Trauma-Informed Care and Sensory Modulation

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"Trauma Informed Care is an organizational structure and treatment framework that involves understanding, recognizing, and responding to the effects of all types of trauma."

Trauma Informed Principles

1. There is always a reason for the behaviour.
2. Promoting a culture of comfort and safety.
3. Recognizing practices and environments that are potentially re-traumatizing.
4. Reinforcing training for all staff to create a culture of compassion.
5. Transform language used to describe behaviour.
6. Recognizing the role of relationship as a healing force.
Sensory Modulation

- The ability to receive, regulate and organize how the brain responds to sensory information.
- Strongly influences arousal levels.
- Allows people to stay within a zone of regulation to participate in learning, social engagement and participation in human occupation.

What is Trauma?

Trauma is an experience that creates a lasting, substantial negative psychological impact.

Traumatic events may be single occurrences, or several experiences that become traumatic when they are combined.

Trauma or Sensory Processing Disorder?

- Individuals experiencing trauma have heightened states of arousal which significantly impact the processing of sensations.
- Trauma symptoms can resemble sensory processing disorders as a result of these altered states of arousal; with hypersensitivity to sound, touch, light or movement.
- There is always a reason for the behavior. Is it sensory or is it trauma?
How Does Trauma Present?

- Decreased ability to think and problem solve, with exaggerated emotional responses.
- Children and adults with histories of child abuse often respond with exaggerated arousal and emotion to minor triggers.
- Can get stuck in overload or dissociation, appearing tuned out and shut down.
- Less capacity for memory and new learning.
- Difficulty self-regulating.

Arousal is the Foundation of Self Regulation

Let's Talk About Stress
Kim and Theo - Elevated Stress Response

The Role of the Amygdala

- It rapidly perceives a sensory stimulus as either positive or a negative.
- When it detects something interesting it signals the hippocampus to start laying down memories. This is how we learn new things.
- When it detects danger, it activates the fight-flight system and this prevents new learning.
- Amygdala is mature a month before birth, while the higher order brain systems that regulate the amygdala take years to mature. This is why self-regulation is developmental.

Thalamus

- The thalamus receives and integrates all incoming sensory information, except smell, and directs it to the other areas of the cortex for additional processing.
- It wakes up the brainstem and rapidly informs the amygdala warning of potential threat.
- It sends sensory information up to the cortex for higher order processing.

https://www.neuroscientificallychallenged.com/blog/know-your-brain-thalamus
“As the natural developmental association between sensory input and psychic experience becomes understood, the two forms of therapy may profit from joining forces.

What is rocking and being cuddled other than tactile and vestibular stimulation plus an interpersonal relationship?”

(Ayers 1972, p.266)
Dr. Bruce Perry identified the role parents play in setting up the neural circuitry that helps children regulate their responses to stress.

• The brain reacts to neglect as a threat to survival.
• Neglected infants' brains do not receive sufficient stimulation for optimum development and growth.
• Neglect is the most rapidly increasing form of abuse.
• Adults who have experienced neglect as children have smaller brains and typically lower IQ.

What is Attachment?

• A pattern of interaction in a specific relationship.
• These patterns are learned; they are self-protective strategies.
• In times of stress, these default patterns are evident throughout the lifespan.
• The strategies are developed during early connection with caregivers; early attachment grows the brain.
Secure attachment is the foundation of resilience.

**Their Brains Light Up Like Christmas Tree Lightbulbs**

- When mom and baby first meet after delivery, they typically fall in love instantly as their brains both become very active - each lighting up like a lightbulb in the same parts of their brains.

- It is the right side of the front of their brains that light up.

- Baby’s brain follows mom’s.

  Dawson, et al, 1999

**Right Side of the Brain**

- The right hemisphere is nonverbal, spatial processing, sing song voice, face recognition, novelty, seeing the big picture

- This is the first hemisphere to develop, during the first 18-30 months after birth, and it shuts down its development as the left hemisphere comes online.

- The right hemisphere is the CEO of self-regulation and helps to calm the limbic brain.

  Schore, 2001
The Right Orbitofrontal Cortex

- This is the area most responsible for top-down regulation of arousal.
- The ROFC regulates heart rate, hormones, and controls the autonomic nervous system.
- The ROFC tells the amygdala to calm down when it notices the person is dysregulated.

Schore, 2005

Cortical Inhibition of Arousal

Implicit Memory

- Implicit memory is the only form of remembering information from the first 12-18 months of life.
- Implicit memory creates an anticipation of how life will unfold and remains below the level of conscious awareness, guiding our ongoing perceptions and actions in ways that tend to reinforce “foregone” conclusions.

Regulation through Sensitive Caregiving

- Through soothing, the child learns how to transform a state of distress into calm.
- This state of calm is mediated by activation of the parasympathetic (calming nervous system) which slows down the heart rate and also activates brain circuits that help the child learn to self-regulate.

Reading the Mind in the Eyes

The eyes hold the information of emotion.

Micro Expressions

- Dr. Paul Ekman
Attachment Patterns as Ways to Cope with Relational Stress

Three attachment patterns:
- Type A: Avoidant
- Type B: Balanced
- Type C: Connection Seeking

Secure Attachment - Sharing a Banana with Dad
Caregiver Behaviors Leading to Insecure Attachment

- Inability to read infant/child cues
- Lack of empathy toward child
- Turning away from the child
- Rejecting affection
- Intrusiveness
- Ridiculing requests for help
- Frightening the child
- Being frightened of the child

Attachment “A” Strategy

- These individuals learn that their feelings make others feel uncomfortable.
- They learn at a very early age to shut down their negative feelings to protect themselves from harm and judgment.
- Uncomfortable with closeness and intimacy.

Aulneau Centre, Winnipeg - Example of child using “A” strategy
“A” Strategies Disconnect from their Bodies

Insula:
• The home of interception and embodied experiences.
• “A” strategies disconnect from their emotional experiences and have been shown to have a smaller insula.
• Needs more proprioceptive input.

DeWall et al. 2011

“A” Strategies and their Sensory Profiles

• Avoidant of intimacy in relationship and avoid closeness, which can impact the processing of sensory information.
• Can exhibit all different types of sensory profiles.

Attachment “C” Strategy

• This child seeks connection through threat and helplessness.
• These individuals are anxious without connection.
• They are preoccupied with negative emotions (sadness, anger and fear) and come across as unpredictable in their behaviour.
The Family Guy - Classic “C” Strategy

“C” Strategies and their Sensory Profiles

- Seeking connection and typically feel regulated with intensity.
- Can exhibit different types of sensory profiles.

How do we Support People Using these Strategies?

- Be aware of what strategy they are using in the moment
- Know our own strategy, and our own triggers
- Keep both them and you in your mind
- With “A’s” - give space, sideways approach
- With “C’s” - prevent, be clear, be close
- Have compassion for both strategies

Whenever you can, remember that people are doing the best they can with what they have.
Art of Attuned Regulation

There's a Micro Expression for Compassion - this helps regulate others

- soften and open eyes
- lean to the right
- genuinely care about the other

Try it
Eye Contact

- Those with trauma and sensory processing issues often have difficulty with eye contact.
- Many find it uncomfortable or frightening to engage visually; some will avert their gaze.
- Others try to lock on with a fixed, contactless gaze, trying for a sense of connection without vulnerability.
- Do not demand eye contact as a measure of connection; it can increase stress.

Tone of Voice

- When we are under stress, our tone of voice changes, taking on a quality of irritability and frustration.
- This will immediately stimulate a defensive reaction in the listener’s brain that will undermine the potential of having a productive dialogue - even before the conversation begins.
- When you regulate your own voice, it helps regulate your own overall state of arousal.

Mindfulness
SENSORY INTERVENTIONS

Decreasing Arousal Through Sensation

- Tactile, vestibular and proprioception are the foundations for emotional stability.
- Touch is integral to attachment and relationship.
- Vestibular and proprioception are both grounding and connecting to the world around us.
- It doesn’t matter whether the stressor is a sensory processing issue or an emotional issue, sensory strategies can be a point of entry to regulate the nervous system.
Use rhythm when you want to speed up or slow down the level of arousal.

RHYTHM PROVIDES STRUCTURE FOR MOVEMENT, TELLING US HOW TO MOVE THROUGH TIME AND SPACE

“Perry says we need “patterned, repetitive, rhythmic somatosensory activity,” literally, bodily sensing exercises. Developmental trauma happens in the body, where pre-conscious “implicit memory” was laid down in the primitive brain stem (survival brain) and viscera. Long before we had a thinking frontal cortex or “explicit memory” function.”

“The only way to move from these super-high anxiety states, to calmer more cognitive states, is rhythm,” he says. “Patterned, repetitive rhythmic activity: walking, running, dancing, singing, repetitive meditative breathing – you use brain stem-related somatosensory networks which make your brain accessible to relational (limbic brain) reward and cortical thinking.”

www.childtrauma.org

Calming Touch Releases Oxytocin

Moberg, 2003
Rough and Tumble Play

- Soothing stimulation by parents and the self-stimulation rhythms of the infant are quickly replaced by peer play (rough and tumble play at the preschool age, and contact sports through grade school and high school).
- Rough and tumble play is part of the attachment system of regulation.

Flanders et al, 2010

Deep Pressure

Field, 2010

Secure Spaces
Oral Motor

• Signals the vagus nerve to prepare to digest and activates the parasympathetic system for calm.
• Sucking releases the neurochemical serotonin which supports modulation.

https://www.education.com/magazine/article/Thumb-sucking_Why_Kids/

Thank you!

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Supporting the conscious evolution of the human spirit