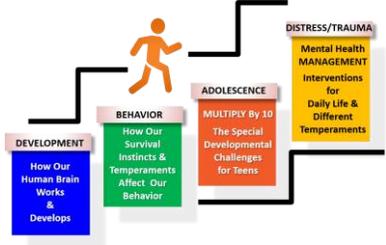


STEPClasses

Mental Health Info-Sessions
for
Helping Professionals



Science that Explains People
2022

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Polk County
Health Services

Children's Mental Health Services

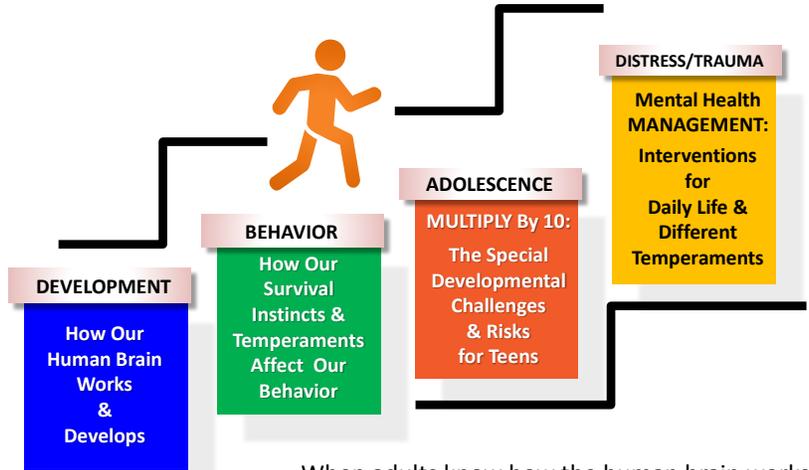
4 Virtual Sessions
on the Zoom Platform

- Session 1: Thursday May 5, 2022
- Session 2: Thursday May 12, 2022
- Session 3: Thursday May 19, 2022
- Session 4: Thursday May 26, 2022

All from 10:00 to 11:30 am

Presenter:
Karen Williams
karenwilliamsbrain@outlook.com

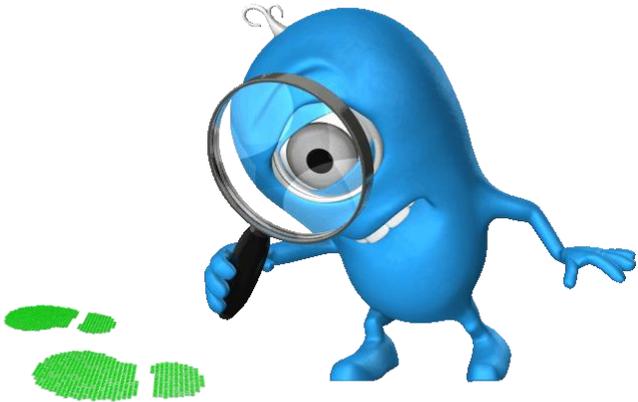
We will examine the following four (4) topics:



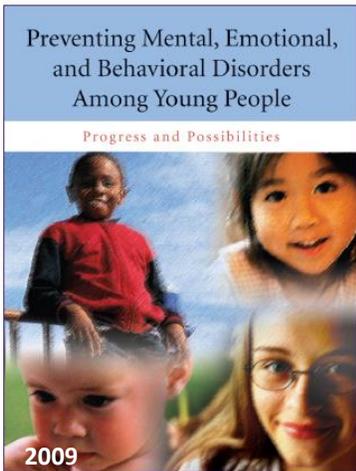
When adults know how the human brain works and develops -
- & how different children's and teen's brains are - -
we can protect everyone better.

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First, some statistics...



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This 2009 landmark **Consensus Study Report** is available free at the website below... 592 Pages

NOTE: There are "Report Briefs" - from 4 to 6 pages each.

MAJOR FINDINGS.

75% of MEB disorders in U.S. begin prior to age 24.

➤ 50% begin PRIOR TO AGE 14!

Symptoms show up **2 to 4 years BEFORE** reaching the criteria for a **disorder!**

We have **TIME** to prevent disorders.

<https://nap.nationalacademies.org/catalog/12480/preventing-mental-emotional-and-behavioral-disorders-among-young-people-progress>

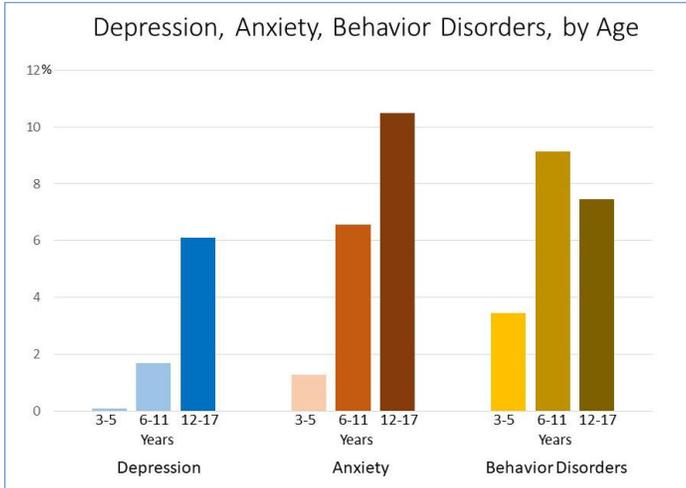
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1 in 6 children aged 2-8 years has a mental, behavioral, or developmental disorder.

CDC Morbidity and Mortality Weekly Report (MMWR) 2018 Series

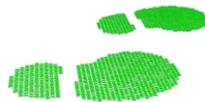
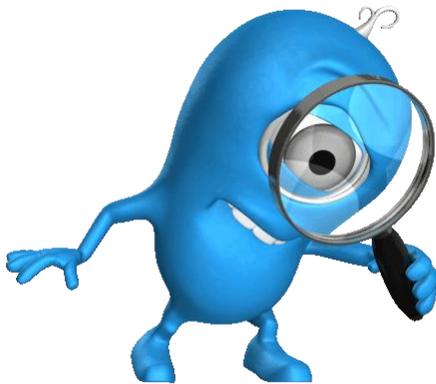
Journal of Pediatrics, 2018*



*Estimates of increases from 2018-2022 vary greatly by regions & states due to loss of data during COVID pandemic.

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Now, some definitions...



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Health:

- Our Body is at Ease
- Our Mind is in Order

Physical

Biological:

- Composition – bone/fat/muscle
- Coordination – balance/flexibility
- Strength – muscle power
- Stamina - endurance

Mental

Psychological:

- Cognitive – executive functions
- Emotional - feelings
- Behavioral – actions/reactions
- Social – interactions with others

***DIS = Not - or the opposite of – what it precedes.**

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Centers for Disease Control and Prevention

Mental Health is more than the absence of an illness or disorder.

Being mentally healthy during childhood means **reaching developmental and emotional milestones** and **learning healthy social skills** - - and how to **cope when there are problems**, i.e., **learning to be resilient**.

Mental disorders among children are described as serious changes in the way children typically learn, behave, or handle their emotions, which **cause distress** and problems getting through the day. **Mental Health depends on MANAGING DISTRESS.**

Many children occasionally experience fears and worries or display disruptive behaviors. If these symptoms are **serious and persistent - and interfere with school, home, or play activities - the child may be diagnosed with a mental disorder.**

Indicators of Children's Mental Health:

- **Affection/Friendship**
- **Resilience**
- **Positivity**
- **Curiosity**
- **Persistence**
- **Self Control**

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Learning & development depend on a child's **Mental Health.**

Teaching children how to:

- **Manage distress**
- **Cope with problems**
- **& be Resilient**



should be our top **priority**.

Social Emotional Skills mitigate & prevent mental health problems.

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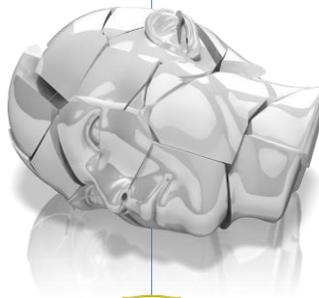
Research shows that when we reduce the causes of our children's distress - - **or if we can't reduce the distress, teach them how to overcome & manage their distress**, we can:

- Reduce **up to 50% of children's mental health disorders**
- Reduce **child abuse**
- Increase **school success & graduation rates**
- Reduce referrals to **juvenile justice**
- Reduce up to **40% of adult mental health disorders**

Mental Health depends on our having a physically healthy brain.

Any **injury** to our brain can affect our mental health.

Falls, concussions, car crashes, etc., can affect the same nerves that are involved in our mental health.



When assessing a young person's mental health, we are trained to always look for any medication mis-use or drug use - - or a missed medication....

ALWAYS ask about any potential injury to the brain & neck as well.

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Adequate sleep is essential to our **Mental Health...**

There is a **bi-directional relationship between sleep and mental health**, in which sleeping problems may be both a cause and consequence of mental health problems.



Newborns	14 to 17 hours per day
Infants (up to 12 month)	12 to 15 hours per day
Toddlers (1 to 2 years)	11 to 14 hours per day
Preschoolers (3 to 5 years)	10 to 14 hours per day
School-age children (6 to 12)	9 to 12 hours per day
Teenagers (13 to 17)	8 to 10 hours per day

Always determine the amount of sleep (by age) that a child is getting on a routine basis. Include:

- Bed time – routine – reasonable given the age
- Own bed or sharing?
- How many people in the bed?
- Neighborhood noise – gunshots, etc.?

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Basics...

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Systems of the Human Body:

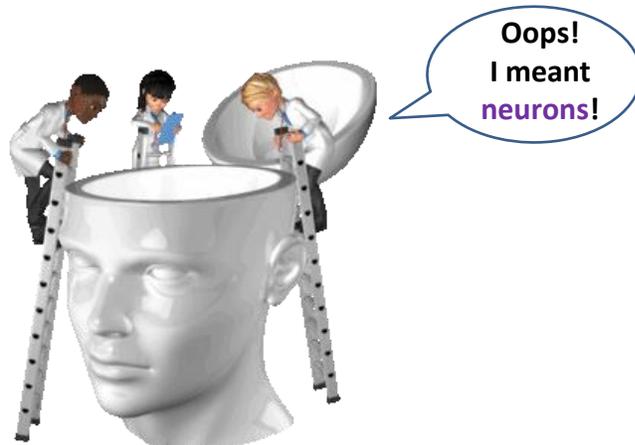
1. Skeleton
2. Muscular
3. Integumentary/Skin, hair, nails
4. Respiratory/Breathing
5. Cardiovascular/Blood Circulation
6. Digestion/Solid Waste Elimination
7. Urinary/Water Waste Elimination
8. Endocrine/Hormones
9. Hematopoietic/Lymphatic/Inflammation Control
10. Reproduction

11. Nervous System – Our Neurons & Networks = communication between & coordination of all the other human body's systems.



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Ooooooh – look -- nerves...

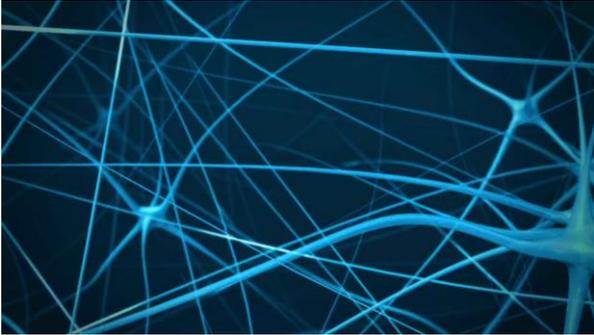


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NIH, 2004, 2007, 2011

We have many different types of cells in our bodies, but our most important cells are:

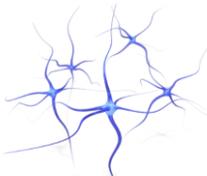
Nerve Cells...



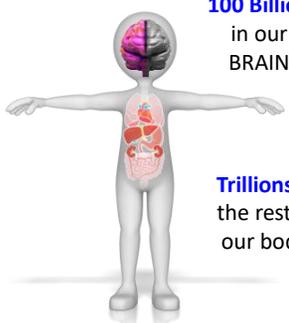
...our NEURONS.

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Neurons are our **communication cells** that allow all the other cells in our body to work together.



Symbol for a Network of Neurons



100 Billion in our BRAIN

Trillions in the rest of our body.



Nuttin' works without Neurons!



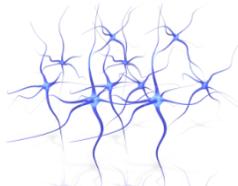
← **Individual Neuron**
(Once called a "Brain Tree")

Individual Neurons work like individual microscopic computers or cell phones.



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Neurons never work alone. They work in **NETWORKS.**



← **NETWORK of Neurons**

Individual **Neurons** are linked together to form **NETWORKS** for everything we feel, learn, think, & do.



Different parts of our body – our personal "devices" - are linked, all sharing the same **NETWORKS...**



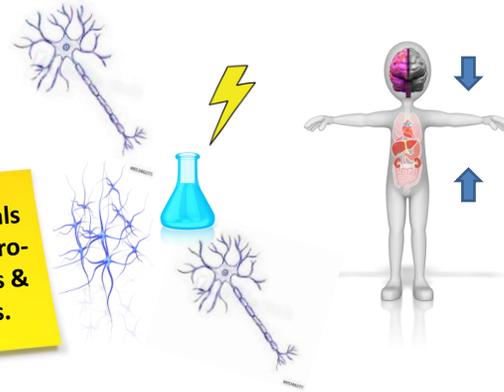
Computers and cell phones use **electricity and digital code** to send each other **messages**.

Each **message** creates a new - or strengthens an existing - **NETWORK**.



Neurons use electricity and bio-chemical code to send each other **messages**.

Each **message** creates a new - or strengthens our existing - **NETWORK**.

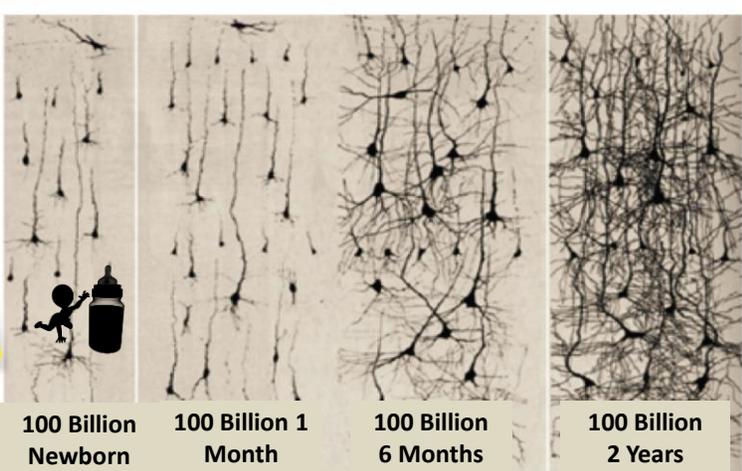


Bio-chemicals include Neurotransmitters & hormones.

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Experience/Stimulation Shape our Neural Architecture*

Experiences wire (connect) neurons into **NETWORKS** & that is **DEVELOPMENT**.



100 Billion Newborn	100 Billion 1 Month	100 Billion 6 Months	100 Billion 2 Years
---------------------	---------------------	----------------------	---------------------

We arrive with all our neurons, but only **25%** have been **"pre-wired" (networked)**.

The other **75%** are **"waiting" for life to provide the experiences.**

DRAMATIC GROWTH OF NEURONAL ARCHITECTURE FROM BIRTH TO 2 YRS

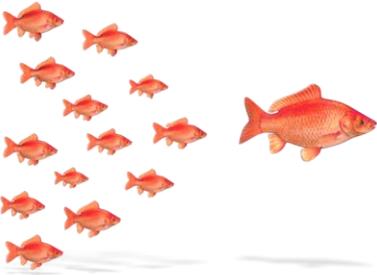
Source: "The Pediatricians Role in Addressing Childhood Poverty", David Keller

*Networks

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NIH, 2004, 2007, 2011

The neurons that are working gets "fed".



A MOST IMPORTANT FACT we need to remember...

Everything we do takes energy. So during childhood, we cannot afford to waste any...

**Blood
Oxygen
Energy (BOE)**

*Experience/
Stimulation*

Whatever we are doing is getting MOST of OUR BOE!

...worry, fretting, being angry... all of these are WASTING ENERGY.

The neurons/networks that are *stimulated by experience* i.e., the neurons/networks that are *working*, get BOE.

Those that are not *stimulated*, STARVE!

Use it - or lose it!

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Learning is the FIRST step in our Development



When we are upset or distressed, our BOE is shifted away from our positive memories to our distressful memories.

Learning + Memory make DEVELOPMENT possible.

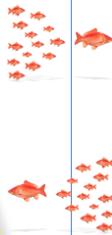
Short-Term & Working-Memory



Long-Term Memory

Positive/Calming and Distressful memories are stored separately.

If something is messing with our positive/calming memory, it's messing with our learning, development, & MENTAL HEALTH!



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Humans learn & develop by looking for & finding:



Repeated & Consistent

- Explore (What's there?)
- Observe Models (Look/Hear)
- Seek Guided Experience (Show me how...)



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Automatic Way "In":



**Mirror Neurons
"Observer Neurons"**

**What is observed is
AUTOMATICALLY
STORED
in our memory.**

Say we were both having an MRI Scan of our brains.



You do an **Actual Activity** while being scanned
=
You have an **Actual Experience**



I only **Observe** you while being scanned
=
I have a **Virtual Experience**

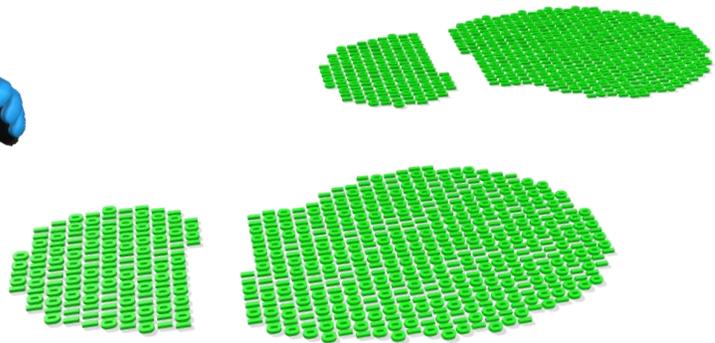


Our scans look exactly alike; the same neurons were stimulated & wired/networked in both our brains.

Be **careful** what you model. It can **wire** the brain of the observer.
& Modeling is **the most powerful** way to teach!

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Now, the big picture.



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Life is like being in the middle of a
see-saw that is mounted precariously on
a large ball --
meaning that the see-saw is shifting
unexpectedly all the time --
& it is super sensitive to any adjustments
we may make.

Our only job is to learn how to
keep our balance...
so that we can do everything else in life.

The problem is that we can
learn, develop, & have
Mental Health
ONLY WHEN WE ARE in **BALANCE.**

**Balance is also
known as
Homeostasis.**

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Or...life is like a moving/mobile **balance beam.**

Our job is to learn how to **mount & dismount safely, & how to perform on the beam.**

To do this, we must learn how to **stay on the beam.**

We "know" relatively little at birth. Experience teaches/develops us.

That is not easy. We are not in charge of the beam.

Life is...

...and we do not come into this world knowing anything about the beam, our job, or the consequences of not staying on the beam.

That is what life is all about...

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NIH, 2004, 2007, 2011

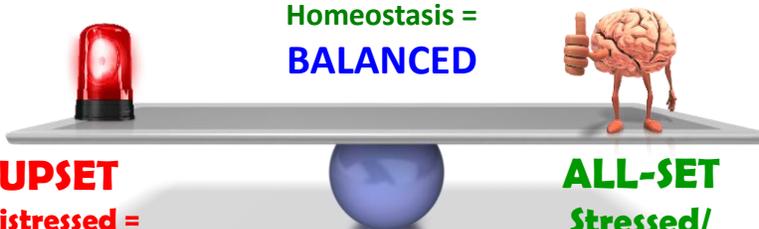


"Nature + Nurture"

DNA/Genes + Fear Vs. CALMING Experiences



SURVIVAL Vs. **MENTAL HEALTH & DEVELOPMENT**



UPSET
Distressed =
Over/Under-Stimulated
Or...Overwhelmed =
Traumatized

Homeostasis =
BALANCED
Resiliency
Able to be flexible
& bounce back

ALL-SET
Stressed/
Sufficiently
Stimulated

Mental Health & Cognitive Development only happen when we are in Homeostasis (Balance).

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“Nature + Nurture”
DNA/Genes + CALMING Experiences

SURVIVAL vs. MENTAL HEALTH & DEVELOPMENT

Must Be TAMED & Managed

UPSET

Our SURVIVAL INSTINCTS & REFLEXES - i.e., our internal AUTOMATIC ALARM System goes off. (Included in our pre-wired 25%)

Our Mental Health is up in the air & cognitive development is at risk.

SURVIVAL IS ALWAYS #1

To survive in life, we must learn to **TAME & Manage** their impact on us.

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NIH, 2004, 2007, 2011

The #1 Goal of NATURE/DNA/Genes:

OUR SURVIVAL

1 Job: “OJ”
Overreact & Jump to Conclusions!

&..if not TAMED & Managed, our Survival Instincts/Reflexes can OVERWHELM us & knock us OFF the BEAM!

Being overwhelmed IS BEING TRAUMATIZED.

Anything we perceive as **Challenging/Distressing/Threatening** **AUTOMATICALLY** triggers **SURVIVAL INSTINCTS & REFLEXES.**

UPSET

Traumatized

But, when a situation is **NOT** actually threatening, these **reflexes** can cause our **behavior to appear out of control.**

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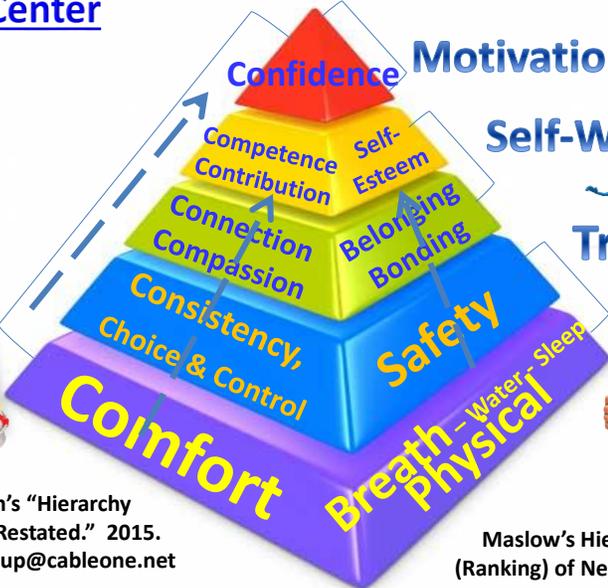
NIH, 2004, 2007, 2011

#1 Goal of NURTURE: TAME our SURVIVAL Reflexes



Reward Center

When our needs are met, we are more likely to be CALM, be able to listen, learn, & think clearly & to manage our own mental health & behavior. CALM rescues us!



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William's "Hierarchy of Needs Restated." 2015. williamsgroup@cablone.net

Maslow's Hierarchy (Ranking) of Needs, 1943

When our Needs ARE NOT MET, we fear for our wellbeing & we are distressed.



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NIH, 2004, 2007, 2011



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When life throws us a curve ball...

...we can be overwhelmed, lose our balance, be knocked off life's see-saw, and be flat on our back on the ground

We are mentally, emotionally & sometimes socially overwhelmed - - and guess what?

Being overwhelmed is the definition of **psychological trauma!**

Psychological TRAUMA
is defined as...
"a level of mental, emotional, or social distress that **exceeds & overwhelms** one's coping skills & habits."



Psychological Trauma exists within the person NOT in the event or circumstance.

We all respond differently to anything challenging or threatening, i.e., adversity.

The same situation can be mildly inconvenient to one person & absolutely devastating to another.

Some people need far more support than others to overcome & recover.



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Please remember - - anything that is **psychologically overwhelming**, i.e., psychologically traumatizing, is likely to “knock us down”.

That’s normal for everyone.

It’s how we face that situation afterwards that defines our level of **resilience**.



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Physical & Psychological Resilience are essential to mental health...



They both require:

- Flexibility
- Strength
- Stamina
- Endurance

=

HARDINESS

But, remember, I’m sticking with **Psychological Resilience**.

Psychological Resilience

is defined as the ability to rise to & **meet** challenges & setbacks, to **adapt** to change, to **keep going** in the face of adversity, and to **recover**...bounce back.

A layman’s definition:
Psychological Resilience:

Psychological Hardiness...



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There are very few of us who cannot be overwhelmed i.e., knocked-down by something adverse...




We all overcome adversity differently...

Some of us take our own unique route...




Most of us need help...



For many, any form of adversity is overwhelming...

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The longer we are **UPSET**, the **stronger** our **ALARM SYSTEM** networks get.

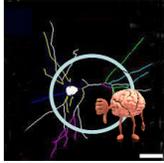


...and the weaker our cognitive development & Mental Health networks get.

In charge of COGNITIVE DEVELOPMENT → Prefrontal Cortex and Hippocampus

Children need CALMING habits & lots of adult support

Starving Networks Change Brain Architecture

Normal Networks	 <p>Typical neuron—many connections</p>		<p>NEW Connections: NETWORKS INCREASE.</p>
Starved Networks	 <p>Damaged neuron—fewer connections</p>		<p>Disrupted Connections: NETWORKS SHRINK.</p>

Sources: Radley et al. (2004); Bock et al (2005)

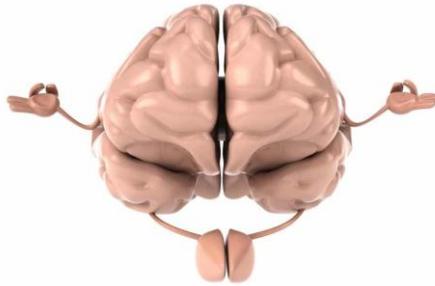
Center on the Developing Child HARVARD UNIVERSITY

When we are UPSET, our blood, oxygen and energy are diverted away from our PFC & Hippocampus to feed our ALARM SYSTEM.

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The Value of Being

CALM



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Everything Depends on our Neurons & their Bio-Chemistry

Our neural bio-chemistry makes it possible for us to:

Move at Will, Listen, Focus, Concentrate, Remember, Contribute,
Think Rationally, Self-Regulate, Be Patient & Courteous;
Have Compassion & Empathy; Recover from Psychological Trauma/
Behavioral Health Problems, Stay Physically & Psychologically Healthy - -
& Be *RESILIENT* & RECOVER from Injury...

...BUT...ONLY when we can

FIRST feel

CALM.



NIH: 2001, 2004, 2009,
2011, 2014, 2017.

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And...

**NEVER . . .
in the history of
calming down
has anyone ever
calmed down by
being told to
calm down.**

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Unknown

*Not everyone has experienced being **calm**...*



Do I know what it feels like to be **CALM**?

What does **CALM** look like? Sound like?

Can I produce a feeling of **CALM** at will?

Do I **value** being **CALM** - - do I want to be **CALM**?

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The #1 job of adults is to teach youth to **CIA**



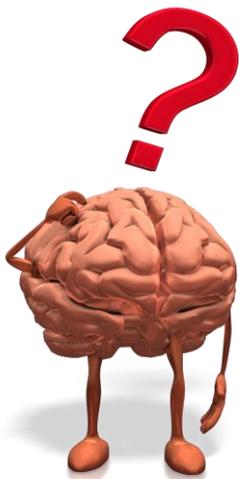
Calm themselves
(Neked & Alone)

Identify
their triggers, sensations, & emotions

Ask
know who, when, & how to ask for help.



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The first and most important question for children when it comes to mental health is:

“Do I know how to calm myself in all situations, can I do it “neked & alone”, and have I practiced it until it has become a habit – like walking and talking?”



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Diaphragmatic BREATHING can change everything.

It changes our bio-chemistry, **CALMs** us (relaxes us) directs our **blood, oxygen, & energy** toward development, & strengthens our immune system...



Our diaphragm is our **primary breathing pump***. (**Belly Breathing**)

Taking air **IN** is operated by our spinal nerves (in charge of our survival);

& letting air **OUT** is operated by our vagal nerves (called our "compassionate" nerves.

*Also the pump for our lymphatic system, in charge of our lymph nodes, cleaning our blood of toxins, controlling inflammation, etc.



Laughter, singing, humming, whistling...

NOTE: When we breathe **OUT** longer than we breathe in, we **CALM** ourselves & all our health improves.

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Have you ever been in the **middle** of a see-saw?

That's where the **power** is - - right in the **middle**. You can shift your weight to favor either side.

We can only **RECOVER** when we are **balanced**, i.e., when we are **CALM**, i.e., we are in "homeostasis".

CALM Resilient

The single most important **habit** we can build is being able to

UPSET

RESET

ALL-SET

Do I know what to do when I get upset?
Can I **CALM** myself?
Is it my **HABIT**?
Do I have people around me to help me?

CALM = is **BIO-CHEMICALLY BALANCED**.
How reliably we can find **CALM - BALANCE** is our state of **resilience**.

We need to know what to do when our **INTERNAL ALARMS** go off!

We can **REDIRECT** our **Blood, Oxygen & Energy (BOE)!**

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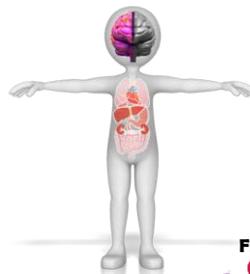
We can learn to
CALM
 ourselves by
 managing our
 Behavior
 Bio-chemistry.



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Our Bio-Chemistry

OUR **BIO-CHEMISTRY**
 REFERS TO THE SETS OF
 CHEMICALS WE MAKE
 INSIDE
 OUR OWN BODIES.



We have two sets that
 operate our **BEHAVIOR**:
 1. A set that operates our
Survival Instincts/Reflexes
 (these are our **ALARMS**).
 & 2. A set that
CALMS
 & rescues us...



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Humans have **2 Basic Sets of BEHAVIOR Bio-Chemicals:**



Alarming

SPEED us up... 

Norepinephrine
Adrenaline
Epinephrine
& Cortisol...
released

AUTOMATICALLY,
for operating/healing our body &/or
*when we feel threatened or **UPSET.***

*“nor” = neurotransmitter



Emergencies
Fight **Flight** **Freeze**



NORA



Steroid

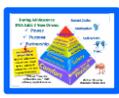


Calming

Those that CALM us down...

“Fabulous 5” ...

released
when our needs are met,
OR
when we use our
CALMING Habits.


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Our #1 Alarm Bio-chemical

Released along with Adrenaline.



Cortisol

CORTISOL

C[C@]12CC[C@@H]3[C@H]([C@@H]1CC[C@@H]2O)CCC4=CC(=O)CC[C@]34C


CORTISOL is a hormone that is a vital part of our SURVIVAL SYSTEM.

It is one of our **ALARM BIO-CHEMICALS.**

Most of the time it is our friend, but too much can be dangerous.

NIH, 2004, 2007, 2011

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Anytime we perceive a situation or condition to be **threatening/upsetting** both **adrenaline** and our **biochemical steroid**, called



are released into our blood stream, **immediately & automatically.**

*Medication based on cortisol = hydrocortisone

For
SHORT-TERM USE ONLY!

CORTISOL:

is an **anti-inflammatory steroid.**

Short Term: Helpful



- **Prepares** our body to handle - and heal from - injury.
- **It SPEEDS us up** - - it **increases our blood sugar & races our heart...**

Long Term: Harmful

We all know what being on outside steroids can do...



Our natural steroid (cortisol) can be just as **damaging.**

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NIH

Teens
under the same
Upset/Distress
as adults
get a dose of our
Distress Hormone
Cortisol
that is
2 to 5 times MORE
than that of adults
& it stays
2 to 5 times LONGER!



It takes **Teens**
L-O-N-G-E-R
to
calm down.

This helps explain why being **upset/distressed** can be so **damaging to Teen Brains**, and why they have trouble **"calming down"** after an **upsetting/distressful** episode.



Dr. Russell Romeo, Rockefeller University

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Tense Muscles

Increase Heart Rate

Increase Blood Pressure

Increase Blood Sugar

Heighten Stimulation of the Long-Term SURVIVAL Memory

Decrease Sensitivity to PAIN

Disrupts Digestion & Elimination & Mfg. of Serotonin, Oxytocin & Dopamine

Disrupts Immune System & HEALING

Disrupts Cognitive Development & HEALING

Sharp Intake of Air (Gasp), Rapid, Shallow Breathing or Holding Breath

Long-Term Cortisol INCREASES our RISKS.

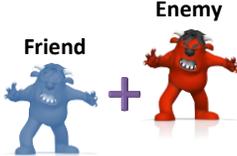
DANGER

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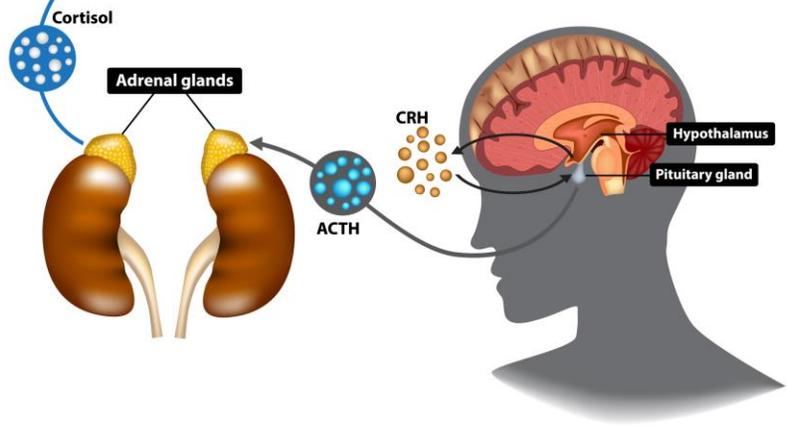
BTW:
 When our breathing is short or we are holding our breath, we are creating more & more cortisol.

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Where is our #1 **ALARMING** bio-chemical made?



Cortisol is made by our **adrenal glands** – which rest on top of our kidneys.



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Our CALMING Bio-chemicals...



The “Fabulous Five”

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Our Fabulous Five:

All Partner in Managing Our REWARD CENTER (BASIC NEEDS)

SARA Serotonin:
CALM, "REST & DIGEST" & "Restful Alertness" (LEARNING)
Trigger: Belly Breathing

"Oxy-T" Oxytocin:
CALM, TRUST, & SAFETY & BONDING
Trigger: Belly Breathing

"Dr. Dopa" Dopamine:
CALM, PLEASURE, & MOTIVATION, PLUS...
Trigger: Belly Breathing

"Ananda" – Anandamide:
(Body's THC) CALM, PEACE & BLISS
Trigger: Belly Breathing

"Endora" - Endorphins:
(Body's Morphine) PAIN RELIEF & EUPHORIA
Trigger: Belly Breathing

45-55% made in our gut...
2nd Brain

EVERYWHERE in our body. 85-95% made in our gut...
2nd Brain

45-55% made in our gut...
2nd Brain

REWARD CENTER
Contribution, Extension, Connection, Belonging, Empathy, Compassion, Safety, Physical

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HOMEOSTASIS = Chemical Balance

CORTISOL Out:
Nora IN!
Norepinephrine
Interest & Focus

"Oxy-T" Oxytocin

"Dr. Dopa" Dopamine

"Ananda" Anandamide "Bliss" (THC)

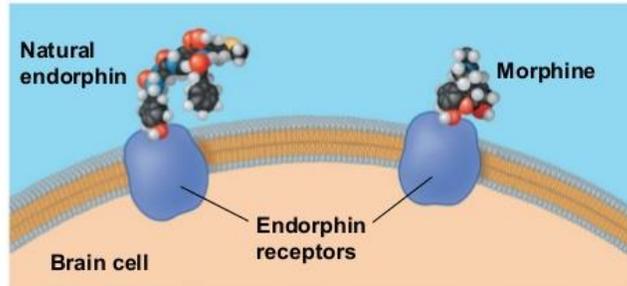
SARA

"Endora" Endorphins (Morphine) Pain Relief

Protective Skills/HABITS
Belly Breathing

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The morphine molecule mimics our body's natural Endorphin.



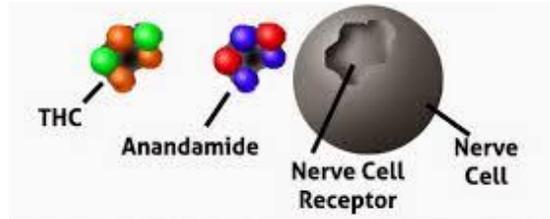
Our **endorphins** are psychological & physical **pain killers**.

We can build **endorphins on demand** when we are active and moving, exercising, laughing heartily, & deep, slow belly breathing, & breathing out slowly.

Belly Breathing

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Marijuana's THC molecule mimics our natural Anandamide.



Anandamide produces a feeling of calm, wellbeing, and "bliss".

It works with Serotonin to help our bodies regulate functions ranging from appetite, sleep, mood regulation, neuro-protection, immune function, pain management, and even fertility.

We can build **Anandamide on-demand** by Belly Breathing, Deep, Slow Breathing OUT, Smiling, Laughing, Music, Gratitude, Generosity, etc.

Belly Breathing

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Endorphin & Anandamide Deficiencies

Because you must have **DOPAMINE** present before you can have access to **Endorphins** and **Anandamide**.

When you have a **dopamine** deficiency **you** have **endorphin** and **anandamide** deficiencies.

Physical and psychological pain become more intense & less manageable,

we cannot find calm or comfort, we are distressed, and more CORTISOL is released.



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NIH, 2017



Hangs out & is **Best Friends** with **Cortisol**.

Ghrelin is made in our stomachs & gut stimulates the feeling of starvation & the production of fat.

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NIH, 2015

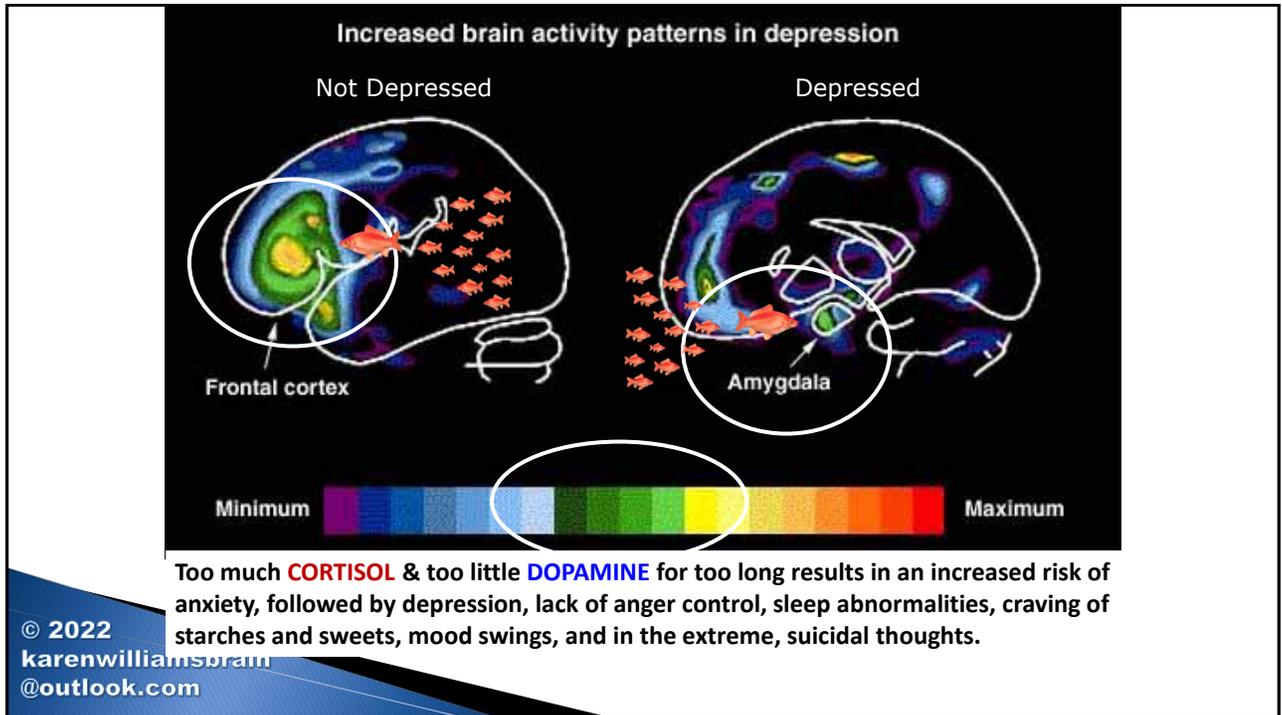


SARA

Hangs out & is **Best Friends** with **Serotonin**.

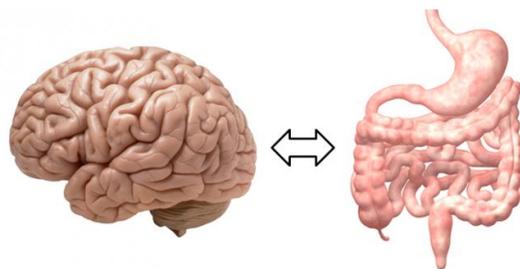
Leptin is made by our fat cells & stimulates contentment, relaxation & restfulness.

Yale University, 2019



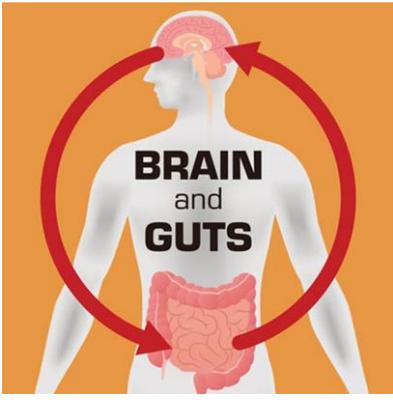
Where are our **CALMING**
bio-chemicals made?

Mostly In our
2 Brains.



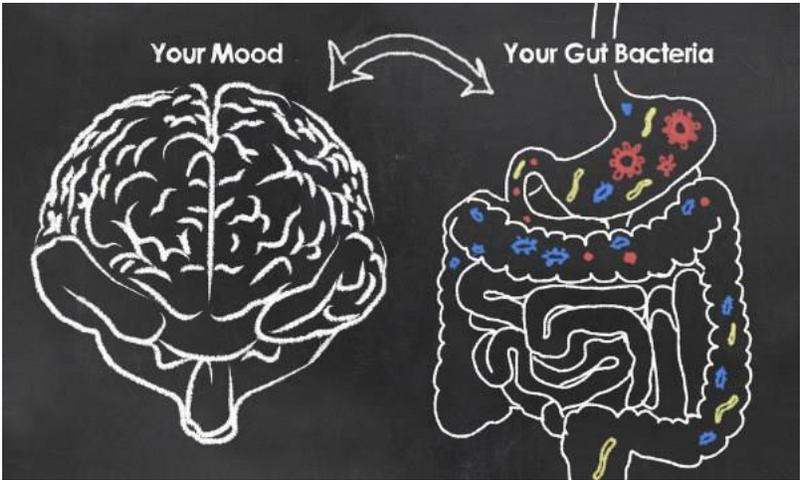
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Everything is C-O-N-N-E-C-T-E-D



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They are connected...



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Our Gut is Our "SECOND BRAIN"



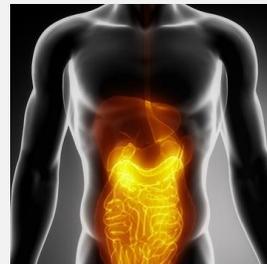
**Feeling Distressed
SLOWS IT DOWN!**

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- Has 500 Million Neurons that are in constant contact with the neurons in our "First/Big Brain".
- Job: To produce hundreds of chemicals our brain and the rest of our body use to function.
- Produces:
 - 85-95% of *Serotonin*
 - 40-50% of Dopamine
 - 40-50% of Oxytocin
- Houses and programs:
 - 50%+ of our Immune System, that protects us from illness & disease.

When distress SLOWS/DISRUPTS our gut, it leads to:

- Digestive & Elimination Problems - Acid Reflux, Indigestion, IBS, Constipation, Colitis, Crohn's
- Metabolism Problems, Gall Bladder, etc.
- Weight Gain, Obesity
- Diabetes (Type 2)
- High Cholesterol, Blood Pressure
- Heart Disease
- Slower Healing
- Inflammations and Allergies
- Infections
- Anxiety & Depression



OUR GUT'S JOBS:
Digestion, Elimination,
Metabolism,
Immune System,
Mfg. of Sara, Dopa, & Oxy-T

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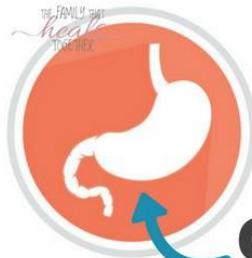
**When assessing a child’s mental health,
ask “gut” questions;
the answers can identify early warning signs.**



**Implications for both
medical and psychological
interventions are spurring
new research at a rate we
have not seen in decades.**

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**Our Vagal Nerves transport the bio-chemicals we make in our gut
(2nd Brain) throughout our body - - especially to our FIRST brain.**



WHAT IS THE
vagus nerve?



OUR
**gut-
brain**



SUPERHIGHWAY

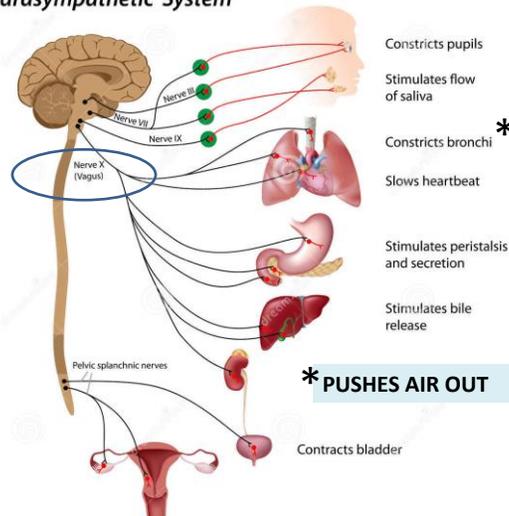
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Vagus Nerves (left/right) OR Vagal Nervous System:

- Cranial Nerve X (No. 10)
- Para-sympathetic System
- Exits the Brain Stem, splits into 2 sides & “wanders” throughout the thorax and abdomen
- Called the “compassion” nerves because when we give compassion to others, or when we receive it from others, we stimulate the nerves, and they “grow” stronger connections & the nerves get bigger.

Vagus/Vagal Nerves: Our “Compassion” Nerves:

Parasympathetic System



*** PUSHES AIR OUT**

Breathing OUT stimulates our Vagal Nerves.

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UPSET Accelerator

- Dilates Pupils
- Inhibits Saliva
- Speeds Heart Beat
- **BREATHING IN**
- Inhibits Digestion
- Slows/Dis-regulates Elimination

Our DNA has pre-set us on “GO” -- all the time -- unless we apply the **BRAKES** so we can take life’s turns.

Breathing shallowly & rapidly - or holding our breath – **ADDS CORTISOL & SPEEDS US UP MORE.**

Spinal Cord

Sympathetic

Vagus Nerves

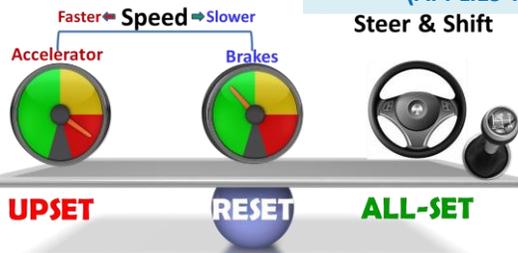
Parasympathetic

RESET BRAKES

- Constricts Pupils
- Stimulates Saliva
- Slows Heart Beat
- **BREATHING OUT**
- Stimulates Digestion
- Regulates Elimination

BREATHING OUT LONGER THAN WE BREATHE IN CALMS US DOWN (APPLIES THE BRAKES)

Steer & Shift



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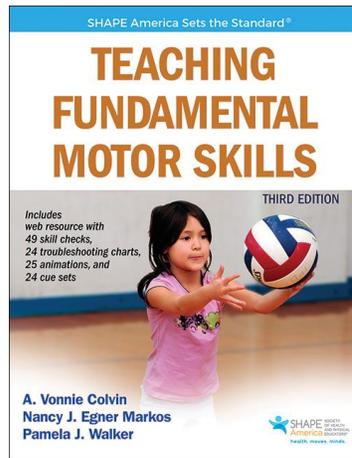
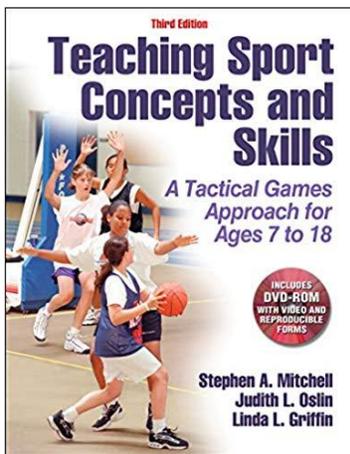


Bottom Lines...

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Positive Distress Management Habits & Resilience are built/formed like we teach sports and fundamental motor skills – by consistent, repeated modeling, coaching, and practice of skill sets.

FIRST, we build a skill.. or a set of skills...



Then we practice it or them until we don't have to think about it...



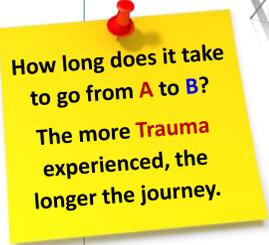
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Learning a New Skill Requires:

1. CALM Demonstration/Modeling
2. CALM Explicit Instruction
3. CALM Coaching, PRACTICE...
4. CALM Positive Feedback
5. CALM Support, Encouragement

Repeat....repeat....repeat....repeat....
Practice.... practice...practice...

Until it is a **HABIT!**



How long does it take
to go from A to B?
The more **Trauma**
experienced, the
longer the journey.



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Our “HABITS” wire/re-wire us!

A **HABIT** is a **learned attitude or behavior or skill** - - *which through regular, consistent repetition & practice* - - becomes *automatic*, i.e., it is accomplished **WITHOUT THINKING**.

A Habit is a
“**Learned Reflex**”



Like
walking/
talking.

It's a **S-L-O-W** process.

The average time to reach automaticity* is **66 days with a range of 18–254 days.**

Lally *et.al.*
(2010)

*Done without thinking...

**SLOW
PROGRESS
IS BETTER THAN
NO PROGRESS**

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Congratulations!



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In addition to your Children's Mental Health Initiative:

- The **Iowa Department of Education** is providing grants to school districts to help them meet mental health needs and provide wraparound services for students and families.
- In addition, the Iowa Department of Education is partnering with the **University of Iowa's Baker Teacher Leader Center** to establish a new **Center for School Mental Health** that will provide training and professional development to both student teachers and practicing teachers.



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