Decrease in Depression

Decrease in PTSD Symptoms

Increase in Gray matter

Empathy & Emotional Processing

Heidi Schreiber-Pan, PhD
Kearney et al., 2013

Leung et al., (2013)

Hutcherson, Seppala & Gross, 2014



Limitations & Potential Risks of Mindfulness

Adverse side effects to participants

depersonalization (feeling detached from one's mental processes or body),

psychosis (loss of contact with reality)

hallucinations, and disorganized speech, feelings of anxiety, an increased risk of seizures, loss of appetite, and insomnia.

Mindfulness Meditation Research: Issues of Participant Screening, Safety Procedures, and Researcher Training

M. Kathleen B. Lustyk, PhD; Neharika Chawla, MS; Roger S. Nolan, MA; G. Alan Marlatt, PhD



Value Lifestyle Congruence

Nature Connection & Neuroscience

Significant positive association between the coverage of forest and amygdala health
(Simone Kuhn et al 2017)

Three-day effect (Strayer Research)

Strayer's hypothesis is that being in nature allows the prefrontal cortex, the brain's command center, to rest and recover, like an overused muscle

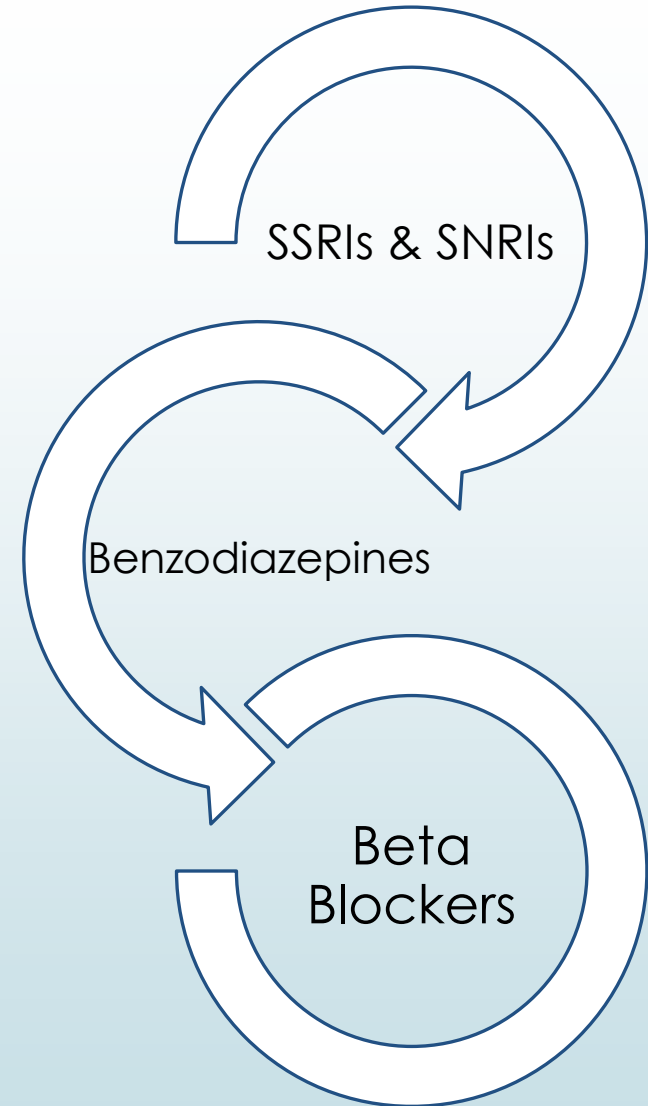
Decrease in cortisol by 16%



Medications for Anxiety

Note: No medication has been developed that can rewire the brain on its own- it always takes activation of select circuitry to rewire the brain

1. When CBT is not effective, adding SSRIs can improve effectiveness (Wurz & Sungur, 2009)
2. OCD and PTSD are more likely to require pharmacotherapy for improvement to be demonstrated (Simpson et al., 1999)



SSRIs & SNRIs

- ▶ These medications are often described as “correcting a chemical imbalance,” because they result in an increase of neurotransmitters, but their anti-anxiety effect is not due to this change in neurotransmitters...
- ▶ These medications prevent reuptake of certain excitatory neurotransmitters, allowing the neurotransmitters to stay in the synaptic space longer, and making it more likely that the next neuron will fire.

IN OTHER WORDS:

“The medications increase the amount of chemical messenger between neurons, it’s what happens after 7-10 days” which is that the increased neurotransmitter stimulates neurons to remodel or rewire themselves



Benzodiazepine's

- ▶ **They basically inhibit neurons, making them less likely to fire.**
- ▶ These medications have the effect of inhibiting or sedating neurons, making them less active or putting them to sleep
- ▶ If used daily, physical dependency on these meds is very likely
- ▶ They interfere with the brain learning because the neurons can't change when they are inhibited-- **Students don't learn when they are asleep**
- ▶ Remember "activate to generate" new connections
- ▶ Most appropriately prescribed for use *when needed* and not as a daily medication

CBD Oil



“...CBD appears to be better tolerated than routine psychiatric medications...”

“...Evidence points toward a calming effect for CBD in the central nervous system. Interest in CBD as a treatment of a wide range of disorders has exploded, yet few clinical studies of CBD exist in the psychiatric literature....”

Cited by NIH

Shannon, S., Lewis, N., Lee, H., & Hughes, S. (2019). Cannabidiol in Anxiety and Sleep: A Large Case Series. *The Permanente journal*, 23.



Standard Sequence for Anxiety Relief (SSAR)

Step 1: Creating Calm in the Nervous System by Taming Amygdala

Step 2: Introducing and Reinforcing Self-Compassion

Step 3: Applying Cognitive and Behavioral Interventions

Step 4: Alleviating Attachment Anxiety

Step 5: Determining Values and a Spiritual Identity

Step 6: Establishing and Executing a Maintenance Plan



Stay in Touch & Next Steps

► Scripts & Taming Amy(gdala) available
www.cmhcweb.com/resources

Adult Attachment Interview Protocol

www.psychology.sunysb.edu/attachment/asures/content/adi_interview.pdf

The Neuroscience of Attachment – *scroll to Appendix A*

<https://lindagraham-mft.net/the-neuroscience-of-attachment/>

Contact me at:

schreiberpan@cmhcweb.com

Author of *Taming the Anxious Mind: A Guidebook to Stress and Anxiety Relief*

BREAK TIME (10M)

We are now on an estimated **10 minute break**

There may be no audio during this break time. There is nothing wrong with your computer – the audio will return once the presentation resumes.



BREAK TIME (10)

We are now on an estimated **1 hour lunch break**

There may be no audio during this break time. There is nothing wrong with your computer – the audio will return once the presentation resumes.

