Conflict of Interest Disclosure

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Has no real or apparent conflicts of interest to report
Who we are

• CHE Senior Psychological Services
  – Provides behavioral health services to over 400 long term care settings in USA (NY, NJ, PA, CT)
  – Innovative treatment model
    • Affect Regulation Therapy (ART)
    • Applies to disorders of aging (especially dementia)
      – Compensates for cognitive loss
      – Improves implicit emotional regulation
  – Clinicians are trained in ART
    • Becoming an evidenced-based model
    • Research in infancy stage
      – Forms designed to collect outcome data
What I will be talking about today

• New paradigm of affect regulation theory
  – Neurobiological basis
  – Works on the level of single cells as well as in more complex systems

• Putting theory into practice
  – Therapist as “tuning fork”
  – Automating healthier, less extreme responses
People don’t believe psychotherapy helps persons with dementia.
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I’m going to tell you why it does.
Widely accepted model of dementia

- Chronic high cortisol reduces hippocampal volume, which is a cause of dementia ("cortisol-cascade theory")
- But... Holocaust survivors with PTSD get dementia at a higher than average rate even though hippocampus is intact (Golier et al., 2005)
- New model explains why some people develop dementia from stress but have intact hippocampus and normal or low cortisol

Cognitive memory is like a light bulb

- Light bulb lights when current is applied and filament intact
- Light burns out quicker after burning too bright for too long
  - Hippocampus over-activates
Cognitive memory is like a light bulb

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- Light burns out quicker after burning too bright for too long
  - Hippocampus over-activates

- Light bulb doesn’t go on due to damaged power supply
  - Hippocampus deactivates
Model developed by Allan Schore

- Dysregulated affect has two extremes – **hyper**activation (light bulb burns too bright) and **hypo**activation (light bulb doesn’t burn bright enough)
- Dysregulated affect damages right orbitofrontal lobe
- Empathy restores orbitofrontal function
What’s Missing?

- Schore’s model does not fully distinguish fight from flight
- Does not explain depression
- Does not consider problems of aging
ART latest model

- Two axes
  - $y$: Level of activation
  - $x$: Level of risk tolerance
- Four affect quadrants
  - **The A’s: Activation**
    - (hippocampus burns out prematurely)
      - Anger
        - (Active Risk Tolerance)
      - Anxiety
        - (Active Risk Intolerance)
  - **The D’s: Deactivation**
    - (hippocampus prevented from lighting)
      - Dissociation
        - (Passive Risk Tolerance)
      - Depression
        - (Passive Risk Intolerance)
“How do I react when I sense danger?”

**Anxiety**

“Retreating” Active Risk-Intolerance
Low ACTH: overactive immune system
Autoimmune disorders

**Activation**

Sympathetic Nervous System
Expend Energy: Danger can be managed
Dementia: Light bulb burns out prematurely

**Anger**

“Offensive” Active Risk-Tolerance
High ACTH: underactive immune system
Immunodeficiency disorders

**Risk Intolerant**

Low Alpha-MSH
“Overly Safe”

**Risk Tolerant**

High Alpha-MSH
“Overly Confident”

**Depression**

“Defenseless” Passive Risk-Intolerance
Low Beta-endorphin: Chronic Pain

**Deactivation**

Parasympathetic Nervous System
Conserve Energy: Life-threatening Danger
Dementia: Insufficient current to light bulb

**Dissociation**

“Shielded” Passive Risk-Tolerance
High Beta-Endorphin: Emotionally Numb

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(Revised April 22, 2014)
Mirror Neurons: neurons in the brain that are activated by doing or by observing
Empathy

- Therapist as Tuning Fork
- Naming and mindful awareness of the affect states and the associated autonomic responses help patient learn better automatic control over feeling states
Therapist must be able to...

- Feel safe
- Empathize with patient
- Bear intensity of patient’s dysregulated affect
- Improve autonomic responses to traumatic memory
Important for therapeutic success

• Therapist brings the patient into an emotionally safe “now”

• Patient retains the traumatic memory
  – Amygdala’s autonomic threshold improves
    • Patient feels safe
    • Instead of threatened
Narrow Comfort Zone

(Catastrophic affect most of the time)
Expanding Comfort Zone Increases Tolerance Threshold

- Anxiety
- Anger
- Depression
- Dissociation
Expanding Comfort Zone Increases Tolerance Threshold
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Expanding Comfort Zone Increases Tolerance Threshold

(Feeling relatively safe in a somewhat unsafe world)
What will make patient feel better?

• Depends upon current preference
  – Novelty or Familiarity
  – Stimulation or Relaxation
“What will make me happy?”

**Anticipation of Familiar/Comfort**
- Energy used to Get Back Home
  - "Going Home" Active Familiarity-Seeking
    - Low ACTH: Use energy to go home

**Activation**
- Sympathetic Nervous System
  - "Pioneer" (Star Trek) Active Novelty-Seeking
    - High ACTH: Use energy to explore

**Exhilaration in Novelty**
- Energy used to Go Ahead
  - "Take me for a ride" Passive Novelty-Seeking
    - High Beta-Endorphin: Comfortable being taken somewhere

**Risk Intolerant**
- Familiarity-Seeking
  - Low Alpha-MSH
    - "Comfortable-Familiar is best”
    - Conservative

**Risk Tolerant**
- Novelty-Seeking
  - High Alpha-MSH
    - "Ecstasy in new”
    - Progressive

**Apathy**
- Brake to stay where am (inhibition)
  - "Stay where I am” Passive Familiar-Seeking
    - Low Beta-endorphin: Comfortable in stasis

**Compassion**
- Balanced Affect
  - Familiar
  - Novel

**Empathy**
- "Take me for a ride” Passive Novelty-Seeking
  - High Beta-Endorphin: Comfortable being taken somewhere

**Parasympathetic Nervous System**
- Coast/merge with universe (disinhibition)

**Bliss**
- "Take me for a ride” Passive Novelty-Seeking
  - High Beta-Endorphin: Comfortable being taken somewhere

**y axis = Level of Activation**
**x axis = Level of Familiarity/Novelty**
“Still... then Stimulate”

- **Stilling**: Calm and soothe
  - Techniques
    - Meditation, mindfulness, compassion, empathy

- **Stimulating**: Activate positive exploration
  - Techniques
    - Positive Life Review
    - Pleasure at mastery

- Potential to grow new neurons in the hippocampus
  - Increased BDNF production
All you need is LOVE

Look empathically: contain Anger, Anxiety, Depression and Dissociation
Increase tolerance for negative memories (Auxiliary Amygdala)

Organize emotional and cognitive memory through repetition
(Auxiliary Hippocampus)

Validate feelings to re-integrate affective and cognitive memory, enhance reasoning, increase frequency of positive affect states
(Auxiliary Right Orbitofrontal Cortex)

Evaluate effectiveness of intervention
(using your own Affect Regulation skills)

Repeat (modify if necessary) to reduce catastrophic affect, increase positive affects and consolidate memory

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Theorists/Researchers Influencing this model

- John Bowlby: Secure Attachment
- Golier. et. al. Holocaust survivor study (intact hippocampus but higher dementia rate)
- Donald Hebb: “The brain that fires together wires together”
- Joseph LeDoux: Amygdala and emotional memory
- Stephen Porges: Polyvagal theory
- Kurt Sandman: POMC responses to perceived danger
- Allan Schore: Affect Regulation as a right orbitofrontal function
- Many more
- Book and research publication in progress – look for them in a couple of years
Thank You

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