



STUDENT MENTAL HEALTH: STRESS AND LEARNING



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TODAY'S TALK

- Neuroscience of Stress
- The Perfect Storm
- Stress and Learning
- From Surviving to Thriving & Beyond: What Can We Do?

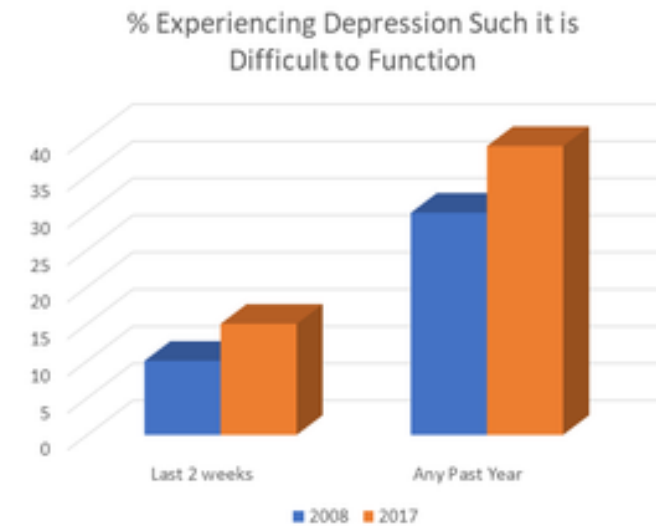
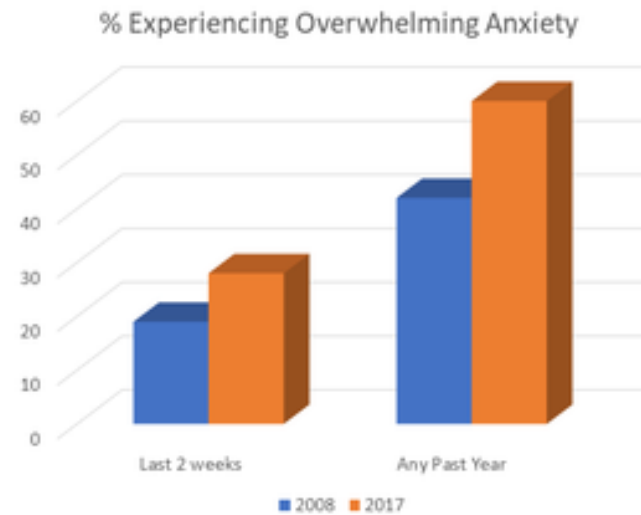


FROM THEN TO NOW

In the 1980s, at any given point, perhaps 1 in 10 college students could be readily characterized as needing/wanting/using some form of mental health treatment. In 2017 it was 1 in 3, with trend lines rising.

Psychology Today

Comparing College Students: 2008 to 2017



CRISIS ON CAMPUS

NIH Director, Dr. Frances
Collins and U.S. Surgeon
General, Dr. Vivek Murthy
Issue Advisory on Youth
Mental Health Crisis -
December 2021

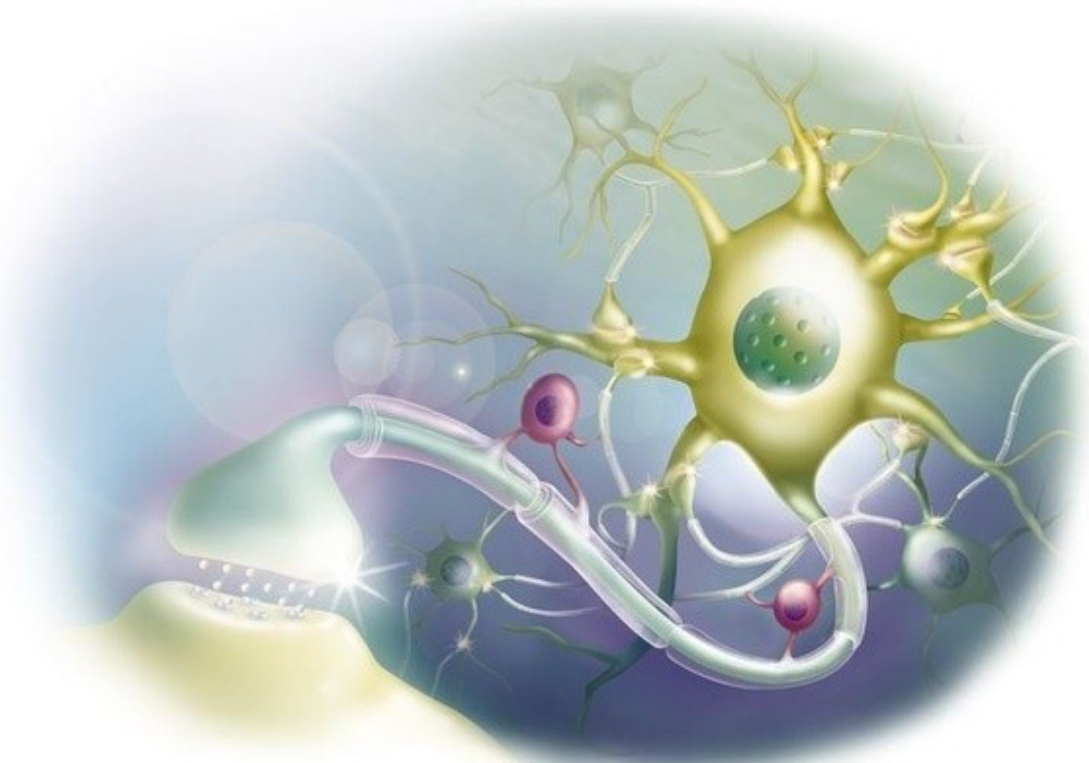




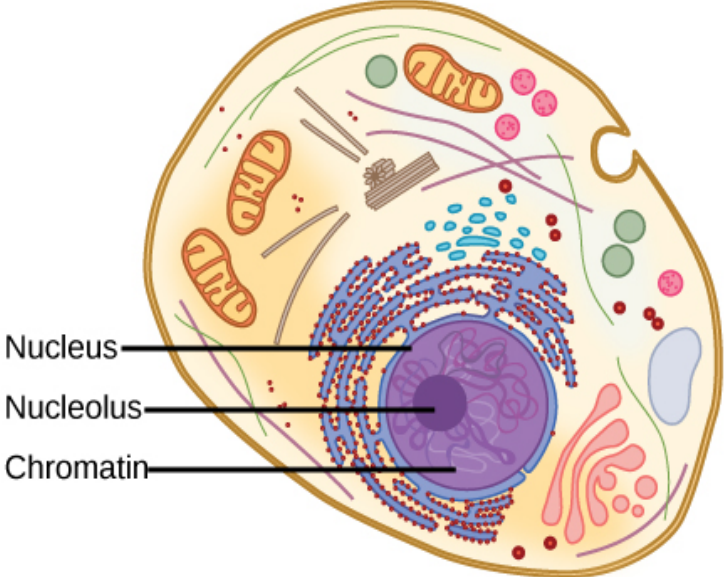
Why?



BRAIN BASICS: NEURONS ARE MASTER COMMUNICATORS

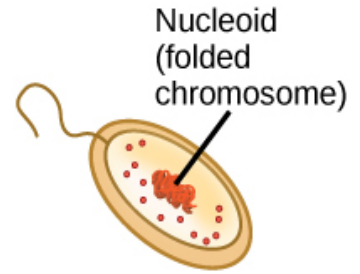


Neurons



- Nucleus
- Nucleolus
- Chromatin

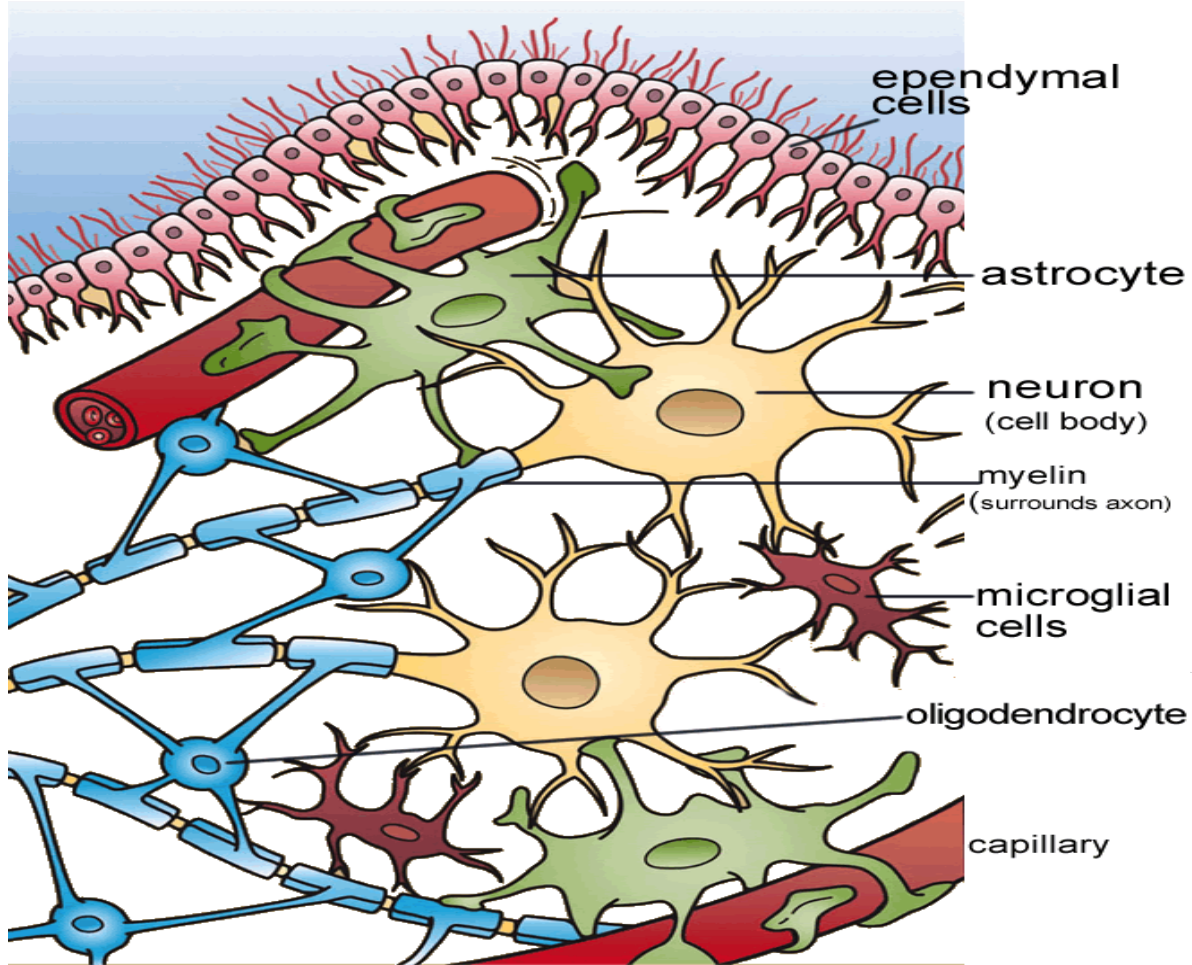
Eukaryote



Prokaryote



DENSITY OF THE BRAIN



Human Brain:
86 Billion Neurons
84 Billion Non-Neuronal Cells

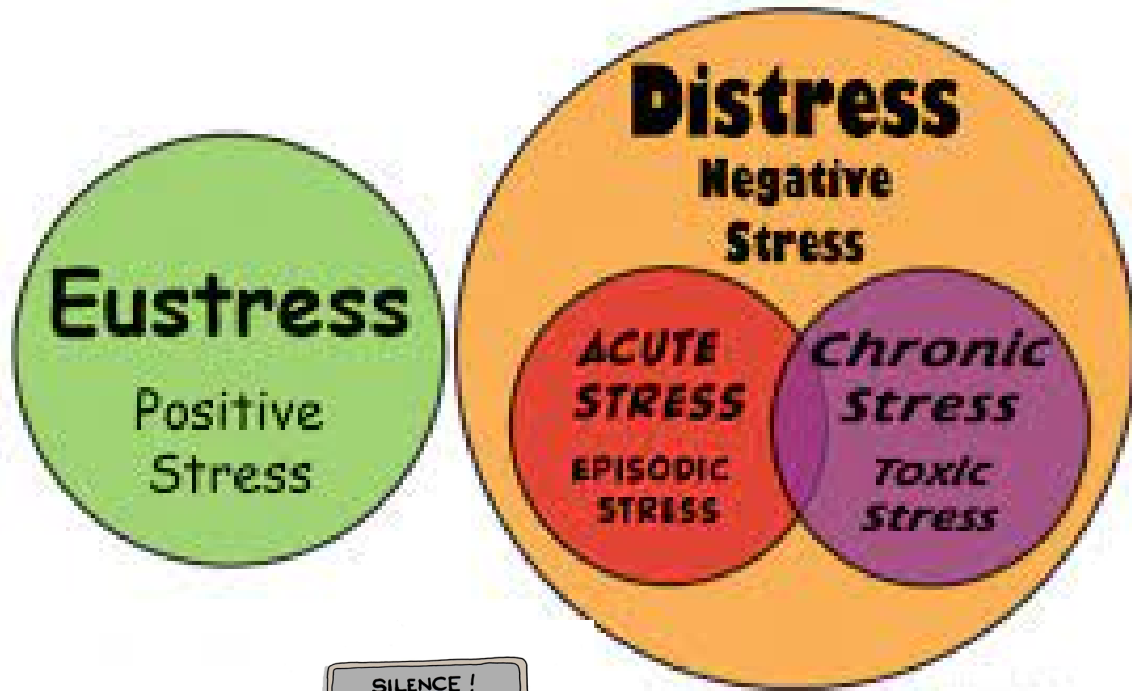
COMPLEXITY OF THE BRAIN



- Each neuron may be connected to up to 10,000 other neurons, utilizing as many as 1,000 trillion **synaptic connections in 3-year old (100-500 trillion in adult)**
- The human brain — a spongy, three-pound mass of tissue — is the **most complex living structure** in the known universe.



DISTRESS - CHRONIC STRESS



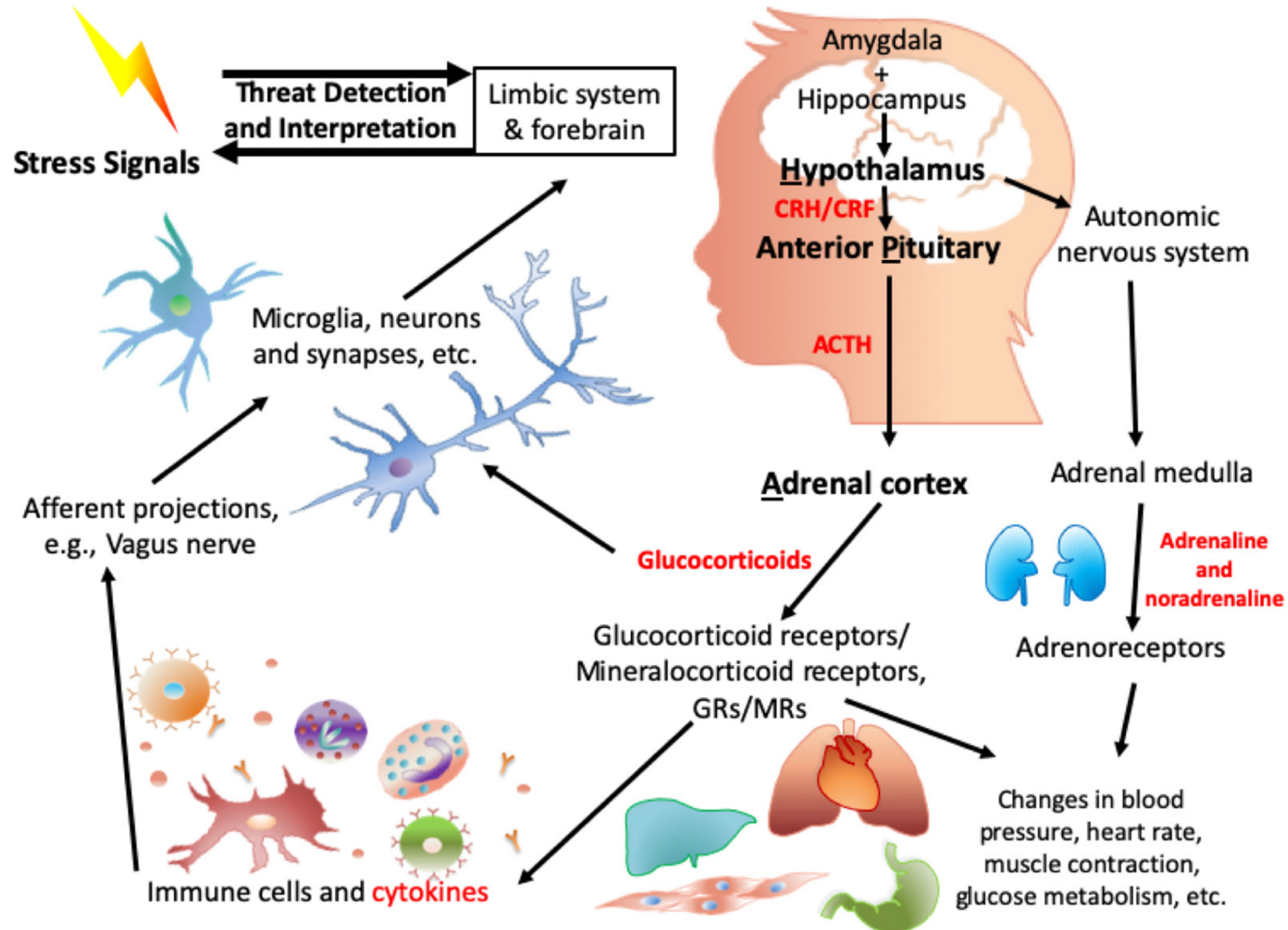
ofanders
The sadistic ANOVA problem made most students feel headed for an F test

What is stress?

- A**
It's when we feel under pressure.
- B**
It's when we don't feel in control.
- C**
It's when we are struggling to cope with things.
- D**
It's all the above.

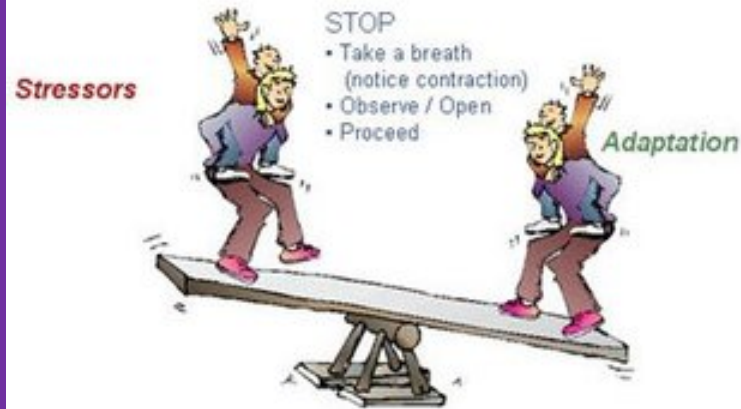


NEUROSCIENCE OF STRESS



ALLOSTATIC LOAD: BRUCE MCEWEN

Stress Response:



Allostasis

Some stress can be energizing and toning to the system. Body systems adjust well to stressors without over taxing resources.

Stress Reaction:



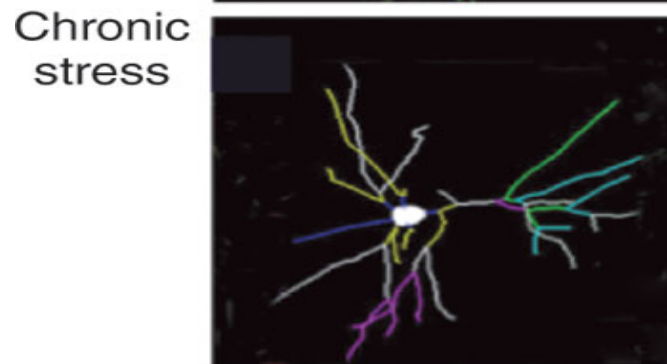
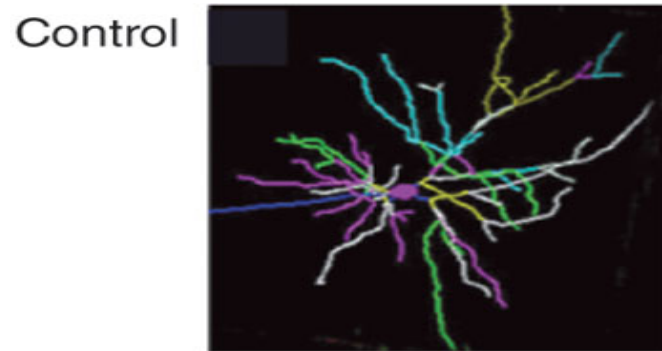
Allostatic Load

Body systems achieve a kind of balance, but everything is working too hard and we begin to slowly break down.



STRUCTURAL BRAIN CHANGES IN RESPONSE TO CHRONIC STRESS

Functional and structural remodeling in response to stress



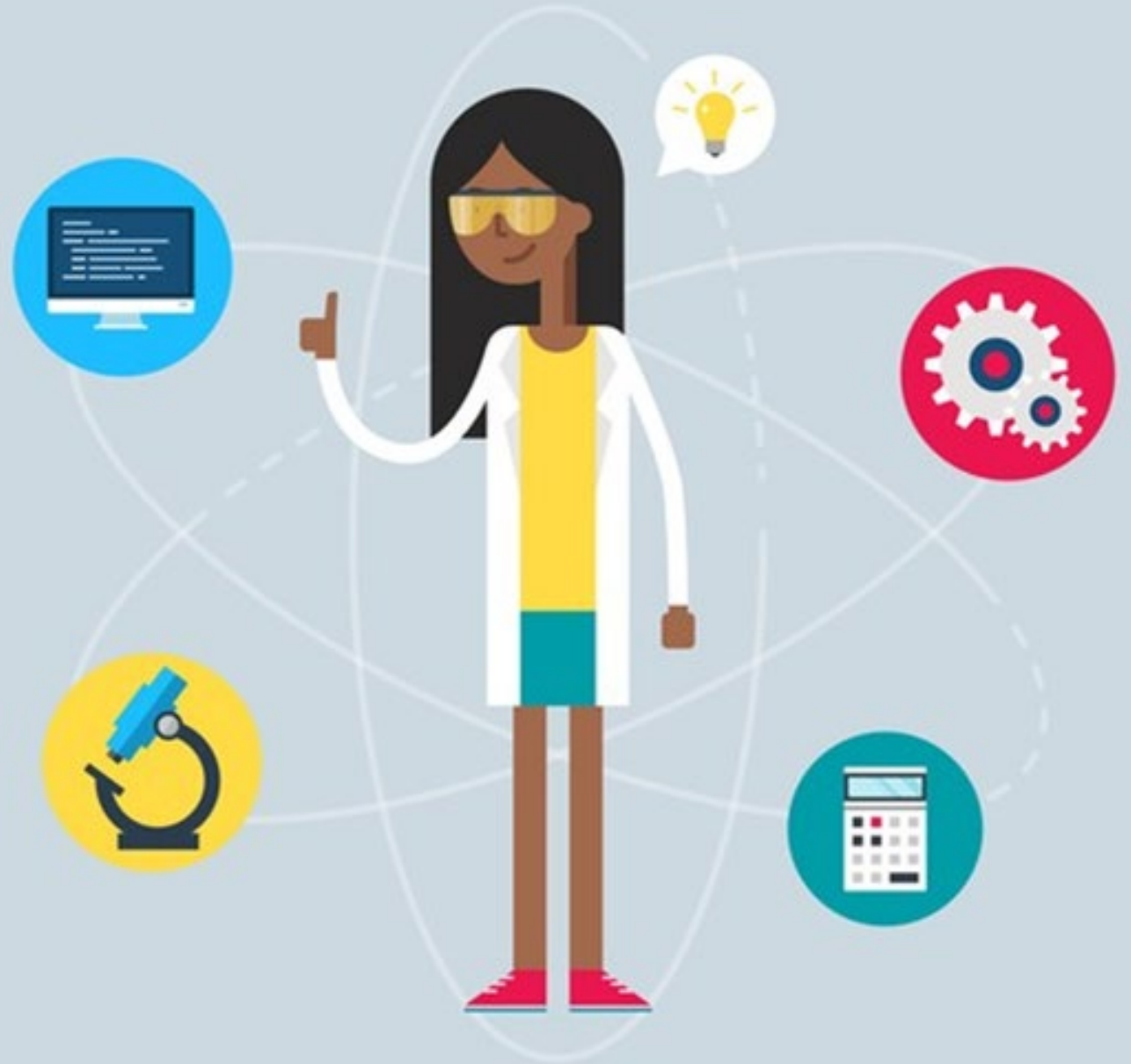
Prefrontal cortex
and hippocampus



Amygdala and
orbitofrontal cortex

CONNECTING CHRONIC STRESS TO BRAIN CHANGES AND MENTAL HEALTH

Scientists employed 3 major experimental designs to assess structural and functional brain changes in stress research



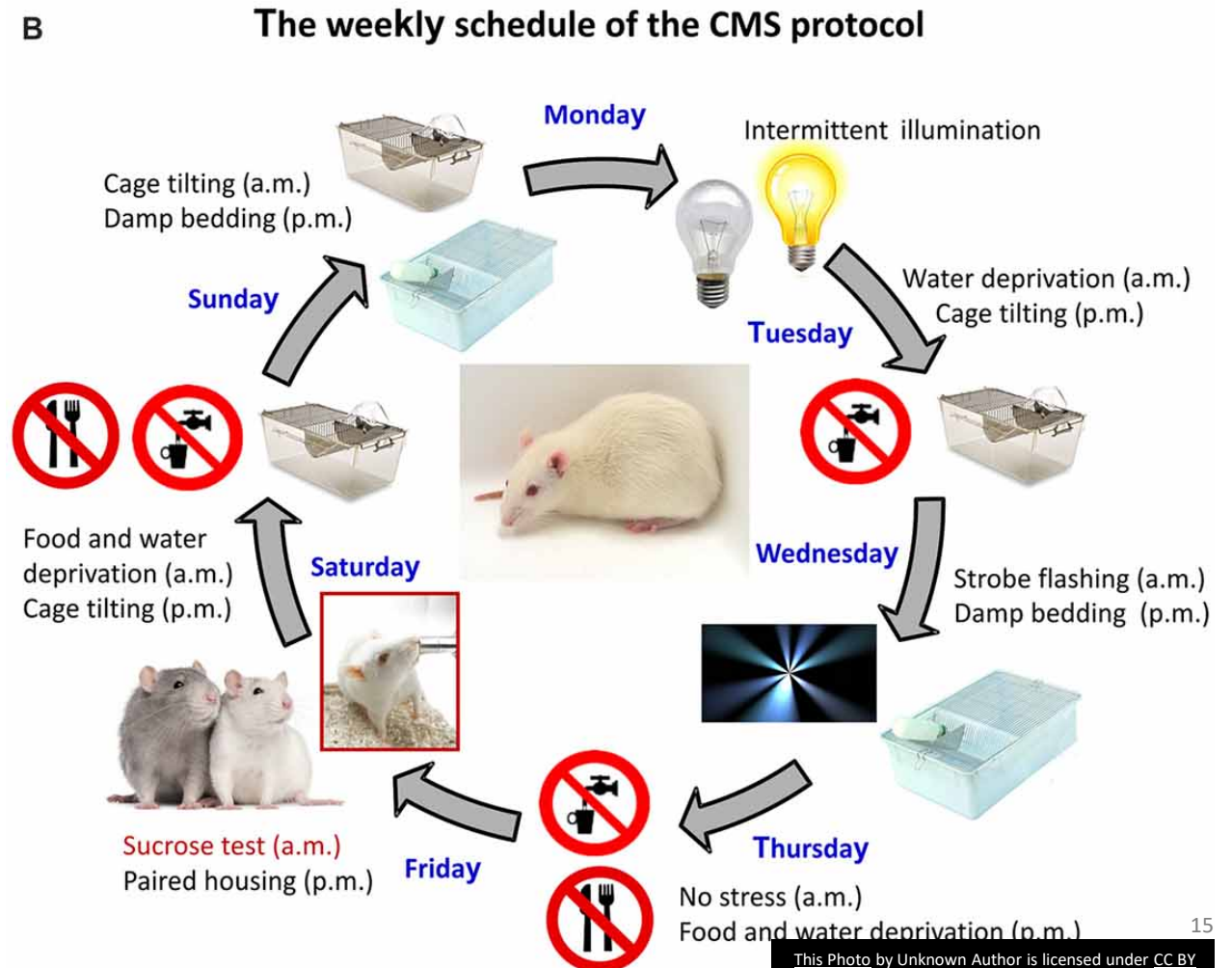
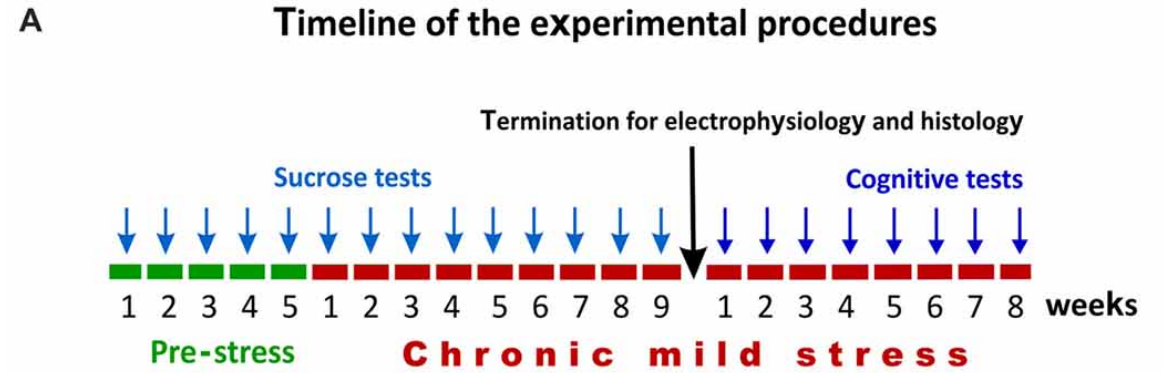
#1 THREAT

Life-ending threat



#2 THREAT

Uncontrollable &
Unpredictable Situation



#3 THREAT

ISOLATION STRESS

When loneliness would not leave you alone

*Lack of Meaning, Self-Worth,
& Social Connection*





ISOLATION AND LONELY ARE NOT ALWAYS THE SAME

- There is a lack of clarity around how social isolation, loneliness, and related concepts should be defined and measured. While social isolation has been linked to loneliness, they are not synonymous concepts. These, and related terms, including social networks, confiding relationships, and social support, have multiple, often overlapping, meanings. Due to this lack of clarity, researchers sometimes use these terms loosely and interchangeably.

THE PERFECT STORM

- Allostatic Load

Pandemic Stress

Threat to Life

Uncontrollable/Unpredictable stress

Isolation

Other factors- specific to your community



ALLOSTATIC LOAD

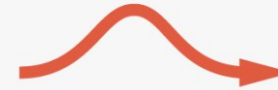
SIGNS OF STRESS OVERLOAD



- Anxiety or panic attacks
- A feeling of being constantly pressured, hassled and hurried
- Irritability and moodiness
- Physical symptoms
- Allergic reactions
- Problems sleeping
- Drinking too much, overeating
- Sadness or depression

STRESS VS ANXIETY

STRESS



short term

in response to a
recognized threat

ANXIETY

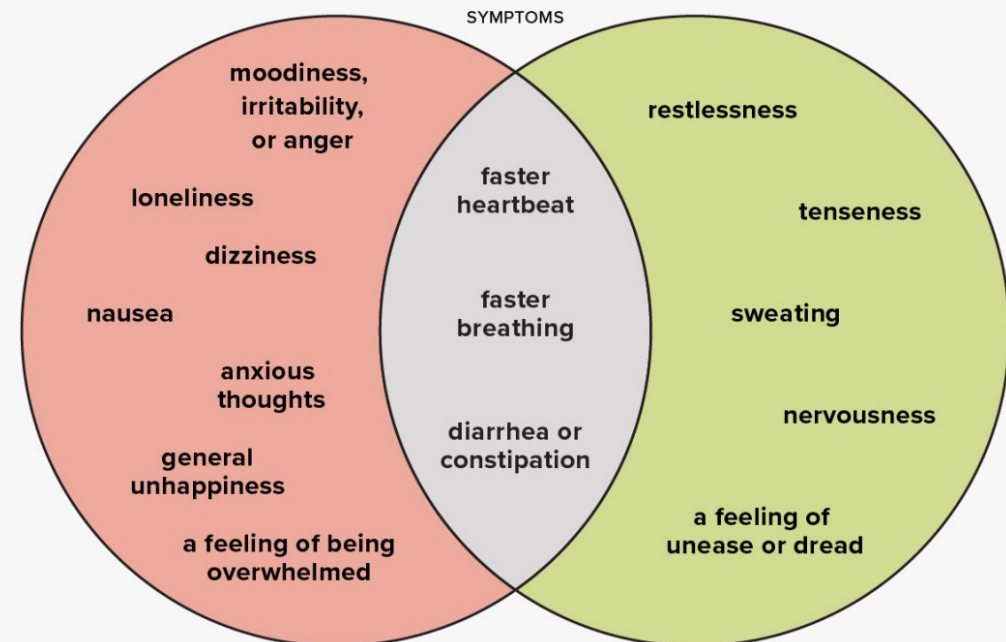


can linger

may not have an
identifiable trigger

SPAN

CAUSE /
ORIGIN



APA, 2022

Anxiety is the top presenting concern among college students (41.6 percent), followed by depression (36.4 percent) and relationship problems (35.8 percent). On average, 24.5 percent of clients were taking psychotropic medication





LEARNING CHALLENGES (Anxiety & Depression)

- 70% of students with learning disabilities experience higher anxiety symptoms than students without learning disabilities
- Anxiety and reading disorders are co-occurring in approximately 1 in 4 students.
- A similar picture exists for depressive symptoms, as adolescents with depression are more likely to struggle academically
- Children with learning disabilities can be 3x more likely to report depressed symptoms.

(The Connection Between Mental Health and Academic Success, Groves Learning Organization, April 15, 2021)



LEARNING CHALLENGES, CONT'D

Collectively, ADHD, anxiety and depression are consistently the highest co-occurring diagnoses for students with learning disabilities.

(The Connection Between Mental Health and Academic Success, Groves Learning Organization, April 15, 2021)





HOW ADHD AFFECTS THE BRAIN

How ADHD Affects The Brain

Prefrontal Cortex:

Responsible for organization, cognitive flexibility, self-control, & maintaining attention.

Basal Ganglia:

Helps regulate communication within the brain. Responsible for motor control, facilitating movement, and inhibiting competing movements.

Reticular Activating System:

Major relay system among the many pathways that enter & leave the brain that is responsible for arousal & consciousness. A deficiency in this region can cause inattention, impulsivity, or hyperactivity.

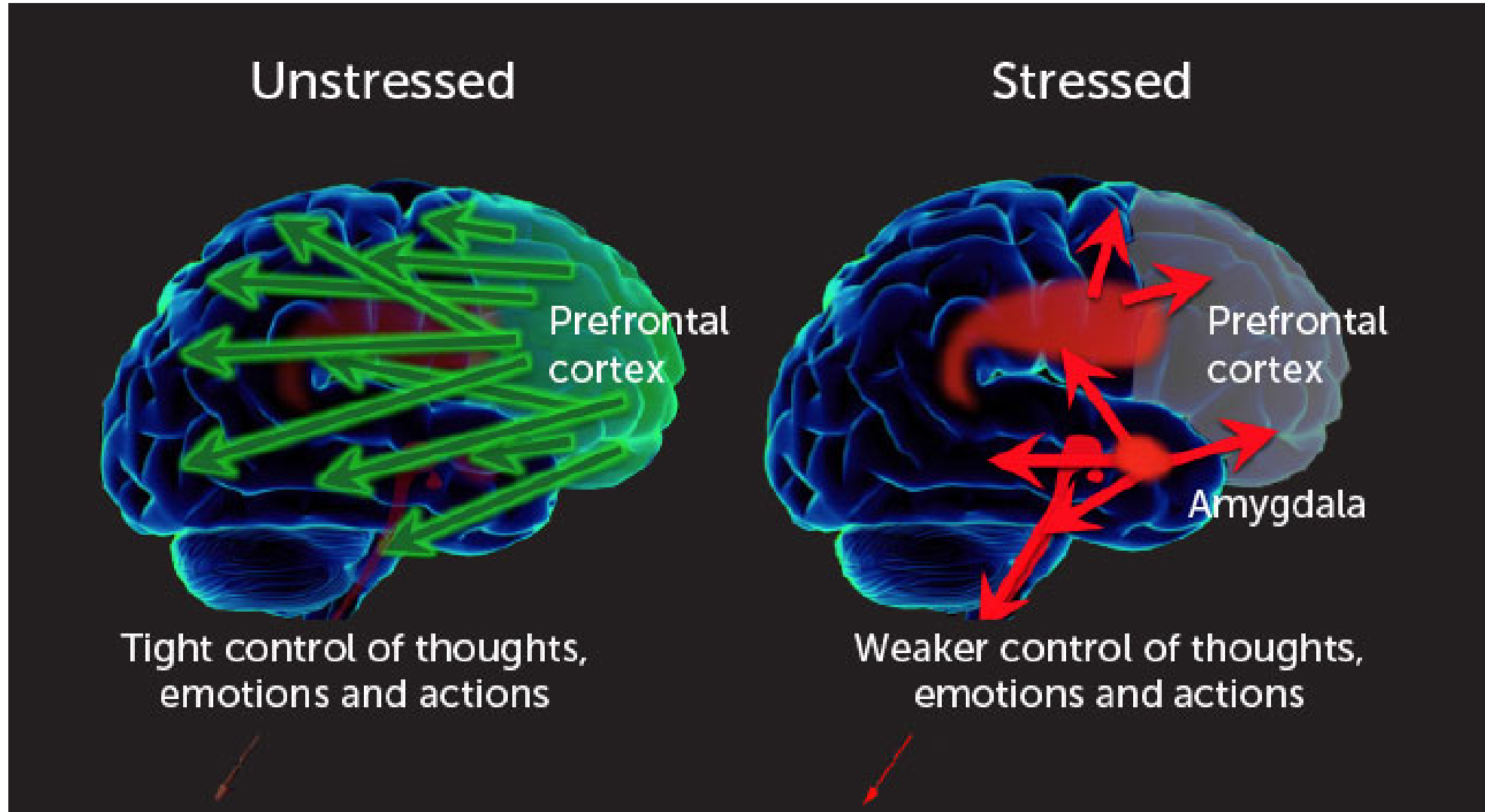


Limbic System:

Responsible for regulating emotions. A deficiency in this region might result in restlessness, inattention, or emotional volatility.

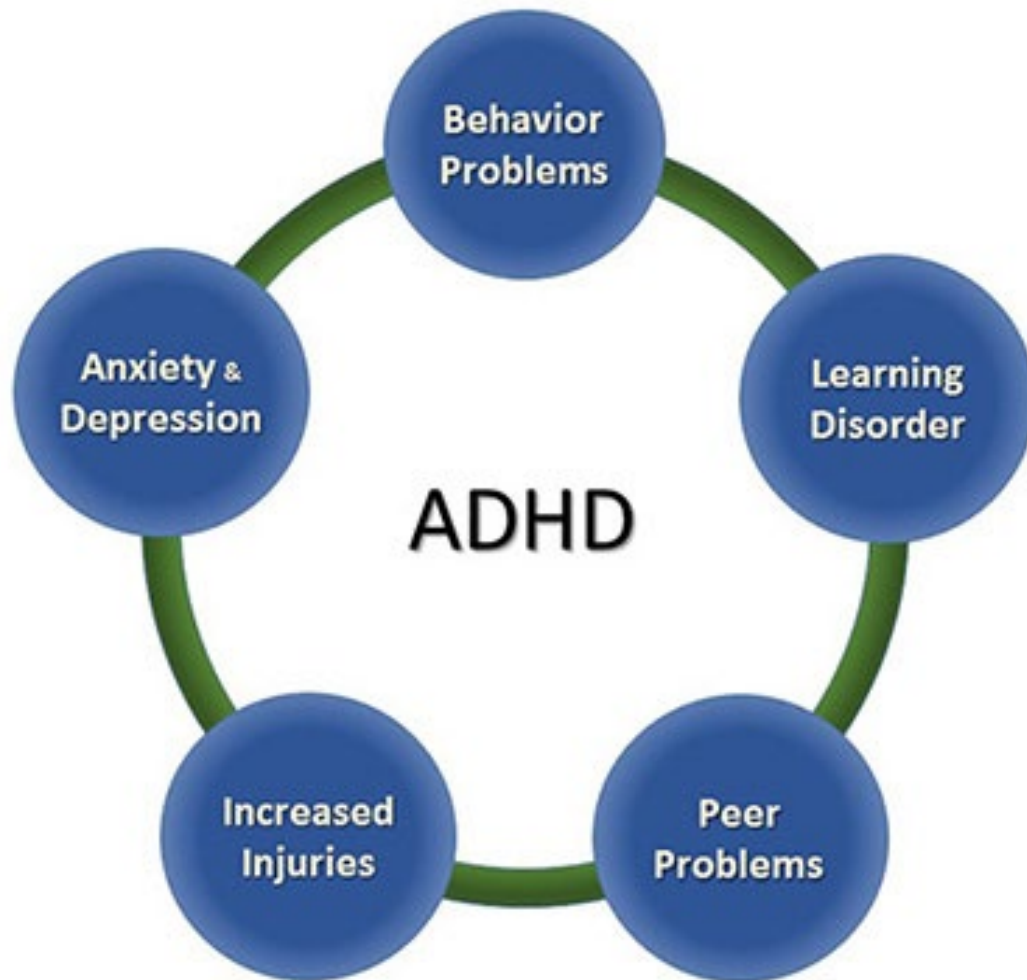


FUNCTIONAL BRAIN CHANGES IN RESPONSE TO CHRONIC STRESS





ADHD & STRESS





ROLE OF GENDER: ADHD & GENDER

ADHD and Gender

Prevalence in Women and Girls vs. Men and Boys

women and girls

5.6%



men and boys

12.9%



Disclaimer: The CDC data used in these charts is from 2016, but research over the last few years suggests the prevalence in girls and women is actually higher than boys and men due to a number of different factors.



WHAT SYMPTOMS SHOULD I LOOK FOR AS AN EDUCATOR?

- A sudden or drastic change in the quality of assignments
- A sudden or drastic decline in grades
- Test and performance anxiety
- Withdrawal from interests or from peers
- Increased irritability
- Low frustration tolerance



(The Connection Between Mental Health and Academic Success, Groves Learning Organization, April 15, 2021)

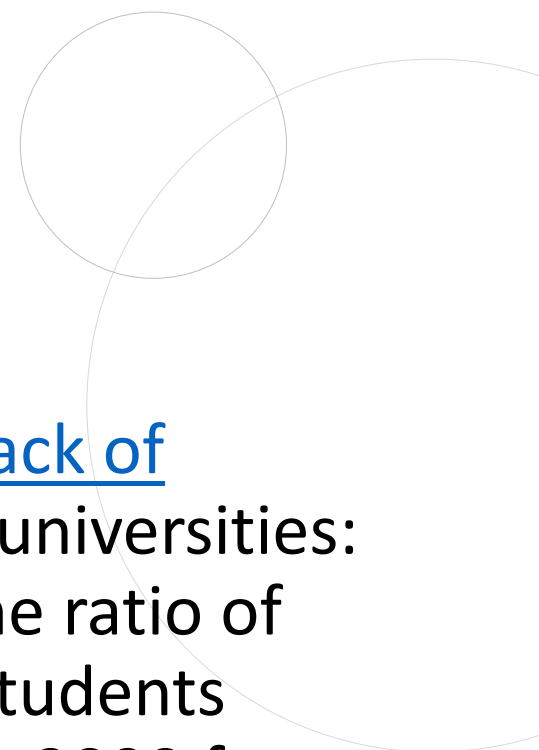


WHAT SYMPTOMS SHOULD I LOOK FOR AS A PEER/ROOMMATE?

- Trouble sleeping
- Trouble eating or change in eating behaviors/appetite
- Irritability
- Loss of interest in hobbies and other activities
- Statements of self-doubt or low self-esteem (e.g., “I’m so dumb”)
- Crying a lot

(The Connection Between Mental Health and Academic Success, Groves Learning Organization, April 15, 2021)





WHAT CAN WE DO?

- There is a tremendous lack of services in colleges and universities: On college campuses, the ratio of certified counselors to students overall is about 1:1000 – 2000 for small to moderate size schools, and 1:2000 – 3500 for large universities.
- We have to increase learning support for students in all categories mentioned.



WHAT CAN WE DO FOR STUDENTS OF COLOR?

STIGMA CONTINUES TO PLAGUE OUR COMMUNITY



Students of color are half as likely to seek treatment for mental health issues as other students.

***We need to reach out.**



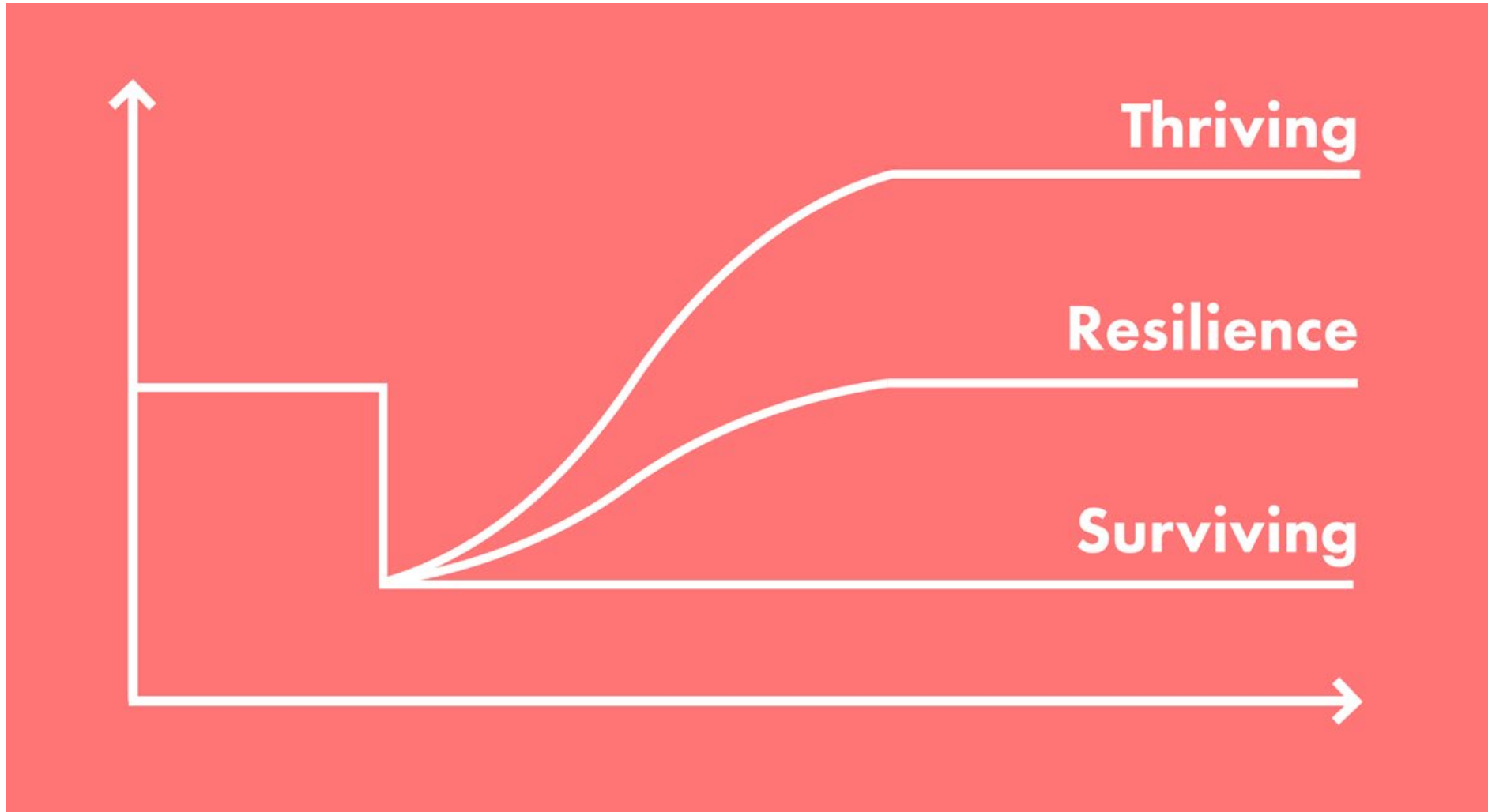
URM – WHY WE SHOULD REACH OUT

- Black Americans are [20%](#) more likely to have serious mental health conditions.
- About [50%](#) of Black students report they have never received any mental health education prior to college.
- Students of color report [higher](#) rates of emotional distress during their first year of college.
- Compared to 61% of white students, [75%](#) of Black college students report they tend to keep their feelings about how hard college is to themselves.



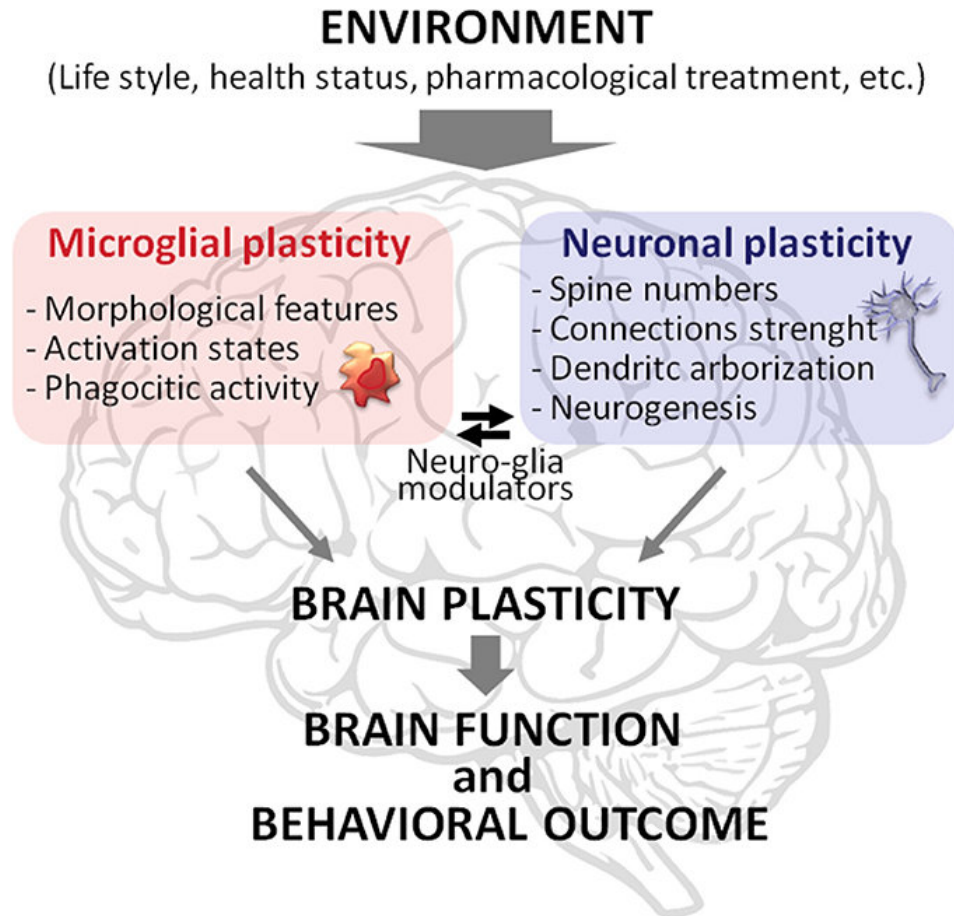


WE NEED TO SUPPORT THE PIVOT- MOVING BEYOND SURVIVING





THRIVING: NEUROSCIENCE OF CONNECTION AND SELF-CARE:



The Pursuit of Happiness
Experiment: Buddhist Monks vs. Students
Monks can spend more than **10,000 hours** of their lives in meditation.

Task
Generate feelings of compassion through meditation

Monks (Left prefrontal cortex Associated with happiness)

Students (Right prefrontal cortex Associated with negative moods)

Activity in left prefrontal cortex was able to **swamp** activity in right prefrontal cortex.

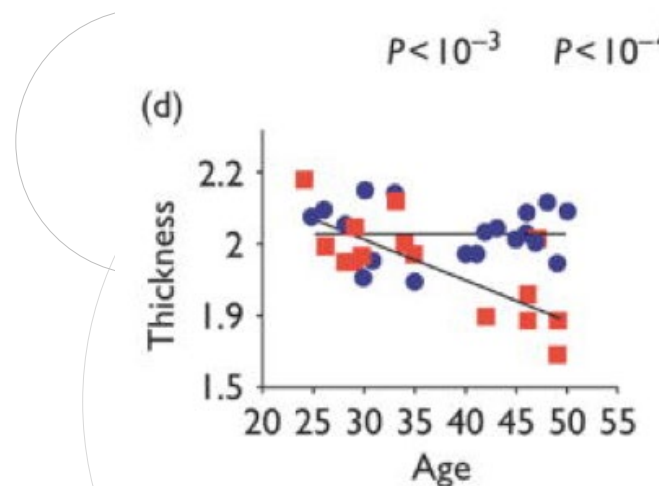
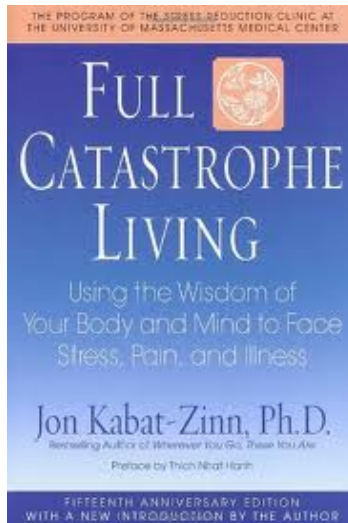
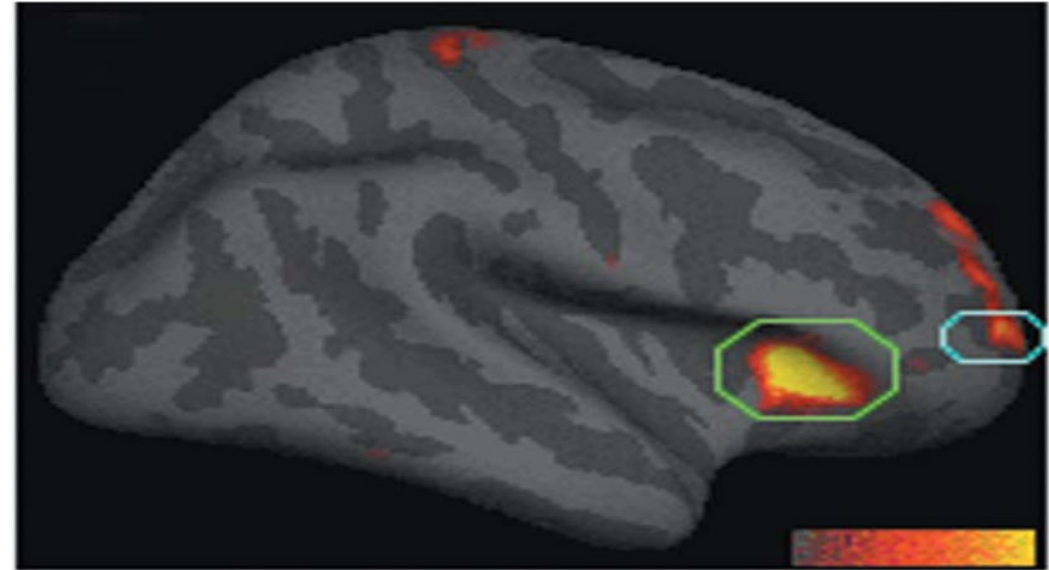
No difference between left and right prefrontal cortex.

Hypothesis:
"Emotions, moods and states are trainable mental skills"

Dr Richard J. Davidson, University of Wisconsin-Madison



MINDFULNESS-BASED STRESS REDUCTION



Lazar SW, et al. 2005 Neuroreport. 16:1893-7





ENHANCING FACTORS OF RESILIENCE





STRENGTHENING BRAIN NETWORKS





OTHER EMERGING APPROACHES:

- TeleHealth
- Digital Health- e.g. *Kognito At-Risk for University and College Students* is a 30-minute, online, interactive gatekeeper training program that teaches students how to (1) identify students exhibiting signs of psychological distress; (2) approach students to discuss their concern; and (3) make referrals to university counseling centers.
- Virtual Reality has emerged as a major tool for a management of mental health in conjunction with counseling and cognitive behavior therapy (particularly for phobias, panic disorder, anxiety, addiction etc.).
- Mental Health apps – online guides like One Mind PsyberGuide- rates privacy policies of apps.



IMPACTING POLICY:

The House passed two bills that seek to address the growing mental health crisis on college campuses. The legislation, which is endorsed by ACE and several other higher education groups, was approved with bipartisan support.

The first bill, the Enhancing Mental Health and Suicide Prevention Through Campus Planning Act (H.R. 5407), directs the Department of Education to support campus efforts to develop comprehensive approaches to mental health and suicide prevention





RAHMET

OBRIGADO

GRAZIE

HVALA

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Questions

