Internet-based Mindfulness Meditation with Incarcerated Youth

Michelle Evans-Chase, PhD
Social Welfare Approach

Institutions: JJ System
✧ Culpability - Adolescent Development

Populations: Kids in JJ System
✧ Trauma

Interventions: Mindfulness Meditation
Incarcerated Youth: An Adolescent Population

Risk-taking | Self-regulation

Age

10 11 12 13 14 15 16 17 18 19 20 21 22

Scott & Steinberg, 2008; Steinberg, 2009; Steinberg & Scott, 2003

(Ernst, Nelson et al., 2005; Kambam & Thompson, 2009; Steinberg, 2008; Steinberg, 2009)
Incarcerated Youth: An Adolescent Population

Response inhibition
Risks v rewards
Consider Info
Delay gratification

Risk-taking

Self-regulation

10 11 12 13 14 15 16 17 18 19 20 21 22
Age

Scott & Steinberg, 2008; Steinberg, 2009; Steinberg & Scott, 2003

(Ernst, Nelson et al., 2005; Kambam & Thompson, 2009; Steinberg, 2008; Steinberg, 2009)
Incarcerated Youth: A Special Population

- Parental incarceration
- Poverty
- Violent victimization
- Exposure to violence

Trauma ACE

General Population: 34%
Juvenile Justice: 75 – 93%

(Baglivio et al., 2014; Duke, Pettingell, McMorris, & Borowsky, 2012)
Incarcerated Youth: A Special Population

(Ernst, Nelson et al., 2005; Kambam & Thompson, 2009; Steinberg, 2008; Steinberg, 2009)

Response inhibition
Risks v rewards
Consider Info
Delay gratification

Trauma

Self-Regulation

Age
Why Mindfulness Meditation?

Noah Levine
Mindfulness?
Meditation?
Mindfulness Meditation: The practice of “being in the moment”

“Bringing awareness to the constantly changing internal experiences, some pleasant, some unpleasant. Letting everything that arises in our awareness pass. Seeing how we get attached and training our mind to let go, to respond to the unpleasant experiences in life with care, mercy, and patience. This is done by this formal moment to moment awareness practice.” (guided MM instruction by Noah Levine)
Mindfulness Meditation: Outcomes

✧ Increased self-control & self-awareness (Derezotes, 2000; Greeson, 2009)
✧ Lowered anxiety, depression, worry (Greeson, 2009)
✧ Reductions in anger & hostility (Tang, Lu, Fan, Yang, & Posner, 2012)
✧ Reductions in substance abuse (Bowen et al., 2006)
✧ Lowered intensity & frequency of negative affect (Ding, Tang, Tang, & Posner, 2014)
Mindfulness Meditation: Brain Imaging

Increased connections in prefrontal cortex:

✧ Regulation of emotions & emotional responses
  (Chiesa, Serretti, & Jakobsen, 2013; Tang, Lu, Fan, Yan, &Posner, 2012)

✧ Attention regulation (Holzel et al., 2007)

✧ Considering the future (Holzel, et al., 2011)

✧ Taking the perspective of others (Holzel, et al., 2011)
At the Intersection: MM, Adolescent Development & JJ Youth

Active during MM

Impacted by trauma

Developing during adolescence

ACC
mPFC
vIPFC
At the Intersection:
MM, Adolescent Development & JJ Youth

Active during MM

Impacted by trauma

Self-Regulation

Developing during adolescence
The Study...

- Pre-test: Self-Regulation
- Randomly Assigned 8 1-hour classes
  - Mindfulness Meditation
  - Progressive Muscle Relaxation
- Post-test: Self-Regulation
Why Internet-Based?

To download these files to your local hard drive:
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Noah Levine:
- 11/15/06 Meditation & Discussion on Patience
- 11/08/06 Meditation, Q & A on Meditation
- 10/25/06 Meditation on being awake in the world as a daily practice
- 10/18/06 Meditation on 1st time in a new space
- 09/27/06 Meditation & Discussion on engaged Buddhism
- 09/13/06 Meditation & discussion on The 3 Jewels
- 09/06/06 Reading from ATS, Meditation & Discussion on Serving the truth
- 08/23/06 Meditation, Q & A on Meditation
- 08/16/06 Meditation on the 8 Vicissitudes
- 08/16/06 Discussion on the 8 Vicissitudes
- Buddha’s Life Story - class #1 - 11/01/04 (81Min)
- 4 Noble Truths / 8 Fold Path - class #2 - 11/08/04 (81Min)
- Fire Sermon / Mara - class #3 - 11/15/04 (62Min)
- 4 Foundations of Mindfulness - class #4 - 11/22/04 (73Min)
- Brahma Viharas Talk #2 - 11/27/04 (41Min)
- The Eight Fold Path - 12/09/04 (55Min)
- Women / Race / Buddhism - 12/13/04 (80Min)
- Soft Belly Meditation - 12/14/04 (38Min)
- Soft Belly talk - 12/14/04 (45Min)
- Right Understanding - 12/16/04 (39Min)
- Buddha’s Life 02/18/04
- Class on Forgiveness part 1

http://www.dharmapunx.com/htm/mp3.htm
Free MP3, Podcasts, Youtube Videos

Noah Levine, MA
Tara Brach, PhD
Vinny Ferraro
Sharon Salzburg
Jon Kabat Zinn, PhD
Why an RCT?

✧ Limited resources
✧ Limited time
✧ False sense of security
✧ One size does not fit all

(something is not always better than nothing)
What would their self-regulation be if they didn’t do MM?

MM → Self Regulation (bigger increase) → Maturation
PMR → Self Regulation (smaller increase)
The Outcome...

Self-regulation:
- Restraint-Weinberger Inventory
- Values in Action

Instructions: Circle the number under the category that matches how well you think the sentence next to it describes you.

<table>
<thead>
<tr>
<th></th>
<th>False</th>
<th>Somewhat False</th>
<th>Not Sure</th>
<th>Somewhat True</th>
<th>True</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I’m the kind of person who will try anything once, even if it’s not that safe</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. I should try harder to control myself when I’m having fun.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3. People who get me angry better watch out.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. I do things without giving them enough thought.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5. If someone tries to hurt me, I make sure I get even with them.</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Why Self-Regulation?

Self-Regulation v. Aggression

Strength-based v. Deficit-based
Why Self-Regulation?

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Self-Regulation</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probation</td>
<td>Self-Regulation</td>
<td>Delinquency</td>
</tr>
<tr>
<td>Anger Mgmt</td>
<td>Self-Regulation</td>
<td>Aggression</td>
</tr>
<tr>
<td>Education</td>
<td>Self-Regulation</td>
<td>Risk Taking</td>
</tr>
<tr>
<td>Conflict res</td>
<td>Self-Regulation</td>
<td>Aggression</td>
</tr>
</tbody>
</table>
Additional Measures

- 5 Factor Mindfulness Questionnaire
- Journals
- Contamination Check
- Treatment Experience
The Process...

✧ Developing Relationships
✧ Following the Plan
✧ Adjusting to Challenges
The Process...

✧ Developing Relationships
  • New Jersey Juvenile Justice Commission
The Process...

✦ Developing Relationships
  • New Jersey Juvenile Justice Commission
  • New Jersey Training School
The Process...

✧ Developing Relationships

- New Jersey Juvenile Justice Commission
- New Jersey Training School
- Research Assistant
The Process...

✧ Developing Relationships

✧ Following the Plan
  • Intervention: MP3

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20. Right Understanding - 12/16/04 (39Min)
21. Buddha’s Life 02/18/04
22. Class on Forgiveness part 1
The Process...

✧ Developing Relationships

✧ Following the Plan
  • Intervention: MP3
  • Class Sessions: Scripts

Class Scripts

NJTS Script: class 1

Hi, my name is Ronte Roney. I am a student at Rowan University and will be your facilitator for the classes that you are taking as part of the research project you are participating in.

There are a couple of things I want to do before we start class today:

First, I am going to take roll to see who is here.

(TAKE ROLL USING FIRST NAMES)

Next, I want to talk to you about how classes are going to go during the next 8 weeks: you will be asked to come to the Community House and sit and listen to taped instructions with your eyes closed. The tape will guide you through ______ (MM or GR)

(FOR MINDFULNESS MEDITATION CLASSES ONLY): After the guided meditation part of the tape is over you will also hear a couple of the students on the tape ask questions. Which the teacher, Noah Levy, answers.

We will meet each week to do this but in between classes you can practice ______ (MM or GR) as much or as little as you want to. The only thing we ask is that you keep track of how many times you practice. Each week before I start the tape I will hand out these journals for you to keep track of whether you practiced between classes or not and if you did, how many times.

(HAND OUT JOURNALS AND PENS)

Please put your names on inside of the front cover. Everything you write in the journals has the same protection as your answers to the survey questions you look last week. That means that I will be taking these with me each week when I leave and only people involved in the study will see them.

Another thing we want you to write in the journals are any questions that come up about the class, which we will answer when the classes are over. We want everyone who is participating in the research to have the same information during the study, which is why we are going to wait until after the study is done to discuss any questions that come up. You can also use the journals to write down anything about the classes that you think would be important for the researcher to know.

It is important, however, that if you have any questions about the research itself or your participation in the research that you ask me or contact Michele or her supervisor, Phyllis Solomon at any time. For instance, if you have questions about how many more classes are left, or about dropping out or taking the surveys or if you have concerns about something that you are testing or experiencing because of your participation, you should talk to me or Michele or Phyllis about it right away as well.

Any questions? (PLAY TAPE)

(AFTER TAPE IS DONE): That’s it for today, thank you for your time – see you next week!

(COLLECT JOURNALS AND PENS)
The Process...

✧ Developing Relationships

✧ Following the Plan
  • Intervention: MP3
  • Class Sessions: Scripts
  • RCT: Session Summary & Field Notes
The Process...

产学

**Developing Relationships**

**Following the Plan**

**Adjusting to Challenges**

- Recruitment to pretest: 3-4 weeks
The Process...

✧ Developing Relationships
✧ Following the Plan
✧ Adjusting to Challenges
  • Assent to pretest: 3-4 weeks
  • Consent to pretest: 0 weeks

<table>
<thead>
<tr>
<th>Lost Prior to Pre-Test</th>
<th>Round 1</th>
<th>Round 2</th>
<th>Round 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17</td>
<td>13</td>
<td>3</td>
</tr>
</tbody>
</table>

Diagram:
- Assent Interviews
- Packet to NJTS
- NJTS to Parents
- Parents to Me
- Consent + Pre-test + Randomization
Assessed for eligibility (n=121)

- Refused (n=2)
- No parental consent (n=23)
- Lost prior to randomization (n=35)

Randomized (n=61)

- Allocated to MM (n=30)
  - Lost to follow up (n=16)
    - Reasons:
      - Release from custody (n=10)
      - Participant withdrew (n=4)
      - On lockdown at post-test (n=1)
      - Other (n=1)
  - Primary outcome analysis (n=14)

- Allocated to PMR (n=31)
  - Lost to follow up (n=18)
    - Reasons:
      - Release from custody (n=9)
      - Participant withdrew (n=4)
      - On lockdown at post-test (n=2)
      - Contamination (n=3)
  - Primary outcome analysis (n=13)
The Analysis...

Hypotheses:

1. Youth who practice mindfulness meditation will have greater increases in self-regulation compared to youth who practice progressive muscle relaxation.

2. Based on developmental limitations in younger participants, this difference would be found in comparisons of youth in the older groups only.
Results: All Ages Together

![Graph showing Treatment v. Control](image)
Results: Age Groups

![Graph showing treatment versus control for older youth]

- Interpersonal Self-Regulation vs. Mean Pre-test and Mean Post-test
- Mindfulness Meditation vs. Progressive Relaxation
## Results: Journal Entries

### Primary Themes of journal entries across treatment conditions

<table>
<thead>
<tr>
<th>Theme</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced stress, calmed by class or practice outside of class</td>
<td>MM: 58%</td>
</tr>
<tr>
<td></td>
<td>PMR: 65%</td>
</tr>
<tr>
<td>Used class skills to self-regulate behavior or emotions</td>
<td>MM: 54%</td>
</tr>
<tr>
<td></td>
<td>PMR: 30%</td>
</tr>
<tr>
<td>Specific examples of self-regulating emotions or behavior</td>
<td>MM: 42%</td>
</tr>
<tr>
<td></td>
<td>PMR: 5%</td>
</tr>
</tbody>
</table>

MM PMR

n=24 n=20
“I used my skills earlier today I got caught up arguing with the CO in my shack over something. But then I thought to myself that it wasn't worth it. Then I started thinking about the recordings that I've been listening to for the past four weeks. Then I decided that it wasn't worth it.”
“I used my skills earlier today I got caught up arguing with the CO in my shack over something. But then I thought to myself that it wasn't worth it. Then I started thinking about the recordings that I've been listening to for the past four weeks. Then I decided that it wasn't worth it.”

“I used the meditation for week 1 when I saw the state parole board they was talking some BS. I went out meditated, cleared my mind went back in a new person and got a date.”
Results: Journal Entries

Journal Commentary About MM Classes

<table>
<thead>
<tr>
<th>Comment Type</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only Positive</td>
<td>12</td>
</tr>
<tr>
<td>Positive + Negative</td>
<td>9</td>
</tr>
<tr>
<td>Only Negative</td>
<td>1</td>
</tr>
<tr>
<td>Neutral</td>
<td>2</td>
</tr>
</tbody>
</table>

Number of Participants
Conclusions...

✧ Increased self-regulation
✧ Interesting and relevant
✧ Cost effective
✧ Accessible
What’s Next...

✧ Girls incarcerated in JJ system
✧ Shorter duration: 4 weeks x 2 sessions
✧ Additional measures
✧ Research: 18+
✧ Classes: all ages
Thank you!
References

- Greeson