

# Innovations in Practice: exploring an intensive meditation intervention for incarcerated youth

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**Background:** We examined the experiences of incarcerated adolescent males ( $N = 29$ ) who participated in a one-day meditation retreat and 10-week meditation programme. **Method:** Self-report surveys assessing mindfulness, self-regulation, impulsivity and stress; behavioural assessments; and focus group data were examined. **Results:** We observed significantly higher scores in self-regulation ( $p = .012$ ) and psychometric markers demonstrated psychological enhancement. No behavioural change was observed. Six themes emerged: enhanced well-being, increased self-discipline, increased social cohesiveness, expanded self-awareness, resistance to meditation and future meditation practice. **Conclusions:** Early evidence suggests that meditation training for incarcerated youth is a feasible and promising intervention.

## Key Practitioner Message

- This is the first published mixed-methods study on a meditation intervention for incarcerated youth
- Key quantitative findings were that the meditation programme was associated with a significant increase in self-regulation but no behavioural change was observed
- Themes identified from focus groups described benefits commonly attributed to meditation as well as challenges with meditation
- Early evidence suggests that meditation interventions for incarcerated youth are feasible, not harmful and may provide benefit
- While participating incarcerated youth overall reported positive experiences with the meditation programme, the long-term benefits remain unknown

**Keywords:** Meditation; adolescent; incarcerated

Two thirds of incarcerated adolescents met criteria for psychiatric disorders, highlighting an urgent need for effective interventions (Teplin, Abram, McClelland, Dulcan & Mericle, 2002). Meditation-based interventions with incarcerated adults have demonstrated positive effects, including decreased hostility and mood disturbances (Samuelson, Carmody, Kabat-Zinn & Bratt, 2007). Defined as 'the self-regulation of attention,' meditation is usually performed in a still, seated position (Barrows & Jacobs, 2002). A review of 16 studies examining meditation with youth (Black, Milam & Sussman, 2009) reported that meditation interventions, typically ranging from weeks to months, generally improved physiological (e.g. cardiovascular functioning; Barnes, Treiber & Davis, 2001) and psychosocial domains.

The limited research on meditation with incarcerated youth has yielded positive results (Childs, 1973; Flinton, 1998; Himelstein, 2009; Himelstein, Hastings, Shapiro & Heery, 2012). A pilot study on meditation with juvenile offenders reported significantly lowered anxiety and

drug use, and higher self-regard (Childs, 1973). Incarcerated juveniles participating in an eight-week meditation course demonstrated significantly reduced anxiety and increased internal locus of control (Flinton, 1998). Examination of a 10-week meditation intervention for incarcerated youth showed improved self-regulation and decreased perceived stress (Himelstein, 2009). Notably, self-regulation has been associated with enhanced ability by youth to regulate substance use and sexual behaviour (Raffaelli & Crockett, 2003; Wills, Sandy & Yaeger, 2002). Similarly, impulsive actions often spur further criminal behaviour and higher recidivism among youth (Trupin, Turner, Stewart & Wood, 2004), suggesting strong potential benefit from meditation.

Despite observed benefits, the literature on meditation with incarcerated youth remains extremely limited. No published studies offer a mixed-methods approach. In addition, no literature examines brief intensive meditation retreats with youth, such as daylong retreats, a potentially efficacious and cost-effective intervention.

## Method

### Objectives

This mixed-methods pilot study evaluated a one-day meditation retreat and 10-week meditation programme for incarcerated youth. The retreat occurred in addition to a 10-week meditation course implemented by The Mind Body Awareness Project (MBA), a nonprofit agency that offers voluntary meditation courses in California juvenile correctional facilities. Our research objectives were: (a) To evaluate the efficacy of MBAs one-day retreat, (b) To evaluate the efficacy of MBAs 10-week meditation programme and (c) To explore youth's experiences with MBAs meditation programme.

To discern the response to the retreat from the response to the 10-week meditation programme, two control cohorts received the 10-week meditation course alone. Subsequently, two treatment cohorts received the 10-week course and additionally received the retreat.

### Participants

Incarcerated adolescent males enrolled in MBAs 10-week course from September 2010–October 2011 were invited to participate. Six participants were excluded from data analysis as they left the detention facility prior to administration of the post-test survey, leaving a total sample size of 29.

Participant age ranged from 14 to 18 years ( $M = 16.3$ ,  $SD = 0.890$ ). The majority self-identified as Latino (65.5%). The treatment group ( $N = 16$ ) did not differ from the control group ( $N = 13$ ) or the population of incarcerated youth in general with regards to demographics (see Appendix A).

Stanford University's Institutional Review Board approved this protocol. Participants provided assent and the presiding judge provided informed consent.

### Measures

Participants completed a demographic questionnaire, and four self-report surveys before and after the 10-week course. Surveys assessed mindfulness, self-regulation, impulsiveness and stress.

*Mindfulness Attention Awareness Scale, Adolescent version (MAAS-A; Brown, West, Lovernich & Biegel, 2011).* This 14-item self-report assessment measures attention and awareness in the present moment. It is a validated adolescent version of the original MAAS (Brown & Ryan, 2003) and demonstrated high internal reliability (Cronbach's alpha,  $\alpha = .86$ ; Brown et al., 2011). The MAAS-A assesses mindfulness via a 6-point likert scale. Higher scores indicate a higher measure of mindfulness (score range: 14–84). The internal consistency of the MAAS for participant scores in this study was also high ( $\alpha = .91$ ).

*Healthy Self-Regulation Scale (HSR; West, 2008).* This 12-item self-report instrument measures adolescent's ability to self-regulate emotional responses. The instrument originated as a subscale of the Mindfulness Thinking and Acting Scale for Adolescence (MTASA; West, 2008). Items are scored on a 6-point likert scale with higher scores indicating a stronger ability to self-regulate (score range: 12–72). This instrument demonstrates strong internal consistency and positive correlations with wellness indicators and has strong test-retest reliability ( $\alpha = .84$ ; West, 2008). This measure showed a high internal consistency in this study as well ( $\alpha = .78$ ).

*Teen Conflict Survey-Impulsiveness Subscale (TCS; Bosworth & Espelage, 1995).* This 4-item self-report questionnaire assesses impulsiveness among adolescents. Items are scored on a 5-point likert scale with higher scores indicating a higher level of impulsiveness (score range: 5–25). The TCS has shown moderate internal consistency ( $\alpha = .62$ ; Fossati, Barratt, Acquarini & Di Ceglie, 2002). This study yielded a high internal consistency ( $\alpha = .81$ ).

*Perceived Stress Scale 10 (PSS-10; Cohen, Kamarck & Mermelstein, 1983).* This 10-item self-report questionnaire

assesses self-appraisal of stressful situations in the prior month of the participant's daily life. Designed for people with at least a junior high school education, the original version (Cohen et al., 1983) had 14 questions. The PSS-10 (Cohen & Williamson, 1988) is a 10-question condensed version. Items are scored using a 5-point likert scale with higher scores indicating higher perceived stress (score range: 0–40). The PSS-10 was shown to have a higher internal reliability ( $\alpha = .78$ ) and tighter factor structure than the original PSS. The internal reliability for the participant scores in this study was moderate ( $\alpha = .63$ ).

*Objective behavioural assessment.* We extracted from probation files weekly averages of youth's behavioural points totals (range: negative 15 to positive 90) routinely awarded by probation staff for positive behaviours and subtracted for disobedience (e.g. tardiness).

*Focus group data.* Participants who attended the retreat were invited to participate in a focus group ( $N = 6$  and  $N = 6$ ). Open-ended prompts probed participant's experiences with the retreat and meditation programme overall.

### Intervention

The retreat and 10-week curriculum combined meditation training with group process activities (The Mind Body Awareness Project, 2012). In 10-week course sessions, participants spent approximately 30 min meditating and 60 min discussing meditation-related concepts (for an in-depth description of the 10-week course, see Himelstein, 2009).

The retreat that was delivered as a component of this research project was a synthesis of the same principles that comprise the 10-week intervention. For the retreat, MBA instructors and probation staff took youth to a nearby retreat facility between breakfast and dinner mealtimes. The 7-hr retreat session included formal meditation activities, informal meditation activities, emotional growth activities and group cohesion building. Formal meditation included mindfulness of the breath, the body scan, nonjudgmental awareness and walking meditation. Informal meditation included an activity of mindful eating in which participants were given small pieces of chocolate and asked to mindfully consume and report on experiences. Emotional growth and group cohesion activities included the trust fall, an activity to build group trust and cohesion to develop self-disclosures among participants, and a fire ceremony, an activity in which participants contemplated aspects of their selves and 'let go' of negative behaviours and attitudes through writing them down and throwing them into the fire. The retreat ended with a closing circle where participants gathered in a circle and reflected on their emotional state and experiences at the retreat (for timetable of retreat activities see Appendix A, Table S2).

## Results

### Quantitative Results

To evaluate the effectiveness of the retreat, we calculated change scores on the MAAS-A, HSR, TCS and PSS-10. We then used an independent sample *t*-test to compare treatment and control groups. The retreat group did not differ significantly from the control condition on these markers ( $p > .05$ ). To assess the effect of the overall meditation programme, we then collapsed treatment and control conditions. A paired *t*-test demonstrated a significant increase in self-regulation among all participants postcourse ( $M = 49.3$ ,  $SD = 8.6$ ) compared with pre-course ( $M = 45.9$ ,  $SD = 7.7$ );  $t(28) = 2.67$ ;  $p = .01$ . Mindfulness, impulsivity and perceived stress did not reach statistical significance but demonstrated psychological enhancement (Table 1).

A regression analysis was performed to examine whether behavioural point totals differed between

**Table 1.** Pre and posttest mean scores for measures of well-being using the MAASA-A, HSR, TCS and PSS-10 instruments among all participants

	Pretest mean (SD)	Posttest mean (SD)	p-value
Mindfulness (MAAS-A) <sup>a</sup>	55.0 (11.4)	57.1 (11.8)	.309
Self-Regulation (HSR) <sup>a</sup>	45.9 (7.7)	49.3 (8.6)	.012 <sup>c</sup>
Impulsivity (TCS-IS) <sup>b</sup>	11.5 (3.3)	10.9 (3.2)	.301
Perceived Stress (PSS-10) <sup>b</sup>	21.6 (3.7)	20.4 (5.8)	.294

<sup>a</sup>Higher scores indicate psychological enhancement.

<sup>b</sup>Lower scores indicate psychological enhancement.

<sup>c</sup>Indicates statistical significance.

treatment and control groups after MBAs programme, controlling for points awarded during the four weeks prior to course initiation. Results indicated that participation in the treatment condition did not predict higher points.

### Qualitative results

Qualitative data were analysed using a six-step thematic content analysis (Braun & Clarke, 2006) to identify themes representative of participants' experiences with the meditation programme. Focus groups were audio-recorded and verbatim transcripts were generated. Three coders independently reviewed the transcripts and then met to compare initial themes and reach consensus (Braun & Clarke, 2006). Unless a participant had explicitly stated whether his comment referred to the retreat or 10-week course, views on the retreat and 10-week course were analysed together.

Six themes emerged: enhanced well-being, increased self-discipline, increased social cohesiveness, expanded awareness, resistance to meditation and future meditation practice.

**Enhanced well-being.** Enhanced well-being described increased psychologically enhancing emotional states such as relaxation and decreased negative emotional states such as anger. One participant stated, 'It [the retreat] gave me a chance in my life to express myself, forgive all those people for things that have happened in my past, and it kind of let me let go of some stress I had built up in me.' Another participant commented, 'When you breathe a lot it just calms you, relaxes your muscles, your brain, everything, and you concentrate a lot on what you're thinking.'

**Increased self-discipline.** Increased self-discipline described increased ability to manage one's emotions and behaviours. One participant described using meditation to regulate anger:

It [meditation] did help me a lot because I be getting mad and I just breathe in and out. When people get me mad I notice that they just talk too much and it's not worth it for me using violence when they're not going to do nothing. So, instead of making things worse, just think about it and breathe.

Another participant commented, 'It [MBAs programme] showed me I could do anything I want to if I discipline myself. Pretty much all you really need to

do is discipline yourself and that just works by meditating.'

**Increased social cohesiveness.** Increased social cohesiveness described increased trust and positive relational dynamics. One participant expressed that the retreat made participants more open to sharing painful, personal experiences. 'Everybody could relate to the stories and it made everybody trust.'

**Expanded self-awareness.** Expanded self-awareness described increased present-moment mindfulness and self-contemplation. One participant shared his realization from the retreat that, 'There's more things to life than just the things you do at home and the ordinary things. There's a lot of opportunities out there and you just got to take advantage of them.' Participants also spoke about experiencing increased bodily awareness and concentration during the walking meditation. 'When I took my left step I felt my weight pushing on my left side, like on my pelvis.' Another stated, 'You don't get distracted by the thoughts in your head and think about the next step you're going to take. You just go on, feel free. Felt kind of like Bruce Lee in the garden.'

**Resistance to meditation.** Resistance to meditation was described by a few of the participants. This referred to participants stating they disliked meditation, or found it unhelpful or challenging. One participant stated:

I didn't like all that sitting down and just keeping my eyes closed... It didn't really help me... At the end, I was still mad at what at whatever I was mad about. It just wasn't for me.

**Future meditation practice.** Future meditation practice was described by a few of the participants. This referred to participants stating meditation would help in their future. One participant commented, 'I think I'm going to keep on practicing. I'm going to keep on meditating and whenever I feel stressed or too much pain in my chest, I'm just going to meditate.'

## Discussion

Preliminary qualitative findings suggest that participants may have benefited from the one-day meditation retreat. However, no statistically significant differences between treatment and control groups were observed. As is common with intensive meditation, youth also spoke about challenges with the retreat.

Assessing MBAs 10-week meditation programme overall, early evidence indicates that no participants were harmed, notable given the high trauma exposure and morbidity rates among incarcerated youth (Teplin et al., 2002), and that participants may have benefited. Qualitative themes describing benefits of meditation (enhanced well-being, increased self-discipline, increased social cohesiveness, expanded self-awareness) are consistent with prior research (Brown & Ryan, 2003). Although only self-regulation reached statistical significance, all psychometric markers (mindfulness, self-regulation, impulsivity and stress) demonstrated psychological enhancement, suggesting potential benefit. The observed increase in self-regulation corroborates with the consensus theme of increased self-discipline,

noteworthy because research has shown that juvenile offenders with more impulsiveness (i.e. lacking self-discipline) have increased incarceration time (Vitacco, Neumann, Robertson & Durrant, 2002).

Although one might expect meditation to improve behaviour, we did not observe differences in behavioural points. The extent to which life-skills cultivated by meditation interventions translates into behaviour change remains unclear.

Limitations of this study include lack of randomization, lack of a comparison group who received no meditation training, small sample size and subjectivity of data. There may have been bias because probation staff was not blinded to study condition and there were no protocol standards for the behavioural points (G. Sugiyama, personal communication, February 10, 2012). Selection bias may also have been an issue as participants were recruited from a group of youth who had self-selected to participate in MBAs meditation course. Also, self-report bias may have been an issue. Given the study design, additional limitations with measuring the effectiveness of the retreat arose. Although the quantitative data allowed us to evaluate whether the one-day retreat added value to the 10-week course, given the chosen study design, we were not able to evaluate the effectiveness of the retreat alone. Similarly, qualitative data on the effectiveness of the retreat was not analysed separately from data on the overall programme, which limited our ability to draw conclusions on the effectiveness of the retreat alone. Finally, while several of the qualitative themes described benefits of meditations experienced during the course, the extent to which meditation benefited participants once outside of the course remains unknown.

Future studies of intensive meditation interventions with incarcerated youth with larger sample size and randomization of participants who are followed over time are warranted. Longitudinal studies examining well-being, academic achievement and recidivism could provide insight into potential lasting benefits.

In conclusion, early evidence suggests that meditation interventions for incarcerated youth are feasible, not harmful and may provide benefit. The challenge lies in developing the optimal intervention that maximally promotes the well-being of these vulnerable youth.

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**Appendix**

**Table 1.** Distribution of youth characteristics by study condition

	Total	Participant in 10-week course plus 1-day retreat (n = 16)	Participant in 10-week course alone (n = 13)
Age (years), mean (SD)	16.3 (0.891)	16.5 (0.816)	16.1 (0.954)
Highest grade completed, %			
8th or less	10.3	12.5	7.7
9th	17.2	12.5	23.0
10th	44.8	56.3	30.8
11th	20.7	12.5	30.8
12th	7.0	6.2	7.7
Ethnicity, %			
Caucasian/White	3.5	0.00	7.7
Black	10.3	12.5	7.7
Latino	65.5	62.4	69.2
Asian/Pacific Islander	10.3	6.3	15.4
Other	3.5	6.3	0.00
Mixed	6.9	12.5	0.00
Language at home, %			
Only English	24.1	25.0	23.1
English more than other language	27.6	37.5	15.4
Both equally	24.1	12.5	38.5

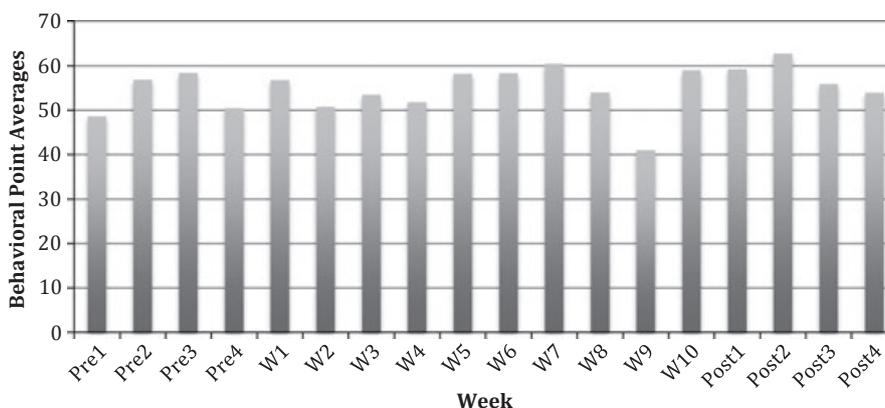
(continued)

**Table 1.** (continued)

	Total	Participant in 10-week course plus 1-day retreat (n = 16)	Participant in 10-week course alone (n = 13)
Other language more than English	13.8	12.5	15.4
Only other language	10.4	12.5	7.6

**Table 2.** Timetable of activities at one-day retreat

09:00	Orientation & check-ins
09:45	Module: Discussion on meditation
10:30	Break
10:45	Sitting and walking meditation
12:00	Silent Lunch
12:30	Check-ins
13:00	Ball game
13:15	Sitting and walking meditation
14:00	Break
14:15	Meditation on eating chocolate
14:35	Trust fall
15:10	Fire ceremony
15:40	Closing circle
16:30	End/Return to detention camp



**Figure 1.** Weekly behavioural points awarded to participants during study period. shows average weekly behavioural point totals awarded to participants in the 4 weeks before the meditation courses (Pre1–Pre4), during 10-week courses (W1–W10), and in the 4 weeks following courses (Post1–Post4).

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