The Impact of Restorative Practices on Brain Development and Behavior

Presented by
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Research presented at the conference of the Association for Psychological Science in 2010 found that today's college students (n=14,000) are far less empathic than their counterparts 30 years ago with the sharpest drop in empathy occurring in the last nine years.

Konrath, S., . O'Brien, E., Hsing, C., Changes in dispositional empathy in American college students over time: A meta-analysis. Pers Soc Psychol Rev. 2011 May;15(2): 180-98. Epub 2010 Aug 5

What is the Problem?

A lack of **Connectedness…**

- close connections to other people
- deep connections to moral and spiritual meaning

…is a pervasive problem for today's youth.

Hardwired to Connect - http://www.americanvalues.org/html/hardwired.html
The New Scientific Case for Authoritative Communities

The absence of connectedness produces the same symptoms in children as those children who have been deprived of their mothers.

- Superficial relationships,
- Poverty of feeling for others
- Inaccessibility
- Relationship resistant
- Lack of emotional response
- Often pointless deceitfulness and theft
- Inability to concentrate in school

"Research shows that relational experiences promote the development of self-regulation in the brain. These self-regulatory prefrontal regions, especially the middle prefrontal areas, are dependent for their development upon proper experiences with caregivers."

The Mindful Brain by Daniel Siegal p. 191

Still Faced Study

	Attuned Reciprocal	Still Faced
Attention System		
Self-Regulatory System		
Affect System		
Social System		

Experience encodes, wires, programs and changes the structure of the brain.

Experience literally reshapes the brain. (Plasticity)

3 Critical Periods of Rapid Brain Development

- Conception to birth
- Birth to age 6 - peak period age 2-3yrs
- Ages 12-18 - peak period is age 13-15

The busier the brain the higher the risk.

Development does not just happen - missed opportunities make things harder later on.

The greater/longer the stress, the longer the recovery.

The Brain is an Anticipation Machine

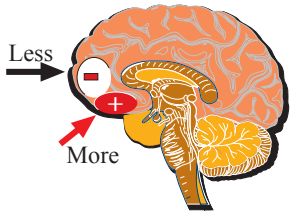
- Mirror neurons set the stage for behavior and intention.
- Mirror neurons create motor maps for behavior and anticipatory sets for the intention and results of that behavior.
- This contributes to transference in relationships with adult authority figures.
- It's not necessarily about you!

The Brain is an Anticipation Machine

- The brain automatically evaluates every situation for safety first.
- If anything in the environment poses a "threat" the brain will not be able to focus fully on anything else until the threat is resolved.

Distress/Threat Changes Blood Flow and Chemistry of the Brain

Less blood flow to places in the brain (dorsal area of frontal lobes) that do future planning… and more blood flow to areas that process emotions, leaving fewer options for more thoughtful decision-making.



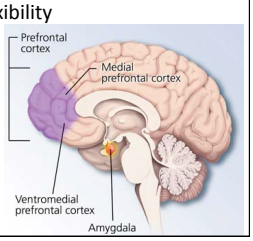
Distress: state or trait?

Excess Cortisol Damages the Brain

- Shrinkage of the frontal lobes and hippocampi
  - Existing cells shrink (dendritic erosion)
  - Total number of cells decreases
  - Reductions in connectivity
  - Prevents neurogenesis (new cell production)

A healthy PFC enables a person to:

- Regulate the body
- Attune emotionally with others
- Maintain emotional balance
- Demonstrate response flexibility
- Develop insight
- Show empathy for others
- Modulate fear



The Distress Response (Fight/Flight/Freeze)

Over time this state of mind* can lead to impulsive, shortsighted, even violent behavior; increased anxiety, depression, alcohol and drug abuse, learning disorders and increased stress related diseases.

***Any state of mind experienced frequently enough for long enough may become a trait that gets hardwired into the brain.**

How we use our mind changes the architecture of our brain!

Relaxed Attention and Reward

Creating this state of mind over time leads to increased intelligence, improved academic performance, improved decision making, higher moral reasoning and reduced stress related disorders.

Mindful Practices have been proven to create this state of mind. When done on a regular basis positive neurological changes to the middle prefrontal cortex are evident with brain imaging technology.

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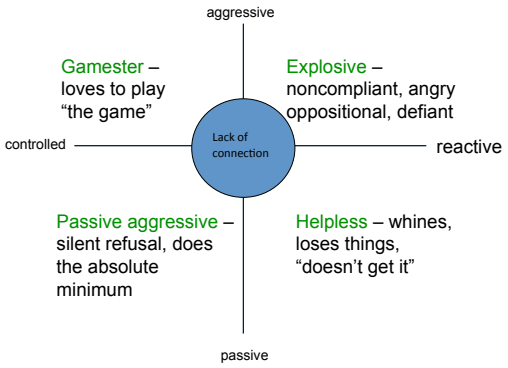
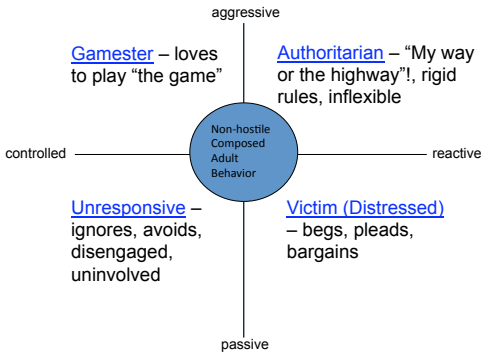
Patterns of Behavior in Disconnected Youth That Trigger "Non-Restorative Responses" from Adults



Non-Restorative Adult Behavioral Styles That Escalate Youth Behavior and Increase Disconnection



Impact of Social Environments on the Brain

Impact of Social Environments on the Brain

Doing To Authoritarian **Punitive** **Stigmatizing** Hyper-vigilance for threat Memory and executive functions hampered **BRAIN state: Anxious vigilance**	**Doing With Authoritative** **Connected** **Trusting** Builds attunement, connections, accountability, cause and effect thinking,reflective, pro-social **BRAIN state: Relaxed Alertness**
Doing Nothing Uninvolved **Ignoring** **Unresponsive** Distress Negative impact on attention, memory, emotions and behavior **BRAIN state: Reactive Defensive**	**Doing For Permissive** **Excusing** **Reasoning** Connects negative behaviors with positive feelings Reinforcing negative behaviors **Brain state: Passive Enabled**

Low → Boundaries/Limits → High

Low → Nurture/Support → High

Chart is modified from Diana Baumrind's parenting research

Impact of Social Environments on the Brain

Doing Nothing Uninvolved
Ignoring, Unresponsive

Distress
Negative impact on attention, memory, emotions and behavior

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Impact of Social Environments on the Brain

Doing For Permissive
Excusing, Reasoning

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Reinforcing negative behaviors

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Impact of Social Environments on the Brain

Doing With Authoritative
Connected, Trusting

Builds attunement, connections, accountability, cause and effect thinking, reflective thought processes and pro-social skills

BRAIN state: Relaxed Alertness

Low → Boundaries/Limits → High

Low → Nurture/Support → High

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Impact of Social Environments on the Brain

Low ⟶ Boundaries/Limits ⟶ High	Low ⟶ Nurture/Support ⟶ High
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Habitual Responses to "Why did you do that?"

Why did you do that?

I don't know.

Why did you do that?

I didn't do it!

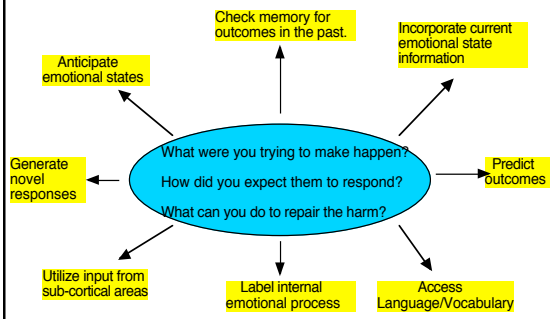
Why did you do that?

He/she did it first!

Why did you do that?

It was on accident!

Restorative Dialogue = More Integrated Thought



Coupled with emotional engagement, a sense of novelty, and optimal attentional arousal, teaching with reflection can utilize these prime conditions for building new connections in the brain.

(Siegel, Mindful Brain, p.262)

Restorative Redirection (Dialogue)

- What did you do?
  (responsibility, accountability)
- Who did it affect?
  (empathy, perspective taking, cause/effect thinking)
- How were they affected?
  (empathy training, perspective taking, cause/effect thinking)
- How do you know it affected them that way?
  (empathy , attunement, vocabulary)
- What were you trying to make happen?
  (cause /effect thinking, self-observation, insight development)
- How else could you make that happen?
  (problem solving, predicting , cause/effect thinking , perspective taking)
- What would that look/sound like?
  (practice of specific behavior, self -control, vocabulary, attunement, self-observation)
- What should you do to make it right?
  (accountability, compassion , problem solving, anticipating outcomes, social understanding)
- What do these questions teach? Quiz time!

Redirecting Language

What did you say? Or "I heard what you said."

What did you mean by that ?

What makes you think that what you said is an acceptable thing to say?

How did that affect the person you said it to?

How do you know? What did their face and body tell you?

How do you think it affected other people who heard it?

Can you think of more appropriate language to express what you meant? (suggest language if necessary, model tone and affect) Then have them practice it.

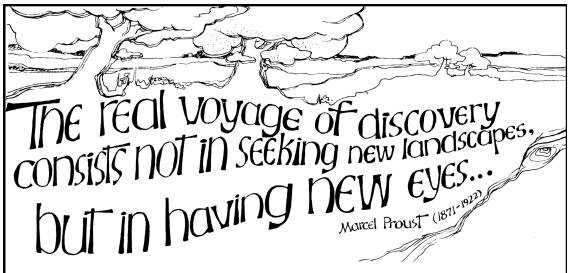
What should you do to correct the harm done?

Students can develop reflective capacities through skill training that have a long lasting influence on the promotion of well-being. With reflection, students are offered a neural capacity to socially, emotionally, and academically approach life with resilience.

(Siegel, Mindful Brain, p.266)

Be Consistent and Persistent

- Learning is more likely when the same lesson is repeated over and over in the same way.
- Learning is more likely when the person chooses to learn.(A result of connected relationships.)
- We learn best from repeated success, reflection about that success, and positive modeling.



1. What can you take home?

2. How might you use it?

3. What would be different?