



Adversity!
The Brain, Behavior, and Our Learning
Presented by: Dr. Lori Desautels



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Terry Correll and Randy Welton	Affiliation/Financial Interest	Wright State University	No resolution needed

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Presenter	Relationship	Commercial Entity	Resolution
Dr. Lori Desautels	Affiliation/Financial Interest	Butler University	No resolution needed
Dr. Weston, Dr. Reynolds, Dr. Wilson, Dr. Wright	No relationship with a commercial entity	CareSource	No resolution needed



Adversity!
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Adversity changes our perceptual systems, filtering systems, and our ability to self sense! The Medial Prefrontal Cortex (MPFC) becomes blunt as we constantly live in the future or past!

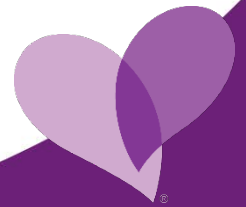
-Dr. Lori Desautels



Dr. Lori Desautels



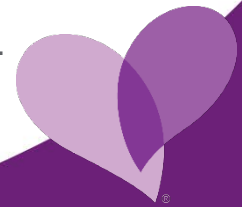
- Assistant Professor at Butler University since 2016
 - Teaches both undergraduate and graduate programs in the College of Education.
- Assistant Professor at Marian University in Indianapolis for 8 years
 - Founded the Educational Neuroscience Symposium.
 - In its seventh year
 - Sponsored by Butler University College of Education,
 - Educators, parents and the community learn to implement tools to help students be successful, feel a sense of purpose and connection as they walk into the classroom.
 - Has attracted the foremost experts in the field of educational neuroscience, trauma and adversity growing the conference from 60 participants to over 400.



Dr. Lori Desautels



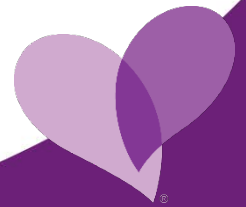
- Dr. Desautels' passion is engaging her students through neuroscience as it applies to education by integrating Mind Brain Teaching, learning principles and strategies into her coursework at Butler.
- Created the Applied Educational Neuroscience Certificate, in 2016.
 - Specifically designed to meet the needs of educators, counselors, and administrators who work beside children and adolescents who have, and are, experiencing adversity and trauma.
- Conducted workshops throughout the United States and Dubai on Mind Brain Teaching and Learning.
- Has created webinars for educators, clinicians, and administrators illustrating how educators and students alike must understand their neuroanatomy to regulate behavior and calm the brain.
- Has authored a series of articles for "Inside the School"
 - Online publication providing strategies to administrators and educators alike.
- Has been published in Edutopia, Brain Bulletin, and Mind Body Spirit international magazine.
- She also was published in the Brain Research Journal for her work in the fifth grade classrooms during a faculty in residence position with Washington Township Schools.
- Has met with over 30 school districts across the country, in Costa Rica and Dubai equating to more than 20,000 educators with much more work to be done!



Dr. Lori Desautels



- Taught emotionally troubled students in the upper elementary grades,
- School counselor in Indianapolis
- Private practice counselor and was co-owner of the Indianapolis Counseling Center.
- Behavioral consultant for Methodist Hospital in Indianapolis on the adolescent psychiatric unit
 - Learned that emotional and mental illness can be so challenging for youth, but the brain has the ability for repair and resilience
- Relationship is critical for emotional social and cognitive health.
- You can find Lori's work, presentation videos, and latest research on her website; www.revelationsineducation.com.
- Her first book, "How May I Serve You, Revelations in Education" was published in March of 2012. Her second book, co-authored with educator Mr. Michael McKnight, entitled "Unwritten, The Story of a Living System" had been shared and used as a foundation to create curriculum across the country.
- BS in Special Education from Butler University, an MS in counseling education from Indiana University and Ph.D. in philosophy with an emphasis in early adolescence/ thought formation from Indiana University and American Institute of Holistic Theology.
- Resides in Indianapolis, with her husband, Michael. She has three grown children, Andrew, Sarah and Regan.



Connection and Regulation

Dr. Lori Desautels

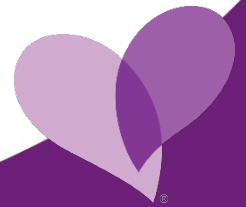
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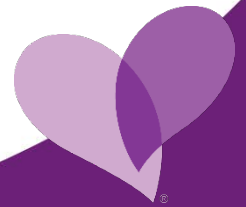
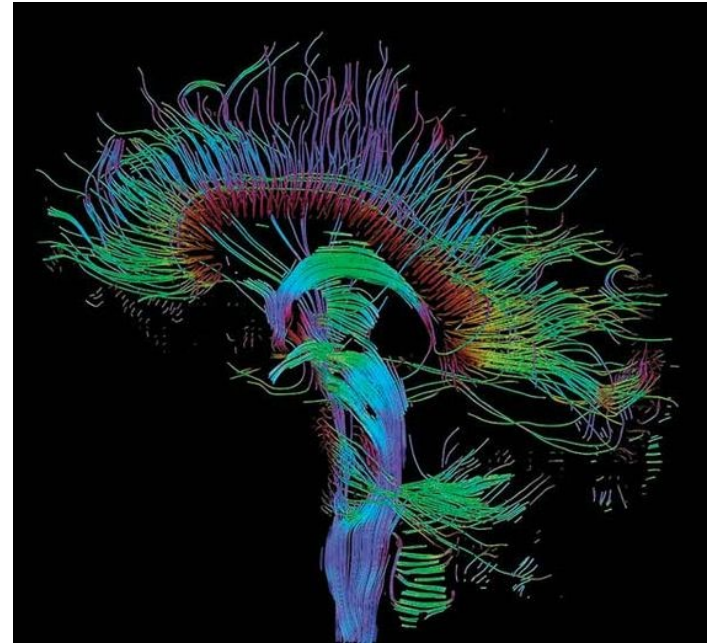
Twitter: Desautels_phd

Connection + Purpose =
Well-Being



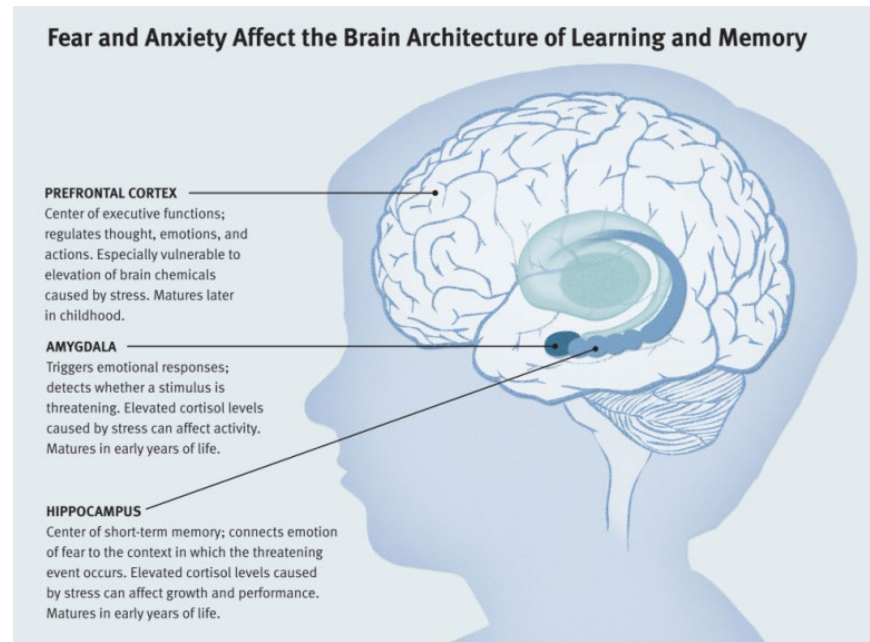
Applied Educational Neuroscience/ Brain and Adversity

- Framework and not a program
- This framework encompasses attachment, relationships, and the natural ways the brain feels, behaves and learns.
- Adversity changes our perceptual systems, filtering systems, and our ability to self sense! MPFC becomes blunt as we constantly live in the future or past!



Development and Cognition

- ADD and PTSD
- Most negative behavior arises from a stress response
- Students will always choose to act misbehaved before they act stupid?
- All behavior is communication
- Hippocampus

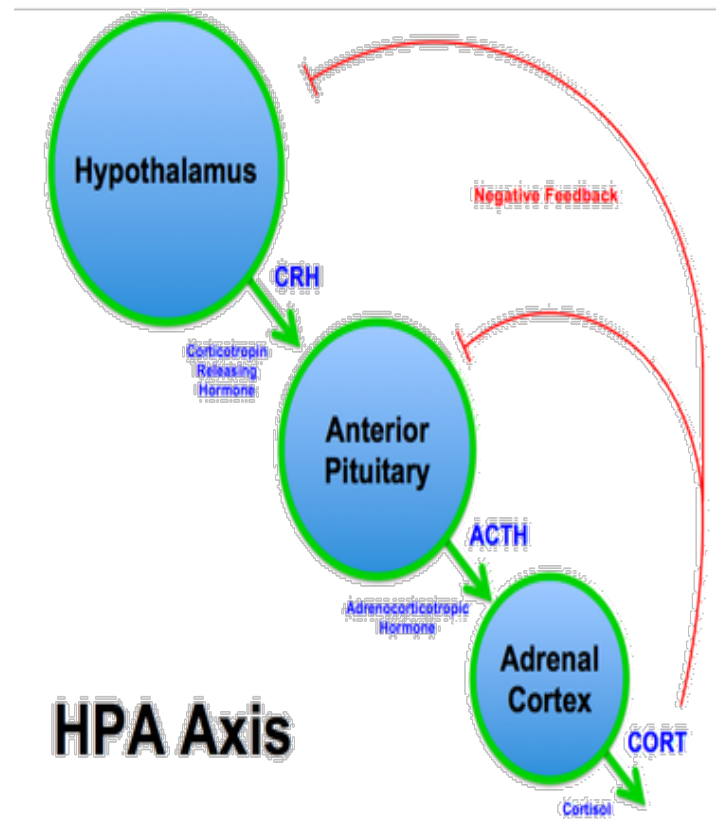


- Attachment is the carrier of all development
- Right Hemisphere
- Left Hemisphere



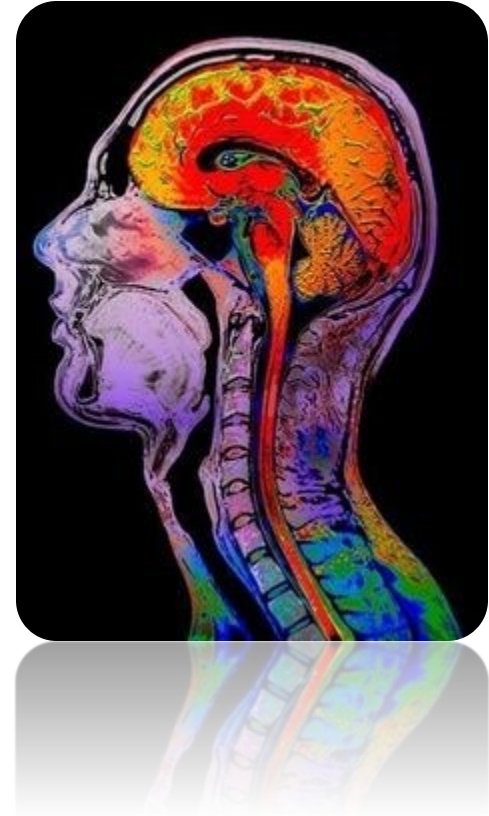
Stress Response

- Prefrontal Cortex
- Amygdala
- Hippocampus
- Neuroplasticity
- Heightened baseline of arousal
- Stress decreases volume in the hippocampus and corpus collosum
- Overproduction of neural connections associated with fear and anxiety.



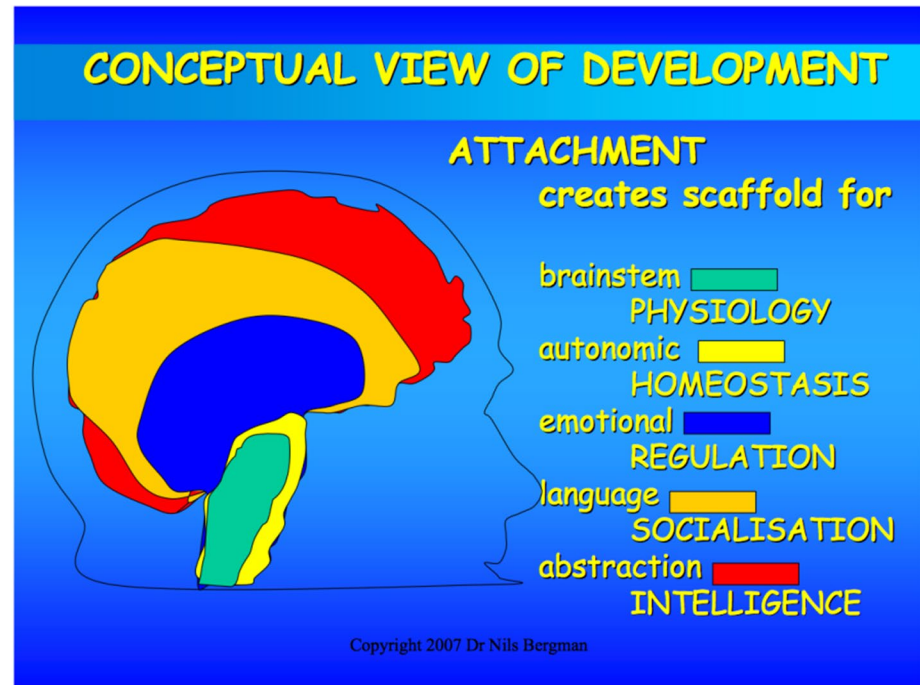
Stress Response

- Fundamental reorganization of how the brain manages perception.
- We have built-in attachment programs that motivate us to seek out positive bonds with caring adults.
- Cognitive flexibility
- Imagination/ empathy



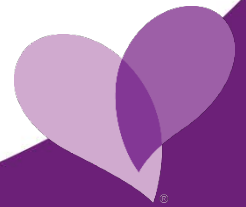
Development

- Attachment is the context for all development!
- Maslow's Revised!!
- Attachment
- Regulation
- Affiliation
- Cognition



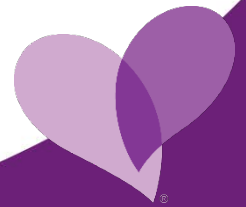
Relationships and Regulation

- Brain foods
- Relationships-attachment is the carrier of all development- I meet the child's needs
- Regulation- I am the external modem- emotions, body temperature, and blood sugar- I provide a healthy interaction and balance between sympathetic and parasympathetic response.
- Brain chemistry predicts mental health or mental illness
- We secrete excitatory neurons when we are cold, hungry, lonely, fearful- they give us the energy to fight or flee – glutamate, adrenaline, cortisol
- Inhibitory- Serotonin is our master regulator! We want that set point or balance for self regulation



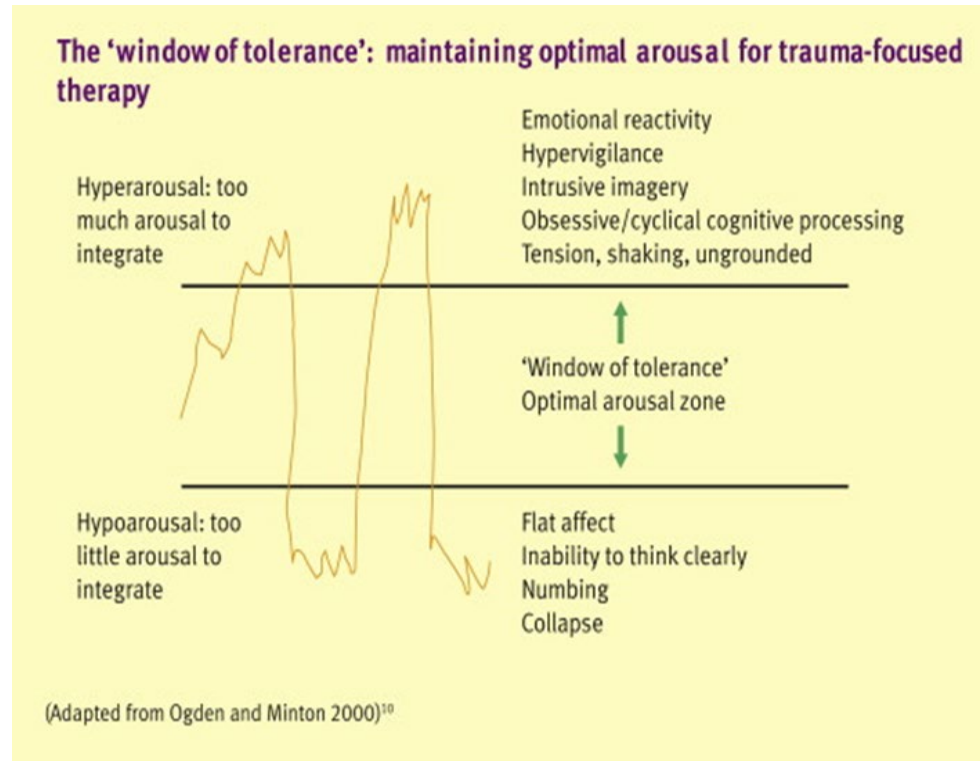
Brains are Social Organs

- 25% of our nation's children are growing up with significant poverty
- Over 20% of our students in general education classrooms are walking in with anxiety and emotional dysregulation.
- Over 80% of adversity calls to CPS/DCS are concerning neglect.
- 15 million American children and adolescents are affected by a mental or behavioral health issue and less than 25% are receiving treatment.
- Our brains are social organs and emotions are contagious.



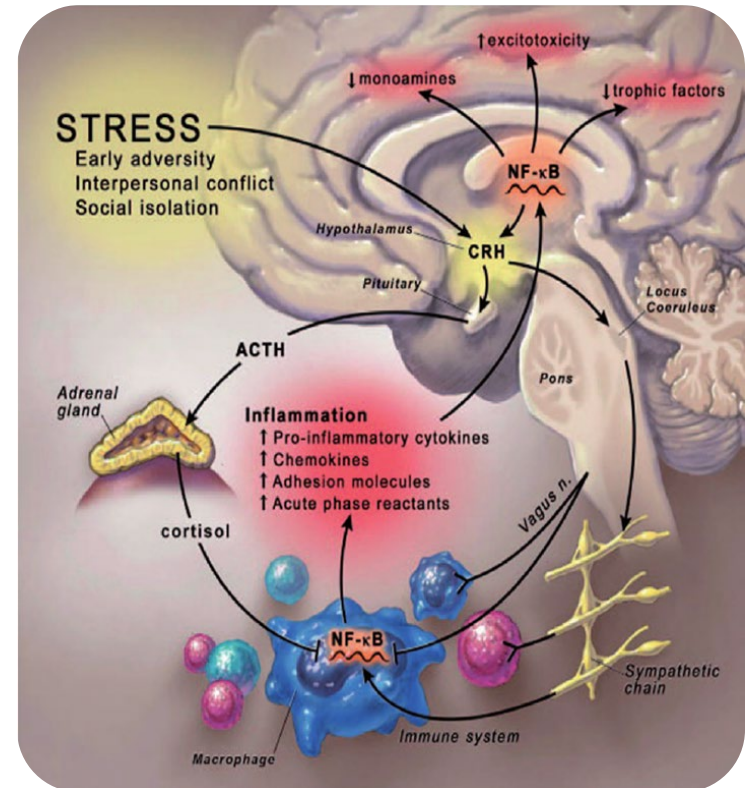
Window of Tolerance

- We see everything as a regulation issue, not a behavioral issue. We recognize that when regulated, our students are helpful, caring, funny, smart, creative, etc.
- We try to respond to every behavior with gentle faces, eyes, and voices.
- Two words: Self care!

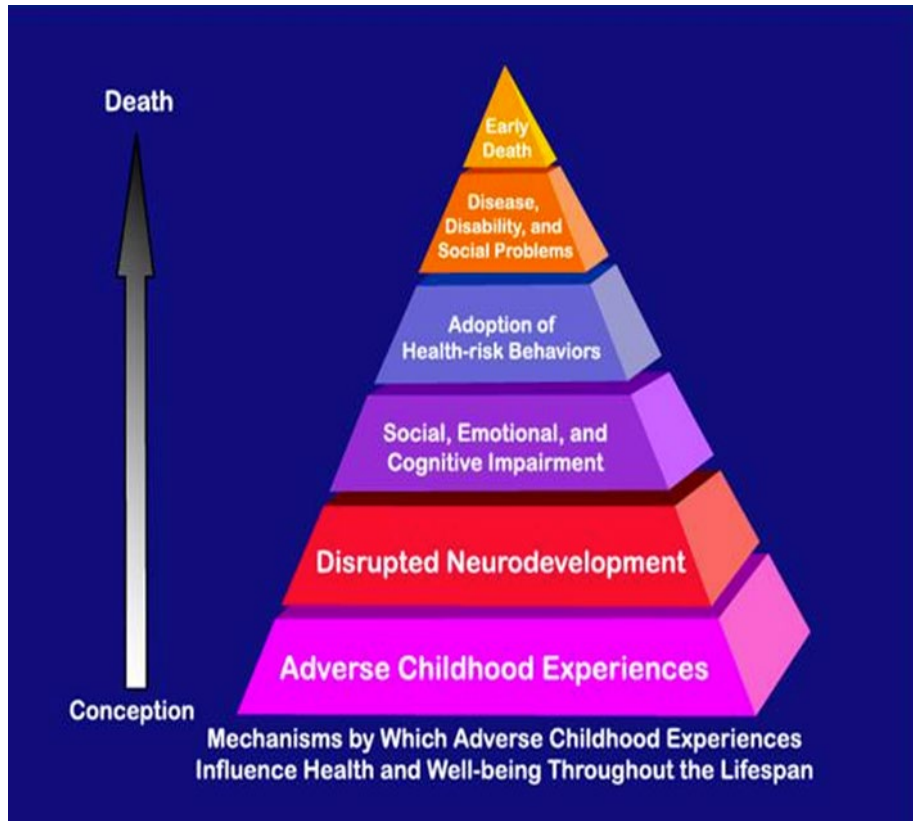


Adversity

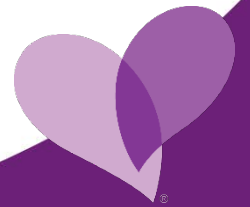
- Causes the brain to marinate in toxic inflammatory chemicals
- Alters our bodies, cells, and even our DNA
- HPA releases inflammatory cytokines that promote inflammation
- White blood cells secrete cytokines to help destroy pathogens but when these are not regulated they cause more damage- cytokines are cell signaling molecules and proteins that aid cell to cell communication in immune responses and move towards areas of inflammation and infection.



Adverse Childhood Events (ACE)

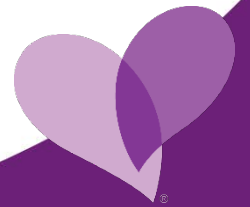


- Correlation between childhood adversity/ brain architecture/ adult well-being!
- The immune system is the body's operating system! Our emotional biography becomes our physical biology. Early stress we face when we were young, catches up with us as adults altering our bodies, cells and even our DNA



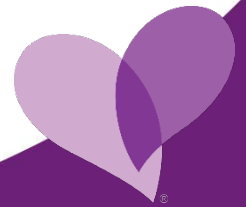
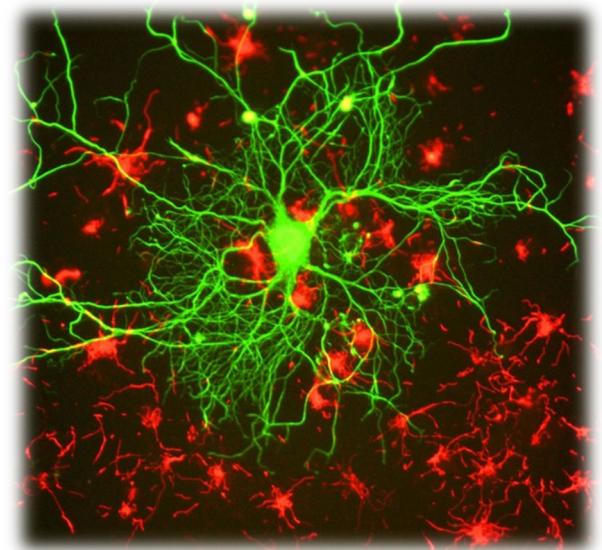
Neurobiology of Hope

- Prenatal- most vulnerable time
- First year of life
- Traumatic birth affects brain development
- Early surgeries and accidents can be adversities
- Sensory issues/ so much of misbehavior is driven by sensory stimulation
- Bubble gum/ deep muscle input elevation of IQ and academic performance!



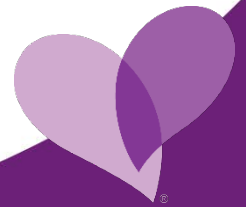
Developing Brain Needs Predictability

- John Kaufman, director of CARE research at Yale School of Medicine analyzes the DNA in the saliva of healthy happy children and then compared to the saliva of children who had come from abusive or neglectful patrons, experiencing chronic stress. The children from the second group, showed changes in almost 3000 areas in their DNA and all 23 chromosomes, effectively altering forever, how appropriately their bodies would be able to respond to and rebound from future stressors.
- To the developing brain, knowing what comes next matters most. The brain can tolerate severely stressful events if they are predictable



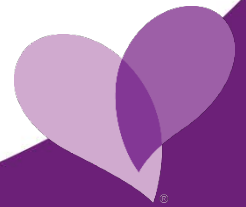
What does all this mean?

- We need to teach our students stress response capabilities for neuro-typical responses!
- Good News is Neuroplasticity – buffering the sensitized response.
- Life Disruptions!
- When our Stress Response Systems are in good working order, it can save our lives, when it is not and out of balance, it shortens our lives
 - Nadine Burk Harris



What does this mean?

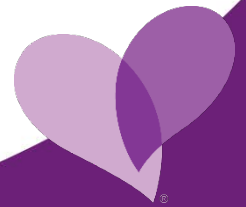
- Baby
 - Underdeveloped sensory and nervous system-
 - Require gentle movement, soft voices and softy music and low stimulus environment
 - These build and strengthen the nervous system
- Pain and fear reduce serotonin levels
- Right Hemisphere (RH) is underactive and yet RH amygdala is larger
- Sensitivity to touch and sounds, etc.
- Right Brain (RB) development grows in a dyadic relationship with another person- the baby conveys internal states of arousal to the mother via RB to RB sensory communication.
- RH to RH- visual presence , demeanor, clean organized space, attire is repetitious recreating early attachment



What does this mean?

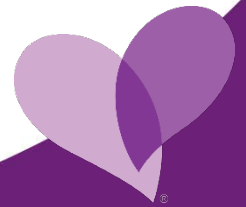
Dr. Carrion's study

- With four or more aces, a child will have 32.6 times the academic and behavioral challenges
- Ventral Tegmental Area
 - Reward Center- Chronic stress messes with sensitivity of the dopamine receptors
 - you need more and more dopamine to feel the same amount of pleasure!



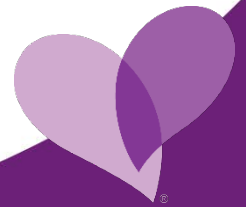
Strategies and Interventions/ Brain and Developmentally Aligned

- Sensory Bath
- Rhythms, art, kidney beans, clay, puppets, balls, weighted blankets,
- Ask for a compromise
- “I am on duty for you!”
- 30 seconds!!
- Attunement
- Safe touch
- Smiling eyes
- Undivided attention
- Validating eye contact
- Warmth of voice
- Playful engagement



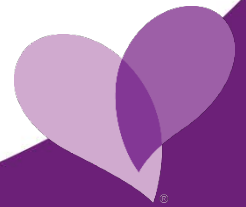
Empowering Practices

- Am I creating an atmosphere of fear or healing?
- Predictable ecology
- Choices and a voice
- Just sit for a minute and then tell me what you need!
- Low serotonin- you never feel full! Food issues are bodily issues!
- Self Check-in!
- “ I am on duty for you today!”
- Carrying heavy objects or feeling weight of any kind can release neurotransmitters of serotonin and gaba!
- Sleep is sorely lacking for many of our students because they have not felt safe!
- I need to provide a predictable routine filled environment that students even help create!



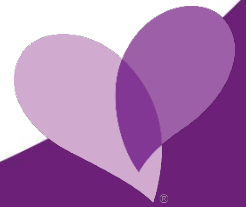
Emotional Age? Developmental Age?

- Language is sensations
- Word Wall of Sensations-Cold
- Warm, hot, sweaty, twitchy, butterflies, stuck, soft, sharp, dull, itchy, shaky, trembly, tingly jittery, weak, empty, full relaxed, calm, peaceful, flowing, spreading, strong, tight, tense, dizzy, fuzzy, blurry, numb, prickly, jumpy, tearful, goosebumpy, racing, tired
- Suckers
- Cheerios
- Swallowing with a straw
- Sound therapy with feeling your vocal chords and mimicking a sound
- Ice pops
- Frozen grapes
- Sucking yogurt through a straw



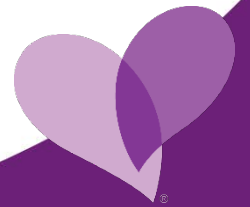
Emotional Age? Developmental Age?

- Bi-Lateral Scribbling
- Animal Totems/ symbols
- Sensation Word Wall
- Warm water/ Touching cheeks
- Hug on opposite sides
- Sound Machine
- Rocking chairs
- Scribbling
- Trauma and Tension-releasing Exercises (TRE) – charging and discharging emotion and trauma-contract and release muscles
- Tapping/ Emotional Freedom Technique (EFT)



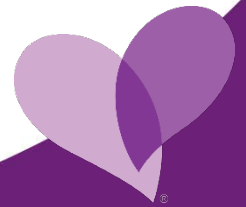
Limbic Brain

- Breathing
- Movement
- Left Eye to Left Eye
- Images are a reflection of self
- What does mad look like? How big is it? What color is it?
- Metronome and sound machines
- Paint sticks and rhythms
- Show me how you would melt?
- Show me how you would freeze and shiver and then relax? Show me how you would moonwalk?
- Show me a snake pose
- Roll like a ball
- Wall push ups



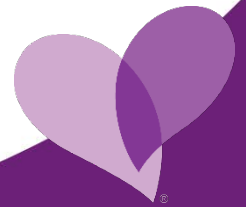
Limbic Brain

- Body is a container
- Place one hand on forehead and one on heart ... breathe and place hand from forehead to belly!
- Domino Effect / 90 second rule
- Trace until I feel better
- Eye yoga
- Trumpet breath- fill up cheeks with air and repeatedly blow out!
- Guess the sound?



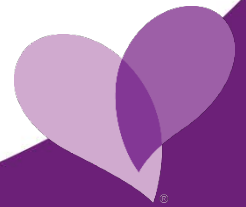
Amygdala First Aid Station

- Soft colors
- Low lamp lighting and maybe those coverings like little canopies over the ceiling lights!
- Stationary bikes
- Elliptical
- Weights
- Scented oils to smell, spray or wear (we put the oils on cotton balls - lavender)
- Eye pillow or weighted lap pads or weighted vests
- Paper pencils, journals, crayons markers,
- Worry jar- what you can name, you can tame- have students write or draw worries or anxieties before they begin to work and drop in jar.
- I Letter jar- both these jars can have small sheets of papers where students can write worries or letters to share with an adult later...
- Water



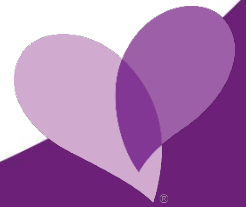
Amygdala First Aid Station

- Fish/ aquarium
- Create and affirmation wall
- Mindful coloring books or large sheets of paper for artwork
- Hand lotion/ scented and unscented
- Menthol Rub or Icy Rub for sore areas and students can place a drop on their bodies where they feel a sensation
- Sensation Word Wall List - Students can pick a sensation and draw it, give it a color size and shape.
- Clay
- Scented play dough
- Squishy toys to use with focused attention practices
- Computer/ IPAD to watch soul pancake and motivational videos
- Protein snack



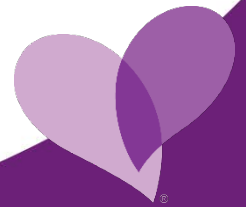
Amygdala First Aid Station

- Mints
- Bubble gum
- Pulse meters so students can take their resting heart rate and then compare this to an elevated or lowered heart rate and track these beats to see patterns
- Scented blankets- I buy old blankets from Goodwill and wash them in Lavender and even cut them in half or in thirds.
- A big bowl of marbles to slide your hands through
- A large box or sandbox with bags of lentil beans to feel and sense ... you might even hide little objects or written affirmations on small rocks for them to find



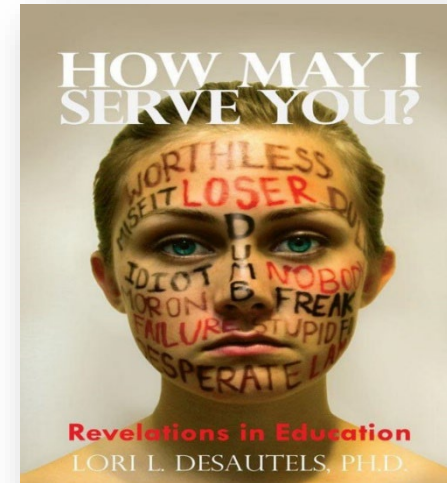
Amygdala First Aid Station

- A bowl of yoga poses students can choose from to create a sequence of three or four poses while they regulate
- Puzzles
- Brain Books or social emotional learning (SEL) books
- Rhythm Sticks
- Soft couch or bean bag chairs
- Old socks filled with aquarium rocks or pebbles for some weighted objects to hold!
- Ice Pack
- Heating Pad- both hot and cold can help regulate !!
- A few yoga mats
- Dual Brain Sheets
- Frozen grapes
- Bag of suckers- oral muscle input can stimulate sensory and motor areas in the brain stem and also help to dampen the stress response systems.

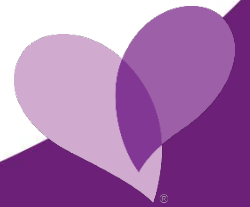


Strategies, Questions and Validations

- Movement, space and breath;
Focused attention practices
- Object, feeling or color of the week
- Validation
- Power of questions
- Amygdala First Aid Kit!
- Affirmation Basket,
Celebration Basket
- Signal/ Check-in
- Noticings
- 2x10 strategy
- Music
- Tapping/ #hashtag
- Older students leading with you



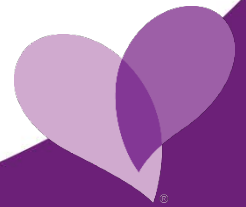
- Pictures- family
- Shout-outs
- Jobs
- Transition breaths before
exiting bus
- Routines/rituals
- Bus chant



Dual Brain Sheets

Dual Thought Sheets

- What is our challenge?
- What led up to this challenge?
- How did we handle this together and /or apart?
- Could we have prevented this problem?
- What are two adjustments we will make the next time?



Take Your Order!

Guest Check

TABLE NO.	PERSONS	SERVER NO.	CHECK NO.
			4114-1
BEV • APPET • SOUP/SALAD • ENTREE • VEG • DESSERT			
to know # tell me when you see me trying!			
to notice when I am feeling frustrated give me a break!			
let me go to the bathroom one more time!			
TAX			
TOTAL			
Thank You -- Call Again			

A-50-77-63740

PERSONS	DATE	CHECK NO.	AMOUNT
		4114-1	

NEWCOMB DATE CHECK NO. AMOUNT

V-50-12-63140

PERSONS	DATE	CHECK NO.	AMOUNT
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PERSONS	DATE	CHECK NO.	AMOUNT
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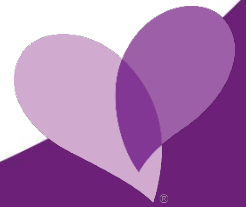
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- Take your order
- Brain lab
- Regulation room
- Amygdala First Aid Station
- Teachers and students
- I will work for you!
- Noticing!
- 2x10 strategy
- Above or below the line
- Maslow Hierarchy/
brand new!!!



Questions/ Gaps and Opportunities!

- How many students were suspended?
- What are those demographics?
- How many are repeat offenders?
- The discipline technique that is working will go away!
- What is your system?
- Systems are used to only stop behaviors, not begin new ones! These are temporary!
- Backup systems put the lid on behaviors so we can get with the students later!
- These systems do not change behavior, it buys time so we can make a plan together Dual Brain Sheet



Systems that are Brain Aligned!

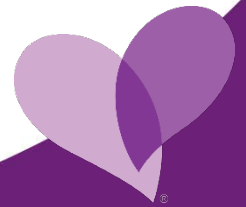
Small, Medium and Large

- Preventive Systems replace behaviors with positive ones! What does this look like?
- Incentivizing
- Traditional school consequences work best with students who need them the least!
- Traditionally our schools go from 0 to 100 ! (From nothing to your big guns!)
- Negative sanction is taught like a procedure
- Amygdala Reset
- Not in trouble if you choose this backup?
- Behaviors
- Not following direction
- Irritating others
- Disrupt the flow of learning
- Shouting
- ??



Medium/ Large - Who is your team?

- Outside of classroom
- Doesn't involve the office
- Pre-arranged and taught
- Purpose: buying time for everyone to be upshifted!
- Opportunity to connect with another caregiver/ adult
- In-school suspension/ Amygdala Reset / Regulation
- Who is your team?
- Requires the office
- Regulate
- Begin to plan
- Do you have a team of teachers that can help to regulate negative behaviors?

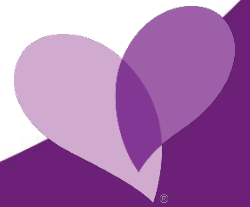


Incentive Systems and Questions to Ask!

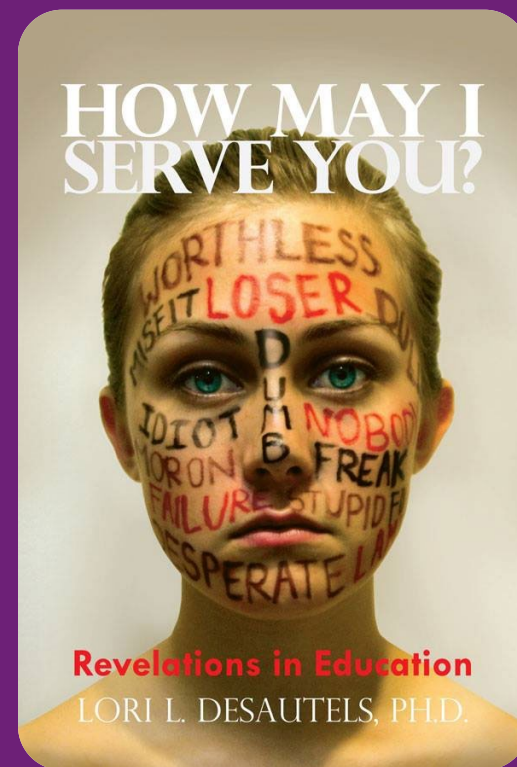
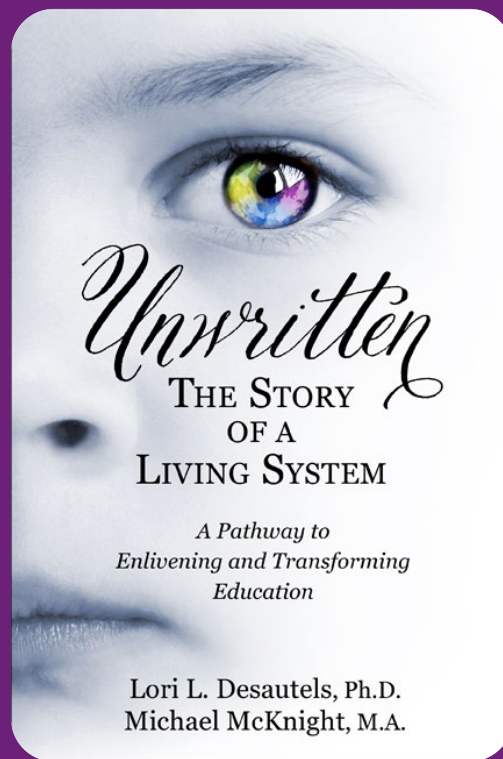
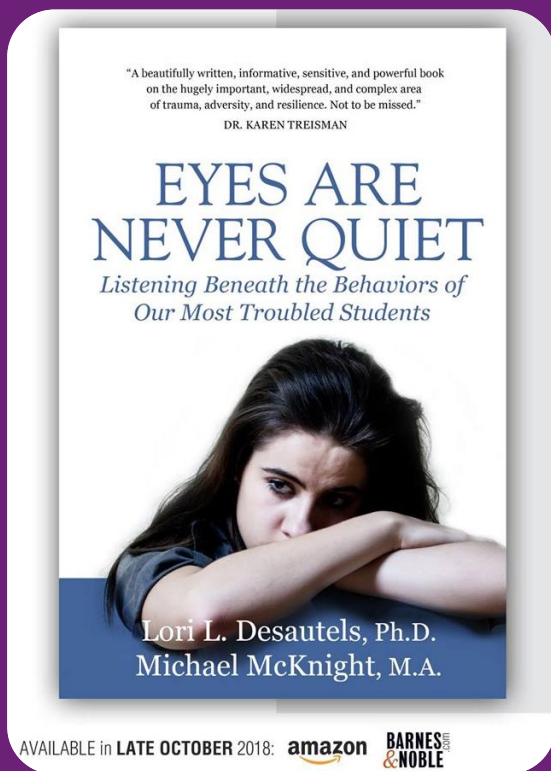
- Incentive Systems!
- Weekly Habits of Learning
- Students Self-Assess
- Where are your gaps?
- What are your patterns?
- What are the ACE scores of your most challenging students?

To understand our neurobiology is to know the secret of life!

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Thank you!



IN-P-0477

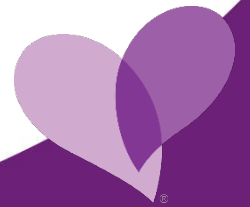
Issue Date: xx/xx/xxxx

OMPP Approved: xx/xx/xxxx

CareSource™

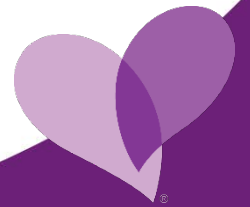
How CareSource Members Can Get Help

CareSource members can see a mental health professional, or can go to any provider in the CareSource network. They don't need a doctor's referral or prior approval for most outpatient treatment. CareSource can help members find a provider close to them, by calling Member Services at **1-844-607-2829** (TTY: 1-800-743-3333 or 711).



How CareSource Members Can Get Help

If the member currently has a Care Manager, they can give him or her a call. A Care Manager can help members find the resources needed to be healthy. If a member does not have a Care Manager, they can request one. Call one of our qualified registered nurses at CareSource24® **1-844-206-5947** (TTY: 1-800-743-333 or 711).



How to Find a Behavioral Health Provider for CareSource Members

The CareSource Find a Doctor/Provider tool helps find a variety of health professionals including marriage and family therapists, substance use counselors, social workers, community mental health centers and more. <https://www.caresource.com/providers/indiana/>





QUESTIONS


CareSource™

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