

Resiliency and Brain Health

Department of Children's Services
Moving Forward Together: Back to School Series
August 2021

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Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.





Brain Links

Who we are

Statewide team of brain injury specialists

What we do

We equip professionals to better serve people with TBI with current research-based training and tools.

- Family-friendly resources at tndisability.org/brain
- Resources for Professionals
- Resources for return to school and work settings
- Playlists on Brain Links' YouTube training channel

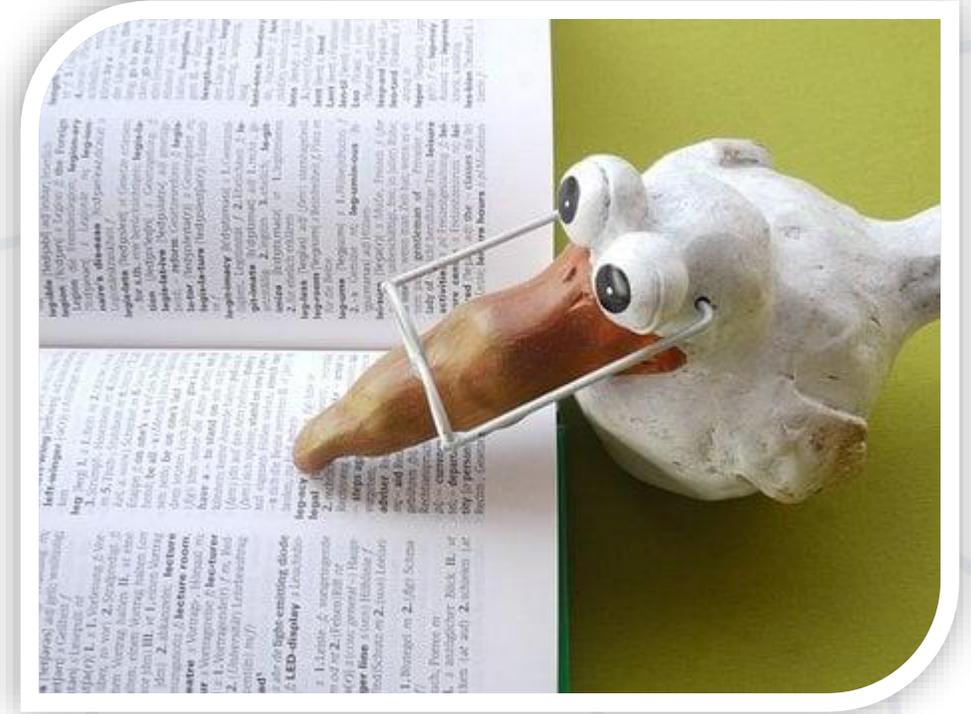
Agenda

- ✦ What is Resilience?
- ✦ Why do we need it?
- ✦ What does it have to do with the Brain?
- ✦ How do we get it?
 - Children
 - Teens
 - Ourselves



Resiliency

Bouncing back in the face of adversity



The ***process*** of negotiating, managing and adapting to significant sources of stress or trauma

Windle, 2012

“I can be changed by what happens to me. But I refuse to be reduced by it.”

-Maya Angelou

“I am not what happened to me, I am what I choose to become.”

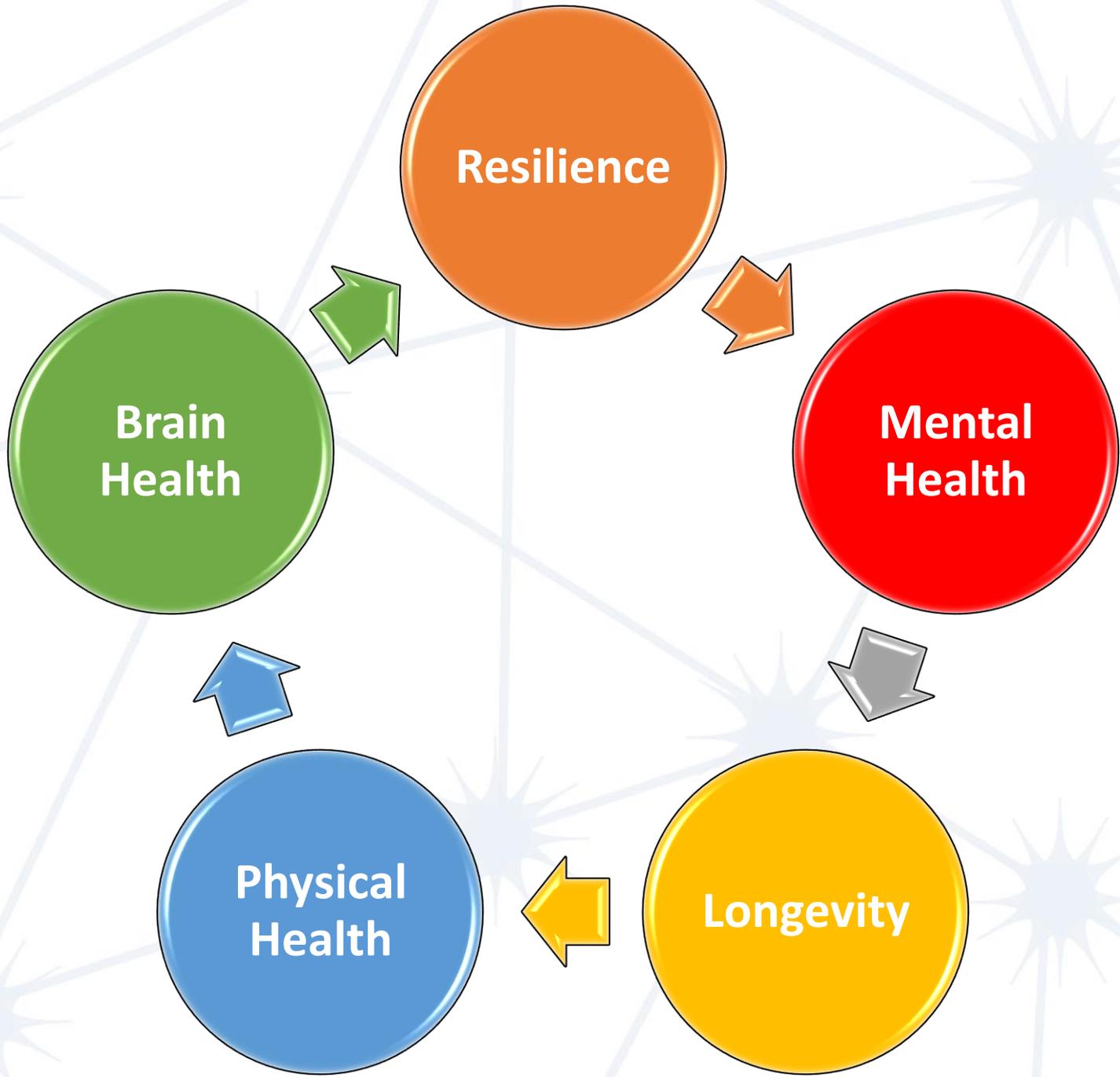
-Carl Jung

“She was unstoppable, not because she did not have failures or doubts, but because she continued on despite them.”

-Beau Taplin

“Nevertheless, she persisted.”

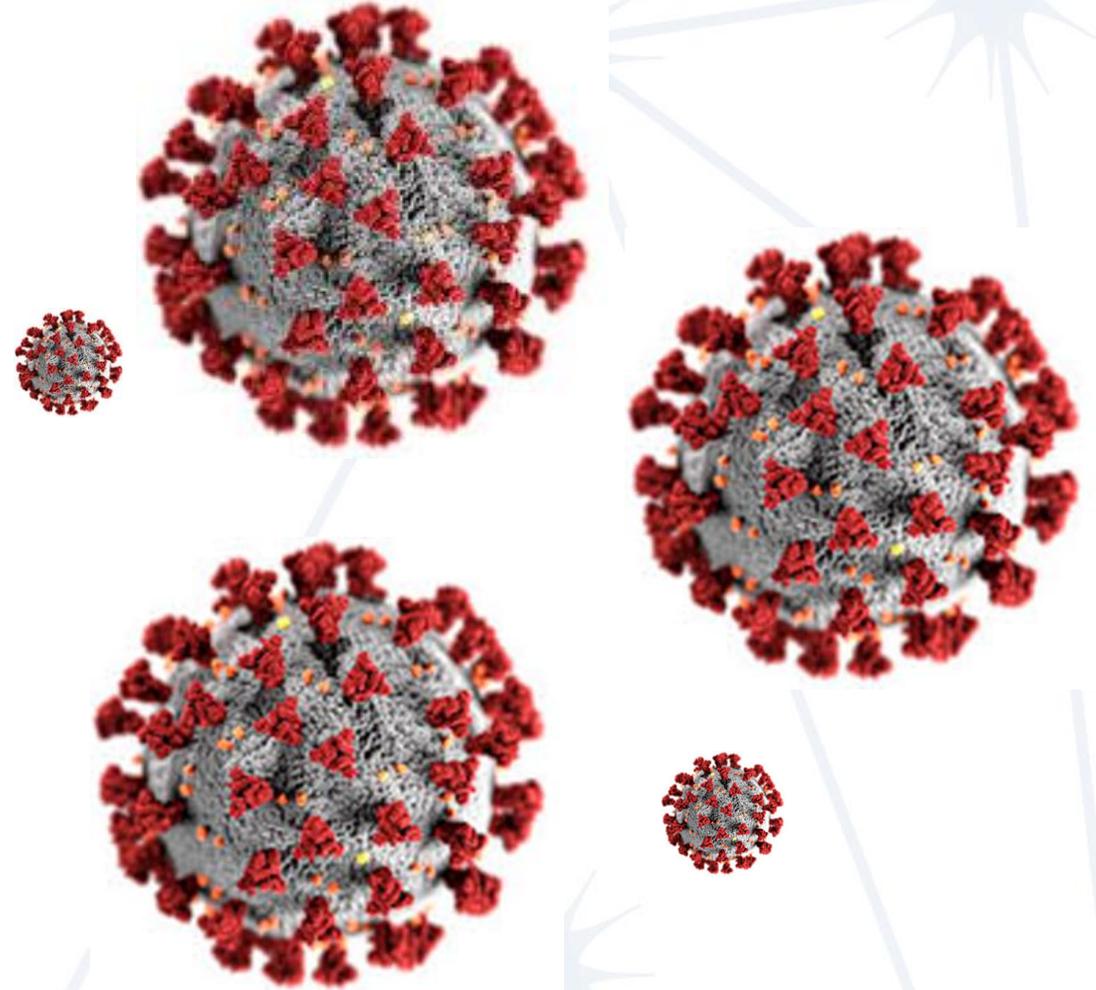
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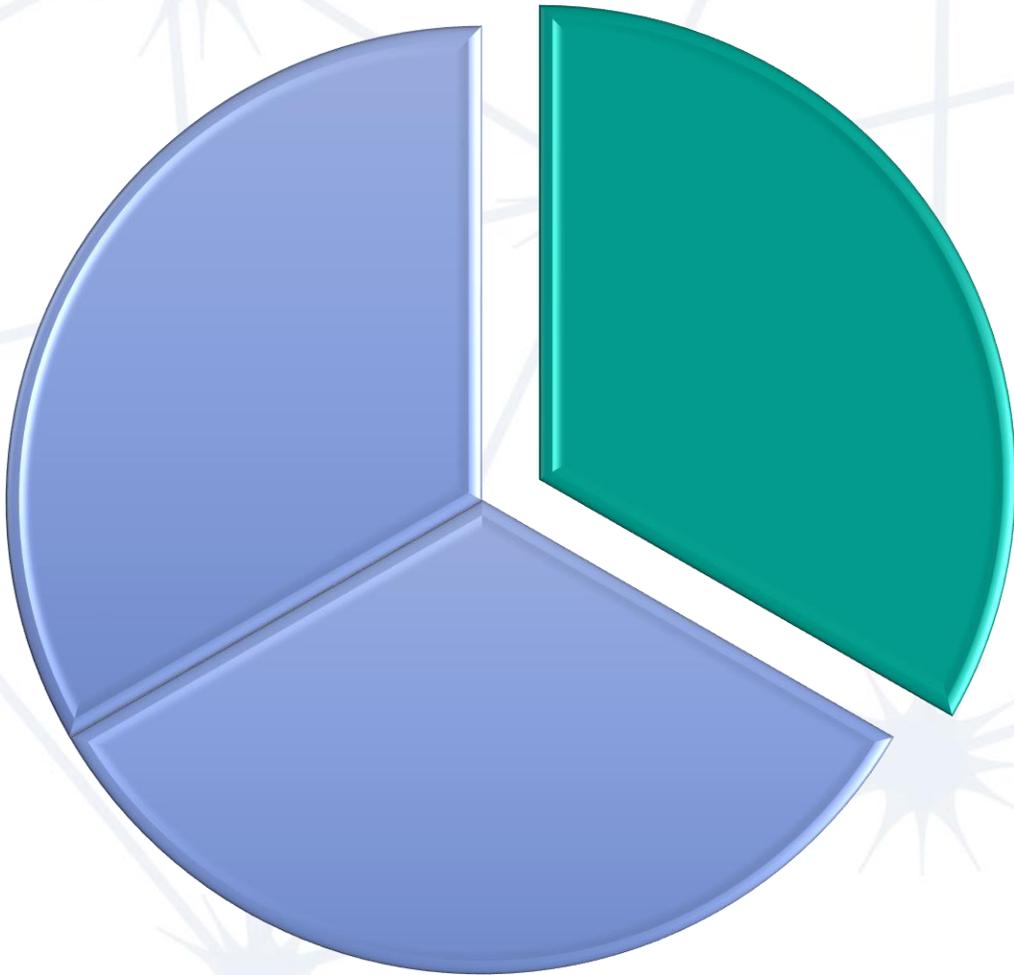
The Value of Hardship

- **Post Traumatic Growth**
 - Improved relationships
 - New possibilities for our lives
 - Greater appreciation for our lives
 - Greater sense of personal strength
 - Spiritual development
- **Can make us more Resilient**

Tedeschi & Calhoun



What Resilience Can Do



Kauai Study

- Active problem solvers
- Made plans
- Set goals
- Determined mindset:

“This isn’t going to ruin my life.”

Resilience & the Brain

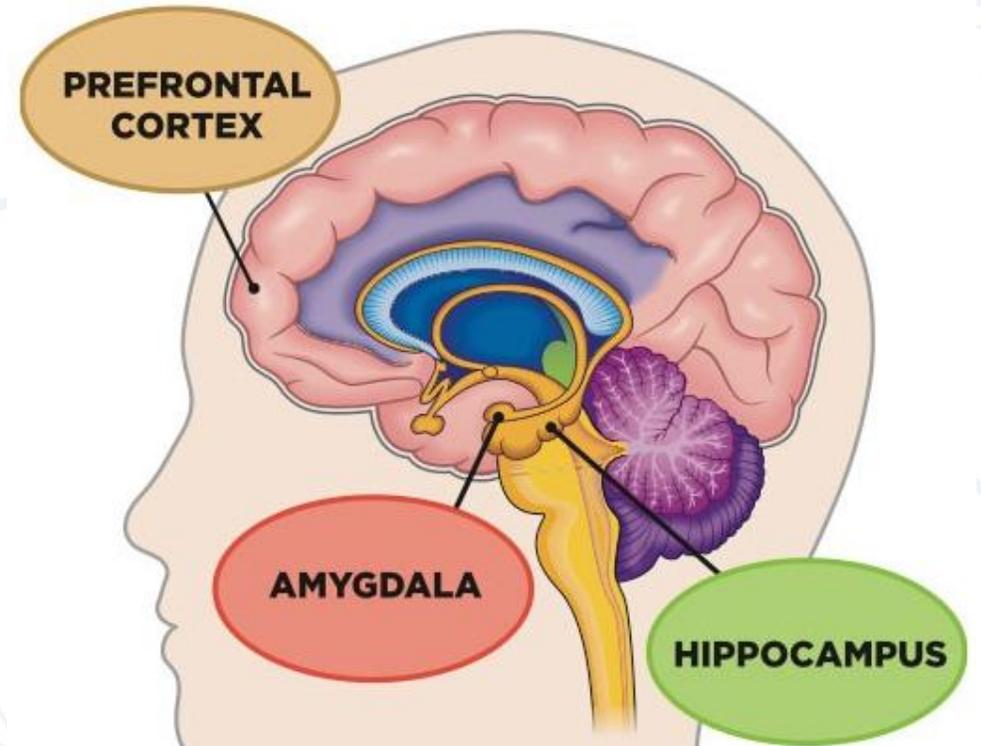


- ✦ With *stress*, there will be change in your brain.
- ✦ There will actually be more change in your brain as you become more resilient.

This is Neuroplasticity.

With Stress...

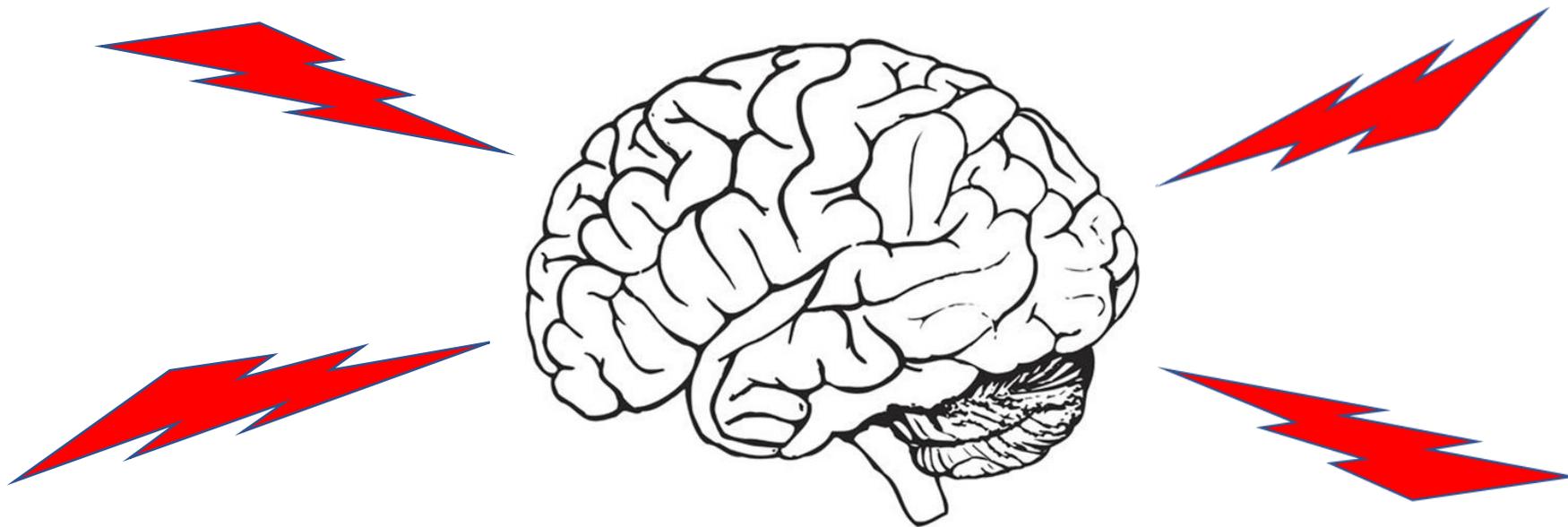
- The PFC & Amygdala are activated.
- How quickly the messages stop between the PFC & Amygdala = how quickly you recover from that stress.
- Greater resilience = greater connections between Amygdala & PFC and greater activity in the PFC in general.
- The greater the PFC activity, the greater recovery.
- The quieter the Amygdala, the better the PFC can plan and act without negative emotions in the way.



So, Resilience is a Brain Thing.

Sound Familiar?

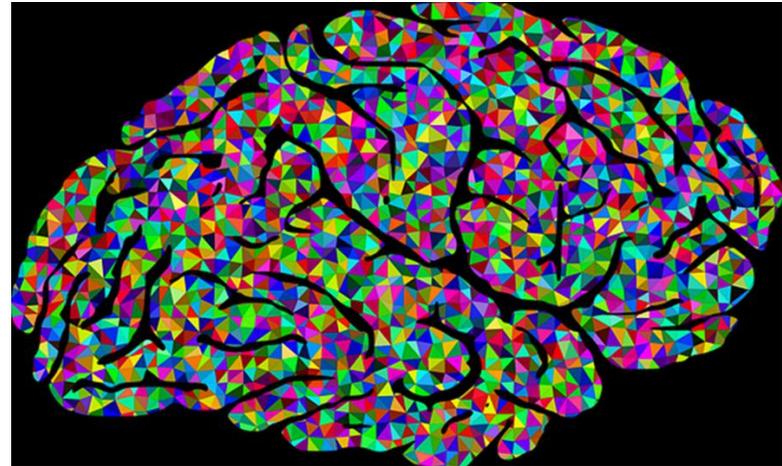
ACEs: Adverse Childhood Experiences



ACEs

Children with ACEs much more likely to develop

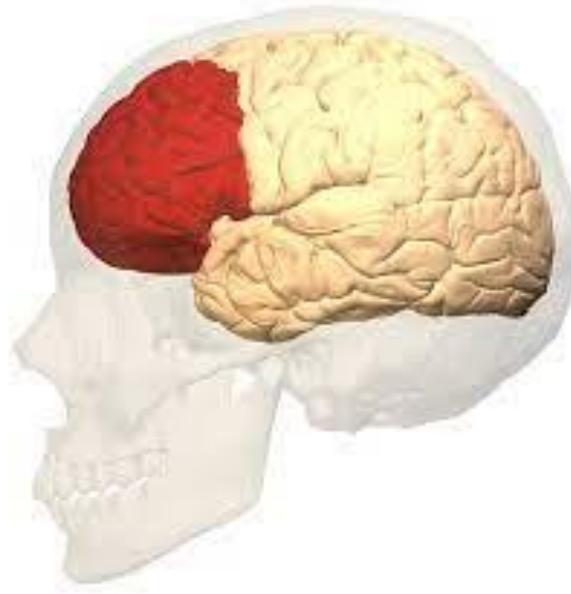
- ✦ Mood disorders
- ✦ Poor executive functioning
- ✦ Decreased decision-making skills



- ✦ Have weaker connections between the Prefrontal cortex and other key areas of the brain

In Brain Terms...

Resilience is the ability to calm the Amygdala
and turn on the Prefrontal Cortex



STRESS IS

...what we perceive it to be.



Fun

...or Terror?

High stress and risk of death



STRESS is

...what we perceive it to be.

- AIDS and Optimism – those who were optimistic lived longer than those that were “realistic”
 - Being optimistic about our health might actually affect our life expectancy.
- Cancer and Heart Patients
- Betty

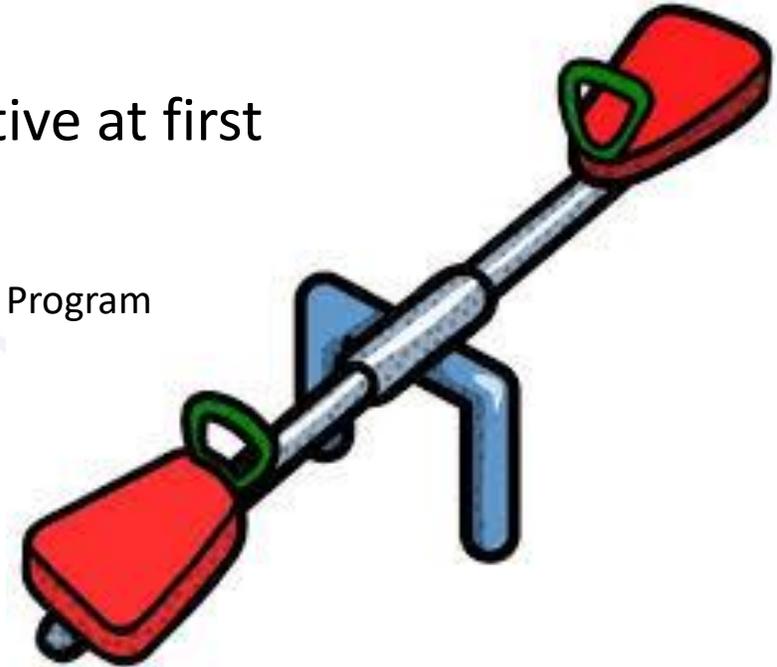


STRESS, Longevity and

The Oldest Old

- Handle stress better than the average person
- React less negatively, with less hostility
- Accept change as a part of life, even if it seems negative at first

From: The Okinawa Program



How do we build Resilience?



- In Children
- In Teens
- In All of Us





11

12

Resilience in Children

- Support of ONE caring adult – anyone
- Social connections – including their team of support

“I told grandma and she is so proud of you!”



Resilience in Children

- Being able to ask for help
 - “Who have you asked for help with this?”
- Face fear with support
- Exercise – strengthens the brain, increases neurochemicals that calm stress



Build Executive Functions

Establish Routines

Build Problem Solving Skills

- What's worked before?
- List every idea – even silly
- Break down into steps
- List pros and cons

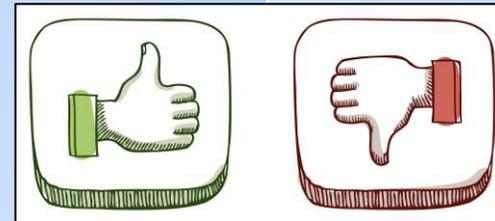
Play

- Creative Play
- Board Games
- Memory Games

Some independence, able to disagree, make some of own decisions



PROS | CONS



Meditation

Effective for

- Depression
- Chronic Pain
- Anxiety
- Attention
- Addiction...



Changes in the Brain

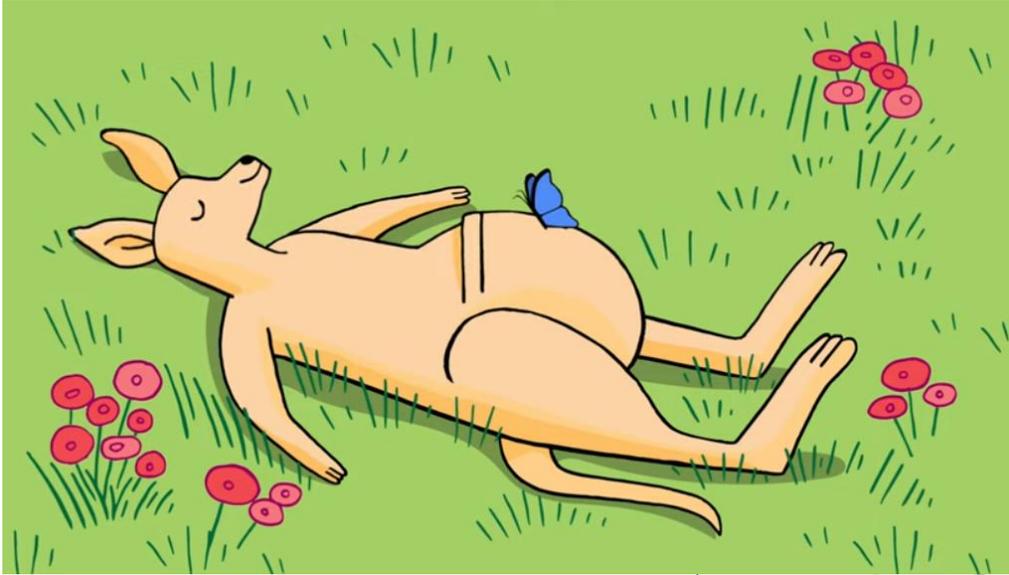
- More grey matter volume
- Quiets down Default Mode Network (DMN)
- Increase in Hippocampus
- Decreases in Amygdala



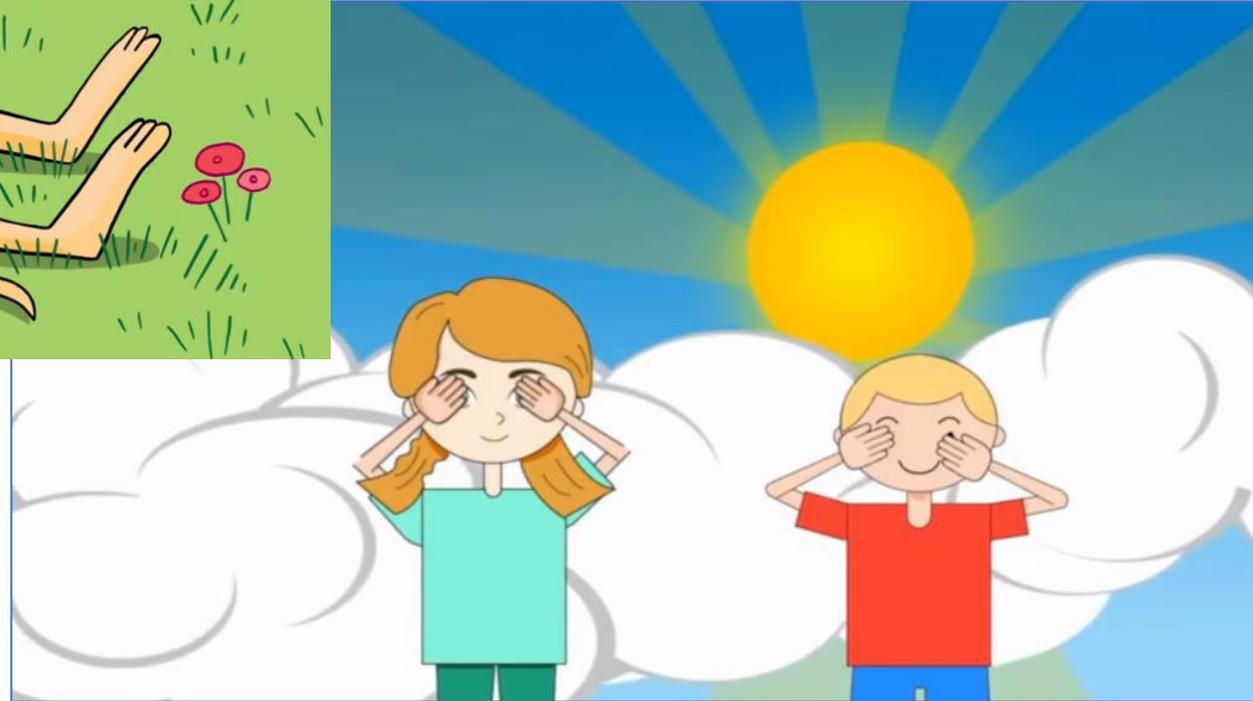
Different Ways to Meditate

- Quiet, stilling the mind
- Mantra
- Guided
- Progressive Relaxation
- Mindfulness...

YouTube Meditations for Children and Teens



Butterfly Body Scan



Tree Guided Meditation for Children & Classrooms

Relaxed Breathing



Headache Relief Guide

<https://www.youtube.com/watch?v=YKxV07cisPA&feature=youtu.be>

Build Resilience

- Build feelings of competence and a sense of mastery
 - “You can do this.” “You are good at this.”
- Nurture optimism
 - “What’s good about this situation?”
- Teach to reframe
 - “You can turn this around.” “You can learn from this and do better next time.”
- Don’t rush in too fast to fix things for them



Build Resilience

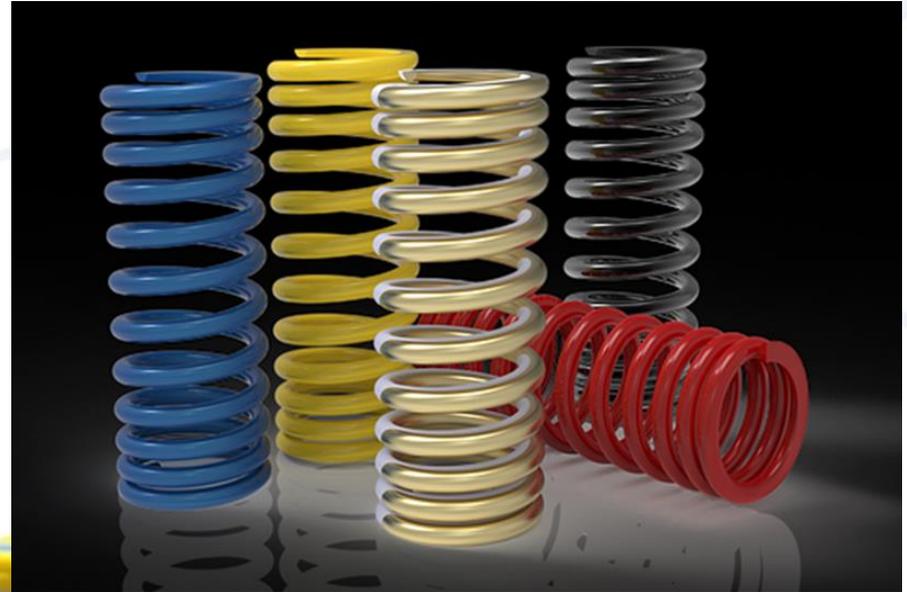
- Meet them where they are
- Having a role model or hero
- Build supportive relationships around them
- Let them talk
- Let them know they are loved unconditionally

Heysigmund.com/building-resilience-children



Model Resilience

- Model resiliency
- Model healthy relationships
- Promote faith, hope, optimism and strength in adversity



10 best phrases to teach resilience to your kids

1 

Goal
Humour

Phrase
“Come on, laugh it off”

2 

Goal
Contain thinking,
perfectionism and anxiety

Phrase
“Don’t let this spoil everything”

3 

Goal
Distraction

Phrase
“Let’s take a break”

4 

Goal
Handling worry and asking for help

Phrase
“Who have you spoken
to about this?”

5 

Goal
Offering hope

Phrase
“I know it looks bad now but
you will get through this”

6 

Goal
Positive reframing

Phrase
“What can you learn from this so
it doesn’t happen next time?”

7 

Goal
Acceptance

Phrase
“Don’t worry – relax
and see what happens!”

8 

Goal
Perspective

Phrase
“This isn’t the end
of the world”

9 

Goal
Flexible thinking

Phrase
“You could be right. But have you
thought about ... ”

10 

Goal
Taking action

Phrase
“What can we do
about this?”

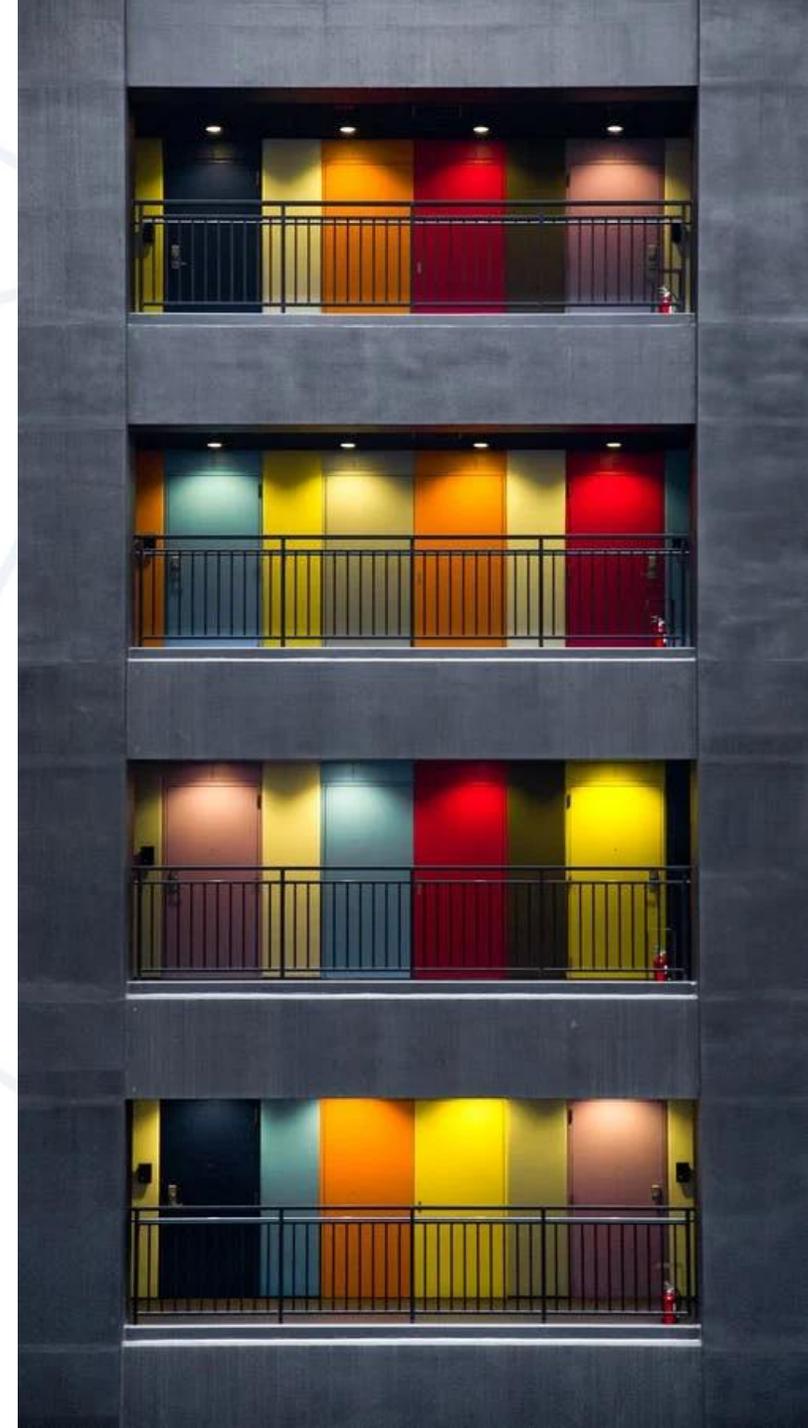
Resilience in Teens



Resilience in Teens

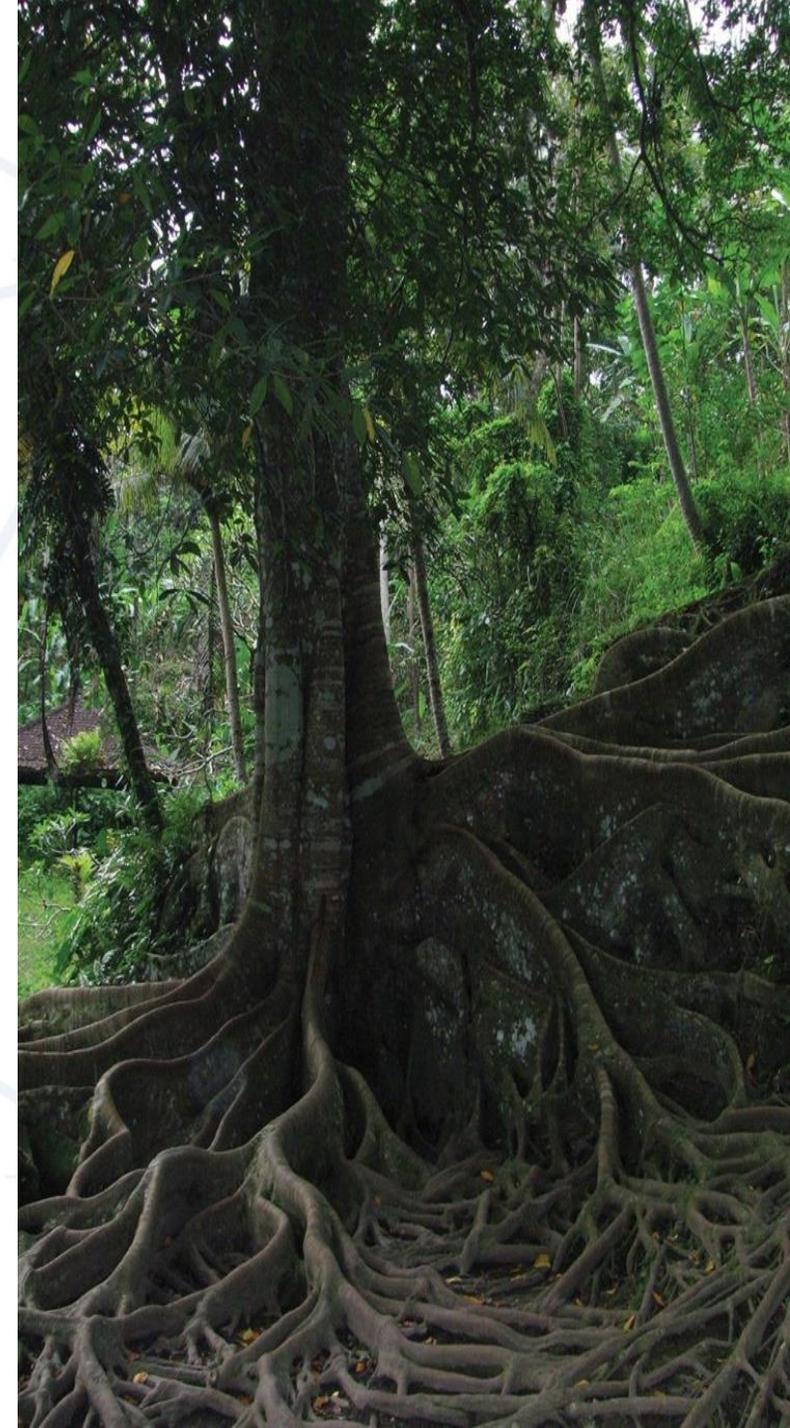
- Having a refuge – a place to escape stress, find solitude
- Having a way to express themselves
- Continue to model, even if don't appear to be paying attention

It's all good in the end. If it's not good, it's not the end.



Resilience in Teens

- Foster sense of mastery – locus of control
- Get professional help to reframe earlier traumas
- Volunteer Work
- Job



Resilience in Teens

Help them to develop

- Autonomy, self-reliance
- Relationships
- Initiative – take charge of their own lives
- Humor and optimism in difficult situations
- Morality “Do the right thing.”
- An awareness of stressors
- A passion in life (doesn't have to be *for* life)



Resilience in Teens



- Self-Care
- Relaxation
- Try new things
- Set reasonable goals
- Take breaks
- Consistent routine
- Acceptance of change

Resilience in Us All



Anything that helps your brain



...can help you be more resilient.

MUSIC

Relaxation, Recovery and Brain Health



1. Just listening

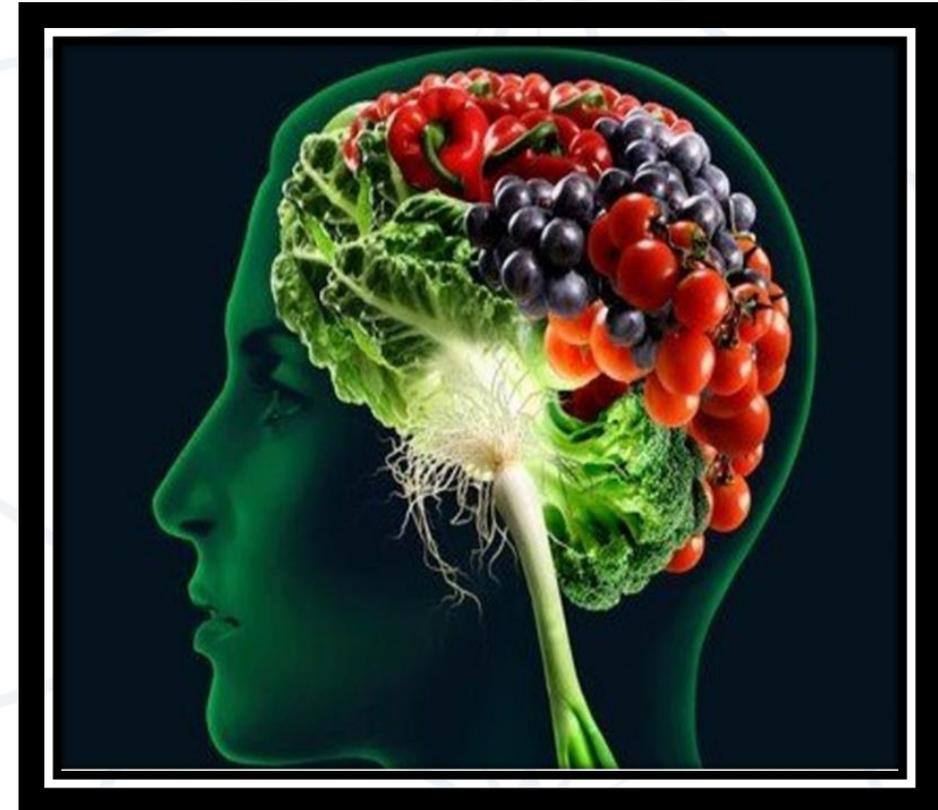
2. Listening and singing

3. Listening, singing and dancing

Healthy Food

Whole Food Plant-Based Diet (formerly known as vegan)

- Fruits
- Vegetables
- Whole Grains
- Legumes (peas, beans, lentils)

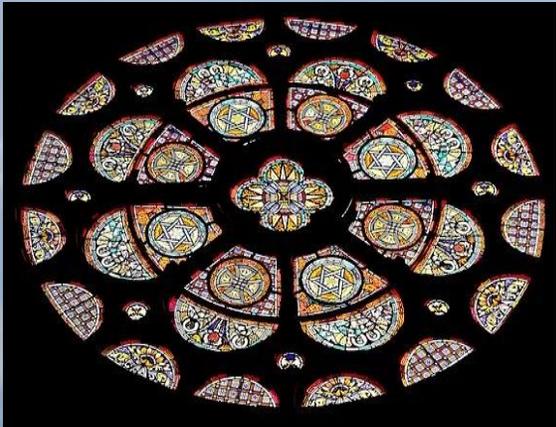


*Supports the brain AND behavior

Faith

Prayer
Meditation
Giving & Serving

Sabbath
Community
Concepts/Life Perspectives



Exercise

- Helps depression
- Helps with focus
- Decreases stress
- Lowers blood pressure

- Helps control blood sugar levels
- Helps maintain healthy weight
- Boosts immunity

...and more

Sleep



**Your brain cleans itself of toxins and plaques during the night.
If not cleaned, it causes brain fog, memory issues and can lead to dementia.**

Lack of sleep

- **Impacts emotional control & ability to think a few steps ahead**
Both are controlled by Prefrontal Cortex
- **Increases the amygdala – increases emotional reaction**

**2 nights of no sleep – increases symptoms
of depression, paranoia and anxiety**

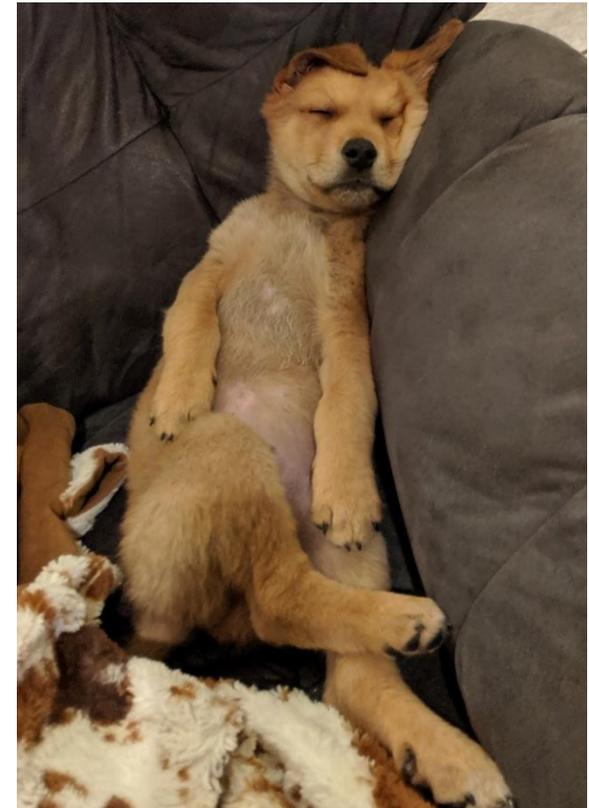
Sleep

For children's needs at each age:
webmd.com/parenting/guide/sleep-children#1

Strategies

1. Treat sleep apnea
2. Get 7-8 hours of sleep a night
3. Reduce/manage stress
4. Reduce use of electronic devices at night
5. Stick to a regular schedule
6. Reduce caffeine, especially at night
7. Drink chamomile tea
8. Kill the ANTs

Fix what keeps YOU up at night



Positive Self-Talk



Brain releases similar chemicals during negative self-talk and depression
-Suggests we can talk ourselves into depression

“...Your thoughts have biochemical counterparts. They are collections of neurotransmitters & nerve cell connections that can be triggered by electrical stimulation of the brain.”

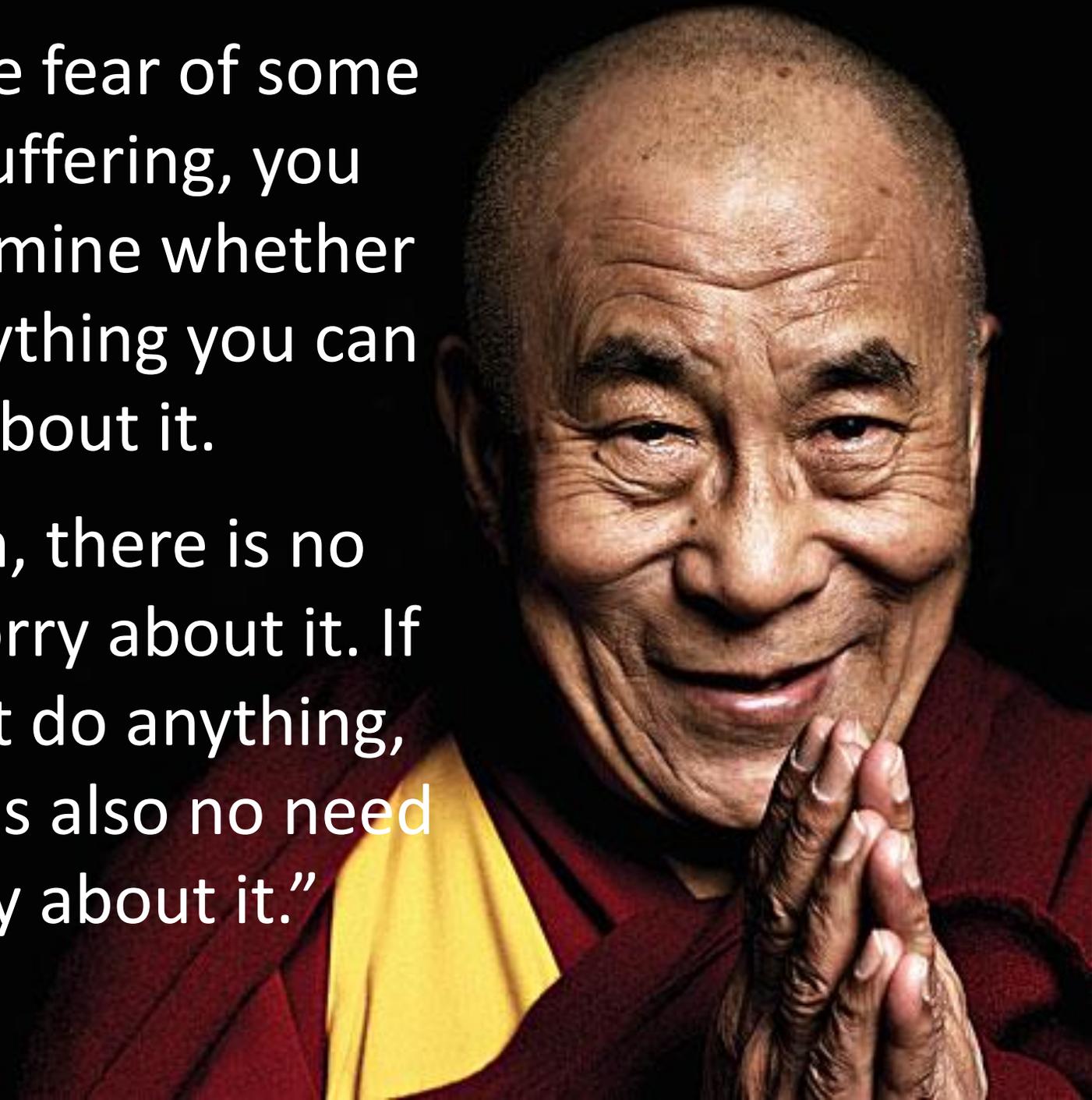
More on Stress...

It is what it is.

“If you have fear of some pain or suffering, you should examine whether there is anything you can do about it.

If you can, there is no need to worry about it. If you cannot do anything, then there is also no need to worry about it.”

-Dalai Lama



Traumatic Brain Injury & Resilience



- Resilience in people with TBI seems to be similar to people with no BI.
- BI severity, intelligence before injury and cognitive flexibility did not predict resilience.
- Factors that did influence resilience: minority status, substance abuse before injury, higher anxiety, higher disability status & greater life satisfaction.

Traumatic Brain Injury & Resilience

- Recommendation:
Assess resilience during rehab; it may help with discharge planning (and treatment)

Marwitz et al, 2018; Hanks et al, 2016; Rappaport et al, 2020



Brain Health

How to Have a Healthy Brain Throughout Life

Evidence-based information on

- Eating Well
- Exercise
- Being Social
- Learning
- Mental Health
- Gratitude
- Resilience
- Purpose and Joy
- Brain Injury Prevention
- Avoiding Toxicity
- Sleep

❖ How to Make Change

❖ Free Resources

tndisability.org/brain

BRAIN HEALTH

HOW TO HAVE A HEALTHY BRAIN THROUGHOUT LIFE

Our brain controls everything about us: our moods and emotions, our movements, thoughts and words. Some habits, like eating junk food, not exercising, smoking and drinking alcohol can harm our brain. Unhealthy habits can lead to early loss of memory and thinking skills and sometimes dementia - a disorder that affects memory, personality and reasoning.

We can make changes right now - no matter what age we are - that will improve our brains and the quality of our lives.

HERE'S WHERE TO START:

Suggestions are based on current research.

EAT WELL



- ▶ The best diet for a healthy brain includes lots of vegetables, fruits, whole grains, healthy fats (avocados, nuts and seeds), and legumes (beans, peas and lentils) and NO eggs, meat or dairy. This is a **vegan diet**.
- ▶ If you feel that you can't be a vegan, the next best choice for brain health is **vegetarian**, which is no meat or fish. If you can't be a vegetarian, eat as many healthy, meatless meals as you can.
- ▶ Beware of trendy diets. They can often help you lose weight in the short term, but may not be good for your body in the long term.

Avoid junk food, fast food restaurants and most processed (man-made, factory-made) foods. These foods often contain a lot of sugar, salt and fat.

Guidelines for the Prevention of Alzheimer's Disease: "Vegetables, legumes (beans, peas, lentils), fruits, and whole grains should replace meats and dairy products as primary staples of the diet."
Journal of Neurobiology of Aging, 2018

GREEN TEA: Did you know that green tea is both **neuro-protective (protects the brain)** and **neuro-restorative (heals the brain)**? That means if you drink green tea and have an accident that hurts your brain, it will help protect your brain from injury. Even if you begin to drink the tea after the injury, it will help.

PLANT FOODS VS ANIMAL FOODS: Did you know that **plant foods have 64 times more antioxidants** than animal foods? Antioxidants help protect cells in your body from damage, including brain cells.

DR. GREGG'S DAILY DOZEN APP: This free app helps you **keep track of the healthy foods** that you eat and helps you figure out what you are missing.

EXERCISE

Cardiovascular exercise - any exercise that raises your heart rate - is good for your whole body, including your brain. Other exercise, like yoga, is very good for your body and for relaxation. To really benefit your brain, add cardiovascular exercise which will increase blood flow to your brain. Examples of this type of exercise are walking quickly, jogging, dancing and riding a bike.

Too little exercise actually hurts the brain.

Cardiovascular exercise has been proven to:

- Fight Depression
- Manage Stress
- Control Blood Sugar Levels
- Help Fight Colds and Diseases
- Increase Focus
- Lower Blood Pressure
- Maintain a Healthy Weight
- Improve Memory



Exercise and better food choices can help you to keep a healthy weight. Studies have shown that having a heavier body makes us have a smaller brain. So keep your weight down and your brain healthy!



tndisability.org/brain

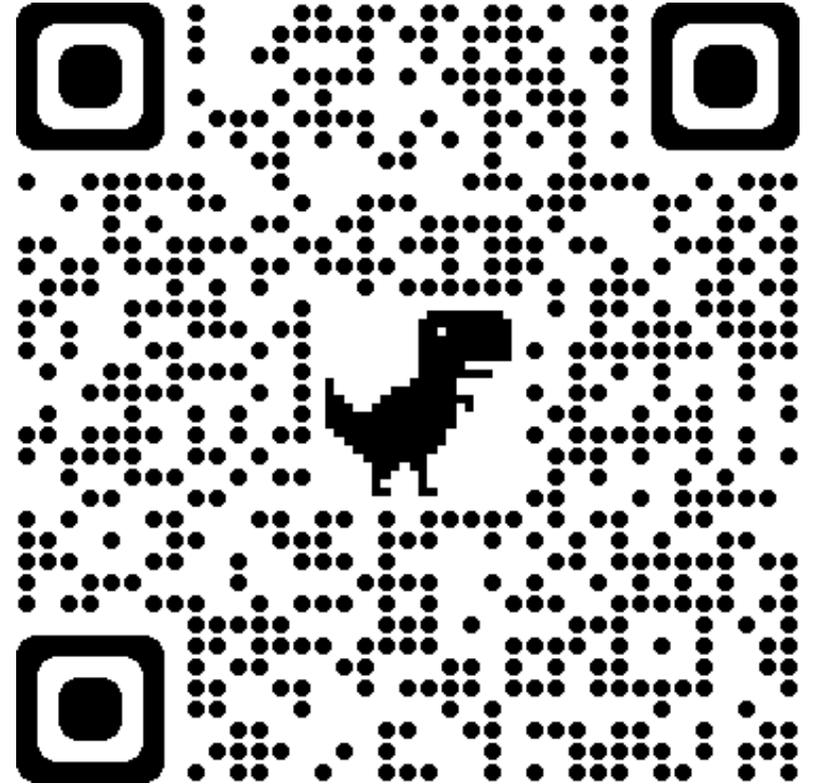
Brain Links' Training Satisfaction Survey

Check the chat → → **Take the 1 minute survey!**

Thank you in advance for supporting our grant efforts!!!



You'll need to enter:
August 17th
Resiliency & Brain Health
Wendy



Thank you!

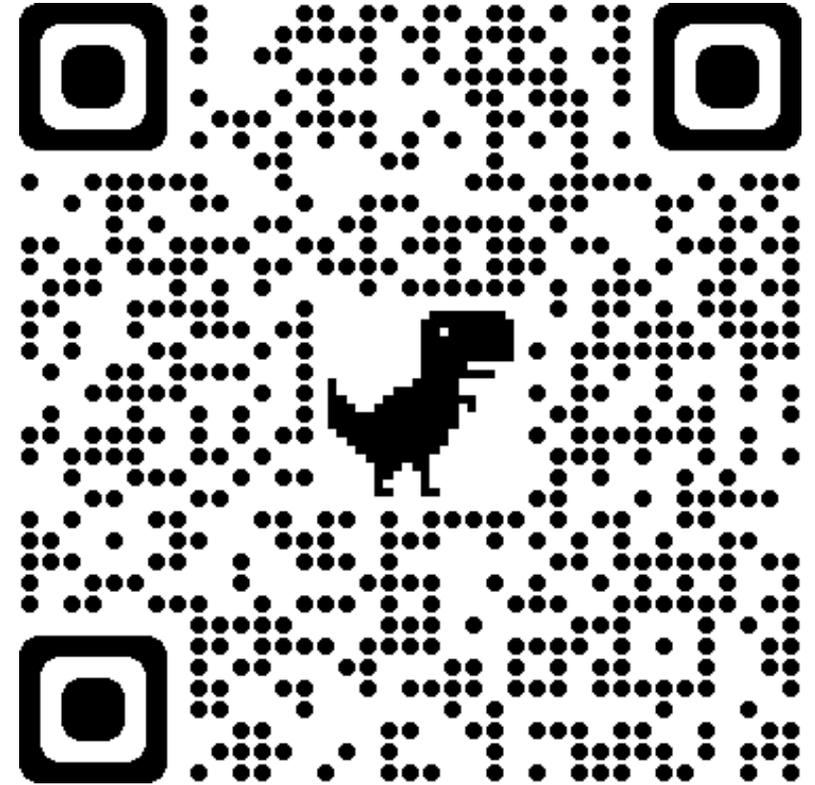


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Tennessee Disability Coalition
955 Woodland Street | Nashville | TN | 37206 |
615-383-9442 www.tndisability.org/brain



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Questions



Resources available at www.tndisability.org/brain



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