

Mindfulness in Schools

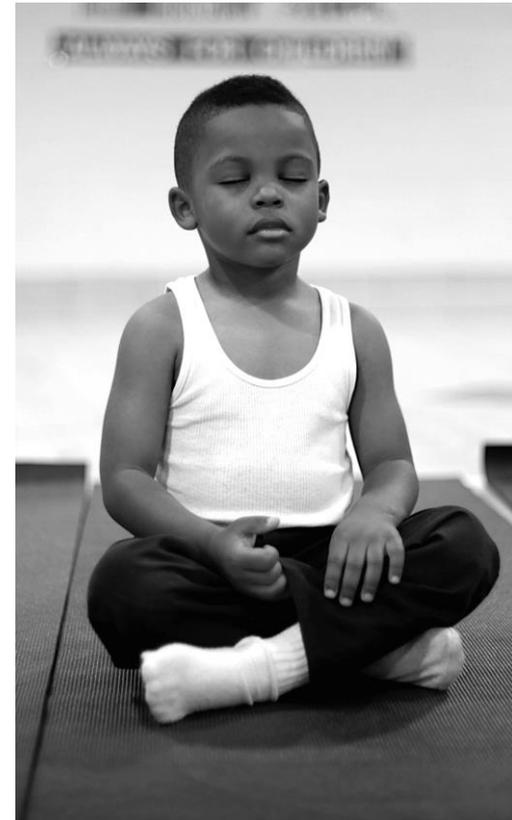


Tamar Mendelson, PhD

Johns Hopkins Bloomberg School of Public Health

Agenda

- Background
- Holistic Life Foundation
- RAP Club
- DeStress Monday at School



Childhood traumatic experiences are common

- >46% of US youth have had at least one Adverse Childhood Experience (ACE)
- >20% have had at least 2 ACEs
- Children aged 3-5 with 2 or more ACEs over 4 times more likely to:
 - Have trouble calming down
 - Be easily distracted
 - Have a hard time making and keeping friends

RWJ and CAHMI data, 2017

https://www.rwjf.org/en/library/articles-and-news/2017/10/traumatic-experiences-widespread-among-u-s-youth--new-data-show.html?utm_source=HCHW+ACEs+Partner+List&utm_campaign=16cb074aa3-EMAIL_CAMPAIGN_2017_10_19&utm_medium=email&utm_term=0_e4fea72c90-16cb074aa3-152060665

“We did an impromptu survey on how our children experience death, and the number of deaths that they experienced were alarming. I likened it to having post-traumatic stress disorder as soldiers do. However, our children is not post, because they are not removed from the situation...”

--Baltimore City Public School principal

Developmental neuroscience perspective

- Childhood adversity alters brain development, impacts stress response system
- Disruptions in cognitive and emotion regulation capacities
- Impaired capacities for self-regulation linked with range of social-emotional problems

Anderson, 2003; Anderson & Teicher, 2009;
Teicher et al., 2002





I have noticed that people are dealing too much with the negative, with what is wrong... why not try the other way, to look into the patient and see positive things, to just touch those things and make them bloom?

--Thich Nhat Hanh

What is mindfulness?

“Mindfulness means paying attention in a particular way; on purpose, in the present moment, and nonjudgmentally.”

---Jon Kabat-Zinn

What is mindfulness?

“Mindfulness is... about paying attention. That’s what meditation is, no matter what tradition or particular technique is used. In Asian languages, the word for mind and the word for heart are the same. So if you’re not hearing mindfulness in some deep way as heartfulness, you’re not really understanding it. Compassion and kindness towards oneself are intrinsically woven into it. You could think of mindfulness as wise and affectionate attention.”

—Jon Kabat-Zinn

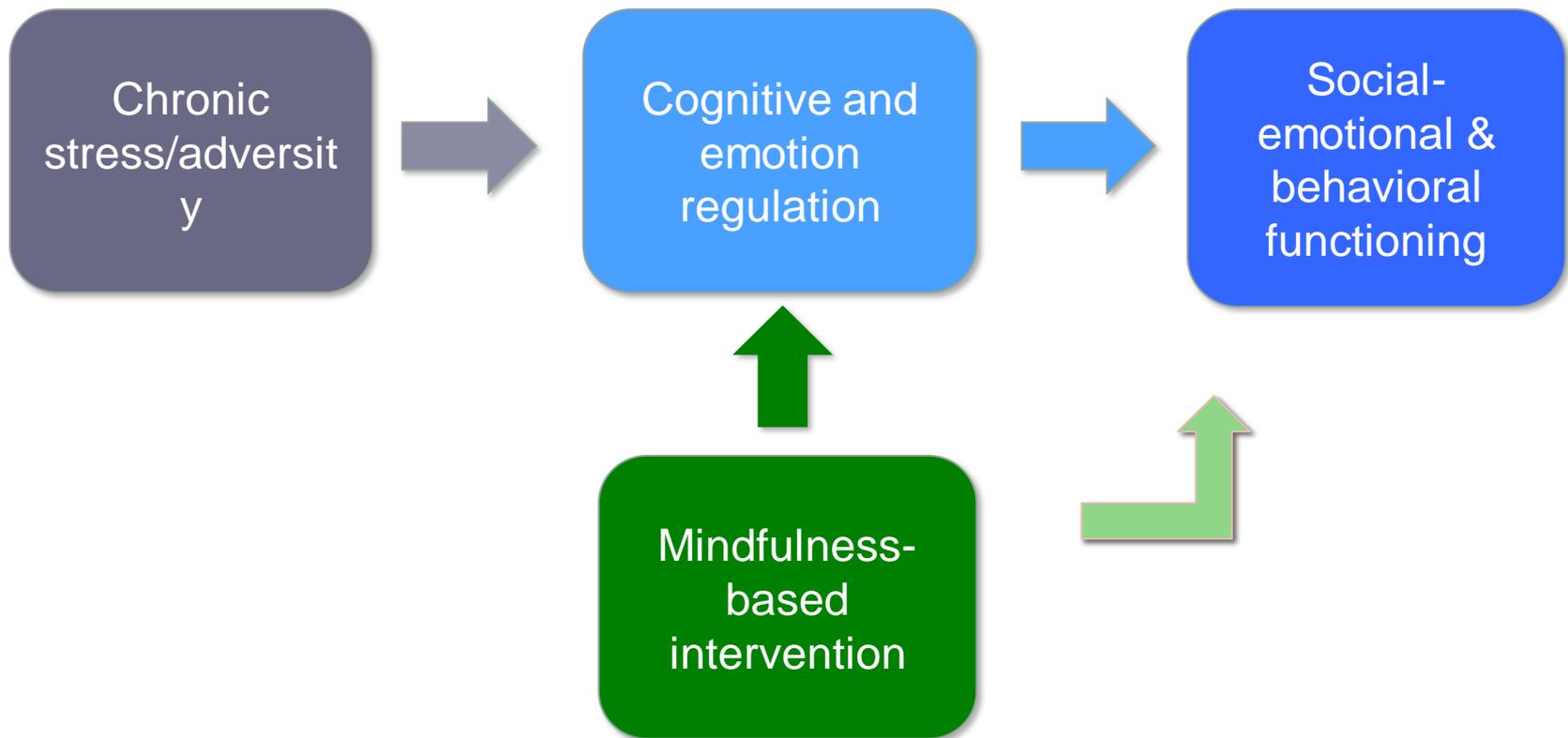
<http://healthland.time.com/2012/01/11/mind-reading-jon-kabat-zinn-talks-about-bringing-mindfulness-meditation-to-medicine/>

Why bring mindfulness to urban public schools?

- Increase capacity for cognitive & emotion regulation
- Reduce negative effects of chronic stress exposure
- Promote effective stress management
- Potential to reduce or prevent:
 - depressive symptoms
 - social and behavioral difficulties
 - academic problems
 - early substance use initiation

Black, Milam, & Sussman, 2009; Birdee et al., 2009;
Galantino, Galbavy, & Quinn, 2008

Hypothesized intervention effects



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The Holistic Life Foundation (HLF)



- www.hlf.org
- Co-Founders
 - Ali Smith, Executive Director
 - Atman Smith, Director of Youth Programming
 - Andres Gonzalez, Chief Financial Officer
- Stress reduction, yoga & mindfulness training

Two randomized studies

- Pilot study (n = 98)
 - Yoga 4x per week for 12 weeks
 - Improvements in student-reported self regulation in response to stress ($d = .83$)
- NIDA R34 (n = 251)
 - Yoga 2 x per week for 15 weeks
 - Did not replicate pilot finding on self regulation

Feagans Gould et al., 2012; Feagans Gould et al., 2013;
Mendelson et al., 2010; Mendelson et al., 2013

School-based mindfulness and yoga

- Breathing to settle in
- Yoga-based poses
- Breathing practice
- Discussion
- Guided reflection
- Assigned practice



Study #1: Intervention effects on self-regulation

	Adjusted Mean (Standard Error)		
Time 2 Measure	Intervention	Control	ES Cohen's <i>d</i>
Responses to Stress Questionnaire - Involuntary Engagement Scale	0.75 (0.05)	1.05 (0.05)	0.83***
--Rumination	0.76 (0.08)	1.15 (0.08)	0.70**
--Intrusive Thoughts	0.68 (0.07)	0.95 (0.08)	0.51*
--Emotional Arousal	0.65 (0.07)	1.00 (0.08)	0.64**
--Impulsive Action	0.99 (0.09)	1.23 (0.09)	0.38
--Physiologic Arousal	0.70 (0.07)	0.91 (0.07)	0.39

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Study #2: Analysis of self-regulation

- Did not replicate our pilot study finding for self-regulation... why not?
- Intervention dose and frequency
 - *What amount and intensity of program exposure is adequate to produce change?*
- School implementation factors
 - *What school characteristics facilitate or limit effective program implementation?*
- Measurement
 - *How should program impact be assessed?*
 - *How should program delivery be assessed?*

Student voices from study #2

- *“Like if sometimes I don’t wanna fight them, I be like just, just calm yourself down, just sit down and move away from the situation.” (5th grade female)*
- *“I get to learn about new things and stuff to help me in life, when I grow up... or when I’m getting ready to do something that I know is not the right choice, then I have a way to calm me down.” (5th grade female)*
- *“I could use them [program skills] in the future because when you get older more things will happen so you will get more stressful, and you’ll think life is like over, so you might wanna learn yoga before that happens.” (6th grade male)*

Mindful Moment program

- Whole school approach
- Core components:
 - Daily mindfulness practices
 - Mindful Moment room
 - Student ambassadors
 - Staff outreach
- Delivered in elementary school and high school

“You know, whether they are out on the street or under protective care, they become statistics constantly because nobody takes the time to teach them to go inside themselves. And that's the strength and the benefit of this program... It is about once again being able to tune yourself to your own possibilities, to your own aspirations, to the secret that's in you, the power that's in you to accomplish whatever you want to. You know? This is the door that opens-- the door to revolution... so allowing people to know they have that strength, I think it's an answer to helping our communities, in general. So I'm very, very up on this program. I would recommend this to all schools. I would, definitely... this is a template that's needed in urban schools around the country...”

--Baltimore City Public School teacher

“For kids that live in a pretty tough city under some tough circumstances that deal with a lot of things that probably they never should at their age, figuring out how to keep yourself sane is pretty important.”

--Baltimore City Public School teacher

Acknowledgements – HLF research

Holistic Life Foundation

Ali Smith; Atman Smith; Andres Gonzalez; assistant instructors

Research team

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Jacinda Dariotis, PhD

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Funders

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Penn State Prevention Center

Johns Hopkins Center for Youth Violence Prevention

Mind and Life Institute

Attias Family Fund

Baltimore City Schools

Principals, teachers, parents, students



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RAP Club

- Adapted from **Structured Psychotherapy for Adolescents Responding to Chronic Stress (SPARCS)**
- Group treatment for adolescents exposed to trauma
- One of top 3 interventions disseminated through the National Child Traumatic Stress Network
- In diverse adolescent samples, found to improve:
 - Trauma, depressive, and anxiety symptoms
 - Impulsivity
 - Attention
 - Risk behaviors

Key adaptation elements

- Treatment → Universal prevention
- Clinic population → Community population
- Clinician leaders → Clinician and peer co-leaders

RAP Club

- 12-session group delivered twice per week
- Held during school day
- 45-minute sessions
- Co-led by mental health counselor and young adult community member

RAP Club components, skills, and strategies

Core intervention component	Skills	Session #	Evidence-based strategy
Identifying stress	Stress and the body	2	Psychoeducation
Awareness of emotional states	States of mind	3	Mindfulness
Using a mindful approach	Path to Wise Mind	4, 5	Mindfulness
Communication training	MAKE A LINK	6, 7	CBT
Problem solving	LET GO	8, 9	CBT
Distress tolerance	Distract	10	Mindfulness/CBT
	Self-Soothe	11	Mindfulness

The first and last intervention sessions are an introduction and a review/graduation.

Psychoeducation

- Information about stress and trauma
 - Community violence
- How stress affects the body
 - Body's alarm system
- How stress can make it harder to manage difficult emotions and make good decisions
 - “Bottle about to burst”

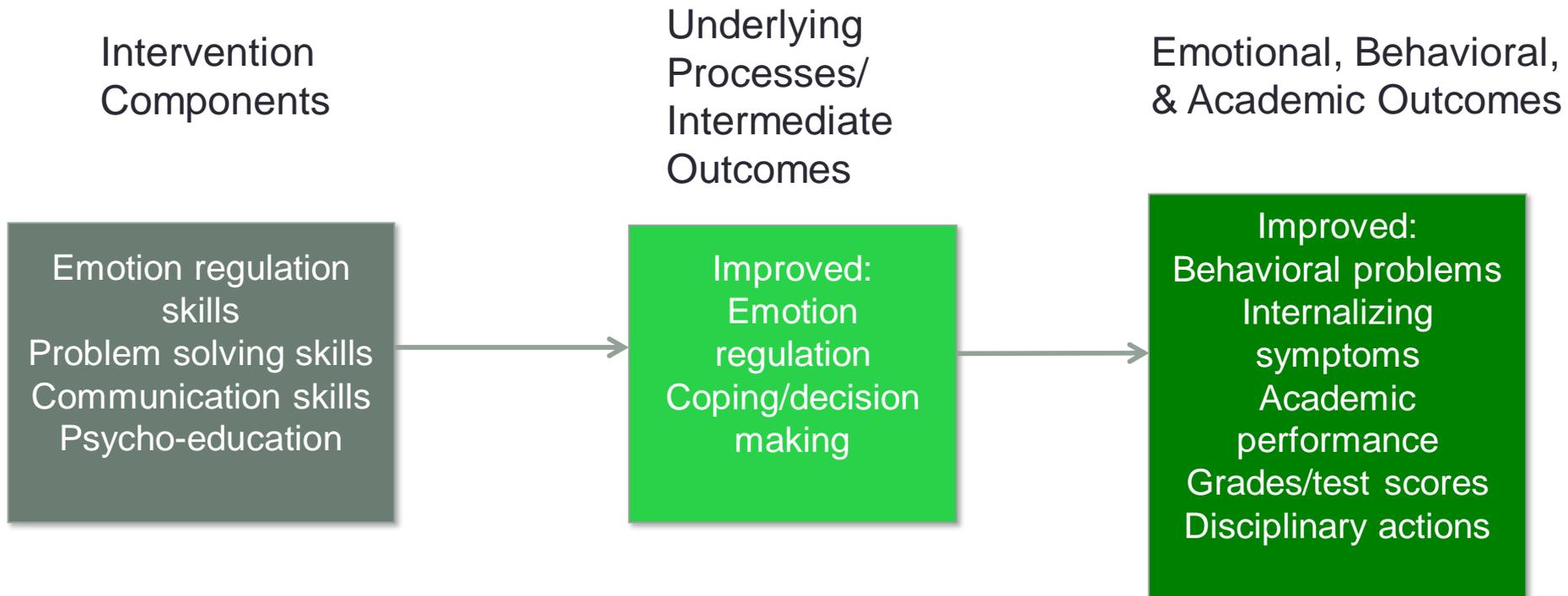
Mindfulness skills

- Awareness of emotions
 - Check in with yourself
- Using a mindful approach (“Wise Mind”)
 - Using your emotions and your logic to help you reach an effective way to handle a problem
- Distress tolerance
 - Hang in there when you have stress or painful emotions without doing something you’ll regret later

Cognitive behavioral skills

- Modify thoughts and behaviors to be more effective/adaptive
- Empirically supported for treatment of depression, anxiety, and trauma
- Communication skills
- Problem solving skills

Intervention theory of change



Pilot work with middle schools

- Implementation #1: 6th graders
- Implementation #2: 7th graders
- Implementation #3: 7th and 8th graders

Funder: National Institute of Mental Health
(P30 MH086043, Ialongo, PI)

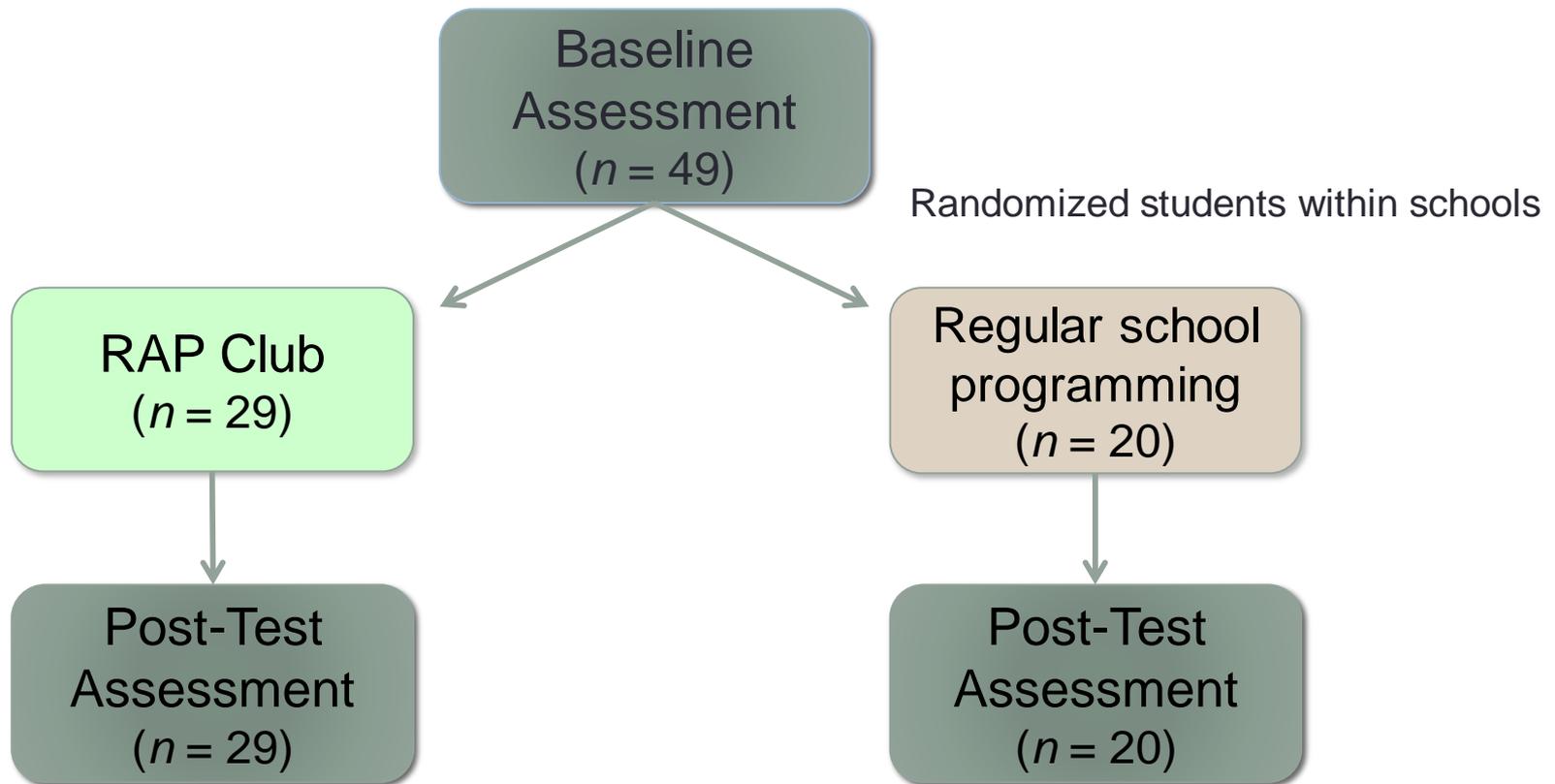
Pilot randomized study

- Piloted RAP Club at 2 Baltimore City Public Schools
- Small randomized study ($n = 49$ students)
- Assess:
 - Program's promise for improving social, emotional, and academic functioning
 - Association of baseline depressive symptoms with program outcomes
 - Association of program dose with program outcomes

Participant characteristics

Characteristics	N (%)
Grade	
7 th graders	23 (46.9%)
8 th graders	26 (53.1%)
Gender	
Female	31 (63.3%)
Male	18 (36.7%)
Race	
African American	46 (94%)
“Other”	3 (6%)
Age range	12-15 years

Study design



Student self-report measures

Measures	Constructs
Short Mood & Feelings Questionnaire (SMFQ)	Depressive symptoms
Adolescent Self-Regulatory Inventory	Regulation strategies
Children's Coping Strategies Checklist - reduced	Cognitive decision-making
	Support for actions
Emotional Awareness Questionnaire	Emotional awareness

Teacher-reported measures

Measures	Constructs
Strengths & Difficulties Questionnaire (SDQ)	SDQ total score
Academic Competence Evaluation Scales (ACES)	Academic competence
	Academic comparison
	Disciplinary sanctions
Social Competence Scale (SCS)	Dysregulation
	Social competence
	Attention
	Authority Acceptance
Student Internalizing Symptoms	Internalizing symptoms

Group differences in teacher-rated outcomes

Teacher-rated outcome variables	Intervention M (SD)	Control M (SD)	<i>F</i>	<i>p</i>	Cohen's <i>d</i>
SDQ Total	-1.48 (4.7)	-0.31 (3.7)	0.86	0.36	0.27
SCS dysregulation	-3.04 (4.7)	0.50 (3.41)	7.94	0.007	0.85
SCS social competence	2.04 (5.5)	-3.11 (6.4)	8.32	0.006	0.87
SCS attention	-0.56 (3.0)	0.65 (2.6)	2.07	0.16	-0.42
SCS authority acceptance	2.89 (4.6)	0.05 (3.4)	5.43	0.02	0.69
ACES academic comparison	0.67 (0.9)	0.45 (0.8)	0.74	0.4	0.25
ACES academic competence	1.15 (8.2)	-4.90 (7.6)	6.65	0.01	0.76
ACES disciplinary sanctions	-0.26 (1.8)	0.79 (1.8)	3.74	0.06	0.58
Internalizing	-1.03 (2.5)	-0.75 (3.1)	0.12	0.73	0.10

Means and SDs in the table reflect change scores between pre- and post-test scores

Baseline depressive symptoms

Baseline depressive symptoms	RAP Club students n (%)
Low depression (SMFQ score < 8)	24 (83%)
High depression (SMFQ score \geq 8)	5 (17%)

Comparison of outcomes for RAP Club vs. control students with low baseline depression
RAP Club students showed significant improvement compared with controls on:

Teacher-rated outcomes	<i>df</i>	<i>t</i>	<i>p</i>
Dysregulation	1, 39	2.9	< 0.01
Social competence	1, 38	-2.57	< 0.05
Academic competence	1, 40	-2.27	< 0.05
Authority acceptance	1, 39	2.53	< 0.05
Disciplinary sanctions	1, 39	2.28	< 0.05

Program dose

- Higher program dose (9-12 sessions) n=17 (58.6%)
- Lower program dose (1-8 sessions) n=12 (41.4%)
- Higher dose associated with better outcomes than lower dose on teacher reported:
 - Academic comparison ($t(1,25) = 2.93, p < 0.01$)
 - Discipline ($t(1,25) = 2.24, p < 0.05$)
 - Conduct problems ($t(1,25) = 2.4, p < 0.05$)

Study limitations

- Small sample size
- Volunteer sample
- Limitations to the randomization process
- No long-term follow ups

Randomized controlled efficacy trial

- 32 Baltimore City Public Schools ($n=800$ 8th graders)
 - 8 schools per year
 - Randomize students within schools
- Test RAP Club vs attention control condition
- Control group – Healthy Topics nutrition curriculum
 - Used as control in prior school based research (Sibinga)
 - Use same length and delivery format as RAP Club

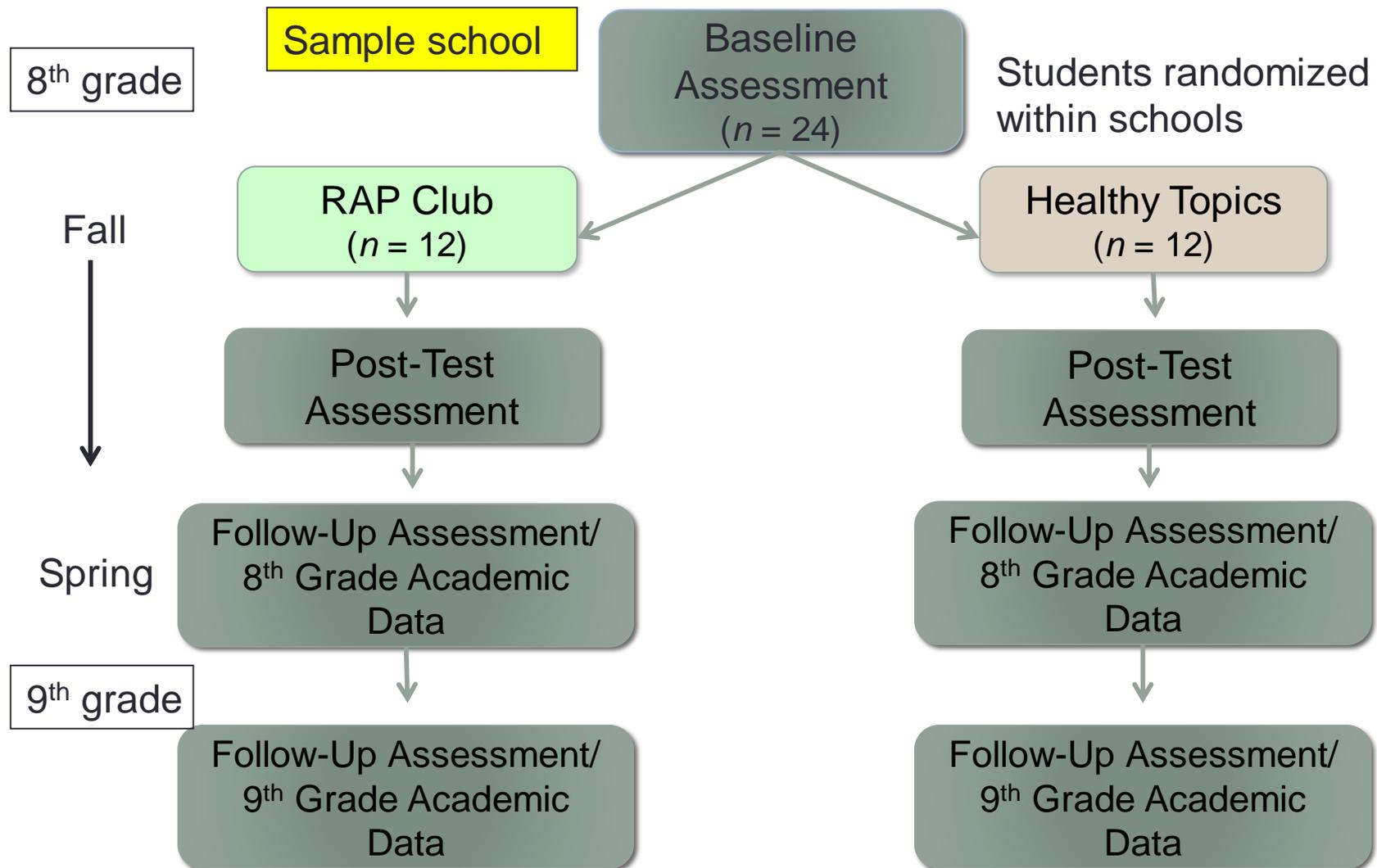
Funders:

IES (Goal 3), PI: Mendelson;
NICHD (R01), PI: Mendelson

Study aims

- Students randomized to RAP Club versus Healthy Topics will have:
 - Improved education outcomes
 - Improved emotional and behavioral outcomes
 - Improved self-regulation
- Explore potential moderators (baseline trauma exposure, emotion regulation) and mediators (changes in self-regulation)
- Evaluate factors related to program implementation, including program costs

Study design: 32 schools over 4 years



Program delivery

- Both programs co-led by young adult community members and by study team clinicians/trainees
- Train school personnel:
 - RAP Club: Clinicians/school counselors
 - Healthy Topics: School nurses, gym teachers, other
- Delivered during school day
- 12 45-minute sessions over 6 weeks

Benefits to schools, community members, and students

- Training school personnel in programs they can continue to use
- Experience for community members to build job skills
- Both programs should be of benefit to students

Assessments

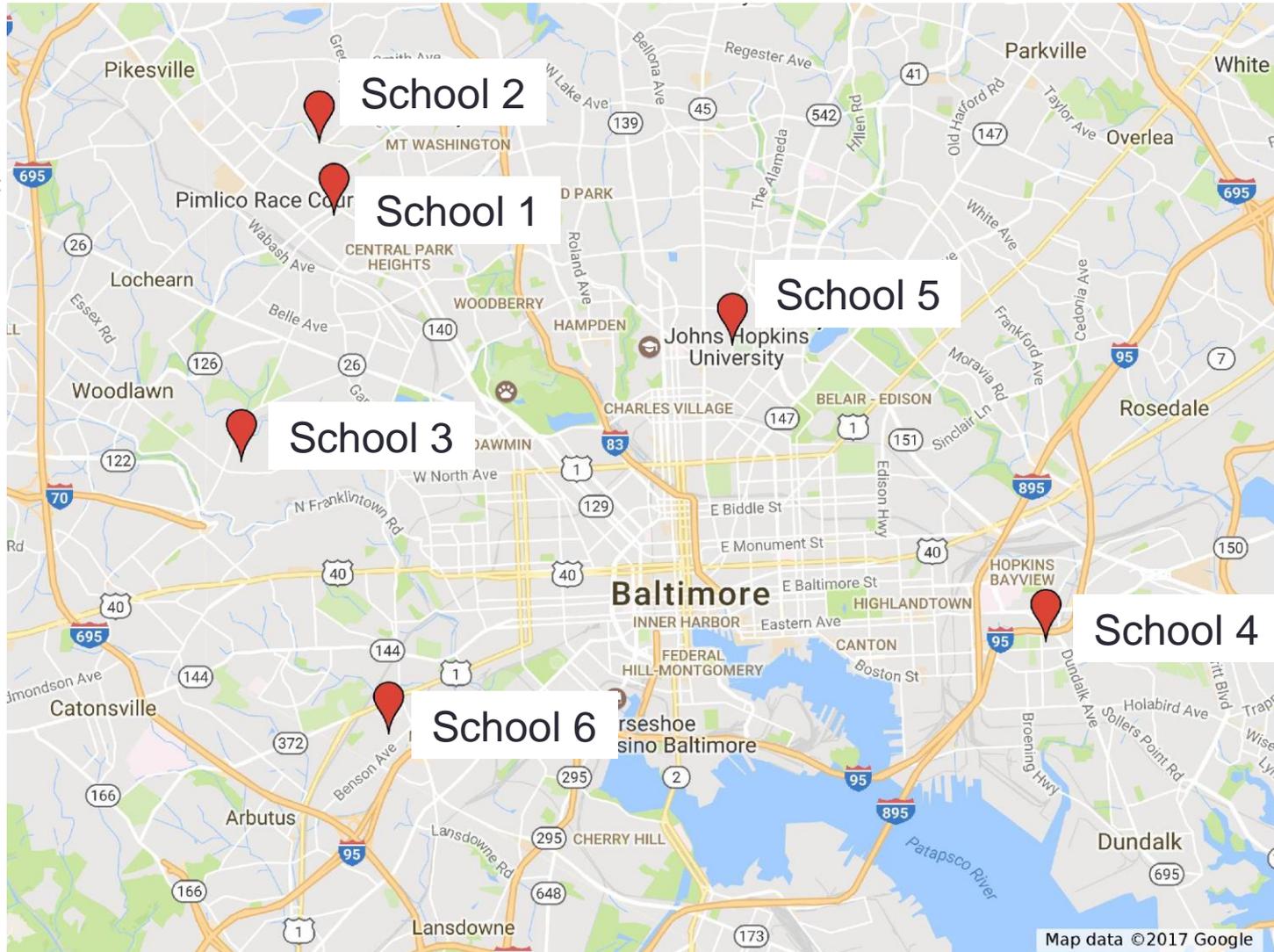
- Teacher and students surveys
 - Classroom behavior
 - Academic competence
 - Emotional symptoms
 - Self-regulation
 - Assess at baseline, post-intervention, and end of year
- Academic indicators
 - Grades, standardized test scores, attendance, disciplinary sanctions
 - 7th grade, 8th grade, 9th grade

Factors related to program sustainability

- Interview teachers, program instructors, and students to understand their experience of RAP Club
- Monitor program attendance and engagement to assess student interest
- Assess fidelity of program training and program implementation
- Cost analysis

IES trial year 1 schools ($n = 6$)

All K-8
Baltimore
City Public
Schools



School/student characteristics

	School 1	School 2	School 3	School 4	School 5	School 6
School enrollment	576	749	347	456	714	452
Race						
African American	89%	88.8%	96.8%	43%	92.3%	46.5%
White	--	1.9%	--	9%	2.2%	38.9%
Latino	9%	8.5%	1.7%	46%	4.1%	7.7%
Asian/Pacific Islander	--	--	--	2%	--	4.9%
Multiracial	--	--	--	--	1.1%	--
FARMS eligible	92.4%	81.8%	81.6%	95%	90.3%	84.5%
Chronic absence rate	17.6%	13.8%	24.1%	6%	13.7%	27.1%
# suspensions	27	3	18	11	52	57

School/student characteristics (2015-16)

	School 1	School 2	School 3	School 4	School 5	School 6
PARCC Math						
Did not meet expectations	57.6%	23.6%	20.2%	47.3%	46.3%	35.9%
Partially or almost met expectations	39%	63.7%	72.4%	49.1%	48.4%	57.6%
Met or exceeded expectations	3.4%	12.8%	7.3%	3.6%	5.3%	6.5%
PARCC English Language Arts						
Did not meet expectations	37.6%	18%	15.6%	50.9%	43.5%	41.1%
Partially or almost met expectations	56.1%	59%	70.6%	42.8%	45.1%	54.3%
Met or exceeded expectations	6.4%	23.1%	13.7%	6.4%	11.4%	4.6%

PARCC – standardized state testing; data here are for 6th – 8th graders

Enrollment and survey participation

School	Student Enrollment	Baseline survey	Post-Test Survey	Follow Up Survey
School 1	17	17 (100%)	17 (100%)	14 (82.4%)
School 2	20	20 (100%)	17 (85%)	17 (85%)
School 3	17	17 (100%)	17 (100%)	17 (100%)
School 4	21	21 (100%)	18 (85.7%)	17 (81%)
School 5	24	24 (100%)	23 (95.8%)	19 (79.2%)
School 6	23	23 (100%)	23 (100%)	20 (87%)
TOTAL	122	122 (100%)	115 (94.3%)	104 (85.2%)

Acknowledgements – RAP Club

- Research team:
 - Nicholas Ialongo, PhD
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- Baltimore City Schools and students

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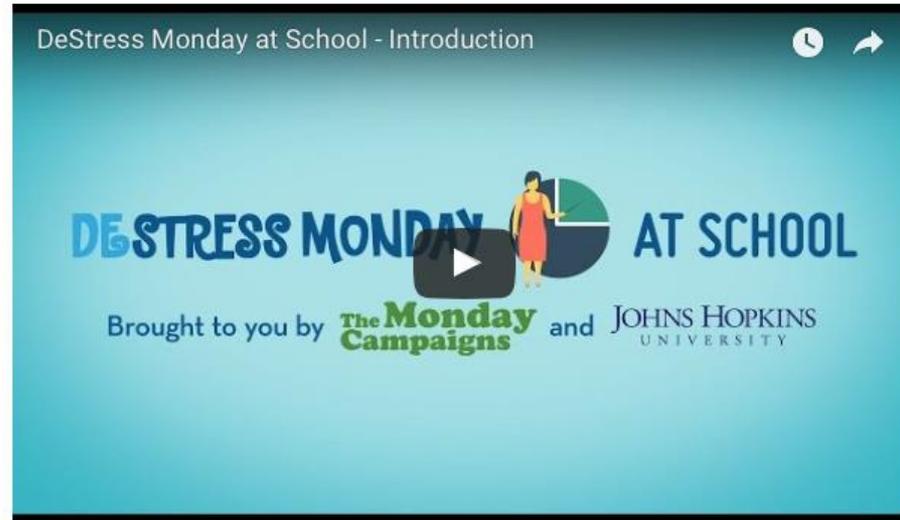
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What about teachers??

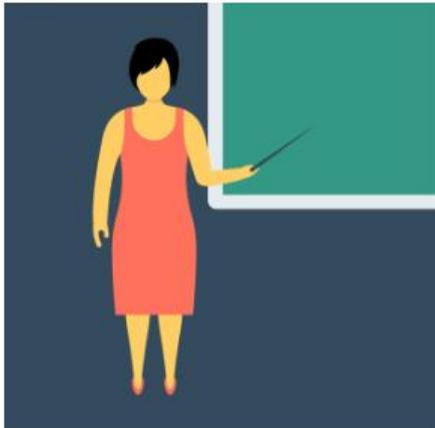


Teachers' Program

Welcome to a new stress reduction program designed especially for teachers by Johns Hopkins University and The Monday Campaigns. The goal is to help you start the week in a positive frame of mind and manage stress throughout the week. Each Monday, you'll receive an email with new stress reduction practices along with complementary exercises that can be used in the classroom. Watch this short introductory video and be sure to check back each week for new practices!



**DESTRESS
MONDAY**
Happy New Week!



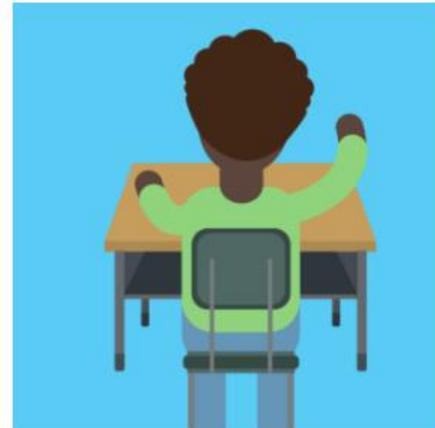
For Teachers

Each Monday during the program, new practices will be placed in this section for teachers. They're grouped under five themes – Starting the Day, Boosting Energy, Improving Focus, Calming the Mind and Connecting.



Curriculum

The Curriculum page contains an overview of all the practices, so you can plan ahead. New content will be added as live links each week during the program.



For the Classroom

This section features the weekly classroom practices that correspond to the five themes, so you and your students can learn together. Each week, new practices will be added, so be sure to stop back regularly.

For Teachers

Each Monday during the program, new practices will be placed in this section for teachers. They're grouped under five themes – Starting the Day, Boosting Energy, Improving Focus, Calming the Mind and Connecting. Visit [the curriculum page](#) for a helpful overview.



Starting the Day for Teachers



Boosting Energy for Teachers



Improving Focus for Teachers



Calming the Mind for Teachers



Connecting for Teachers

Acknowledgements

- The Lerner Center for Public Health Promotion
- The Monday Campaigns, Inc.
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- Many thanks to our teacher participants and their classrooms!

Take home points

- Mindfulness strategies can be offered
 - In different formats
 - To children of different ages
 - To students or teachers or both
- Mindfulness offers potential for enhancing emotion regulation skills
- Research is just beginning...

Stay tuned...!



Thank you!

- Tamar Mendelson, PhD - tmendel1@jhu.edu

