Hey ! My Brain Doesn't Work That Way !

or

Using the Body to Lead the Mind

Brain Differences, Diversity, and the Sensory Side of Love, Attachment, and Bonding

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LOWER FRASER VALLEY ABORIGINAL SOCIETY

HEY! My Brain Doesn't Work That Way!

DIVERSITY, Positive Outlook & Attachment

Brain Differences -How basic neurology affects everything

The Sensory Systems- How Sensory Processing Works

The Arousal System- Sensory and Situational Factors

Self Regulation – How to Influence Level of Arousal

Sensory Diet – Applying Self Regulation

Resilience - The End Product of Love, Attachment, Bonding

Spectrum/Cloud Theory

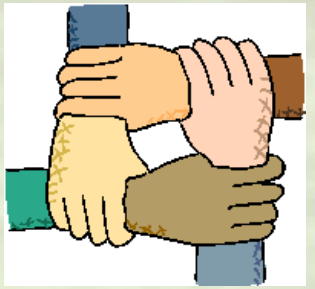
Everyone has some of the qualities that are on a specific spectrum. It is how many or how much which determine how much that spectrum will interfere with learning and doing.

- Intelligence
- Autism
- Learning Disabilities
- Neurological Thresholds
- Brain dominance
- Learning Styles
- Sex Differences
- Level of Arousal
- Inclusion
- Toxic Exposures

} Brain Differences

Using Strength Based Models

Back to First Nations Tradition



Positive Deviance - The "How She Did That" approach

Look at how people harness resources from their own lives and environments during different situations. Manage own routines and resources. The answers are all around us. We learn through **Experimentation** and **Observation.**

Professionals are Advocates and Participant Observers

Natural Psychology - The "I Can" approach

Focus on optimism, strengths, resources. Create the "flow", the "just-right challenge". Self Understanding leads to better strategies and Self Advocacy, more resourcefulness in novel situations. Fosters sense of Self Efficacy and Self Determination.

Professionals are Advocates and Participant Observers

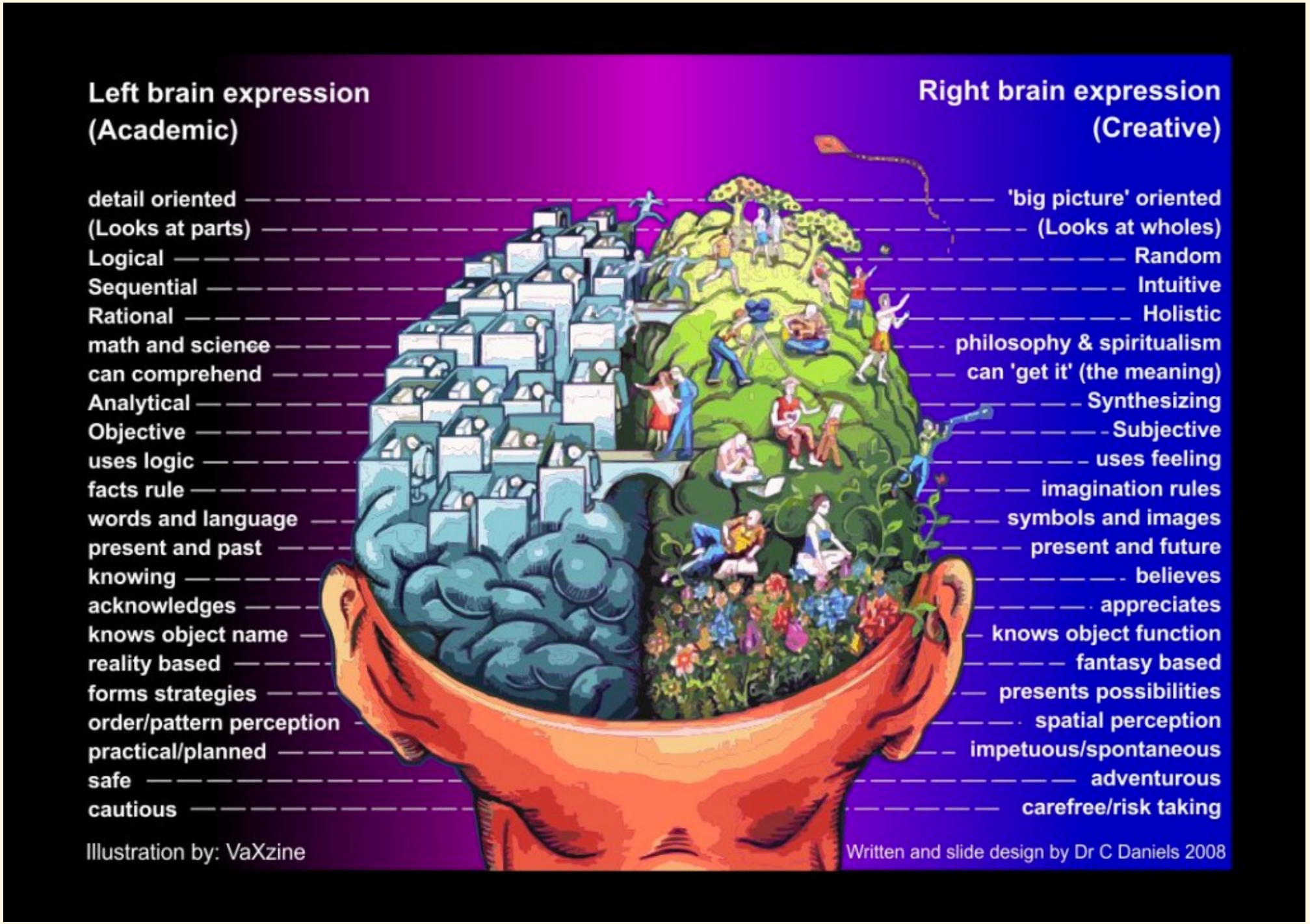
ATTACHMENT - WHAT IS IT?

No Mention of Teaching

- RECOGNITION - EYE CONTACT AND DISTANCE
- CONNECTION - TOUCH (DEEP VS. LIGHT INITIATED VS IMPOSED)
- BONDING - SHARED INTEREST -USE SMILES AND MUSIC
- SHARED SENSORY EXPERIENCE
- EMPATHY - COMMUNICATION, MIRRORING & EXAGGERATION
- RELATIONSHIP - YOUR INNER CIRCLE

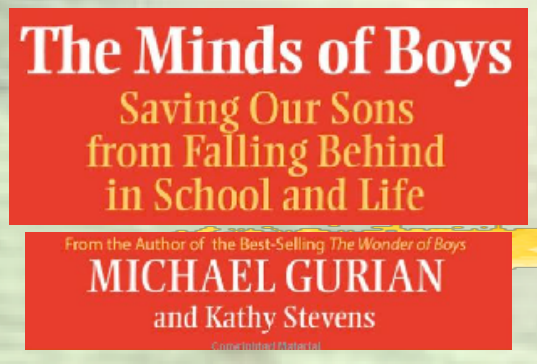
No Mention of Controlling Behaviour

The hemispheric view

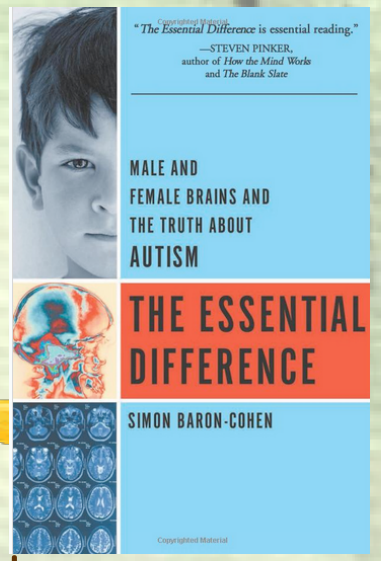


Early Brain Differences

Empathy v. Systemizing



right brain v. left brain
female v. male
or
whole brain activation

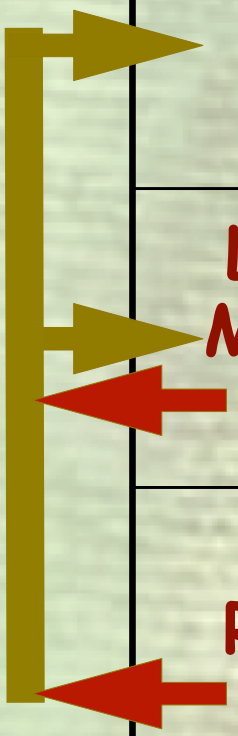


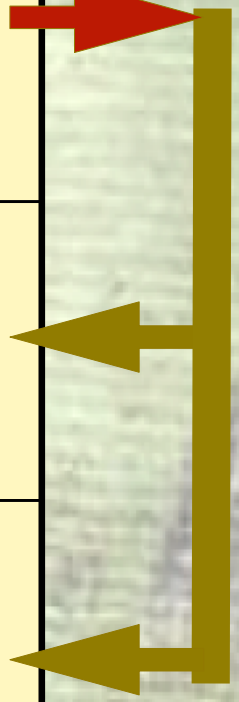
Very definite differences between boys and girls

girls have:
more access to right brain functions
better multi-tasking and transition skills
better language processing with visual inhibition
less intense movement needs
eye contact and language enhance relationship

boys have:
more access to compartmentalized left brain functions
more uni-sensory functioning
better visual processing with language inhibition
more intense movement needs
physical interaction and movement enhance relationship
slower development of frontal lobe

Brain Hierarchy Lower level must achieve end goal to move on		
Brain Area	End Goal-	How to Support-
Cortex Human Brain Neocortex	Connection Relationship Thinking	Collaboration Acceptance choices/ problems
Limbic System Mamallian Brain Mesocortex	Hormone Balance Satisfaction Contentment	Positive Regard Comfort Belonging
Brainstem Reptilian Brain Paleocortex	Survival Safety Sensory Station	Peace Calming Parasympathtic



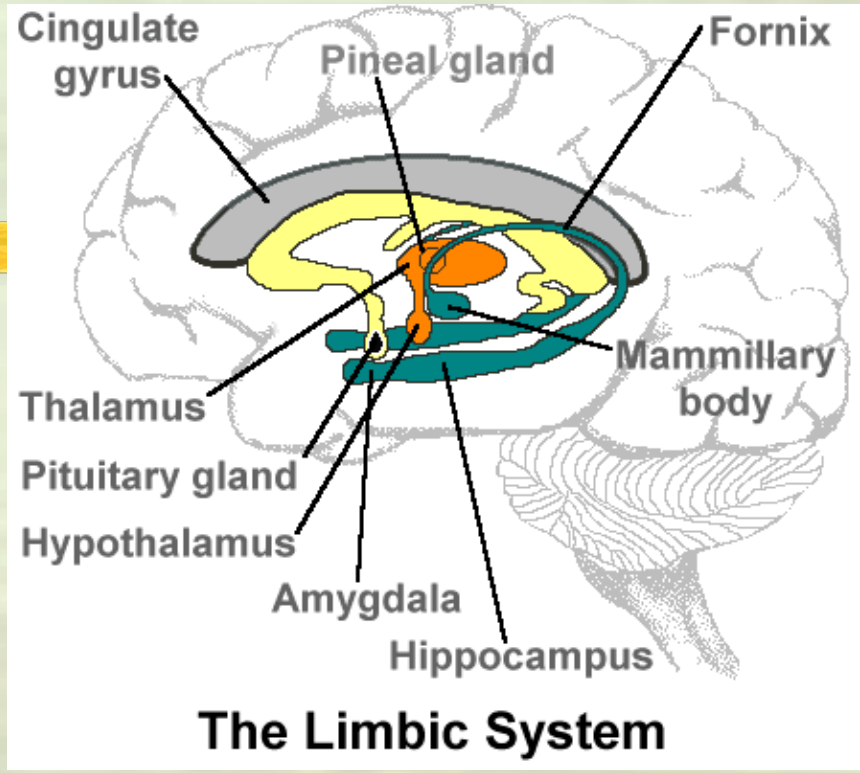


Top-Down
Thinking affects influences lower centres

Bottom-Up
Brainstem influences higher centres

Limbic System

•Encircles the upper part of the brainstem and corpus callosum. Present in all mammals.
•Sets the emotional tone of the mind.
•Helps us to anticipate what might happen based on past memories,
•Pain and pleasure centers, globalization of emotion
•Memory (hippocampus), especially highly charged
•Filters external events (emotional colouring)
•Fear, aggression, rage (amygdala – boys have a larger amygdala, larger testosterone receptors) The amygdala is reached via pathways from cortex or directly from thalamus (sensory relay station) without cognition
•Amygdala and hypothalamus are rich in neropeptide reeptors
•Motivation, mood, social responsiveness
•10-18 months developing links with rt. orbitofrontal system important in reading emotion and emotional regulation
•Limbic system becomes more active in boys with movement.
•Emotional meaning/honour/motivation very closely linked in boys.
•Low grade learning depression often starts here.
•addiction and passion activate the nucleus accumbens

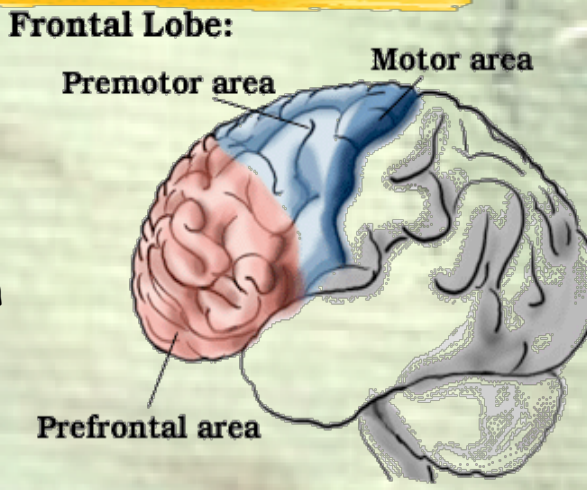


The Limbic System

1. Activated when the prefrontal cortex is stimulated by a learning task or environment. More of the limbic system lights up as the person experiences enjoyment and satisfaction, causing emotion and memory to light up, spreading light up into the meaning and understanding areas in the frontal and temporal lobes.
2. Associations from past trigger emotional and survival responses.
3. Key in both Stress Response System and Human Reward System.

Pre Frontal / Frontal Lobe

•Right Orbito-Frontal Cortex (pre-frontal)
Attachment, attention span, judgment, perseverance, organization, impulse control, problem solving, critical thinking, forward thinking, self-monitoring, ability to feel and express empathy, learning from experience, social and test anxiety, working memory, misperceptions



•Prefrontal cortex starts decision making processes and lights up many brain areas, leading to limbic excitement and to understanding and meaning via the frontal and temporal lobes.

•This area may 'freeze' when the limbic system is overly activated by the sympathetic system.

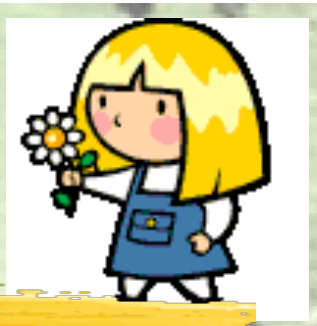
•Receives awareness of sensory input from thalamus, which influences attention and many other preFrontal functions
•Primary motor areas control voluntary muscle contractions.
•Premotor area controls learned skilled movements which are complex and sequential. Frontal eye field area controls voluntary muscles that control the eyes for scanning, etc.
•Primary motor area controls voluntary contractions of specific muscles or groups of muscles..

•Grows later in boys. Earlier functioning in girls leads to less impulsivity.
•Choice making/problem solving stimulate frontal lobe growth.
•More vulnerable in males during infant and toddler years.
•Impulse control improves as this area develops.
•Girls have earlier development of Broca's area, a main language center of
•the brain where planning and production of speech are controlled.

- Mainly inhibitory neurotransmission – "top-down" inhibition of drives originating in sub-cortical areas

- Executive function
  - Enhancing goal-directed circuits/ actions
  - Inhibiting irrelevant circuits/actions

Boy & Girl Differences



•Boys ability to remember words is much more limited than the ability to remember visuals. Boys are more dependent on vision. They are more easily distracted by non relevant visuals around them, and 'act out' more in low light situations.

•Boys have a harder time maintaining eye contact, especially when trying to use language or access emotions (both facilitated by movement). Forcing eye contact increases stress hormones.

•Adding stories, descriptions increases interest more in girls, boys become more engaged when counting and systemizing tasks are introduced.

•Boys require more time and movement to transition between sensory modalities and tasks.

•Oxytocin vs. Vasopressin

Aggression Nurturance

•Boys, often lacking the "use your words" approach, nurture and bond with others through aggressive gestures and activities. (The Minds of Boys, Michael Gurian pg. 93)

• Much physical aggression between boys build trust, intimacy, bonding.

•"There is as much love transferred by 2 boys pushing each other and laughing as by 2 girls sitting and talking." (pg. 94)

•Boys need more space to engage the world, and do not tolerate smaller and tighter spaces as well as girls do.

What you can do to increase motivation in a child with a fragile nervous system

Check in with the child each day. Listen.

Get them involved in an area of interest, working with others.

Put them in the front of the classroom.

Less verbal learning, more hands on, allow for reduced writing.

Let them move around and change positions often.

Do running, gym, music early in the day as wake ups.

Promote smaller classrooms and single gender classes

Build male mentorships.

Boys must relate to "emotional meaning, honour, purpose".

Help Boys identify "honourable traits", heros, what kind of men they want to be and what they can do today to move toward that.

Systemize things, categorize and measure.

Make sure to start with small steps to ensure success.

Use more fidgets and movement.

Use physical activity daily. Run, move desks, use stairs.

BE WILLING TO LISTEN.

Exercise & Move to Grow Your Brain

They Can't Pay Attention? Give Them a "Time IN" !!!

Exercise improves cognition/protects neurons

- brain systems work better
- cellular systems in the brain work better
- stimulates production of GABA in hippocampus

  this calms brain function, increases stress resistance, reduces fight/flight reactions, triggers growth of new neurons

Movement cures a bad mood

- improves impulse control, attention, motivation, balances arousal, anxiety regulation, entire pre-frontal area

JOURNEY TO PURPOSE

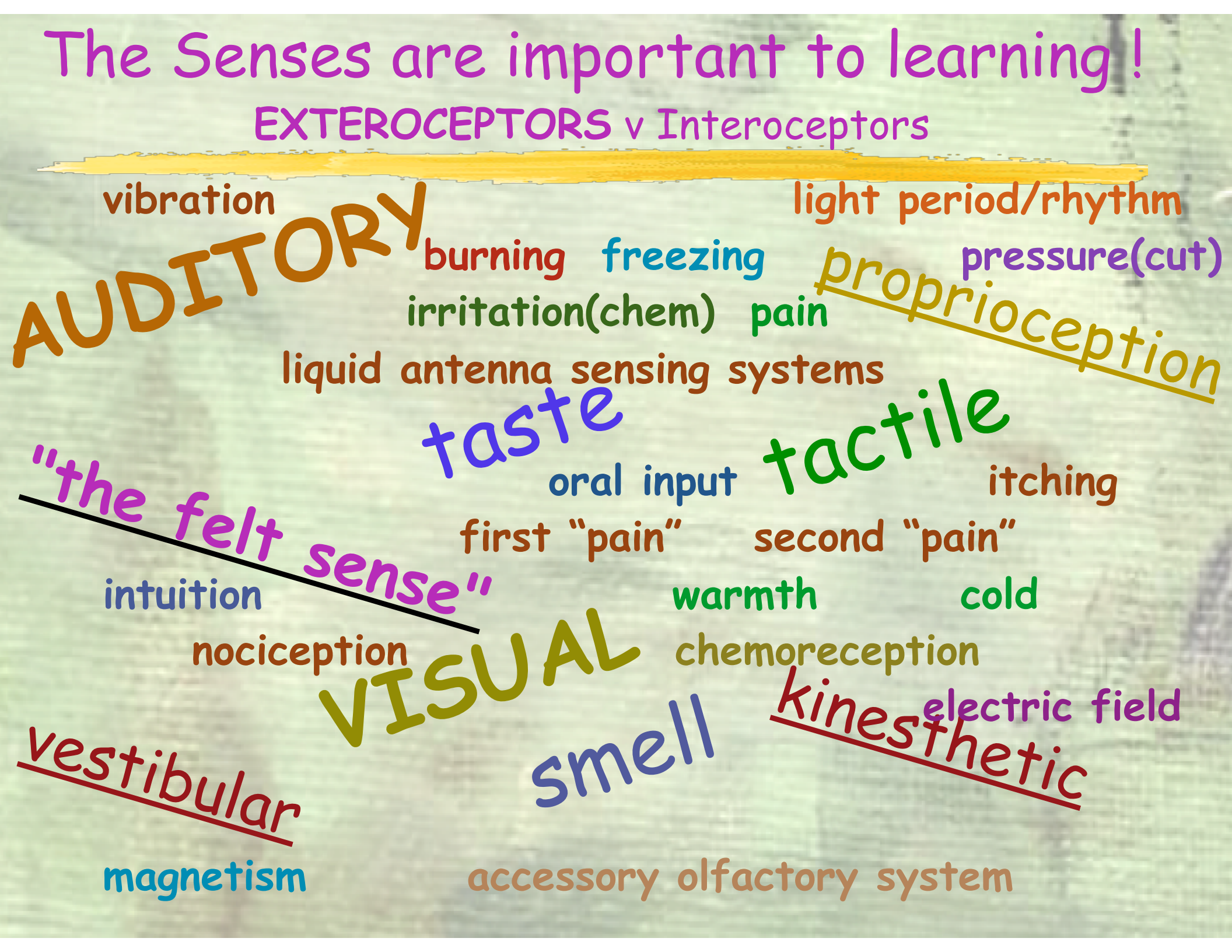
TEDx ManhattanBeach

x = independently organized TED event

see http://www.johnratey.com

http://www.youtube.com/watch?v=hBSVZdTQmDs

www.bokskids.org


The Senses are important to learning !
EXTEROCEPTORS v Interoceptors
vibration
AUDITORY
light period/rhythm
burning
freezing
pressure(cut)
proprioception
irritation(chem)
pain
liquid antenna sensing systems
taste
tactile
"the felt sense"
oral input
itching
first "pain"
second "pain"
intuition
warmth
cold
nociception
VISUAL
chemoreception
kinesthetic
electric field
smell
vestibular
magnetism
accessory olfactory system

Additional Senses - These are really systems rather than organs. They are hidden, automatic, we are not aware of them and have little control over them.

The Vestibular System – Balance/Gravity

Processes information about movement and the position of the head in relation to gravity. This enables us to maintain our balance while still or in motion. Information is processed via the tiny fluid filled semicircular canals in the inner ear, as well as utricle and saccule via the medulla. Vestibular nucleii communicate with reticular activating system, limbic system, as well as cerebellum, motor areas, visual cortex. Vestibular processing anomalies are common in persons with autism. vestibulocochlear nerve carries mvmt/sound.

The Proprioceptive System - Pressure/Force/Position

Processes information about body position through the muscles and joints. Application of regular proprioceptive feedback to the muscles through firm, deep pressure and heavy work, is recommended for many people, because it has been shown to have an organizing effect on the central nervous systems.

Kinesthesia - Movement

A sense built using information from vestibular and proprioceptive systems as well as stretch and touch receptors. Kinesthesia gives us a sense of what parts of our body are moving and how so. Function requires good proprioception, vestibular function, and felt sense (via arousal system).

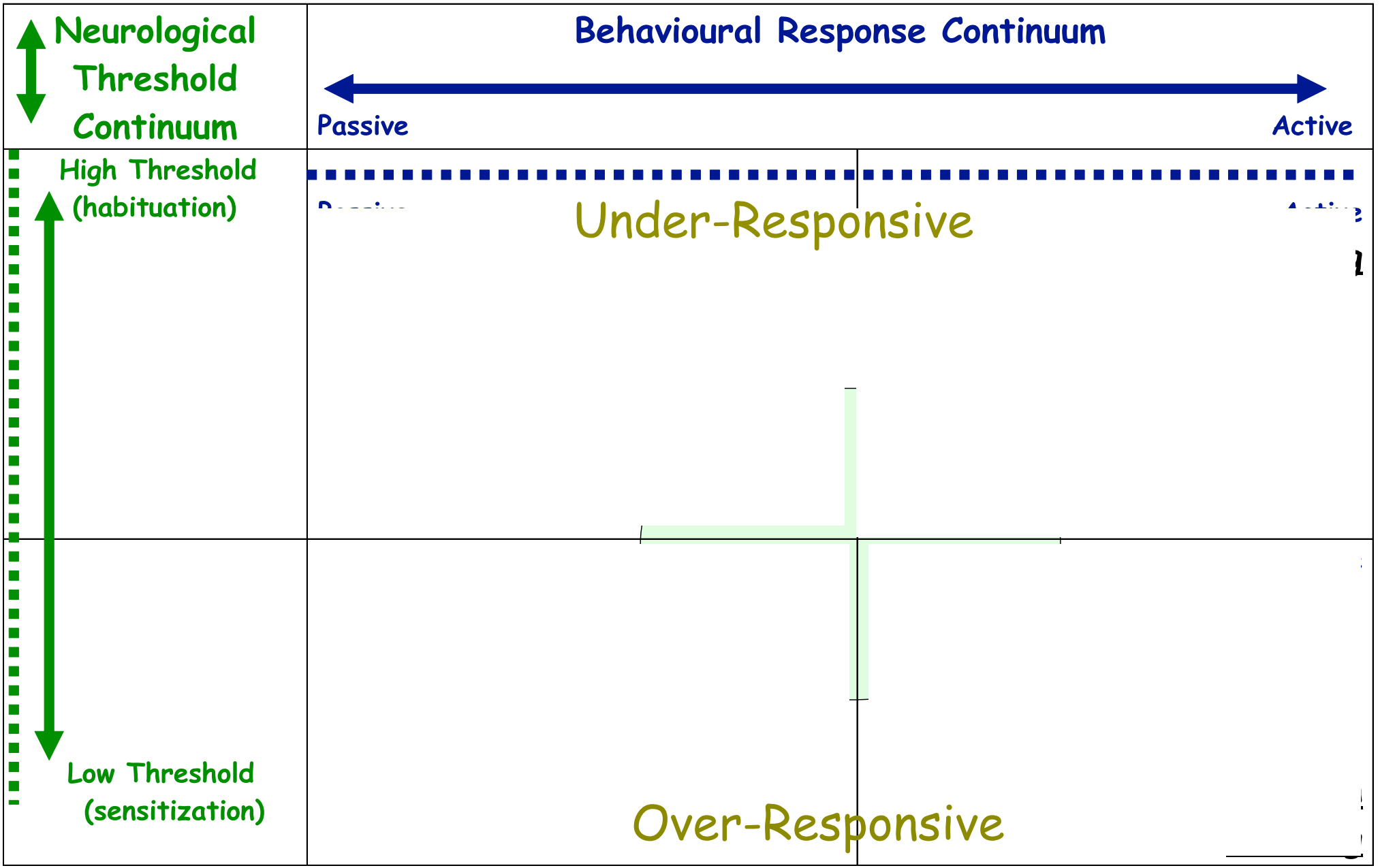
The Felt Sense - State/whole of emotion/consciousness

The Felt Sense is how we experience the fullness of sensation and knowledge about ourselves as an organism. This includes internal sensations and synthesis of different sensations. The felt sense unifies lots of scattered data and infers meaning. The felt sense (developed in insula?) communicates to my nervous system what is my overall experience in my environment. It is influenced by all sensory input as well as emotions, thoughts, intentions. It is always present, always changing, it is the most basic experience of being alive as an entity. Feeling comfortable, safe, nervous, anxious, happy, are examples. In some contexts (i.e. Eugene Gendlin), the felt sense can be perceived in the body and changes and moves.

For more on the felt sense, see Waking The Tiger by Peter Levine, pgs. 8, 66, 67, 68, 69

and Focusing by Eugene Gendlin

Relationships between Neurological Thresholds & Behavioural Responses



Model by Winnie Dunn PhD, OTR, FAOTA

SENSORY ISSUES

Low Registration

Easily tunes out the sensory world (outer and inner). These guys need more intensity, or longer duration, for things to register. Add movement, colour, intensity.
Make things less predictable, more changing, more concentrated with sensory input. Use visuals and a lively voice! Talk/learn when moving, bouncing a ball, weaving a basket, sanding wood. When you see a desire to move, touch, taste, honour it and FEED IT!!

Sensory Seeking

Allow movement, become partners in providing intensity and safety
Use worry beads, clay, plasticine, beeswax
provide foods that are very crunchy and very chewy, try tangy, spicy, healthy dips
provide oomph to water by adding ice, lemon, mint, essential orange oil
avoid sugar which disrupts natural cycle of energy ebb & flow
Don't force eye contact, focus on listening and repeating back
Visuals will get processed before words

SENSORY ISSUES

Sensory Sensitivity

Children may over-react to bright lights, loud noises, light touch, too much movement around them, change, high energy. These children need calm sensory retreats, and permission to get sensory reduction when they need it.

These children love predictability and routine, have a picture schedule and make life predictable.

Give warning before changes, transitions, novel events, stimulating environments

Dim the lights, seek shade, use music and drumming backgrounds

Nature sounds, running water, keep touch firm - snuggle and squeeze

Don't force eye contact, focus on listening and repeating back

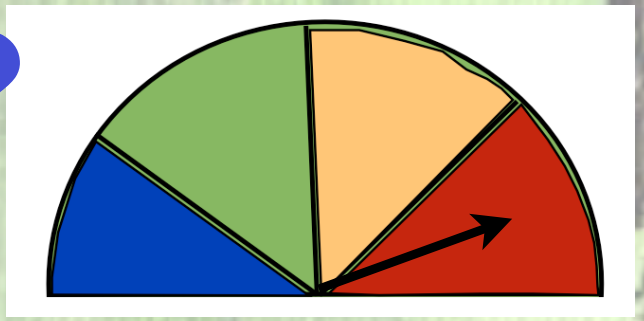
Visuals will get processed before words

Sensory Avoiding

Honour the need to reduce input/chill out. Dim lights, calm music; help the person feel more safe.

Minimize the use of language when someone is agitated, even if what you want to say is reassuring, language processing increases stress. Have a sensory retreat and include nature as much as possible. As you see the person calm and relax, you can gradually re-engage and start to use language and make plans, keeping things structured, low key, and predictable.

What is AROUSAL?



Heartbeat
Respiration rate
Temperature
B
G
T
N

A
D
G
S
Hyperalert states
Diffuse motor activity

The Stress Response System works the same way if the AROUSAL is caused by Danger, Cognitive Stress, FASD, Trauma, ASD, Learning Disability, Sensory Overload, etc. etc.

Factors in AROUSAL

Sensation and Emotion are neurobiologically hard wired together and affect thinking
(reticular system, amygdala, locus coeruleus, etc.)

Is it sensory?
YES!
sensory overload
increases arousal

Is it emotional?
YES!
Increased emotions lead to over-arousal, make it harder to use cognition to balance out.

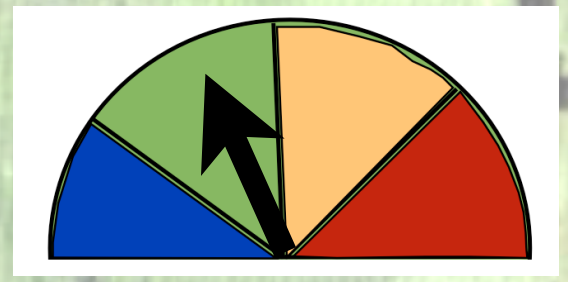
feeling

sensation

thinking

Is it cognition?
YES!
We can think ourselves into a frenzy!

We retrieve memories and formulate action plans according to the level of arousal of our body.



Gray zone level of arousal connects with memories and responses from other lethargic and mellow situations from the past.

Green zone level of arousal connects with memories and responses from other calm and alert situations from the past.

Red zone level of arousal connects with memories and responses from other agitated and frazzled situations from the past.

Stress Response System

(primarily sympathetic activation)

Activation leads to: shutting off frontal areas, increased peripheral awareness, increased limbic activation, release of stress hormones.

Panic leads to hyper-arousal and loss of any cortical control or influence.

Dissociation is the most primitive response ("freeze") and occurs around the brainstem level, joins stress response and surrender.

Stress Hormones cause us to focus on body, environment, time with a very self-centred orientation. This is survival mode. Attention and impulse problems can be the result of change in organization of neural networks. Initially these would most often support survival, but not when repeatedly activated post-trauma.

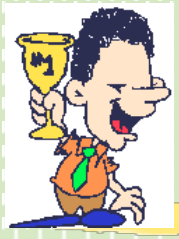
"Developmental trauma" - A few minutes of stressful experience early in life can change a rat's stress response system forever. Everyone's stress response system is unique, influenced by individual experiences.

Dissociative and hyper-arousal pathways can become overactive and sensitized, affecting one long after initial trauma. When this happens, it looks just like hyperactivity, ADD, Oppositional Defiant Disorder, coloured by a desperate need to be in control.

In humans, stress system can be triggered by thinking.

Stress response can be modulated by presence of familiar people, humour, and play. Oxytocin is an anti-stress chemical, if not mis-interpreted.

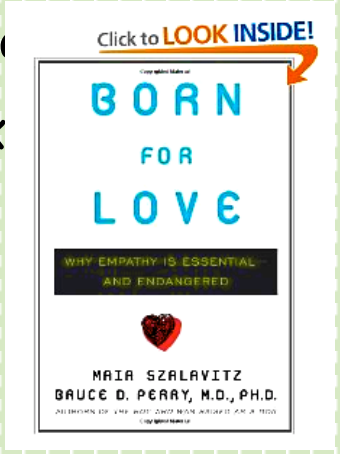
Chronic loss of control leads to paralyzing fear, a form of learned helplessness.



Human Reward System

(primarily parasympathetic activation)

- Neurotransmitters lead to positive feelings, which increase the likelihood of behaviour repeating itself.
- Dopamine helps us to feel happy, but also strong, motivated, confident, adventurous. Drugs and over eating may boost dopamine levels.
- Seratonin (5-HT) involved with mood, muscle contraction, memory
- Endogenous opioids, enkephalins and endorphins act to sooth, relax make us feel satisfied and happy.
- Oxytocin increases bonding, interaction, language
- Can be activated by behaviours and environment, as well as by anticipation, memories, and association, as well as a feeling of being in control.



- Joseph Coyle, a neuroscientist from Harvard Medical School, sums it up best, writing that "chemical imbalance is sort of last-century thinking. It's much more complicated than that." And it's true; depression is much more complicated than that, at least compared to the commonly accepted belief that depression results from a chemical imbalance in the brain. This idea was posed in the late 1950s and has since taken hold in everyone's minds.
- "The cause of mental disorders such as depression remains unknown. However, the idea that neurotransmitter imbalances cause depression is vigorously promoted by pharmaceutical companies and the psychiatric profession at large." "In spite of the enormous amount of money and time that has been spent on the quest to confirm the chemical imbalance theory, direct proof has never materialized." 10.1007/s12115-007-9043-3

Oetter's Stages of Self Regulation

First order - self regulation is dependent on our senses, the autonomic nervous system, and our interconnections with the brainstem, the reticular formation, and the limbic system. The ANS functions to regulate temperature, tone, sleep/wake, monitor for survival, etc. When the brainstem is overly stimulated by sensory input, stress hormones are released, can lead to loss of cognitive control. Typically, no conscious control over this area. Automatic, except we can leave or alter the environment.

Second order - self regulation is reflected in sensorimotor strategies to achieve, maintain and change situation appropriate states. Sensorimotor input and feedback help organize states, ie. Foot tapping, rocking, fidgeting, doodling. **Using the body to lead the mind.**

Third order - emergence of higher level cognitive (cortical) skills. At this stage, problem solving abilities and the use of verbal and internal language for organization allow the individual to monitor, plan and evaluate regulatory strategies. "Just this much more and then I will treat myself to…" or "If I don't get it done, such and such will happen." **Using the mind to lead the body. This can also be called Emotional Regulation, as it is referred to in psychological and educational jargon.**

"Second Order" Self regulation = strategies a child uses:

to increase attention to a task,
to self calm and,
for impulse control.

During early development, the parent or caregiver provides sensory stimulation to the child. This sensory stimulation (touch, movement, visual and auditory) helps the child to develop control, to calm, to attend to salient stimuli and to organize his or her own body.

This then contributes to the child developing his or her own strategies to develop control, to calm, to attend to salient stimuli and to organize his or her own body.

This enables the child to develop internal regulation and to control his or her level of arousal and therefore voluntary behaviour as well.

Thus, self-regulation is the ability to achieve, monitor and change a state of arousal to match the demands of the environment or situation.

Input to midline structures give stability and comfort. Sensory rich – nose, mouth, genitals

You can't self soothe through the mind, the body must be involved to change internal chemistry

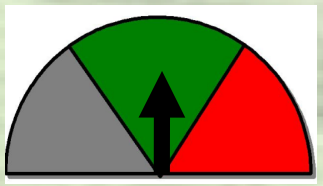
Most often these strategies are selected and initiated AUTOMATICALLY and SUBCONSCIOUSLY

What are Your Subconscious Regulatory Strategies?

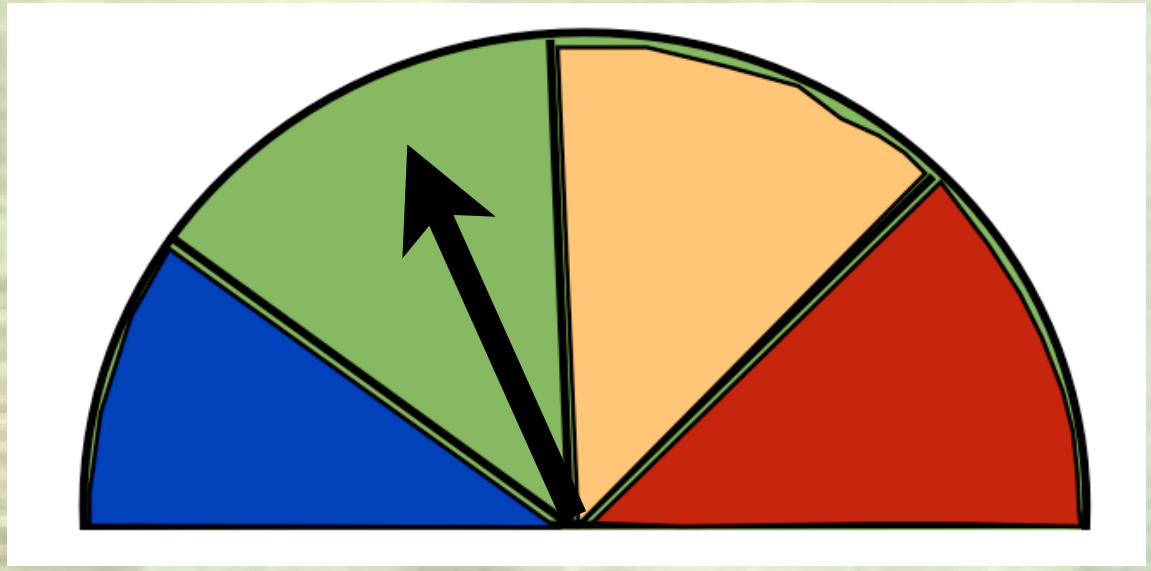
- Chew gum
- sip water
- hard candy
- crunchies
- bite nails
- smoke
- popcorn
- coffee
- mints
- sweets
- rub tongue inside mouth
- chew on pencil/ straw
- Rock, spin on chair
- squirm/shift in chair
- roll head
- rock body
- run, jump
- tap objects or body parts
- stretch
- isometrics
- balance chair on 2 legs
- shake feet, etc.
- Twist hair
- fidget in pocket
- cool shower
- warm bath
- rub fingers or clothes on skin
- hands about mouth area
- play with ears, nails, necklace, sleeve, chin, pencil, pocket contents
- stare at movement (fire, fish, rain, clouds, sand and oil toys, spinning things, etc.)
- Avoid bright light
- listen to calm or lively music
- Sing or talk to self
- gravitate toward rhythm
- avoid loud noises
- more intense reactions than others to unexpected sensory input around you.

Not cognitively mediated

"How Does Your Engine Run?"
A Leader's Guide to The Alert Program™
for Self-Regulation



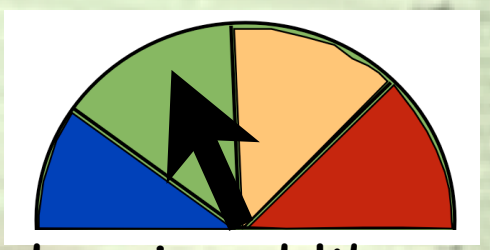
Mary Sue Williams
Sherry Shellenburger



The Zones of Regulation by Selosoft, Inc
zonesofregulation.com

TherapyWorks Inc.
www.alertprogram.com

Teaching Self Regulation (The Alert Program™)



Stage One: Identifying Engine Speeds

1. Child learns engine words or zone colours
2. Adults label their own engine levels
3. Child develops awareness of the feel of engine speeds, using adult's labels as guides
4. Child learns to identify and label levels for himself
5. Child labels levels for himself

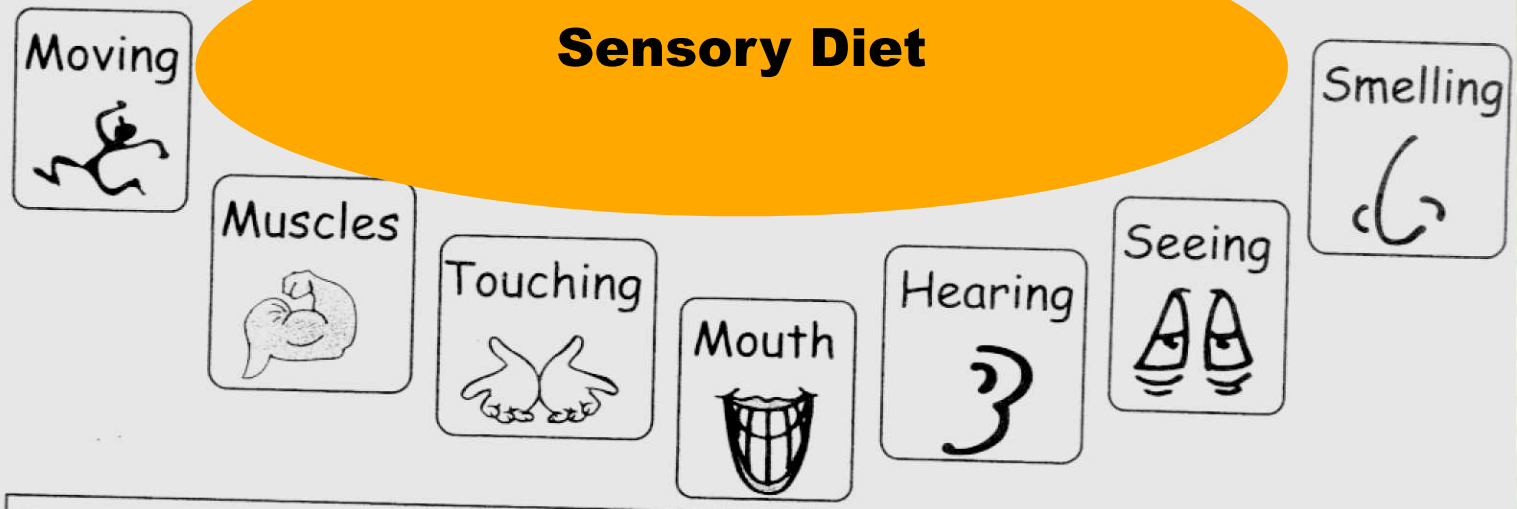
Stage Two: Experimenting with Methods to Change Engine Speeds

6. Adults introduce sensory-motor choices to change engine levels
7. Adults identify sensory-motor preferences (What Works, What Doesn't)
8. Child begins experimenting with choosing strategies

Stage Three: Regulating Engine Speeds

9. Child chooses strategies independently
10. Child uses strategies independently, outside of sessions
11. Child learns to change engine speeds when options are limited
12. Child continues receiving support.

Sensory Diet



The term 'sensory diet' coined by Patricia Wilbarger, an occupational therapist, refers to "how certain sensory experiences can be used to enhance occupational performance in any individual." (Bundy, Lane & Murray, 2002)

Everyone has individual sensory preferences for calming, waking up, concentrating, etc. The key is to figure out which strategies work for YOU and how you can integrate them into your lifestyle. Here are some examples:

MOVING: taking a brisk walk after 20 minutes at the computer

MUSCLES: working out at the gym before homework time

TOUCHING: fidgeting with a small koosh-like ball during a long lecture

MOUTH: popping in a piece of sour candy just before a big exam

HEARING: listening to soft music while studying

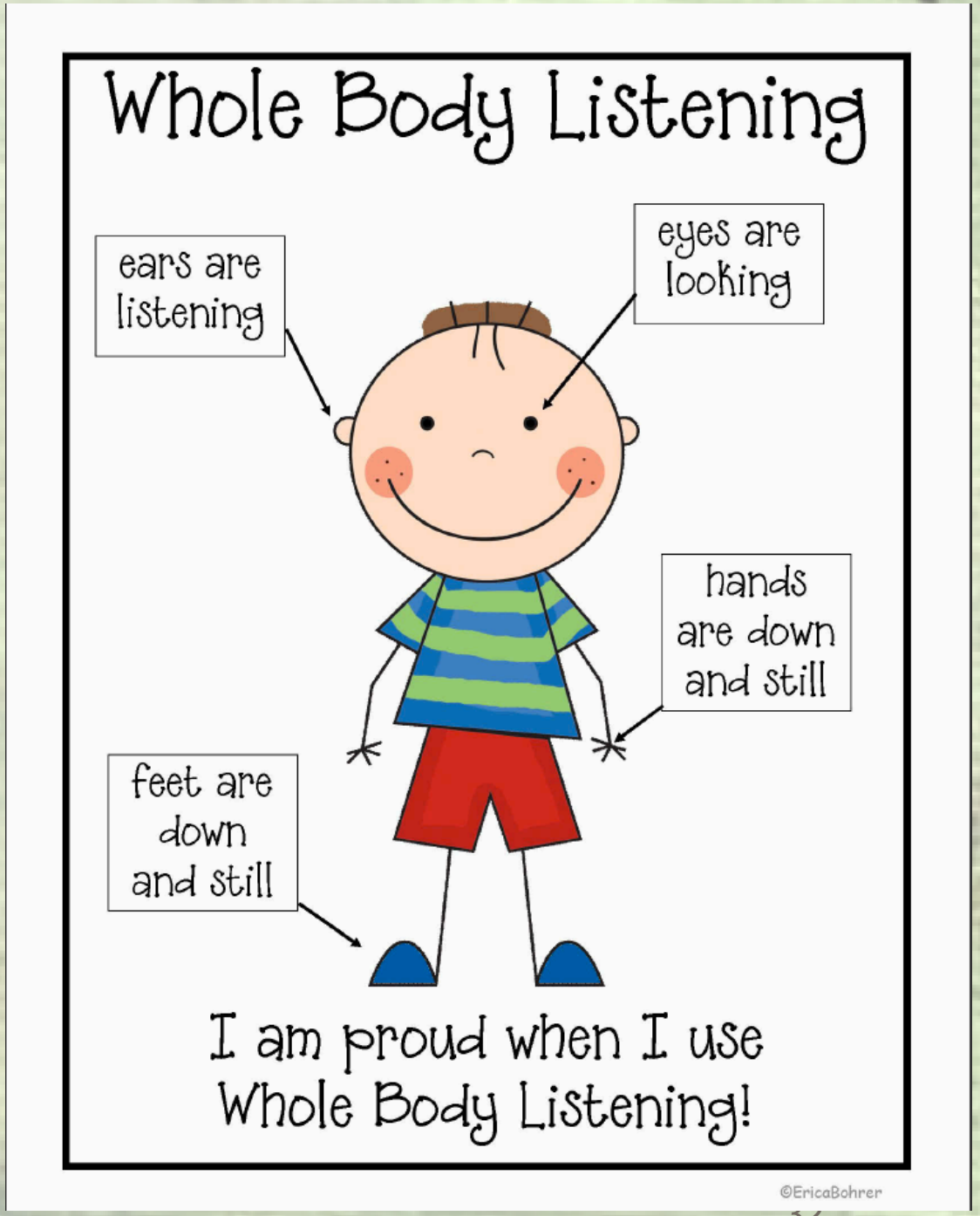
SEEING: dimming the lights when wanting to take a nap

SMELLING: using lavender-scented sheets for sleeping.

DISCOVER WHAT WORKS FOR YOU!

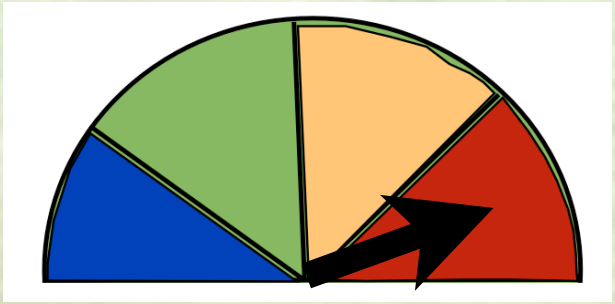
From Diana Henry's "Tools for Teens" www.henryot.com

Whole Body listening is important for social connectedness and relationship building



Whole Brain listening is important for cognitive and academic growth

Red Zone – How Does it Feel?



How does my head feel	How does my neck/shoulder feel?	How do my arms and hands feel?
How does my chest feel?	How does my stomach feel?	How do my legs feel?
How does my breathing feel?	What else do I feel?	What seems to be easiest to notice?

This is half of self regulation - noticing when I am leaving the green zone

Sensory Supplement Working Forms at
http://www.marclandry.ca/Marcs_Sensory_Oasis/Workshop_Materials.html

When I want to keep my engine running "Just right"

TOOLS

TRIGGERS

What Works?	What Bothers Me?
Mouth	Mouth
Move	Move
Touch	Touch
Look	Look
Listen	Listen
Smell	Smell
Pressure / Heavy Work	Pressure / Heavy Work

The other half of self regulation - what will help and what will not

Sensory Diet

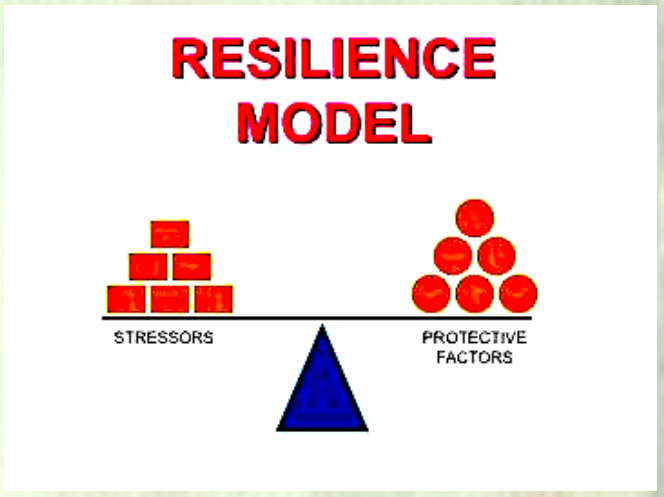
Calming slow, rhythmical, pressure, warmth, sweet

Alerting fast, changing, cold, sour, minty

Organizing deep, heavy, sustained, pulling, pushing

www.theinspiredtreehouse.com

RESILIENCE
A BALANCING ACT



On a river, you may encounter rapids, turns, slow water and shallows. As in life, the changes you experience affect you differently along the way.

In traveling the river, it helps to have knowledge about it and past experience in dealing with it. Your journey should be guided by a plan, a strategy that you consider likely to work well for you.

Perseverance and trust in your ability to work your way around boulders and other obstacles are important. You can gain courage and insight by successfully navigating your way through white water. Trusted companions who accompany you on the journey can be especially helpful for dealing with rapids, upstream currents and other difficult stretches of the river.

You can climb out to rest alongside the river. But to get to the end of your journey, you need to get back in the raft and continue.

RESILIENCE STRATEGIES

Make connections.

Avoid seeing crises as insurmountable problems.

Accept that change is a part of living.

Move toward your goals.

Take decisive actions.

Look for opportunities for self-discovery.

Nurture a positive view of yourself.

Keep things in perspective.

Maintain a hopeful outlook.

Take care of yourself.

Additional ways of strengthening resilience may be helpful.

The key is to identify ways that are likely to work well for you as part of your own personal strategy for fostering resilience.

SENSORY ENRICHMENT

GROUNDS ENERGY - SUPPORTS RELATIONSHIP

- **Movement**
- **Touch**
- **Visual**
- **Auditory**
- **Smell/Taste**
- **Pressure/Heavy Work**

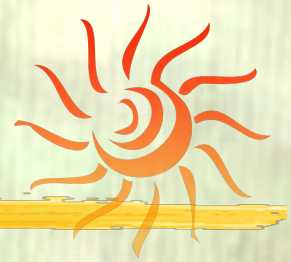
RESILIENCE IN KIDS

Mental Rehearsal - The Social Story Enhanced

Neurons can be activated by mental rehearsal, just as by activity
Imagine as many details as possible, with desired performance and outcomes
Experience Thoughts and Feelings so the body perceives it as reality
Rehearse in advance to build skill and confidence.
Rehearse (after difficult situations) what you would have done differently, to weaken negative pathways

Positive Self Talk

I am calm and relaxed I can do this! I can! I can!
I remember what it feels like to be calm I can handle it!
Build positive talk into your interactions
Do your own positive self talk so the child can hear
Talk about the feeling of accomplishment and how it feels to be done.
Positive self talk must be honest



Visual Imagery "The Safe Place"

Introduce after relaxation and after enjoyable activities
Find that special place (It does not have to be calming for YOU)
Describe and explore in a calm, positive voice. Give it a simple name
Make it multi-sensory (add smell, sound, touch, movement, visual)
Reinforce and Practice. This is key in activating parasympathetic system and coming down from RED ZONE

DEVELOPMENTAL MATURITY

FOUNDATIONS FOR DEVELOPMENT OF PRO-SOCIAL CITIZENS

- Valuable - **Children need to learn that they are precious and valuable just for being They must learn that all people have the same worth, just for being. We do not earn our value, we are born with it. Some children cope by feeling worth less than everyone else, while others cope by acting as though they are better than anyone else, and more important.**

- Protection - **Children need to learn that they are vulnerable and that we all deserve and need protection from time to time. They should not have to feel responsible for our adult problems, and they should not learn that their safety does not matter. Some kids learn to become enmeshed with the problems of adults around them, while others adapt by putting up walls and being indifferent, if their needs have not been attended to.**

- Sense of Reality - **Children should learn that we are all EXPECTED to be imperfect. We don't want them to feel that they must always be perfect to save the day, nor should they be held to such high standards that they take on the role of "bad and rebellious" out of defiance**

DEVELOPMENTAL MATURITY

FOUNDATIONS FOR DEVELOPMENT OF PRO-SOCIAL CITIZENS

- Inter-Dependence - **A Child must learn that their needs and wants matter, that they deserve being cared for. When healthy dependence is not supported, some children will want nurturance at all costs, and create dependency needs that harm relationship. Others will be anti-dependent and will deny their own wants and needs, trying to be needless and hyper-independent. Children should receive the care and help they require and also have practice giving nurturance to others and other life forms.**

- Being Spontaneous & Open, but Moderate - **Children need a lot of practice just being who they are and exploring and enjoying life. Practice, in nurturing settings, helps children learn that they can be open and fun, while still being in control of themselves. This requires freedom with boundaries. Some children lose control without boundaries, others manage life by learning to control others to get what they want, and neither extreme leads to satisfaction.**

TRAUMA FIRST AID

Tip to help with an anxiety attack

- Look around you.
- Find 5 things you can see, 4 things you can touch, 3 things you can hear, 2 things you can smell and 1 thing you can taste.

This is called grounding. It can help when you feel like you have lost all control of your surroundings.

BODY-BRAIN CONNECTION

THE LANGUAGE OF THE BODY - SENSATION

NOTICING SENSATIONS

- **Mindfulness as a baseline. Find some quiet time and place to notice sensations: heart, breathing, muscles, skin, temperature. Do this in different body areas. Now include a scan of thoughts and mental pictures. Eventually, be able to do this in context. For example, driving to the lake for a family day, what does this bring up in your body.**

- **Now imagine a rude driver cutting you off and nearly causing a crash while yelling at you. Notice the changes in sensation in different areas. Notice what you feel like doing or saying, or do you just feel stunned? These are your basic survival experiences, in the language of the brainstem.**

- **Take a little time to notice the activation settle down, visualizing the snow settling in your snow globe. Be still and calm, know you are safe. Stop from re-playing the image by looking around the environment and noticing things. Adjust Mental Rehearsal**

- **Try to be grounded on the earth and notice things that bring you peace or joy. (sky, trees, rocks, clouds, river, loved one, picture) Now notice how you feel in your body at this moment.**

BODY-BRAIN CONNECTION

THE VOCABULARY OF RESILIENCE = SENSATION

PAYING MORE ATTENTION TO SENSATIONS THAN EMOTIONS

- **Through exercises like this, and in daily life, try to notice the sensations before shifting into emotions - honour your survival system - honour how the pure world touches you**

- **This is the foundation of self regulation, the ability to notice the sensations (sensory feelings) within you as they change. As this develops, you will learn when and how to shift sensations that get stuck.**

Building a Sensation Vocabulary

☼ cold/warm/hot/chilly ☼ twitchy/butterflies ☼ sharp/dull/itchy

☼ shaky/trembly/tingly ☼ hard/soft/stuck ☼ jittery/icy/weak

☼ relaxed/calm/peaceful ☼empty/full ☼ dry/moist ☼ flowing/spreading

☼ strong/tight/tense ☼ dizzy/fuzzy/blurry ☼ numb/prickly/jumpy

☼ owie/tearful/goose bumpy ☼ light/heavy/open ☼ tickly/cool/silky

☼ still/clammy/loose

Sensations are different than emotions, they are physical and bodily. A non-verbal child who seems frightened can be invited to point to where in the body they may feel shaky or numb, or where the “owie" is.

THE BODY'S NATURAL RHYTHM

CONTRACTION-EXPANSION
LIFE IS PENDULATION

Maintaining/restoring pendulation (the natural human rhythm) is the key to resilience

Breathing as Example: Pay attention to the pressure and flow of air in and out of lungs and belly as you inhale and exhale. Is there tightness or free-flow through nostrils, throat, chest, belly. Are inhale/exhale even or is one shorter? Are there pauses between inhale and exhale? If so, how do they feel? Do muscles tense and relax as you breathe?
As breathing is a great way to understand pendulation, it is also a great way to support and restore it.

This natural ebb and flow permeates our whole being; we are always moving between the two, and this allows us to take in the fullness of the world. Every contraction/tightness/negative energy is followed by expansion/relaxation/positive energy, unless we allow ourselves to be or remain stuck. No matter how bad a feeling is, your resilience will allow it to shift and change, if you restore the pendulation. When bad feelings do not readily go away, they are usually associated with trauma or significant stress. If we are defeated and frozen in helplessness, natural pendulation is diminished and may need to be supported to get going again. When pendulation or resilience is shut down, we cannot access the mechanisms that let us regulate mood, vitality, and health.

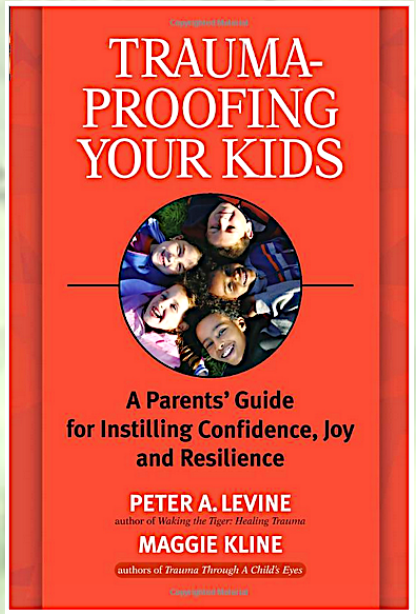
Pendulation is how the body knows that what you are feeling is temporary and will change! As we support children to flow with their rhythm and notice the change, we prevent trauma from freezing our resilience.

THE BODY'S NATURAL RHYTHM

CONTRACTION-EXPANSION
LIFE IS PENDULATION

Pendulating between Pleasant and Unpleasant Sensations, Emotions & Images is the KEY to:
being balanced, preventing trauma, healing trauma
This can be experienced as a natural rhythm of contraction and expansion, one ALWAYS following the other. Pay attention to the pressure and flowof air in and out of lungs and belly as you inhale and exhale, and your body will understand pendulation.

Exercise: Exploring Sensation and the Rhythm of Pendulation (24)



Tracking Sensation With a Partner (27)
Language of Sensation

Making a Sensation Treasure Chest (29)

Making a Sensation Treasure Chest

- Find and decorate an empty box, can, bag
- Select items with very different textures (feather, sandpaper, different size rocks, cotton ball, slimy toy, satin or silk, steel wool...be creative!
- Eyes closed or blindfolded, have child reach in and touch one item and guess what it is. For younger kids, match to item in view or to picture.
- Then have child touch each item to skin and tell you as much as possible about how it feels
- Have child hold items of very different weight and tell you how muscles in that area feel different (harder, softer, tighter, relaxed, etc.)
- Have child tell you how he feels different in his body when he touches something slimy, wet, hard, etc.
- Make a list of sensations you have explored, discovered, felt
- Try a Sensation Tray for exploring taste sensations and textures in mouth

The Sensory Treasure Chest

- nature is best
- use many senses
- define & describe
- play guess what
- feel on different parts
- play without vision
- give hints
- use sensation words

- Builds sensory skills
- Builds relationship skills
- Builds language skills
- Builds Resilience

INCREASING SELF AWARENESS

- Time in Nature
- Walking
- Yoga
- Meditation
- Breathing
- Music/rhythm/drumming
- Crafts
- Massage
- Dance
- Socializing
- Reading
- Ritual/Ceremony
- Story Telling
- Working with Earth
- Keep a Dream Log
- Journal
- Art
- Be Self Aware WHILE doing!

CALMING THE BRAINSTEM

- calm music
- nature sounds
- dim light/natural light
- blue light
- neutral warmth
- deep breathing slow down exhale
- aromatherapy
- wall colours
- art - own your place
- positive reflections
- family wall
- rocking chair/swing

COMMUNITY

RITUAL - TRADITION - LISTENING

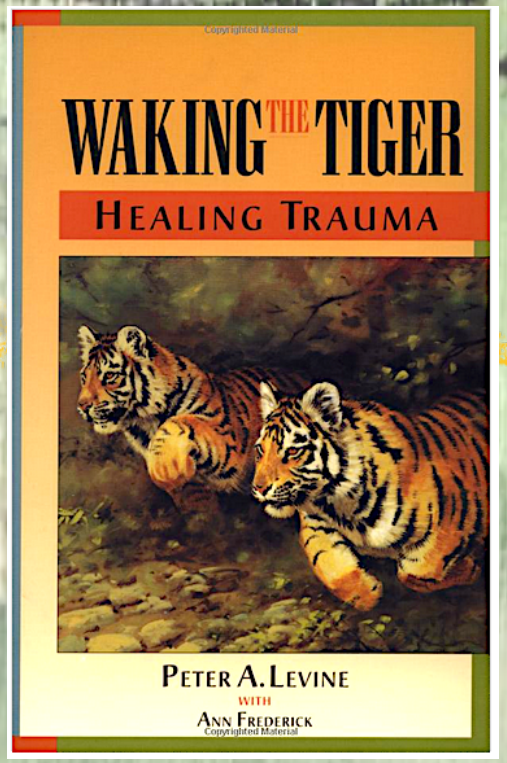
- **Talking Circles / Check in Times / Start with small groups**
- **Sensation Games**
- **Mindfulness Experiences / MindUP**
- **Nature**
- **Ritual and Routine are calming and organizing**

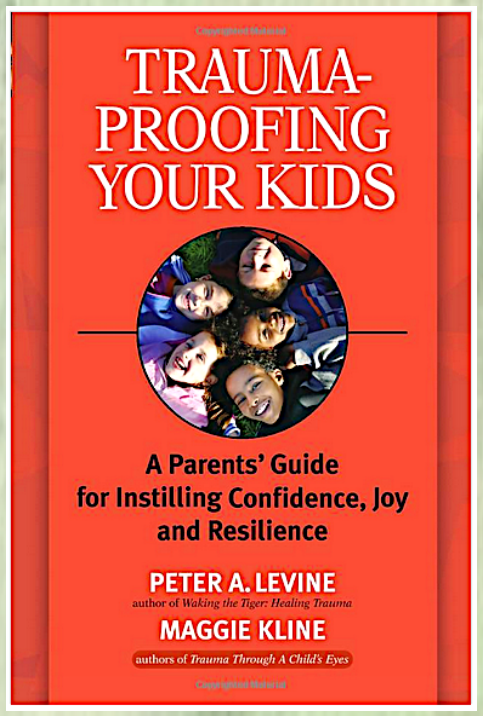
SUMMARY

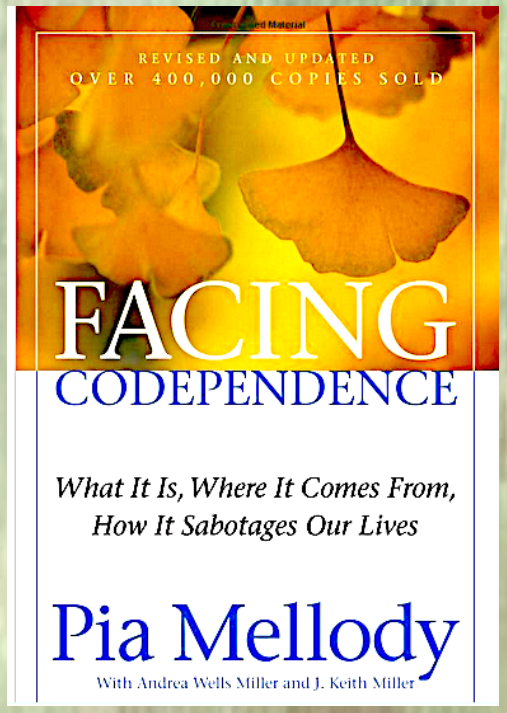
- **Build Connection with Sensory Activities**
- **Build Resilience with Sensory Activities**
- **Build Self Awareness with Sensory Activities**
- **Build Self Regulation with Sensory Activities**
- **Build Interaction skills with Sensory Activities**
- **Boost Sensory Activities in times of Trauma**

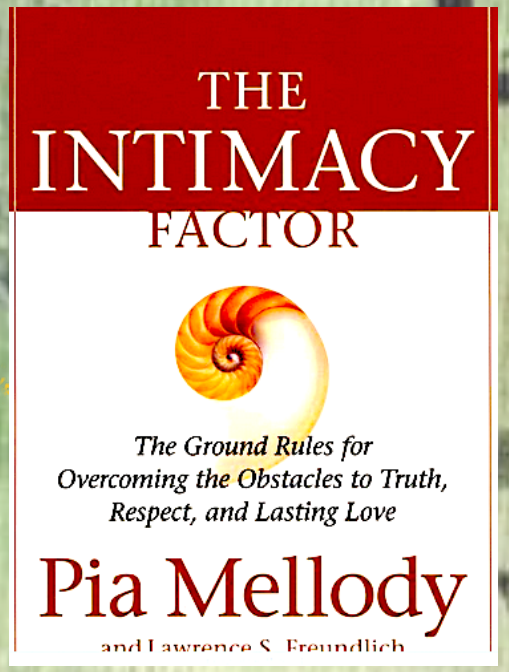
CHILDREN MOVE!!!

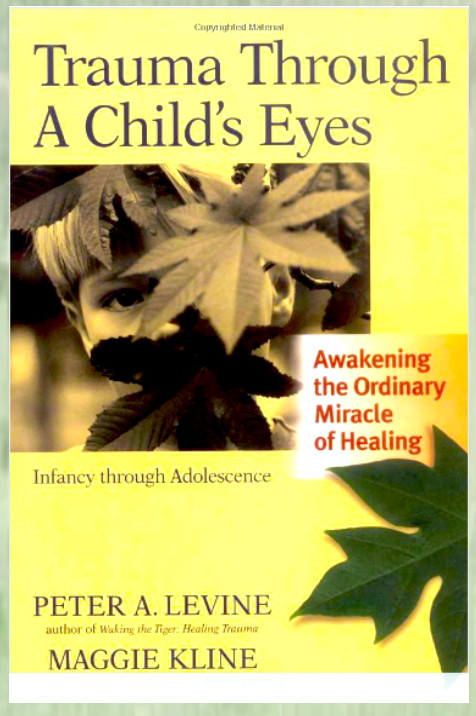
BIBLIOGRAPHY

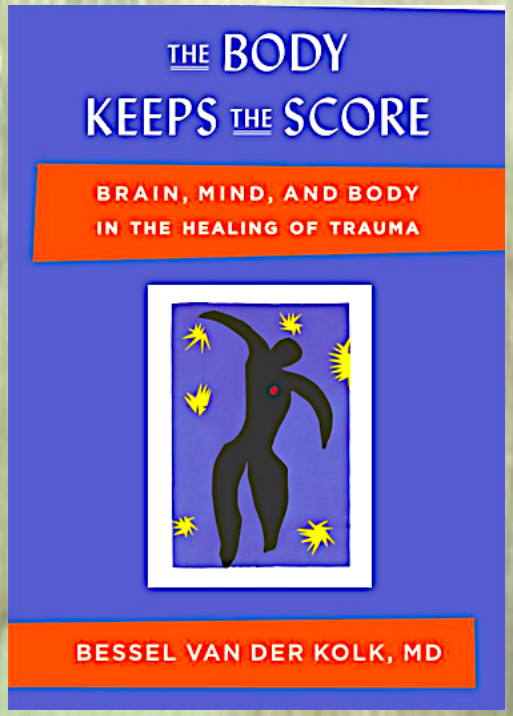












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Visit my website for the following:

"Workshop Materials"
- Recommended Reading and Links
- Relaxation Book & Social Stories
- "What Works" "Red Zone" and "Safe Place" forms
- Teaching Self Regulation Handout

Self Regulation gauges

Fine Motor Planner

The Scarfe Papers ("Play")

Advocacy Support

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