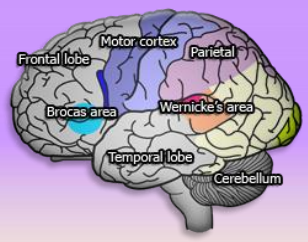
The Neuropsychology of Emotional Disorders: A Framework for Effective Interventions



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Presentation Goals

1. Discuss the relationship between emotional disorders and poor self regulation skills, bullying behavior, and limited academic success in school.
2. Discuss the neural architecture of emotional functioning by examining six key brain regions responsible for behavioral **self-regulation** and **empathetic** behavior.
3. Explore the role of **trauma** and **stress**, and its relative impact on learning and social-emotional behavior.
4. Discuss five fundamental principles in becoming a *trauma informed school.*
5. Present a **treatment algorithm** utilizing counseling, cognitive-behavioral therapy, behavior management, parent training, medication, and mindfulness to promote emotional wellness in children.

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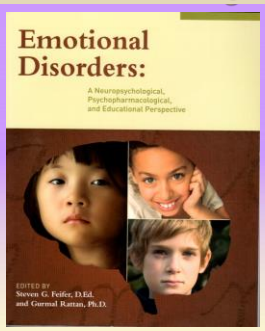
Further Reading



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CASE EXAMPLES

(1) Billy is a 12 year old student with an *attention-deficit disorder*. He needs accommodations due to difficulties with poor planning and organizational skills. He struggles with most writing assignments, frequently interrupts the teacher, and often disrupts the learning environment. Billy is a good athlete and popular with peers.

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CASE EXAMPLES

(2) Sam is a 9 year-old student with *Autism Spectrum Disorder*. His academic skills are fairly strong, though he struggles comprehending more abstract text. Sam has few friends, seems socially awkward and immature, and has difficulty reading social cues from others. He is also very anxious in his manner, and behaviorally immature.

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CASE EXAMPLES

(3) Joe is a 16 year-old junior in High School with an IQ of 135. He is performing poorly in most academic classes, puts forth minimal effort, and rarely turns in assignments. He keeps to himself, is socially isolated, and participates in no school activities. Joe tends to bring books from home to school, and reads them under his desk.

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CASE EXAMPLES

(4) Martin is an 13 year-old student in 6th grade. He has extreme difficulty managing his emotional impulses and has been suspended numerous times for fighting and using inappropriate language. His grades are extremely poor despite numerous interventions. He has destroyed school property, and often bullies others in the building.

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Prevalence of Emotional Disabilities

- NIMH (2010) survey of more than 10,000 teens aged 13-18 yrs old are affected by a mental disorder in their lifetime.
- Approximately 8 percent of teens meet the criteria for a serious emotional disturbance.
- Girls were more likely to have mood and anxiety disorders.
- Boys were more likely to have behavioral disorders, ADHD, and substance abuse.
- Mental health disorders tend to persist throughout one's lifetime.

Source: http://nimh.nih.gov//news/science-news/2010/national-survey-confirms-that-youth-are-disproportionately -affected-by-mental-disorders.shtml

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School Mental Health Services

- NASP recommends 1 psychologist for every 500-700 students. Reality is 1 for every 1,381.
- American School Counselor Association recommends 1 counselor for every 250 students. Reality is 1 for every 482 students.
- The Every Student Succeeds Act (ESSA) authorizes various funding streams for schools to improve access to coordinated and comprehensive school mental health services.

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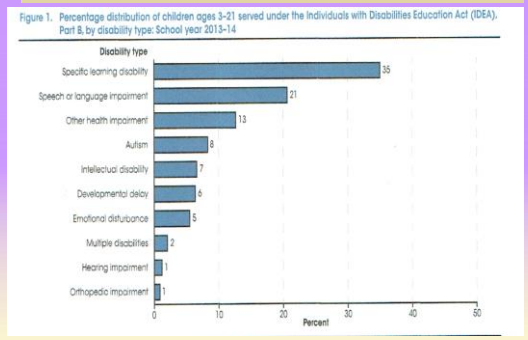
Children with Disabilities



*** 13% of all students or nearly 7 million students receive SPED**

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The ED Paradox for Schools

- The rate of diagnosing pediatric bipolar disorder in outpatient clinical settings has doubled in the past five years (Leibenluft & Rich, 2008), though ED in schools remains proportionally the same the last 30 years.

3 Explanations for the ED Paradox:

1) *Other-Health Impaired* coding used as an umbrella term to capture any child on medication.

2) Federal definition of ED rather vague with few parameters given (*i.e. inappropriate feelings under normal circumstances??"*)

3) School IEP teams comprised mainly of non-mental health professionals determining mental health code.

*** What about using the DSM5 codes?**

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DSM 5 Changes for Children

1) **Disruptive Mood Dysregulation Disorder** refers to chronic irritability and temper outbursts. No longer force Bi-Polar label on children.
2) **Autism Spectrum Disorder** consolidated into one diagnostic category and with the elimination of PDD, this diagnosis may be lowered by as much as 50%.
3) **Generalized Anxiety Disorder** and everyday worries has a fuzzy boundary.
4) **Major Depressive Disorder** and normal grief has a fuzzy boundary. **Persistent Depressive Disorder** replaced dysthymia.
5) **Behavioral addictions** category has been maximized to many activities (i.e. internet surfing) that people just like to do a lot.
6) **ADHD** symptoms no longer required to be present prior to age 7, but rather several inattentive or impulsive symptoms prior to age 12.
7) **Social/Pragmatic Communication Disorder-** persistent difficulties in use of verbal and nonverbal social communication.

Source: Gordon, 2013.

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3 Rules for Eligibility Decisions

1. **The mental health expert determines if there is an emotional condition. Always recognize outside reports to assist with this diagnosis.**
2. **The IEP team determines if that condition significantly impacts educational performance.**
3. **The IEP team determines if the magnitude of the impact is significant enough to warrant specialized instruction.**

- **Special education better equipped to handle SKILLS based deficits, and not necessarily PERFORMANCE based deficits?**

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The Coding Conundrum

- Diagnostic codes are very important in both communicating the nature of a disorder, as well as providing a basis for effective treatment and a standard for research.
- Diagnostic codes are crucial for insurance purposes and the *"business"* of psychology.
- The DSM 5 contains over 300 psychiatric maladies based upon observable behavioral characteristics and not necessarily on brain functioning. It is a virtual tomb for all that can go wrong with the frontal lobes, though should be commended for going to a more dimensional model.
- IDEA has minimalized emotional and behavioral functioning into one universal code….emotional disorder…thus emphasizes one universal treatment?

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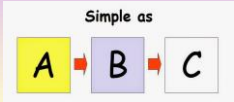
Behaviorism: The good, the bad, and the ugly.

- Meta-analysis demonstrated behavior modification one of the most effective intervention strategies for managing classroom behavior (Lloyd, Forness, & Kavale, 1998).
- Dismisses observable behavior as being reflective of brain functioning. No need for introspection, or analysis of feelings, thoughts and moods.
- Behavioral goals induce specific task performance, as opposed to the internalization of self- regulatory behaviors (Cicerone, 2002).



- Does changing behavior change emotions?

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Emotional Disorders and Bullying

Bullying is defined by acts of intentional harm over time to exert **power** and **control** over another (Pepler & Craig, 2000).

- Children with disabilities in regular classroom settings are most vulnerable to being bullied (Mishna, 2003). In fact, kids who are obese, gay, or have disabilities are up to 63% more likely to be bullied than other children
- Children who engage in bullying behavior tend to be impulsive, dominant in relationships, and view violence as a positive means for resolving conflict (Carran & Kellner, 2008)
- ***In summary:*** ***Children with emotional disturbances are most likely to be involved in bullying/victim relationship*** (Carran & Kellner, 2008)

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Bullying Statistics: 12-18 yrs old

National Center for Educational Statistics: Indicators of Crime and Safety (2010)

Type of Bullying	Number of Students	Percent
Bullied	8,166,000	31.7%
Made fun of , insults	5,390,000	21.0%
Subject of rumors	4,636,000	18.1%
Pushed, shoved, spit	2,819,000	11.0%
Destruction of property	1,076,000	4.2%
Cyber-bullied	940,000	3.7%

ADDITIONAL FREQUENCY DATA:

Males ……30.3%
Females……..33.2%
Grade 6 ……42.7%
Grade 12……..23.0%
Whites……..34.1%
Income……..$7500 - $14,999

* Boys tend to be more aggressive, girls use more social isolation

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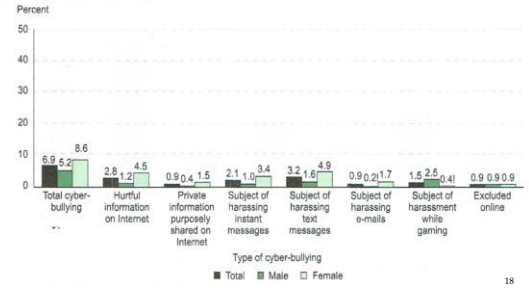
Cyber Bullying

Figure 11.3. Percentage of students ages 12–18 who reported being cyber-bullied anywhere during the school year, by type of cyber-bullying and sex: 2013



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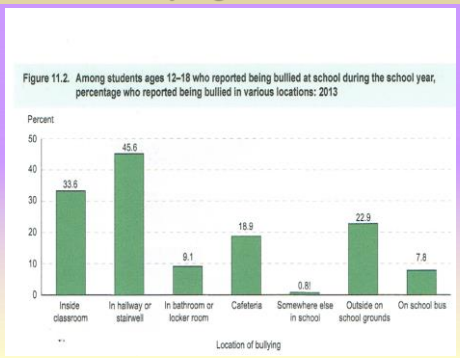
Bullying Locations



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Bullying Questions

1. To what extent is bullying an issue at your school?
2. Does your school offer bullying prevention programs?
3. What is the role of the school psychologist and other pertinent staff in addressing bullying in our schools?

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The Neurobiological Architecture of Human Emotion

Neuropsychology is the study of brain-behavioral relationships with respect to learning and behavior. It presumes that a child's ability to adapt to the social demands of their environment *begins* with the functional organization of the brain.

- Observable behavior is a striving for homeostasis and balance occuring in the brain.
- Therefore, treatment for behavioral and emotional disorders should focus upon both *intrinsic* and *extrinsic* factors.

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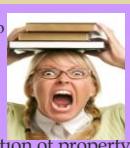
ED and Self Regulation



- Children with emotional disturbances tend to be unsuccessful in school due in part to a lack self regulation skills in one or more of the following domains:
  a) **Behavioral Self-Regulation** – poor inhibition of impulses and destruction of property *(Conduct Disorder?)*.
  b) **Emotional Self-Regulation** - and inability to self-regulate moods and reactions to social situations *(Mood Dysregulation Disorder?)*.
  c) **Attention Self-Regulation** – an inability to modulate and sustain attention *(ADHD?)*.
- A **neuropsychological approach** does not try to put semantic labels on observable behavior, but instead tries to identify core brain regions responsible for the dysfunction.

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The Cerebral Orchestra of Emotions: Subcortical Regions

(1) Amygdala - responds to **unexpected** and **unfamiliar** events (Kagan, 2007). Ascribes emotional valence to stimuli. Primarily responsible for fear conditioning by providing a rapid, *precognitive* assessment of the situation.

- A hyperactive amygdala source of most anxiety problems.
- Kids with anxiety issues need structure in their day to reduce chances for unexpected and unfamiliar events.
- **Serotonin** can help calm down amygdala, like a warm blanket over brain. It acts on 18 receptors throughoutthe brain, a key transmitter that converts short-term to long-term memory (Kandel, 2006).

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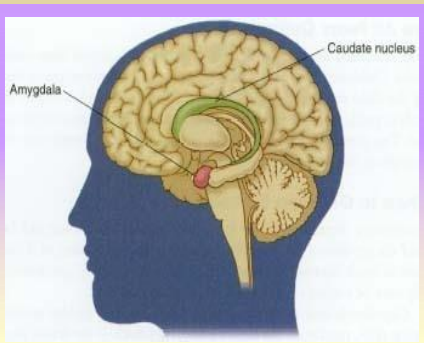
The Cerebral Orchestra of Emotions: Subcortical Regions



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The Cerebral Orchestra of Emotions: Subcortical Regions

(2) Hippocampus - located in medial temporal lobe and responsible for facilitating memory functioning. This structure also involved with emotional learning.

- **Emotional learning** (classical conditioning) can take place outside of conscious control with paired association between amygdala and hippocampus …….a phobia!!
- Chronic stress from abuse or neglect releases cortisol which reduces hippocampal volume (8%)and leads to memory loss and clouded thinking…..and **PTSD.**
- Brain derived neurotropic factor **(BDNF)-** chemical that leads to neurogenesis (new neurons) in hippocampus.

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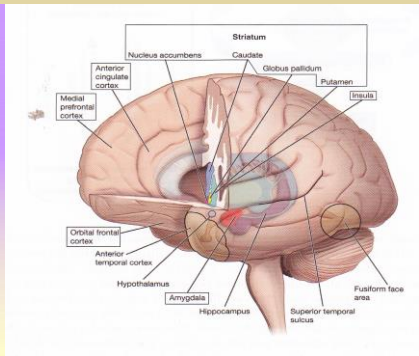
THE CEREBRAL ORCHESTRA OF EMOTIONS: SUBCORTICAL REGIONS



The Neurobiology of PTSD

- **PTSD** is characterized by: 1) Flashbacks of traumatic event(s)
  2) Avoidance behaviors
  3) Recurring memories of trauma

- Neural signature includes: (Johnston & Olson, 2015)
  a) **Overactive Amygdala** – leads to heightened emotionality
  b) **Underactive Hippocampus** – unable to inhibit amygdala, and also unable to form and consolidate new explicit memories to substitute for implicit fear based memories.
  c) **Overactive ventromedial prefrontal cortex** - becomes stuck on "fear based memories" and unable to extinguish them.

- SSRI's (Paxil) can increase neurogenesis and lead to growth in the hippocampus (Bremner et al., 2003). Reduced BDNF and hippocampal volume implicated in PTSD and depression. A hypervigilant hippocampus implicated in cognitive disorders and schizophrenia.[27]

TREATING PTSD?

Unified Protocol **- developed by Dr. David Barlow at the Center for Anxiety and Related Disorders in Boston.**

An eclectic approach combining:

a) Mindfulness

b) Cognitive Behavioral Therapy

c) Traditional Behavioral and Exposure Therapy

- **Can be applied to a range of other anxiety disorders including panic attacks, OCD, social anxiety, etc..)**

The Cerebral Orchestra of Emotions: Subcortical Regions

(3) Nucleus Accumbens - located in forebrain and part of basal ganglia.

- Reward center of brain which is activated more in the anticipation of a reward.
- Most recreational drugs including cocaine and amphetamines increase dopamine in this area.
- Involved in task motivation and rewards.
- Under-activity of reward center of our brain associated with anhedonia and depression.

Side note: * Most patients report the absence of joy is more painful than the presence of sadness (Davidson & Begley, 2012).

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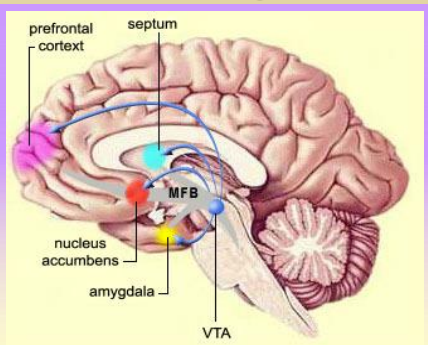
The Cerebral Orchestra of Emotions: Subcortical Regions



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The Cerebral Orchestra of Emotions: Cortical Regions

(1) Orbitofrontal cortex - region of the brain responsible for ascribing an emotional valence or value judgment to another's feelings. Often triggers an automatic social skills response (Rolls, 2004).

- Has rich interconnections with the limbic system by way of the *uncinate fasciculus*. Dorsolateral prefrontal cortex does not.
- Responsible for ***emotional executive functioning***. This entails reading emotional cues from others as well as ourselves.
- Self-regulation of behavior….. highest levels of emotional decision making and social rewards dictated by this brain region.

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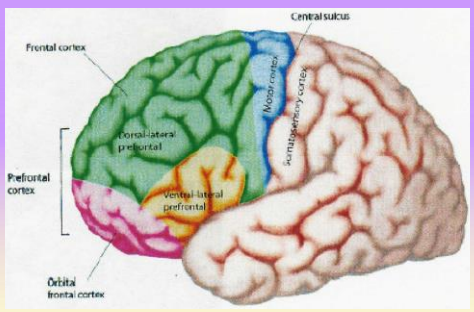
Frontal Lobe Circuitry



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The Cerebral Orchestra of Emotions: Cortical Regions

(2) Ventrolateral prefrontal cortex – responsible for three facets of social behavior: 1) emotional valuation of stimuli,
* 2) **response inhibition**
3) generalize behavioral rules to different contexts *(Nelson & Guyer, 2011: Developmental Cognitive Neuroscience)*

- Allows us to learn from past emotional experiences and develop greater cognitive flexibility when managing emotions (Immordino-Yang, 2016).
- Also involved with ***emotional executive functioning.***

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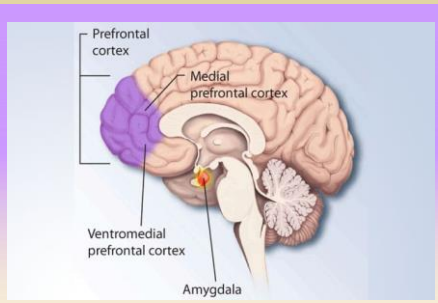
Frontal Lobe Circuitry



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The Cerebral Orchestra of Emotions: Cortical Regions

(3) Anterior Cingulate Cortex – multiple responsibilities involving attention, cognition, and emotion.

a) **Attention:** Selective attention allows us to **shift our focus** from the outside world of objects and events toward the inside world of thoughts and ideas (***self awareness***).

b) **Cognition:** Linked to **decision making** in ambiguous situations, guided primarily by our internal states **(interoception)** motivations, and needs (Goldberg et al., 2013).

c) **Emotion:** Activated during negative feedback and recognition of a social error, such as guilt or embarrassment

*Damage leads to lack of social awareness, poor self control, and lack of **empathy** or emotionally egocentric (Allman et al., 2011).

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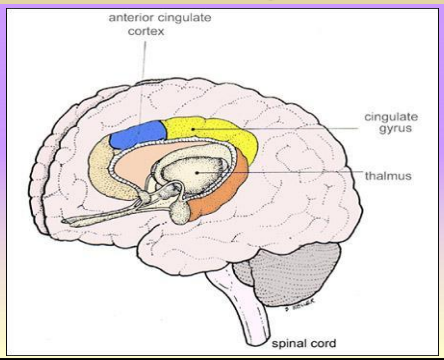
The Cerebral Orchestra of Emotions: Cortical Regions



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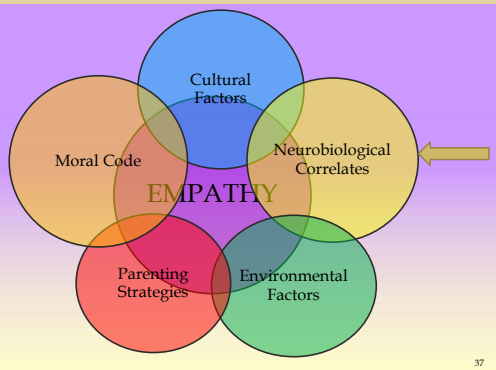
Multiple Variables of Empathy



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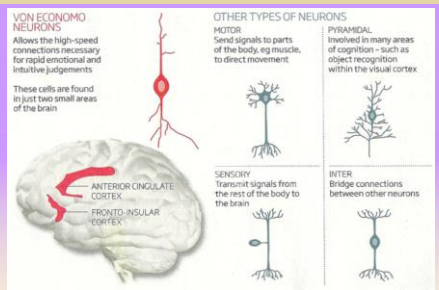
Empathy: Von Economo Neurons



Von Economo Neurons (Spindle Cells –layer V) - involved with highly complex social behaviors found in great apes, whales, dolphins……and humans (Allman et al., 2011).

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Von Economo Cells and Empathy

- **Von Economo Neurons (Spindle Cells)** : Forges long distance neural connections to allow multiple brain regions to contribute to "higher level" adaptive emotional responses (Dehaene et al., 2003).
- Clustered in right hemisphere near anterior cingulate cortex and insular cortex. Each region important in **self awareness** and reading our own emotions, as well as **mental state attributions** of others (Allman et al., 2011; Keenan et al., 2003).
- Frontal lobe dysfunction *(i.e. schizophrenia, TBI, dementia,)* almost always leads to *social-emotional agnosia* (the loss of insight into self and others).
- Empathy involves emotional insight and awareness?

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Von Economo Neurons and Autism

- Autistic students had a significantly higher ratio of VENs to pyramidal neurons than control subjects indicating neuronal overgrowth in young patients with autism (Santos et al., 2011).
- Meta-analysis of 24 imaging studies of autism revealed VENS in the right insular cortex had reduced cortical activity (Brune et al., 2010).

- In summary, autism may reflect both structural and functional neural connectivity patterns of VENS in **right hemisphere** leading to misreading of social cues *("social dyslexia")*, but these kids **DO** have empathy.

Discussion Questions

1. Can we teach children to be more empathetic, and if so……how?

2. Do you feel it is the school's responsibility to teach social-emotional skills and the development of empathy?

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Teaching Empathy to Kids

- **Modeling behavior**
- **Social Stories**
- **Play Therapy focusing on perspective taking.**
- **Learn to read facial recognition and nonverbal cues.**
- **Cooperative instead of competitive activities.**
- **Develop intrinsic reinforcers instead of extrinsic rewards and punishments.**
- **Practice solving moral dilemmas.**
- **Monitor gratuitous violence.**
- **Peer mediation**

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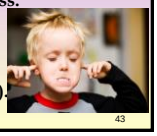
4 Factors Contributing to Emotional Regulation in Children

1. Temperament- refers to the concept of relatively stable, early appearing individual differences in behavioral tendencies.
2. Parenting - occurs along a spectrum, with detached parents and overly authoritarian parents negatively impacting children the most.
3. Attachment – the ability to establish early bonds with our primary care giver gives us the greatest chance to help self-regulate our behavior and manage stress.
4. Stress/Trauma– impacts cognition, learning, and overall emotional development and resiliency (Poverty is main source of stress).



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1. Temperament and Self-Regulation

1. Introversion/Extraversion: our approach to the world.
   *Extraversion more difficult to self-regulate
2. Activity/Reactivity: the emotional intensity of our personality and need for stimulation.
   * The higher the reactivity the harder to self-regulate.
3. Positive vs. Negative Mood – our daily disposition.
   * Negative moods are less stable and harder to regulate
4. Persistence and Effortful Control – dedication toward the pursuit of our goals.
   * Poor persistence likely to frustrate and lose temper

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2. Parenting Styles and Emotional Dysregulation

1. Neglectful: Parents who do not meet the basic psychological needs of their children due primarily to indifference. Little decision making is adhered to.
2. Democratic: Parents who defer decision making to a consensus and do not exercise competent leadership skills.
3. Authoritative: Parents who acknowledge the feelings and wishes and desires of their children, but ultimately make independent decisions based on the welfare of the family unit.
4. Authoritarian: Parents who are highly controlling and do not acknowledge or care about the feelings and basic needs of their children. All decision making is final and absolute, with no tolerance for insubordination.

- Most kids with emotional dysregulation are parented by 1 or 4.

3. Attachment and Emotional Dysregulation

* Nicolae Ceausescu took control over the communist party in Romania 1966-1989.

* Women must bear a minimum of 5 children, and bearing 10 children earned the dubious honor of *"heroine mothers"*

* Banned all abortions for women under 45, and issued government crackdown on divorce.

* Romania eventually had one of the highest infant mortality rates in the world.

3. Bucharest Early Intervention Project

*Previous research exploring the relationship between neglected children suffered from selection bias.

* BEIP studied 126 children placed in six different institutions. Half placed in quality care and half in remained in institutions.

* Main finding was that the earlier a child was placed in foster care (<2), the better the recovery.

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3. Attachment and Emotional Dysregulation

- Children who have experienced early institutionalization tend to display the following behaviors (Zeanah & Smyke, 2007).

*** Decreased play behaviors**
*** Increased aggression**
*** Social disinhibition**
*** Poor social boundaries**
*** Poor adaptive behavior**

(Bucharest Early Intervention Project, 2007)

- Selective attachments tend to form between 6-9 mos for typically developing children. This is often termed the *"sensitive period"*.
- Children from institutions adopted prior to this period are more likely to display secure attachments.
- Dopamine interacts with oxytocin (hormone) pathways to form the neural basis of attachment.

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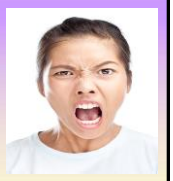
4. Stress Response System: The Trigger for Emotional Dysregulation

SOURCES OF STRESS:

1. Parent having problems.
2. Fight with a friend or a sibling.
3. Taking a test.
4. Uncomfortable body image.
5. Not having enough privacy.
6. Birth of a brother or sister.
7. Moving to a new school.
8. Re/marriage of a parent.

*9. Poverty

*10. Neighborhood peer pressure.



(Source: Mind/Body Medical Institute, 2015)

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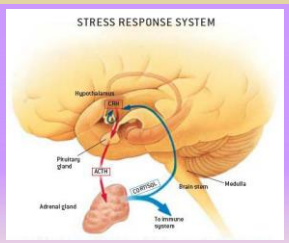
Stress Response System

Cortisol – a glucocorticoid (glucose-cortex-steroid) that regulates the metabolism of glucose in the brain. A homeostasis of cortisol is needed for optimal brain functioning. Too much *(Cushing's Syndrome)*…too little *(Addison's Disease)*.



- Stress impacts body by lowering **immune system**, and also by reducing sleep.
- Stress alters amygdala to PFC connections leading to impairments in **executive functioning** (Berens et al., 2017).
- Anxiety impacts cognition and learning by way of **working memory** (Dowker et al., 2015).

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4. Reducing Stress

* **Diet** and **exercise**
* Better **sleep** habits
* Improved social relationships
* **Mindfulness** and breathing exercises.
* **Cognitive behavioral therapy** to learn more positive ways of thinking, adapting, and coping.
* **Hobbies**, sports, and other productive outlets.
* Avoid alcohol, drugs, and too much caffeine.
* Learn to manage time.
* **Volunteer** time to a charitable group.
* Avoid negative people.
* Simplify your life.
* Learn not to worry about things you cannot control.
* **Don't sweat the small stuff!**

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4. Prevalence of Trauma

* **26**% of children will have experienced or witnessed a traumatic event by their **4th** birthday (Briggs-Cowan et al., 2010).

* A traumatic event is defined by APA as a direct or **perceived** threat rendering a child feeling overwhelmed and fearful of their safety.

* Traumatic stress reactions in children often lead to difficulty self-regulating emotions, heightened aggression, lack of trust, and poor school performance (Diamanduros et al., 2018).

Washington DC: *" March for our lives"* March 24th, 2018

* Does the brain change as a result of trauma?
* What factors allow children to be more resilient to stress than others?

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4. Prevalence of Truama

- **Trauma:**
- Childhood maltreatment
- Violence exposure
- Caregiver psychopathology
- Depriving care environments
- Adverse societal exposures (i.e. crime, gangs, poverty etc..)
- Community violence

- 44% of children in developed countries exposed to trauma.
- 59% of children in developing countries have been victims of physical, emotional, or sexual violence or had witnessed domestic or community violence in the past year (Hillis et al., 2016)

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Modifiers of Trauma on the Brain
(Berens et al., 2017)

- Pre-existing health conditions
- Family structure, stability and supports
- Supportive caregivers
- Timing of stress (early critical periods are worst)
- Pre-existing health conditions
- Social support system
- Type of traumatic event *(i.e. sexual, emotional, physical, etc.)*
- Cumulative occurrences
- Access to mental health services
- Mental health conditions prior to trauma

Developing Resiliency?

* **Epigenetics** is the study of gene expression in the wake of environmental circumstances.

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Impact of Trauma on the Brain
(Berens et al., 2017)

Brain Alterations	Functional Implication
* Global gray matter changes * Decreased volume in PFC and hippocampus.	* Impairments in executive functions, working memory, and cognitive control.
*Aberrant amygdala activity *Alterations in amygdala-PFC connectivity.	*Emotional dysregulation *Poor stress regulation
*Systemic immune suppression *Impaired glucose regulation	* Increased risk of disease & sickness * Heightened risk for diabetes
*Elevated cortisol levels leading to hyper and hypo-stress system responses.	*Dysregulation of sympathetic and parasympathetic pathways.

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504 Accommodations for Trauma

- Extended time on tests and quizzes.
- Structure and routine (schedules and emotive responses)
- Preferential seating in class (by door if needed).
- Access to lecture notes when needed.
- Agenda/organization notebooks.
- Frequent breaks when needed.
- Use of a crisis pass.
- Alternative ways to demonstrate mastery (i.e. projects instead of tests)
- Allow for test re-takes to demonstrate subject mastery.
- Use of technology for note-taking and written assignments.
- Scheduling more challenging subjects in morning.
- Partial school days.
- Awareness of trauma triggers.
- Access to "In-school" coach.
- Do not penalize for school absences.

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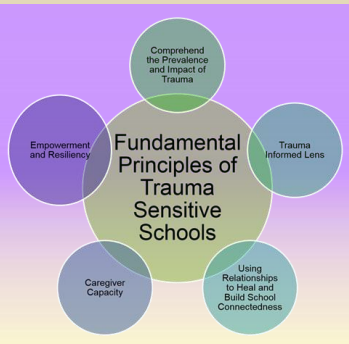
Trauma Informed Schools



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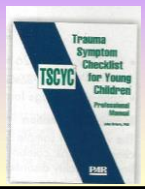
Trauma Screeners

(1) Measure Name	(2) Measure Type	(3) Audience	(4) ACEs	(5) Strengths	(6) Limitations	(7) Other Considerations
Childhood Trauma Questionnaire[9]	Self-reported survey	12 years +	-emotional abuse -physical abuse -sexual abuse -emotional neglect -physical neglect	Satisfactory validity and reliability when compared with other methods such as staff observations.	Multiple primary studies report differing results for the appropriate structuring/sequencing of the questions.	Time: 5 minutes Fee: None Qualifications: Master's degree or equivalent
Juvenile Victimization Questionnaire-second revision (JVQ-R2)[11]	Structured interview and child self-reported survey	8-17 years	-emotional abuse -physical abuse -sexual abuse -emotional neglect -physical neglect -mother treated violently -household substance abuse	Demonstrated reliability with community and child welfare samples in the U.S. and wider populations.	None reported.	Time: 20-30 minutes Fee: None Qualifications: Experienced test examiner, qualified professional for interpretation
Trauma Symptom Checklist for Children (TSCC-C; TSCC-A)[12]	Self-reported survey	8-16 years	-emotional abuse -physical abuse -sexual abuse -emotional neglect -physical neglect -mother treated violently	Several studies report that TSCC-C is a statistically reliable and valid tool that has been studied for large samples of racially and socio-economically diverse populations.	TSCC-C requires additional studies on reliability and validity in children under age 7. Studies evaluating TSCC-A may not be representative of the nationwide population due to their small and geographically limited sample population.	Time: 10 minutes Fee: $179 for introductory kit Qualifications: Undergraduate degree with clinical training or license/certification in use of psychological tests
Adolescent Dissociative Experiences Scale (A-DES)[13]	Self-reported survey	11-16 years	-emotional abuse -physical abuse -sexual abuse -emotional neglect -physical neglect	Strong reliability and validity as reported by several studies.	Mean scores of the results have varied greatly and no validated cut-off score has been established.	Time: Unknown Fee: Minimal Qualifications: Undergraduate degree, clinical training

Trauma Screeners

* Trauma Symptom Checklist for Children
  - -54 item self report checklist (15-20min)
  - -Ages 8-16
  - - Scoring software on iconnect
  - - Anxiety, Depression, Anger, PTSD, Dissociation, and Sexual Concerns
  - - Gender appropriate norms



*Trauma Symptom Checklist for Young Children

*3- 12 years old

*Caretakers rate 90 symptoms on a 4 point scale (20 min)

*Eight clinical scales

*Focus on child abuse, peer assault, community violence.

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School Wide Trauma Informed Practice

The Four R's

A trauma-informed program, organization, or system:

- **Realizes** — *Realizes* widespread impact of trauma and understands potential paths for recovery
- **Recognizes** — *Recognizes* signs and symptoms of trauma in clients, families, staff, and others involved with the system
- **Responds** — *Responds* by fully integrating knowledge about trauma into policies, procedures, and practices
- **Resists** — Seeks to actively *Resist* re-traumatization.

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School Wide Trauma Informed Practice

1. Promote **awareness** of the impact of trauma:
   a) In-service presentations
   b) Brochures and pamphlets (NASP & NCTSN)
   c) Parent workshops
2. Develop a school wide **trauma screenings.**
3. Promote **safety** through:
   a) Structure and routine
   b) Recognize trauma triggers
   c) Design "safe" zones
4. **De-escalation** – mindfulness, visualize, stay in present, CBIT, attachment
5. Academic **accommodations**

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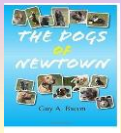
Canine Assisted Therapy



- Provide unconditional warmth and positive emotions.
- Animals do not try to give sage advice, but provide an emotional pathway to heal.
- Presence of a therapeutic animal promotes oxytocin secretion (bond), lower heart rate and blood pressure, and calmness (Beetz et al., 2012).
- Reduces social isolation and promotes sense of connectedness (O'Haire et al., 2015).

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Understanding Children's Traumatic Stress Responses

(adapted from NCTSN, 2012)

1. Traumatic experiences are inherently complex: Trauma-exposed children experience subjective reactions that include changes in feelings, thoughts, and physiological responses; and concerns for the safety of others. The nature of children's reactions are influenced by their prior experience and developmental level. *There is no signature emotional reaction that all children exhibit.*

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Understanding Children's Traumatic Stress Responses
(adapted from NCTSN, 2012)

2. Danger and safety are core concerns in the lives of traumatized children: Traumatic experiences can undermine children's sense of protection and safety. Exposure to trauma can make it more difficult for children to distinguish between safe and unsafe situations, and lead to significant changes in their own protective and risk-taking behavior. Children who continue to live in dangerous family and/or community circumstances may have greater difficulty recovering from a traumatic experience.

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Understanding Children's Traumatic Stress Responses
(adapted from NCTSN, 2012)

3. Traumatic experiences affect the family and broader caregiving systems: Traumatic experiences, losses, and ongoing danger can lead to serious disruptions in caregiver-child interactions and attachment relationships. Caregivers' own distress and concerns may impair their ability to support traumatized children. In turn, children's reduced sense of protection and security may interfere with their ability to respond positively to their parents' efforts to provide support.

65

Understanding Children's Traumatic Stress Responses
(adapted from NCTSN, 2012)

4. Culture is closely interwoven with traumatic experiences, response, and recovery: Culture can impact the meaning that a child or family attributes to specific types of traumatic events such as sexual abuse, physical abuse, and suicide. Culture can also influence the ways in which children respond to traumatic events including how they express distress, disclose personal information, exchange support, and mourn their losses.

66

Understanding Children's Traumatic Stress Responses
(adapted from NCTSN, 2012)

5. Developmental neurobiology underlies children's reactions to traumatic experiences: Traumatic experiences evoke strong biological responses that can persist and that can alter the normal course of neurobiological maturation. Exposure to multiple traumatic experiences carries a greater risk for significant neurobiological disturbances including impairments in memory, emotional regulation, and behavioral regulation.

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Discussion Questions

1. Do you feel your school is a trauma informed school?
2. What is the role of the school psychologist and/or counselor in developing trauma based procedures for schools?
3. What additional academic supports would you recommend for students experiencing trauma?

68

Emotional Dysregulation in Children

69

The Adolescent Brain: Gender and Age Matter

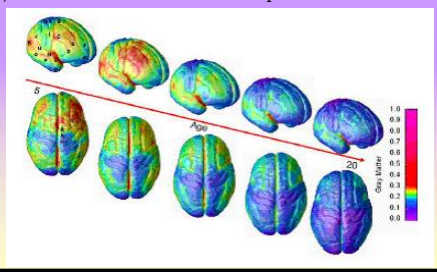
(Johnson, Blum, & Giedd, 2009)

3 Behavioral Changes: Do the frontal lobes mature quick enough?

(1) increased novelty seeking

(2) increased risk taking

(3)a social affiliation shift toward peer-based interactions



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MANAGING EXPLOSIVE BEHAVIORS

* What else can teachers and parents do to curb aggression?

Diffuse the Situation

- humor
- distraction

De-escalate the Situation

- provide a means to save face
- balance of power

Disengage the Emotion

-self calming strategies

- breathing and mindfulness

Re-engage a new Behavior

-teach a new adaptive behavior

-cognitive behavior therapy

Reflection and Learning

- empathy and insight
- tolerance and emotional flexibility

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Classroom Strategies for Emotional Dysregulation

a) **Preferential seating in class away from distractions.**
b) **Chunking work-load so students will not be overwhelmed by longer assignments.**
c) **Use of a sensory devices or other items to manipulate while working and induce self-calm.**
d) **Utilizing a behavioral incentive system emphasizing frequent rewards.**
e) **Use of a crisis pass when needed….designate where student will go.**
f) **Having a *"school coach"* or mentor check in with the student daily.**
g) **Giving a *"Two Minute Warning"* prior to transitioning from one activity to another.**

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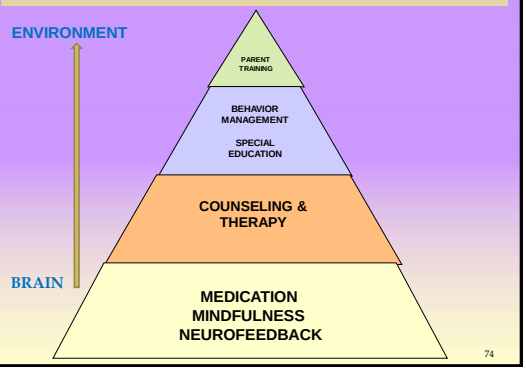
Classroom Strategies for Emotional Dysregulation

h) Using a Behavior Intervention Program (BIP) with home rewards.
i) Modifying or "chunking" longer assignments into more manageable steps.
j) Creating a "quiet zone" area in the class with headphones and sensory devices.
k) Using a nonverbal cueing system when distressed.
l) Minimize school support personnel giving consequences……this greatly reduces teacher's ability to exercise authority.
m) Reinforce with privileges, and not food or toys.
n) Avoid long-term reinforcements and keep in the moment.
o) Use mirrors to reinforce emotions.
p) DEVELOP EMPATHY IN CHILDREN!!!

73

INTERVENTIONS: Inside to Outside!



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Medications for Disruptive Mood Disorders

- **Lithium**, the first mood-stabilizing medication with FDA approval for treatment of mania, is very effective in manic and depressive episodes. Acne, hair loss, and weight gain common side effects.
- **Anticonvulsant medications**, such as Depakote or Tegretol can have mood-stabilizing effects and may be especially useful for difficult-to-treat **bipolar** episodes. Newer anticonvulsant medications, include Lamictal, Neurontin, and Topamax are being studied to determine how well they work in stabilizing **mood** cycles. Interacts with GABA to inhibit neural firing.
- **Atypical antipsychotics** include Abilify, Respirdal, Clozapine, and Seroquel. Functions to enhance **dopamine** solely in mesocortical regions, and not other dopamine areas.
- **Antidepressants** (SSRI's) include Zoloft and Prozac. Functions to enhance **serotonin**, though can increase mania.

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MINDFULNESS

Mindfulness – focus on breathing from the diaphragm, not the chest, and exhaling on longer slower breaths.

- Strive for 6 -8 breaths per minute.
- Practice breathing techniques when visualizing an anxiety provoking situation.
- Enhances parasympathetic nervous system.

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EEG Neurofeedback

* Neurofeedback is a learning paradigm that helps develop control over brain functions regulated autonomously.

* Can be used to treat arousal disturbances. In mania, the brain is hyper-aroused, particularly in the right hemisphere, whereas in depression the brain is under-aroused, particularly in the left hemisphere. In anxiety, back of the brain is over-aroused and in ADHD, frontal lobes often under-aroused.

* Television, alcohol, and marijuana all slow down the brain by increasing alpha waves….often in back of head.

* The thalamus is the generator of rhythmic electrical activity in the brain. Signals are sent via 4 primary frequencies in feedback loops from thalamus to cortex and back. These frequencies are measured in cycles per second (hertz):

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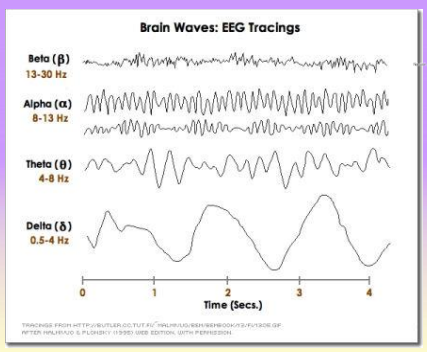
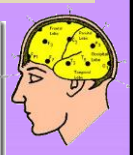
EEG Neurofeedback





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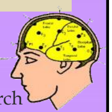
Neurofeedback Summary



* International Society for Neurofeedback & Research (ISNR) at www.isnr.org is an excellent source of information as well as the **Journal of Neurotherapy** for research in this field.

* Level 1 Support from American Academy of Pediatrics for ADHD.

* The field is very under-regulated and needs much more research support to prove its effectiveness from placebo in driving outcomes.

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Is Neurofeedback a Sham?


The Psychology of Neurofeedback: Clinical Intervention Even if Applied Placebo

Robert T. Thibault
McGill University and Chapman University

Amir Raz
McGill University; The Lady Davis Institute for Medical Research, Montreal, Quebec, Canada; and Chapman University

Does Neurofeedback Work?

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Cognitive Behavioral Therapy Techniques

Cognitive Rehearsal – the child recalls a problematic situation and discussion ensues regarding the best way to handle the situation.
Validity Testing – the child attempts to defend a faulty interpretation of a situation. The goal of therapy is to render these interpretations invalid.
Writing in Journal – maintain a journal rating the intensity of a situation as well as maladaptive thoughts that accompanied the situation. Eventually, the child should begin to accumulate a repertoire of positive thoughts to replace the maladaptive ones.
Modeling – role play and demonstrate specific relaxation techniques in various anxiety producing situations.
Practice - homework assignments by practicing, not avoiding, anxiety situations in order to more effectively utilize strategies.

side note: **Use CBT for mild impairment for 4 months. If 50% reduction in symptoms is not observed, SSRI meds recommended**

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Dialectic Behavioral Therapy (DBT):
Marsha Linehan

- An effective treatment initially crafted to treat Borderline Personality Disorders, suicidal ideation, and mood dysregulation disorders.
- DBT involves a combination of standard cognitive behavioral therapy techniques for self regulation, in combination with reality testing and mindful awareness (Buddhism derivative) to stay in the present.
- Individual therapy reviews diary cards each week.
- Group therapy involves four aspects:
  1. Mindfulness(stay in present)
  2. Interpersonal effectiveness
  3. Emotional regulation
  4. Distress tolerance

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Anxiety Disorders: Top Down vs. Bottom-Up

- The *amygdala* is the principal brain region activated during the initial flash of fear, which is primarily reflexive **(bottom-up).**
  * Examples: may include *panic disorder, trauma, & phobias.*
- The second fear functions to keep the first fear alive and occurs at a more cerebral, than reflexive level, through *automatic negative thoughts* (ANTS). Higher level brain regions such as the *orbitofrontal cortex* and *anterior cingulate cortex,* comprise the second fear circuit **(top-down)** (Goosens et al., 2007).
  * Examples: may include *OCD, Separation Anxiety, GAS.*
- Medication management of anxiety disorders should begin with SSRI's to address the first fear system . Cognitive behavior therapy can assist children in reducing automatic negative thoughts by addressing the second fear system (Mancini et al., 2005).

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Treatments for Anxiety Disorders

1) **SSRI's** may be the most effective treatment for *bottom-up* disorders which occur outside of conscious control (Reinblatt & Riddle, 2007). Shortage of serotonin is associated with: anxiety, panic attacks, phobias, PTSD, obsessions, compulsions, and eating disorders

2) **Exposure therapy** can also quiet an overactive amygdala in "*bottom-up*" types of anxiety disorders (Goossens et al. 2007)

3) Children with strong **interpersonal attachments** to caregivers can develop far greater resiliency to stress than children with insecure attachments (Adams et al., 2007).

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Treatments for Anxiety Disorders

4) **Cognitive behavior therapy** is equally as effective, or in some cases, can surpass medication (Pine, 2008). Most useful with "*top-down*" disorders, and allow 4 months for 50% reduction in symptoms (Khalid-Khan et al., 2007).

5) **Structured class settings** that minimize unpredictability best for kids with anxiety disorders.

6) **Neurofeedback** aimed at diminishing arousal (beta waves) while simultaneously increasing the amplitude of alpha waves holds much promise for many anxiety conditions.

7) **Mindfulness** practiced daily to stay "in present".

side note: "*Thought Stopping*" largely ineffective: use "*Thought substitutions*"

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Depression (Stahl, 2008)

* Depression is twice as likely in women, three times higher in families with positive history, and highest for unmarried males and married females.
* Not terribly common for younger children, though more common in adolescence (5%), thus implicating the role of the prefrontal cortex.
* 35-50% of depressed patients make a suicide attempt.
* 15% of severely depressed patients commit suicide (300,000 attempts per year with 30,000 suicides per year)
* Two out of three patients respond to medication.
* Prozac (SSRI) is only FDA approved antidepressant for children over age 8.

*4% of children on Prozac have suicide ideation, twice that of a placebo……..WHY??

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Preschool vs. Adolescent Depression

Depression exists along a continuum:

Adjustment Disorder

↓

Persistent Depressive Disorder (Dysthymia)

↓

Major Depression

Preschool Depression (Luby, 2009):

1) Anhedonia
2) Excessive guilt and compliance
3) Fatigue
4) Diminished cognitive abilities

* More a manifestation of **temperament**

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Preschool vs. Adolescent Depression

Adolescent Depression (Rao & Chen, 2009):

- Often triggered by environmental stressors such as loss of one's status in a social group, stressful home environment, or personal disappointment.
- 36% of chronically depressed persons experience significant abuse during childhood.

Parental Factors (Klein et al., 2009):

1) Maternal indifference
2) Paternal over-control
3) Parent abuse

Interpersonal Therapy (IPT) short term supportive therapy targeting interpersonal relations empirically valid for adults and adolescents.

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Therapeutic Treatments for Depression

1) **Cognitive behavioral therapy** aimed at replacing **ANT's** (automatic negative thoughts) with more adaptable cognitions.
2) **Play therapy** techniques teaching young children how to identify their feelings and better ascribe verbal labels to them, as well as monitoring feelings with homework assignments.
3) **Get connected!** Join clubs, organizations, sports teams, and volunteer to help those less fortunate.
4) **Psychopharmacological** approaches (SSRI's).
5) Increasing the number of interpersonal connections in a child's life **(IPT).**
6) **Dialectic Behavior Therapy –** learn to stay in present and not dwell in past.

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Keys to Interventions

- Do not rely upon a singular intervention to address complex behavioral and emotional pathology.
- Layer interventions from an inside to outside fashion addressing both intrinsic and extrinsic factors.
- Try to involve and empower parents….not blame them.
- Time out works for teachers as well!
- School wide incentives for behavior and character sets the culture, climate, and tone of the building. More importantly, it creates uniform expectations in all classes, not just one.
- Avoid "moral narcissism"…….it never works ☺

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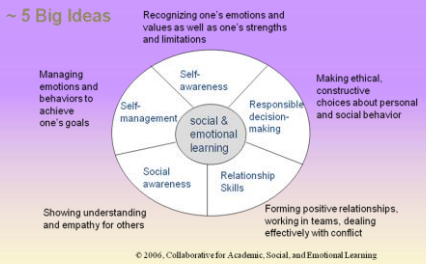
Social Emotional Academic Learning

What Does SEAL Address?

~ 5 Big Ideas



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Discussion Questions

1. Do you think social emotional academic learning should be included in our school curriculum?
2. If so, who is responsible for teaching this information?
3. Do you think schools should be the cornerstone for community based mental health services for children?

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Social-Emotional & Behavioral Assessments

TEST	AGE RANGE	AUTHORS
BASC-3 Teacher Rating Scale BASC-3 Parent Rating Scale BASC-3 Self-Report Scale BASC-3 Behavioral and Emotional Screen System	2-21 2-21 6-college 3-18	Randy Kamphouse & Cecil Reynolds
Conners Comprehensive Rating Scales	6-18	Keith Conners
Achenbach System of Empirically Based Assessment (ASEBA)	6-18	Thomas Achenbach & Leslie Rescorla
Devereux Behavior Rating Scale	5-18	Jack Naglieri, Paul LeBuffe, Steven Pfeiffer
Beck Youth Inventory II- (anxiety, depression, anger, disruptive behavior, self concept)	7-18	Judith & Aaron Beck
Children's Depression Inventory	7-17	Maria Kovacs
Revised Children's Manifest Anxiety Scale – 2 Multidimensional Anxiety Scale for Children-2	6-19 8-19	Cecil Reynolds & Bert Richmond John S. March
RCDS/RADS	Grades 3 & up	William Reynolds
Social Emotional Assets and Resilience Scale (SEARS)	5-18	Kenneth Merrell
***Millon Adolescent Clinical Inventory**	13-19	Theodore Millon
***MMPI-A**	14-18	Butcher et al.
***Personality Assessment Inventory**	11-18	Lesley Morey

Personality Assessment Inventory-Adolescents

- **PAI-A & PAI use the same scales and subscales**
- **Adolescent item set is a derivative of the adult, with fewer items**
- **Adult items re-written to be meaningful to adolescents**
- **264 items**
- **12-18 years**
- **22 non-overlapping scales**
- **Published in 2007**

Executive Functioning: BRIEF 2

- **Behavior Regulation Index (BRI)**
  - Evaluates a child's ability to modulate behavior via appropriate inhibitory control. It is comprised of the **Inhibit** and **Self Monitor** scales.
- **Emotional Regulation Index (ERI)**
  - Evaluates a child's ability to regulate emotional responses and adjust to changes in the environment. It is comprised of the **Shift** and **Emotional Control** scales.
- **Cognitive Regulation Index (CRI)**
  - Evaluates a child's ability to manage cognitive processes and problem solve effectively. It is comprised of the **Initiate, Working Memory, Planning, Task-Monitor,** and **Organization** scales.

The DESSA Comprehensive System

- **Universal screening with an 8-item, strength-based behavior rating scale, the *DESSA-mini* for universal screening and ongoing progress monitoring**
- **72-item *DESSA* to find specific areas of need**
- **Identify social-emotional *strengths* and needs of elementary and middle school children (for K-8th grade)**
  - **Completed by parents, teachers,**
  - **Takes 15 minutes to complete**

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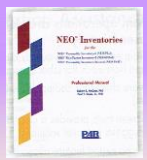
NEO Personality Inventory-3

- **Based on 5 Factor Model of personality**
  1. Neuroticism
  2. Extraversion
  3. Openness
  4. Agreeableness
  5. Conscientiousness
- 30-40 min
- Ages 12 and up
- Job Profiler analysis
- Goal setting and intervention planning.



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Behavioral Checklist Cautions

1. **Behavioral checklists represent a compilation of opinion.**
2. **Behavioral checklists are influenced by the context with which the rater perceives as normal**
   (special education vs. general education vs. parent)
3. **Raters may have a self-fulfilling bias to respond to items based upon a preconceived notion of outcome.**
4. **Behavioral checklists do not have vocal cords and thus cannot diagnose disorders by themselves.**

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Keys to Assessment

1. Balance rating scales with direct observations.
2. Do not rely on just one data source *(i.e. projectives)*.
3. Developmental history may be the most essential component of the report.
4. Consider all current stressors *(i.e. grades, friendships, poverty, teacher, physical, environment, etc..)*
5. Use DSM5 criteria to establish a condition, IDEA to establish eligibility for special education.

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Social-Emotional & Behavioral Assessments

ADDITIONAL MEASURES/PRODUCTS
Emotional Disturbance Decision Tree: *Ages 5-18 * 4 scales based upon IDEA definition of an emotional disturbance * Assesses social maladjustment as a separate trait. * Teacher & Parent Scales
State-Trait Anger Expression Inventory 2: Child/Adolescent * Ages 9-18 * 35 item self-report checklist
Clinical Assessment of Depression: * Ages 8 and up * 50 item self-report inventory
Parenting Stress Index: 4th Edition * Ages 1-12 * 120 item inventory focusing on child characteristics, parent characteristics, and situational life stressors.
Piers-Harris Children's Self Concept Scale: * Ages 7-18 * Attributes include general satisfaction, intellectual esteem, physical appearance, and popularity with peers.

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Concluding Thoughts

1) Emotional dysfunction is not necessarily rooted in immorality but rather in neurobiology. Nevertheless, we are all to be held accountable by the choices we make.

2) Do not become tempted to explain complex behavior by simple correlations *(i.e. poor parenting)*. This will lead to monolithic interventions…..which rarely are effective.

3) Not all behavior has a rational function:
   Antecedent ➡ Behavior ➡ Consequence.
   * Instead, emotional dysregulation is a complicated byproduct of temperament, parenting, environmental factors, and stress impacting the brain's ability to cope and adapt.

4) Medication in combination with cognitive behavioral therapy and environmental supports keys to success. Neurofeedback may be the ***wave*** of the future, but ***breathing*** keeps us in the present.

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Let's Stay Connected!

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Tests: **FAR 2015 FAM 2016 FAW 2020**

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