Mindfulness in Schools: an Introduction

I. Mindful Breathing: Grounding Images

II. Mindfulness: What is it? & Why in School?

III. Mindfulness at Hassan: Findings

III. Meditation: Body Scan

IV. Mindful Movement
   - Yoga Calm (R)
   - “Me Moves”

V. Meditation: Loving Kindness
   - Balance of Compassion & Equinimity
     (Jack Kornfield & Sharon Salzberg)

VI. Resources

VII. Gratitude:
Mindfulness means paying attention in a particular way; on purpose, in the present moment, and non-judgmentally."

-Jon Kabat-Zinn
The Need for Mindfulness in the School Environment - Addressing Attention & Behavioral Issues

• The percentage of children with ADHD has dramatically risen in recent times, growing by 22% between 2003 and 2007, and since increasing 2% each year (CDC 2010).

• Due to the dramatic increase in attention and behavioral problems in school children, teachers and caregivers are actively seeking effective treatments.

• A student’s inability to control his/her attention or his/her behavior is often met with punishment or medical attention, ie; medication
  • But what if these attention and behavioral problems stemmed from a neurological deficit that could be remedied through practice?
Both attention and behavioral problems involve a neurological deficit:

- **Executive functioning** refers to one’s ability to executive decide what to:
  - Pay attention to
  - How to act
  - (Behave, Plan, Organize, Control Impulses)
ADHD

• Is characterized by a lack of attention control and hyperactive behavior

• ADHD is strongly related to deficits in a neurological problem in executive functioning
Executive Functioning

• An impairment in **executive functioning**, related to attention deficit and disruptive behavior is associated with decreased capacity of the prefrontal cortex, the neurological seat of executive functioning (Fuster 2008).

• Blanket term for attentional & behavioral control, dictates what we do and what we pay attention to.

• Due to recent findings of neural plasticity, we now understand that our brain can generate stronger neural connections based on our mental habits.
The pre-frontal cortex controls high-level brain functions:

- Intention to pay attention
- Emotional Regulation (regulates Amygdala)
- Body Regulation
- Intuition – visceral experience
Amygdala: The Watch Dog of Emotions

Acute experience of stress triggers activation of amygdala,

* Fight
* Flight
* Freeze

Chronic Stress strengthens the Amygdala creating a stronger stress response (Roozendaal et al. 2006, Bremmer 2004).

As Stress builds, PFC deteriorates & impairs Executive Functioning (Radley 2006, Roosendaal et al. 2009).

Without strong Executive Functioning, control is impaired & brain’s emotional response centers go unregulated. Stress on PFC can impair one’s ability to self-regulate emotions.
Weak prefrontal cortex and impaired executive functioning are not static conditions.

- Due to recent findings of neural plasticity, we now understand that our brain can generate stronger neural connections based on our mental habits.

- Like with any muscle, neural circuits can grow stronger with practice
  - By practicing attention control and emotion regulation, we can train in executive functioning and strengthen the neural circuits that underlie this function.
Mindfulness Meditation

• One such practice of executive functioning, exercising the muscle of the prefrontal cortex is Mindfulness.

• Mindfulness is defined as present moment, nonjudgmental awareness,
  • That is, the ability to be attentive to whatever is happening in the present moment without judging it or become distracted (Kabat-Zinn 1990).
Mediation con’t.....

• Meditation has been shown to improve self-regulation of attention, emotion, and behavior.

• In the past 10 years, meditators have demonstrated time and time again the effect of meditation on increases in attention control and increases in emotional regulation.

• Meditation has been shown to increase “grey matter” in the Hippocampus (memory) & decrease in volume of the Amygdala (Hoetzl 2011).
Improves Attention in Children

• After training in mindfulness, one group of 1st-3rd grade students significantly improved on attention tasks and showed significant improvements in symptoms of ADHD (Napoli 2005).

• These researchers showed that a short execution of mindfulness practices in young children resulted in greater ability to control their attention in the face of distractions and social distractions.
Powerful Connection

• A powerful connection exists between attention-training through mindfulness and emotion and behavioral regulation

• As the prefrontal cortex grows stronger, attention control increases, that is, the children have more capacity to choose what to pay attention to

• That same brain region, the PFC that regulates the attention, also regulates the brain’s emotional centers
Mindfulness

- Decreases Stress
- Decreases Depression & Anxiety
- Supports the Management of Chronic Pain
- Enhances Attention & Executive Functioning
- Increases Compassion, Empathy & Pro-Social Behaviors
- Improves Emotion Regulation
Property Damage

<table>
<thead>
<tr>
<th>Student A</th>
<th>Pre Mindfulness</th>
<th>Post Mindfulness</th>
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The bar chart shows the property damage for Student A before and after mindfulness training.
Emotional Deregulation

- **Student A**
  - Pre Mindfulness: 70
  - Post Mindfulness: 10

- **Student D (avg. per week)**
  - Pre Mindfulness: 20
  - Post Mindfulness: 5
Non-Compliance

Student A

Student D (avg. per day)

Pre Mindfulness
Post Mindfulness
Students B&C towards each other (avg. per day)

Verbal Aggression

- Pre Mindfulness
- Post Mindfulness
Removal From Mainstream

Student D (avg. per week)

Pre Mindfulness
Post Mindfulness
Shutdowns

Pre Mindfulness
Post Mindfulness

Student E
Student F
Reduces Anxiety and Depression in Youth!

• **Mindfulness** training has been shown to help anxious youth to combat anxiety, mediated by increases in their attentional control (Semple et al. 2005).
• Similarly, in adolescents with severe and comorbid psychiatric disorders, those who practiced **mindfulness meditation** significantly improved in anxiety compared to treatment as usual (Biegel et al. 2009).
• The effect does not diminish in high-risk youth. Indeed, one study found that mindfulness training in a group of incarcerated youth significantly reduced their hostility and emotional discomfort.
• **Additionally**, these incarcerated youth improved in interpersonal relationships, school achievement, and stress (Sibinga et al. 2011).
Improvement With Behavior

• Meditation has been shown to improve disruptive behavior, even in very aggressive and difficult school-aged children.

• In aggressive adolescents pending school expulsion, mindfulness training helped them to regulate their aggressive behavior, so much so that they were no longer pending expulsion.
Mindfulness In Adults

• Mindfulness practices in adults have been shown to strengthen the areas of the brain that are associated with executive functioning, the PFC.

• By training students in mindfulness and increasing the activity in the PFC, students can improve their ability to control their attention and their emotions.
Effect of Mindfulness on Educators

*Give Educators neural resources to combat stress, build up PFC and regulate the Amygdala response, potential to reduce Educator Burnout, Psychological Symptoms & Increase Satisfaction (Davidson et al, 2013).
Conclusion

• Without the ability to control their attention and their behavior, students can fall behind in class, act out, and accrue violations leading to punishment or medication.

• Mindfulness meditation may provide a viable alternative to these responses.

• Through mindfulness practice, students may be able to strengthen their executive functioning capabilities, leading to better attentional and behavioral control.
Mindful Living!

J. Walter Thompson, Giant Advertising Agency identifies Mindful Living as top 10 trends in 2014!
Mindfulness in the NEWS!
Resources con’t


