

MINDFULNESS-BASED PROGRAMS FOR STRESS AND HEALTH & THE SOLES OF THE FEET MINDFULNESS PROGRAM

April 5th, 2022

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Introductions and welcome!

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- Teachers, students, school staff, students/clients, and all other community partners
- **Land acknowledgement to the Cayuga and Onondaga Nations of the Haudenosaunee Confederacy**



Presentation Overview

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- 1. Stress and health
- 2. Mindfulness and mindfulness-based programs
- 3. Soles of the Feet: an evidence-based MBP
- 4. Next steps in SOF and MBP research and practice
- 5. Q&A (and please ask questions anytime!)

Brief introduction

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- CNY roots & University of Rochester
 - Post-bac RA at Brown University DPHB
 - Graduate school University of Oregon SPED and SPSY
 - ▣ Scientist-practitioner, school and child clinical psychology
 - Pre-doc Boston Children's-Harvard Medical School
 - Post-doc at Brown University DPHB
 - Assistant Professor at Syracuse University
 - ▣ Director of Mind Body Laboratory
 - ▣ DCT for SPSY program
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My program of research

- Interested in mechanistic physiological pathways of MBP affects on health (broadly defined)
- School/community settings and youth generally (including parents and school/professional staff)
- Data-informed recommendations to create high-quality research to advance the field

Intentions

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- Concern for health
- Per the Constitution of the WHO...
 - ▣ Not merely absence of disease
 - ▣ Complete physical, mental, and social well-being
 - ▣ Capacity to fulfill potentials
 - ▣ Fundamental human right
 - ▣ Healthy child development is foundationally important
- We are concerned about the health of youth, and we want to promote health for all
 - ▣ Stress profoundly affects all of us and our health!



1. Stress and health

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- Stress: (1) environment is judged to endanger well-being and (2) resources unavailable to cope
- Stress activates the “fight or flight” survival response
 - ▣ Adaptive in many contexts (e.g., athletics, academic performance, work deadlines)
- Example...

Stress: (1) environment is judged to endanger well-being and (2) resources unavailable to cope



1. Stress and health

- **Acute** stress causes **adaptive** “fight or flight” response
 - ▣ e.g. bears
- **Chronic** stress is a **major risk factor** for health:
 - ▣ Mental health (anxiety and depression)
 - ▣ Physical health (blood pressure, sleep, immune function)
 - ▣ Unhealthy coping behaviors (poor diet, smoking, drinking, sexual risk-taking)
 - ▣ Reduced quality of job/interpersonal performance (interpersonal conflict with family/friends/colleagues)

1. Stress and health

- Disasters/traumas create stress for everyone
 - ▣ SARS-CoV-2 pandemic

- Trauma/adverse life events cause additional stress burden
 - ▣ ACEs, poverty, & community violence

- Occupational risks for stress
 - ▣ First-responders
 - ▣ Police
 - ▣ Educators, teachers, and school administrators

1. Stress and health

- Parenting is stressful, particularly with increased caregiving demands
- 50% of teachers report daily high levels of stress
 - ▣ Agree with "*The stress and disappointments involved in teaching at this school aren't really worth it.*"
- Minority stress experienced by at-risk populations
 - ▣ Racial discriminatory stressors
 - ▣ Sexual gender minority stressors
- Normative developmental stressors during adolescence
- Accumulative effects of these stressors represents a **major public health problem**

1. Stress and health

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News Release

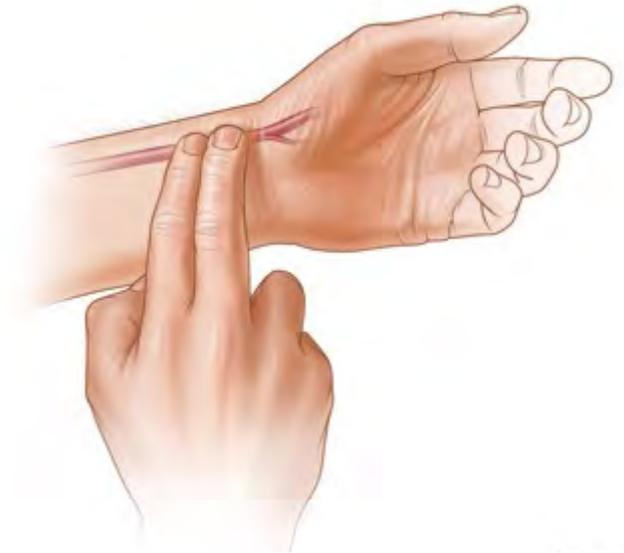
Pediatricians, Child and Adolescent Psychiatrists and Children's Hospitals Declare National Emergency in Children's Mental Health

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Tips for Healthcare Professionals:
COPING WITH STRESS AND COMPASSION FATIGUE

Brief Activity #1 – Stress and HR

- Mini-experiment...
- Find your radial artery
- Think about a recent/current job/parenting challenge
- Remember this number



1. Stress and health



- Unfortunately, stress exposure is difficult to mitigate given its heterogeneity and scale
- Fortunately, individuals can be taught how to respond to stressors to reduce stress
- Clinical scientists are increasingly interested in **mindfulness based-programs** (MBPs) to alter responses to stress exposure

2. Mindfulness and MBP

- What do you think mindfulness is? What have you heard?

- Mindfulness is not...
 - ▣ **Buddhism**- religion, philosophy, and practice
 - ▣ **Meditation**- contemplation, reflection, or concentrative exercise
 - ▣ **Attention**- apply the mind to an object of sense
 - ▣ An **app**...or a **quick fix** for stress or spirituality
 - ▣ A fad

2. Mindfulness and MBP

Mindfulness is the awareness that arises through paying attention on purpose, in the present moment, and nonjudgmentally

-Jon Kabat-Zinn

- *The self-regulation of attention so that it is maintained on immediate experience ... an orientation that is characterized by curiosity, openness, and acceptance*

Bishop et al., 2004

2. Mindfulness and MBP

- Answers will vary (humanities scholar, psychologist, researcher, practitioner by lineage)
- A visual conceptualization...



Context

...attention...
on purpose...
in the present
moment...
nonjudgmental

2. Mindfulness and MBP

- Activities and “curricula” to enhance mindfulness are well-developed in millennia of Buddhist practice
- Since 1970’s Western secular health-applications
- Mindfulness-Based Programming (MBP)
 - ▣ Increased well-being, reduced psychological symptoms, improved behavior regulation (Keng et al., 2011)
 - ▣ Reduces stress in healthy populations (Chiesa & Serretti, 2009)
 - ▣ Reduces stress/psychological problems in clinical populations (Khoury et al., 2013; Hoffman et al., 2010)
- Does not target systemic roots of stress!

2. Mindfulness and MBP

- Stress: (1) environment is judged to endanger well-being and (2) resources unavailable to cope

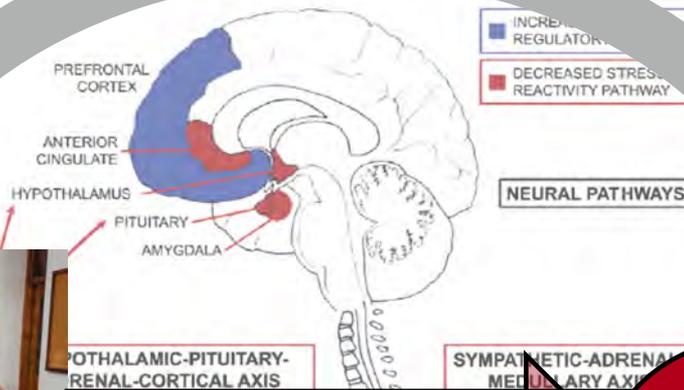
- **Mindful Stress Buffering Account** Creswell & Lindsay, 2014
 - Mindfulness mitigates stress appraisals and reduces stress-reactivity responses, and that these stress reduction effects explain how mindfulness affects health outcomes.”

- *“I began living my life more consciously, for example, in regard to how I coped with stress. I started to take a little time in situations to ask myself: How do I want to deal with this? How am I reacting to my environment?”*

- *“In stressful situations I could sometimes take a step back and pause before I responded.”*

2. Mindfulness and MBP

“top-down” regulatory pathway

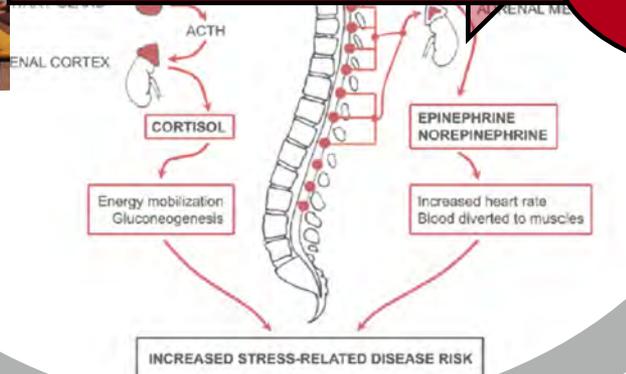


• Direct health effects

- Onset of disease, e.g., hypertension
- Exacerbation of existing disease
- Negatively impact development

• Indirect health effects

- Alters health behaviors, e.g., substance use
- Impairs cognitive functioning and performance



“bottom-up” reactivity pathway

World Health Organization

- Not just disease absence
- + Physical, mental, and social
- Fundamental human right
- Healthy child development

2. Mindfulness and MBP

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- Mindfulness-based programs are highly heterogeneous
 - ▣ e.g., in school MBP, dosage range 75 to 2,160 min between 4 to 60 total session (Felver et al. 2016)
 - ▣ Only a few MBPs have been replicated
 - Very few MBP for youth
 - ▣ Implementation inconsistency obfuscate ability to make causal inference about outcomes (Baelen et al. in preparation)

- Defining MBPs for youth

2. Mindfulness and MBP

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- What are the core program components of youth MBP
- Asked top 18 youth MBP scholars and 21 expert MBP clinicians what they thought...
 - ▣ *A central aim of this study is to identify expert consensus regarding the **essential core components** of Mindfulness-Based Programming (MBP). By essential core components we mean the necessary, important, fundamental, and central constituent elements of the larger multifaceted curricular sequence referred to as MBP. Essential core components can also be thought of as the active ingredients of a program – what actually produces programmatic impacts.*

2. Mindfulness and MBP

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- Consensus core components of youth MBP
 - ▣ *Self-awareness*
 - ▣ *Non-judging*
 - ▣ *Focused attention*
 - ▣ *Orienting to present moment*
 - ▣ *Acceptance*
 - ▣ *Compassion*
 - ▣ *Somatic awareness*
 - ▣ *Non-reacting*
 - ▣ *Decentering*

Mindfulness is the awareness that arises through paying attention on purpose, in the present moment, and nonjudgmentally

-Jon Kabat-Zinn

2. Mindfulness and MBP

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2. Mindfulness and MBP

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Activity #2 – mindful breathing

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Preparation for “3-minute breathing space” practice

(Mindfulness-Based Cognitive Therapy (MBCT); Segal, William, & Teasdale, 2018)

- Step one – noticing thoughts, feelings, and body
- Step two – focusing on breathing
- Step three – expanding awareness
- Key concepts:
 - Paying attention on purpose
 - The present moment
 - Nonjudgment and Acceptance
 - Posture and mind-body connection

Activity #2 – mindful breathing

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- (a) Paying attention to your breath
 - ▣ The full sensation of inhale
 - ▣ The full sensation of exhale
 - ▣ The novelty of this breath
 - ▣ The gap between inhale/exhale and exhale/inhale
- Target: lower abdomen (just below your navel)
 - ▣ Noticing the stretching during the inflation...
 - ▣ Noticing the movement in the deflation

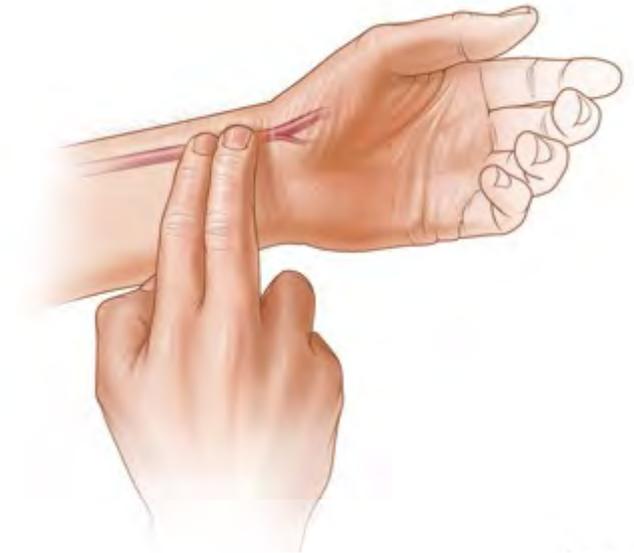
Activity #2 – mindful breathing

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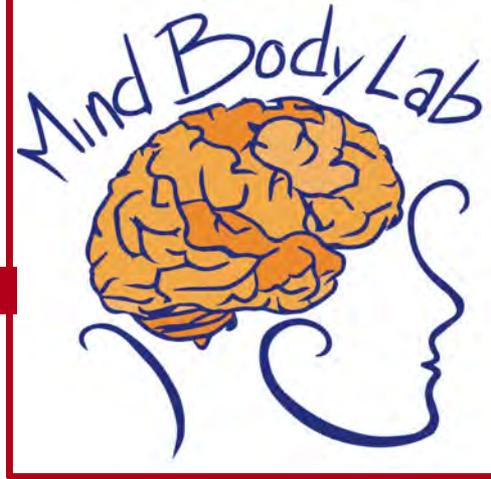
- (b) When you notice your mind has wandered, coming back to your breath
- Congratulate yourself when you notice wandering attention!!! This is a moment of mindfulness
- Remember: can't do this poorly (or well)
- Using breath as the anchor of awareness

Brief Activity #2 – mindful breathing

- Simply follow along to guided instruction...
- Find your radial artery
- How does this number compare to the earlier?
- What would happen with repeated practice?



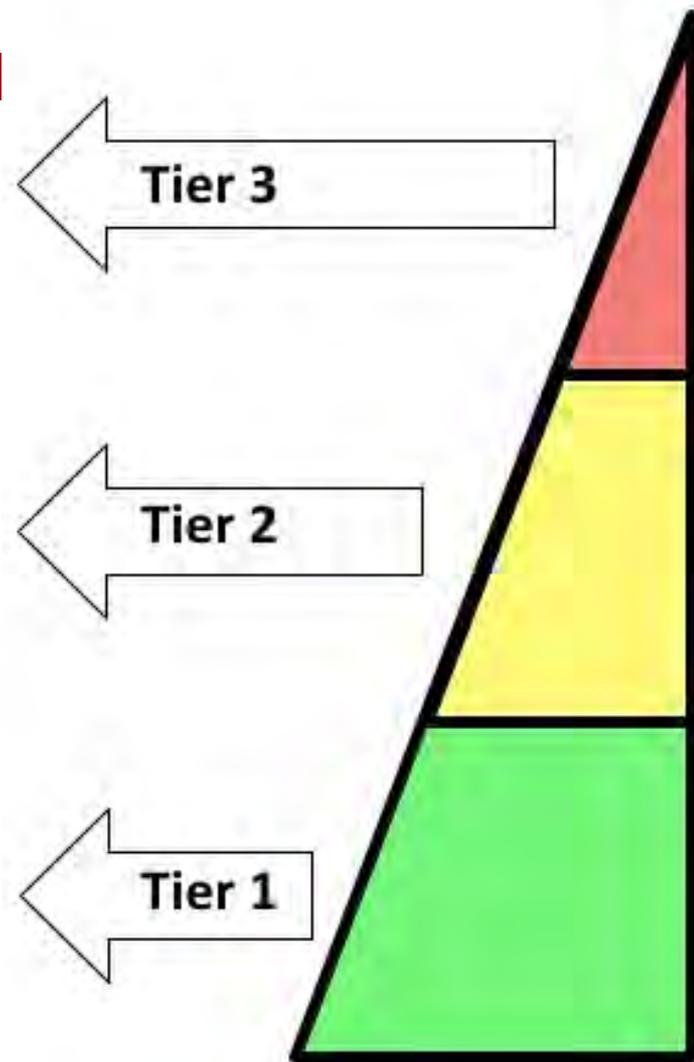
The Mind Body Laboratory



- *The mission of the Mind Body Laboratory is to investigate ways to promote health and prevent negative outcomes in youth, schools, and families through the use of contemplative practices and interventions.*
- <https://mindbodylab.syr.edu/>

The Mind Body Laboratory

- Intensive Interventions
 - ▣ *Soles of the Feet* for individual students w/ disruptive behaviors
- Targeted Interventions
 - ▣ *Soles of the Feet* for students with test-anxiety
 - ▣ MBSR for students with high stress
- Universal Interventions
 - ▣ KYIS during physical education
 - ▣ L2B during health and wellness
 - ▣ Mindful breathing during transitions

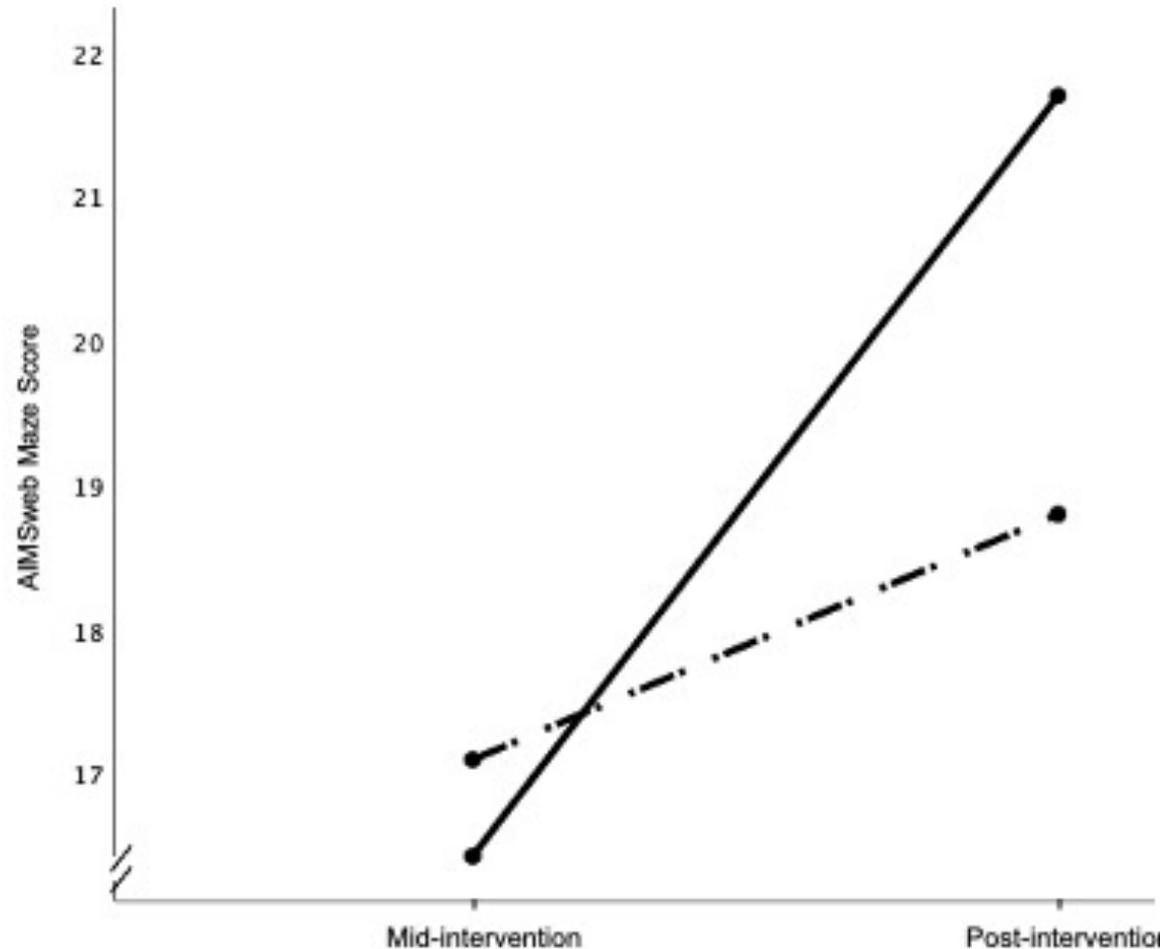


Felver et al. (2013) *Mindfulness in school psychology: Applications for intervention and research*

Adolescent reading comprehension

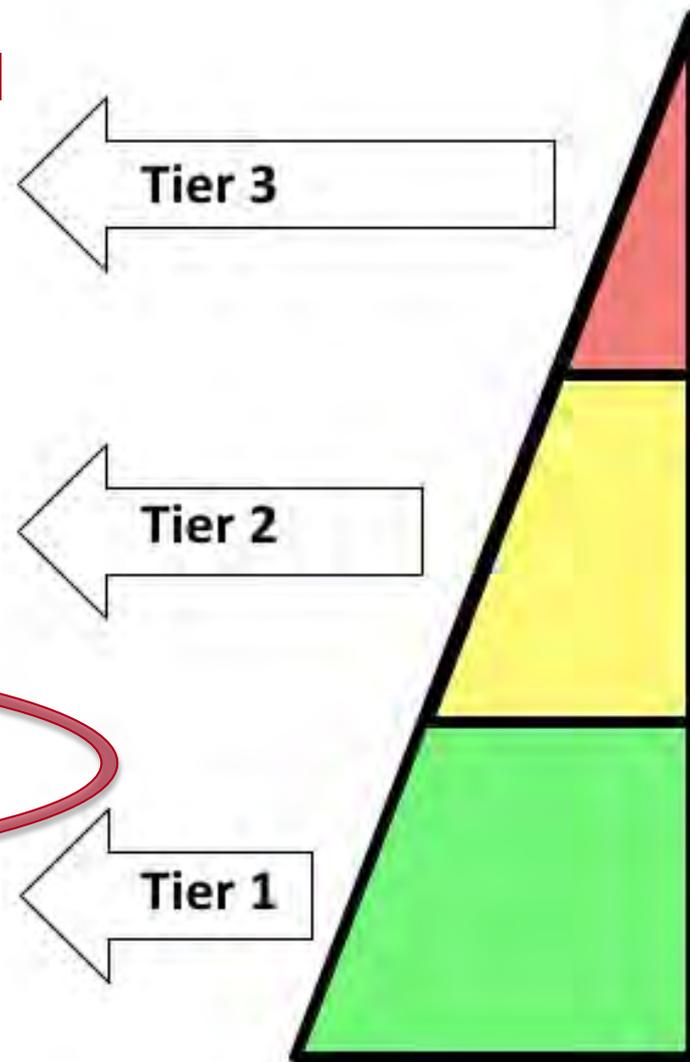
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- 7th grade students ($n=56$; 79% Black)
- Urban high-poverty middle school
- Randomly assigned to 5-min mindful breathing or active control



The Mind Body Laboratory

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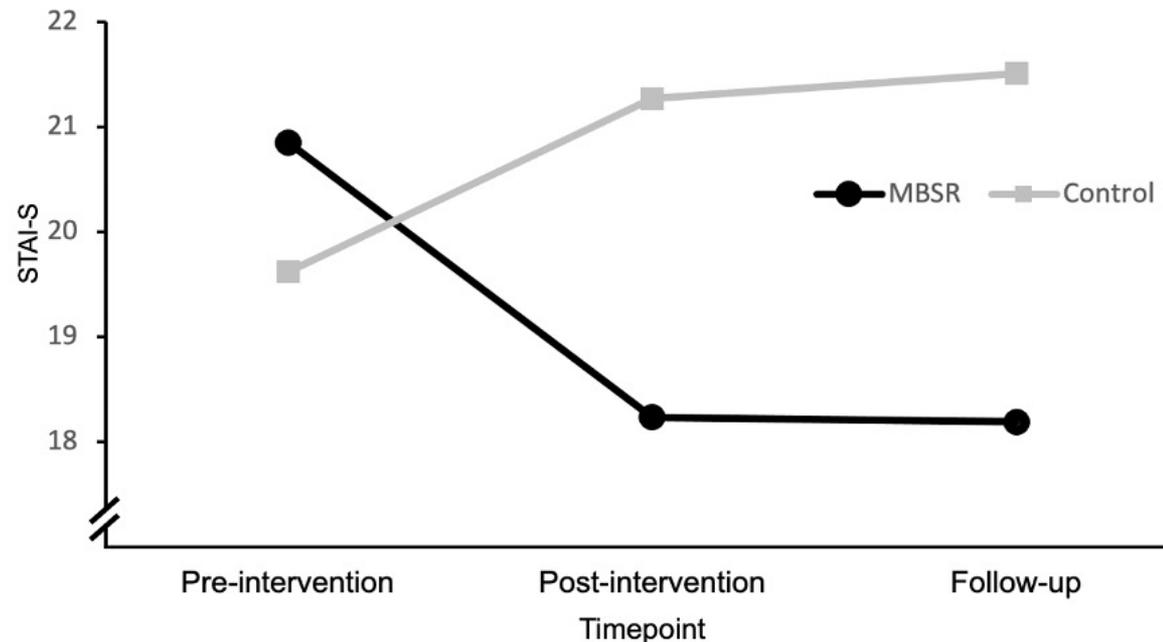


Adolescent reading comprehension

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- 144 undergraduate students (mean age 21 years)
- MBSR ($n=34$) and typical college course ($n=110$)
- Self-regulation as a potential mechanism

Figure 4. Repeated measures ANCOVA of the effect of group on state anxiety over time.



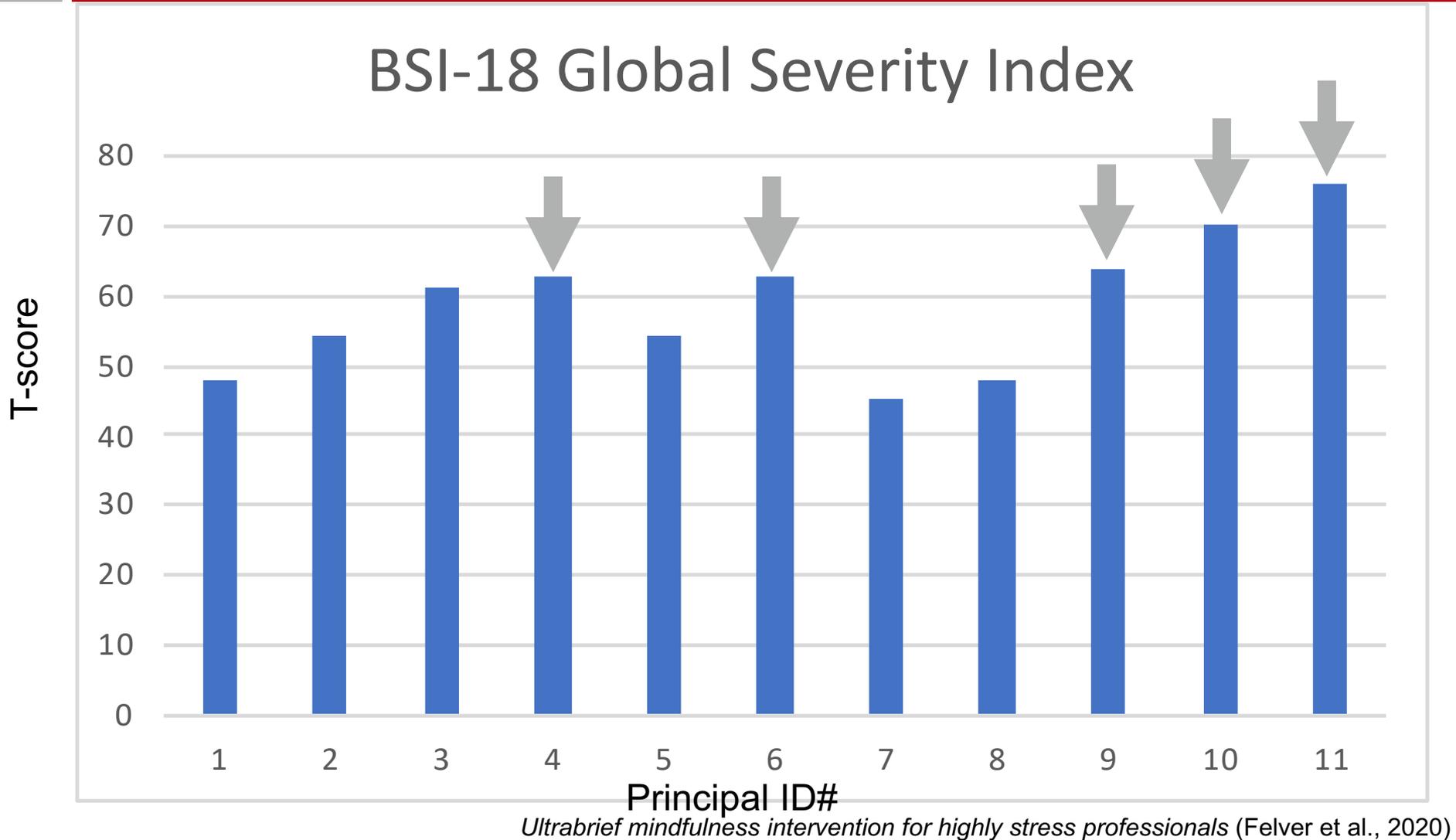
Mindful Principal Project

- Two 45-minute trainings about two weeks apart
- Daily 5 minutes of guided (audio recording) practice at work
- Morning text message reminders to practice
- Self-reports about psychological distress and quality of life before and after training
- 11 SCSD principals consented for participation
 - All attended first training
 - About half completed surveys, attended both trainings, and practiced
 - About half were too busy (stressed?) to attend stress reduction workshop...

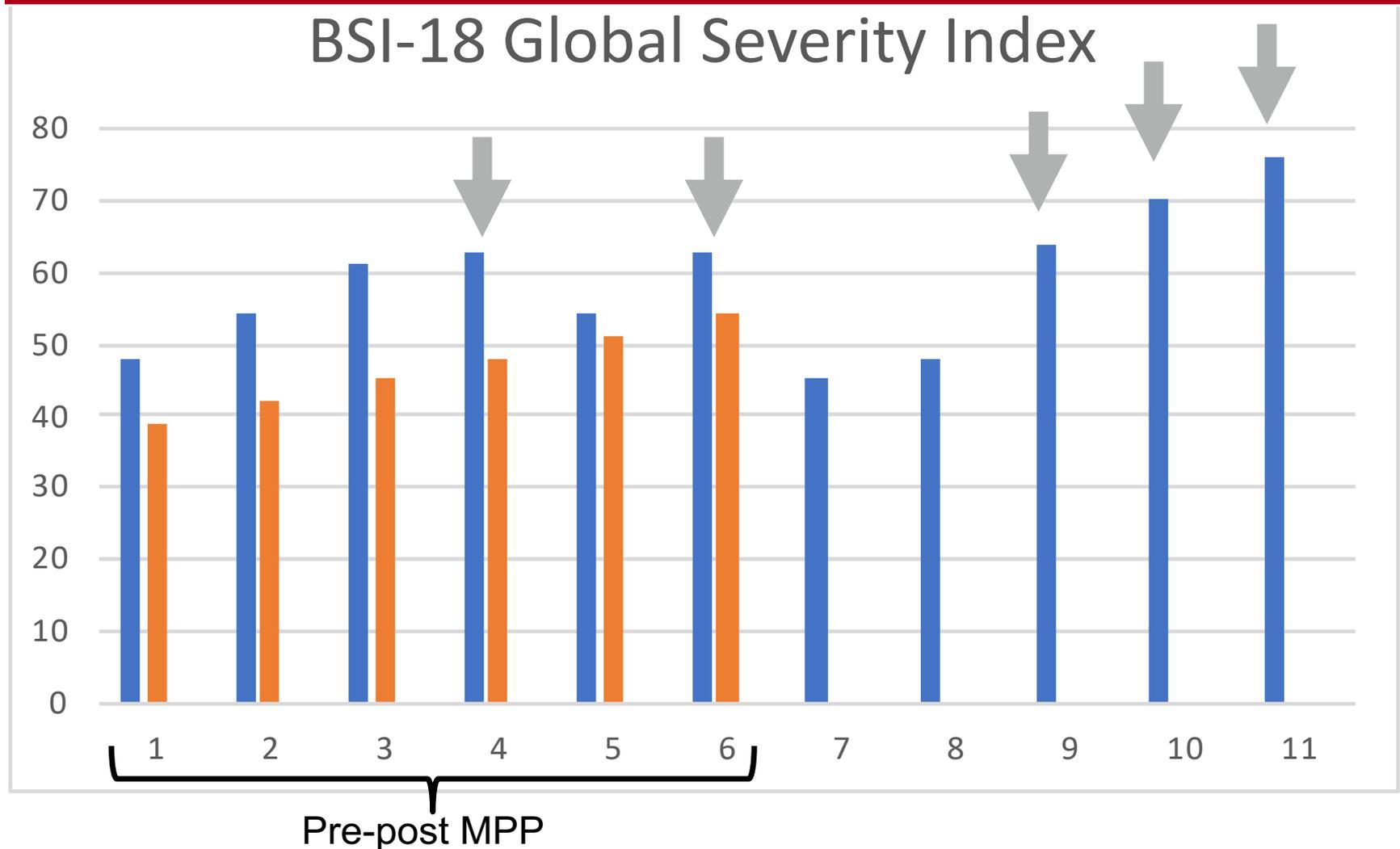
Mindful Principal Project

- Brief Symptoms Inventory (BSI-18)
 - ▣ 18 item screening questionnaire about psychological distress
 - ▣ Used to identify those at risk for psychiatric disorders
- *In the past 7 days, how much has this problem bothered you...*
 - ▣ *Nervousness or shakiness inside*
 - ▣ *Feelings of worthlessness*
 - ▣ *Feeling hopeless about the future*
 - ▣ *Thoughts of ending your life*

Mindful Principal Project



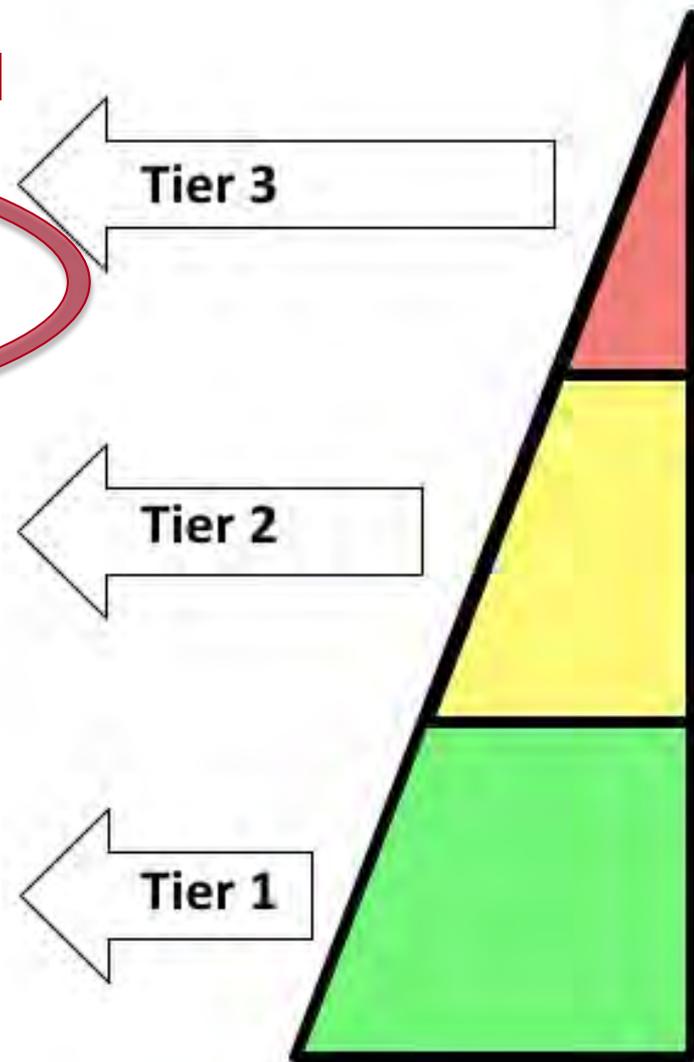
Mindful Principal Project



Ultrabrief mindfulness intervention for highly stress professionals (Felver et al., 2020)

The Mind Body Laboratory

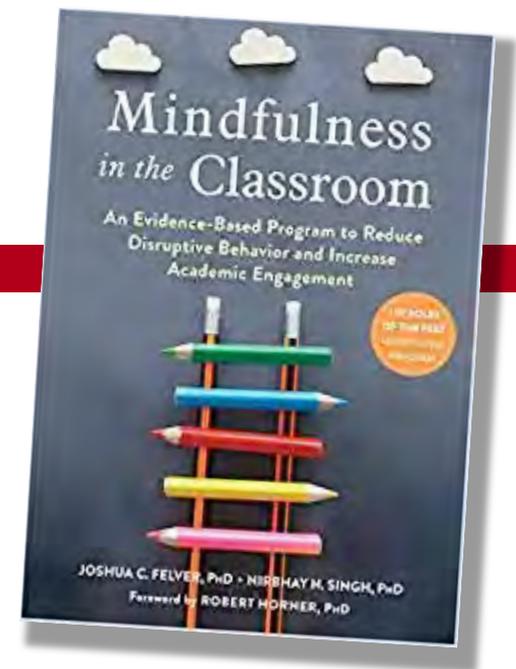
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3. Soles of the Feet

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- Soles of the Feet (SOF)
 - ▣ Literal title
- Initial development history
 - ▣ single mindfulness-based coping strategy
- Iterative refinement
- Evidence-based practice for disruptive behavior
 - ▣ Meta-analytic synthesis of 15 SCRD studies
 - ▣ Aggregate large effect size ($\text{Tau-U} = 0.87$)
 - ▣ Robust to participant characteristics (age and intellectual disability) and delivery formats



3. Soles of the Feet

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- Brief MBP of usually five 30min sessions
- **Session 1:** introduction; mindful breathing; SOF routine
- **Session 2:** practicing SOF with pleasant feeling
- **Session 3:** practicing SOF with unpleasant feeling
- **Session 4:** practicing SOF with triggers to unpleasant feeling
- **Session 5:** Generalization programming

Brief Activity #3 – SOF Routine

- Demonstration...
- First, think about a recent “stressful” event
- Remember as many details as possible...
- I’ll lead you through the exercise...
- Debrief

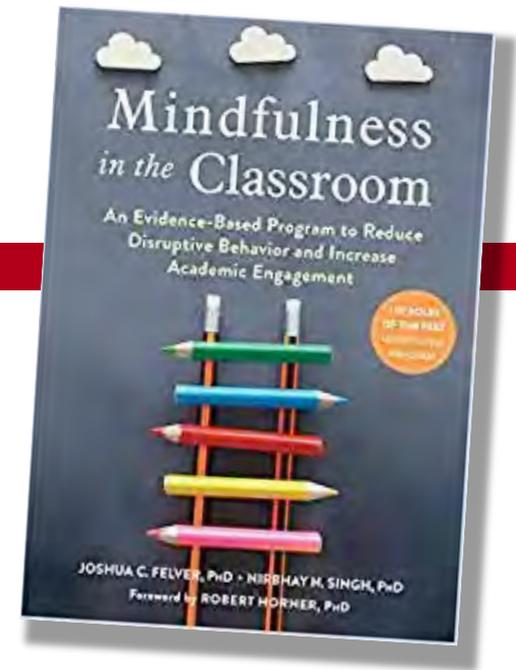


3. Soles of the Feet

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□ SOF Logic model

- (a) Direct instruction (psychoeducation) of antecedents that occasion disruptive behavior
- (b) Practice disengaging attention from antecedents
- (c) Reorienting attention to a neutral point on the body (i.e., somatic sensations of their feet)
- (d) Returning to original activity taking place

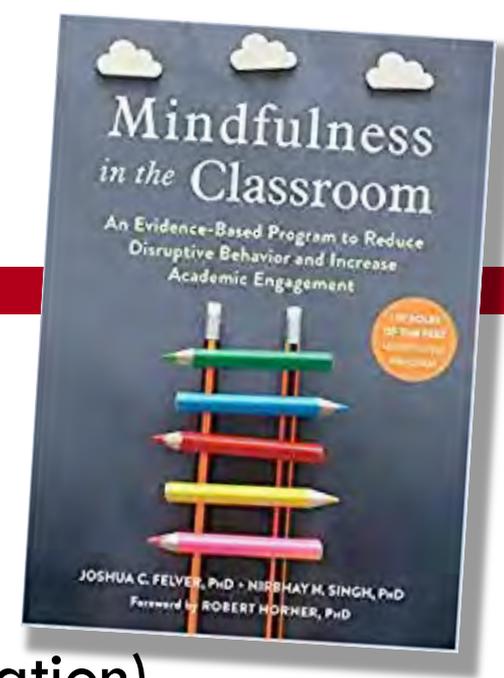


3. Soles of the Feet

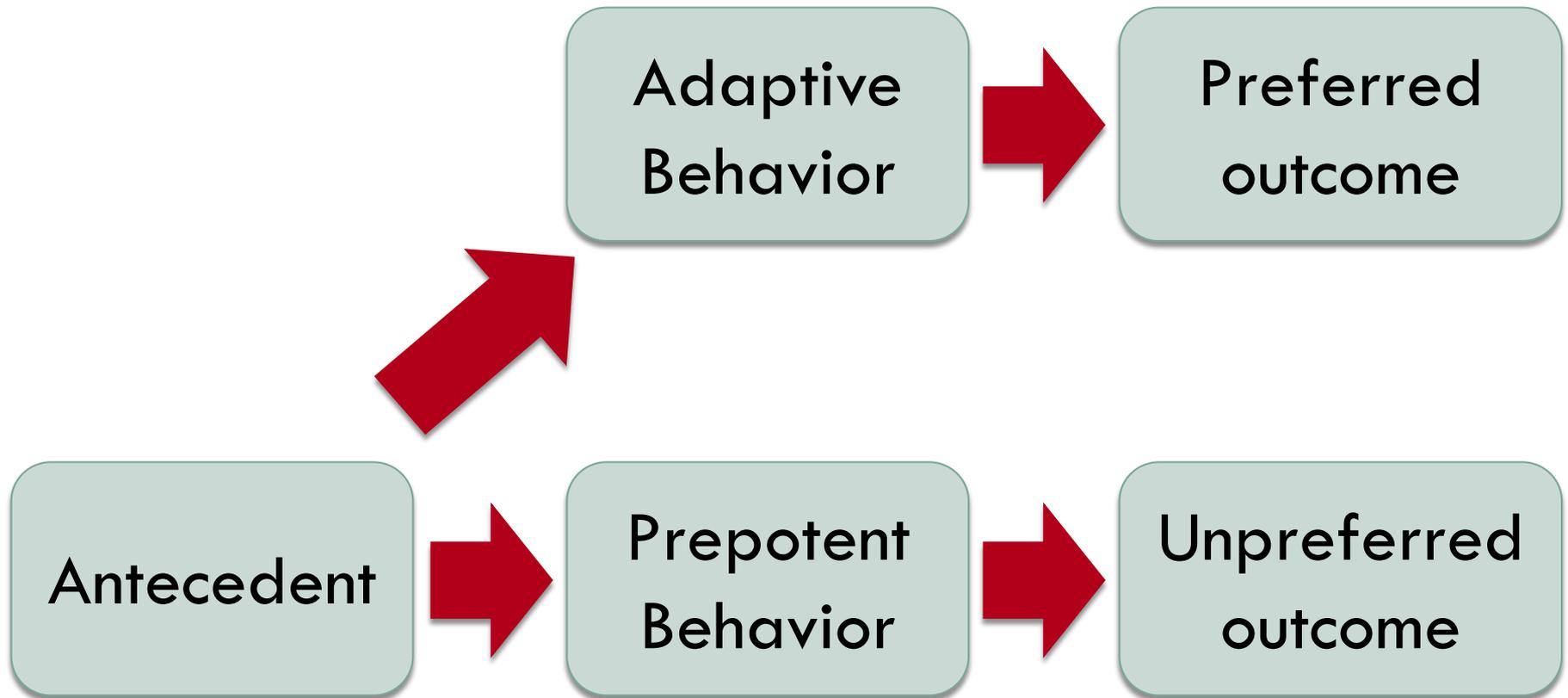
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- Theoretical function of SOF
 - ▣ Antecedent based strategy
 - ▣ Temporary reduction to aversive properties of antecedent (abolishing operation)
 - ▣ Reinforcing competing behavioral response

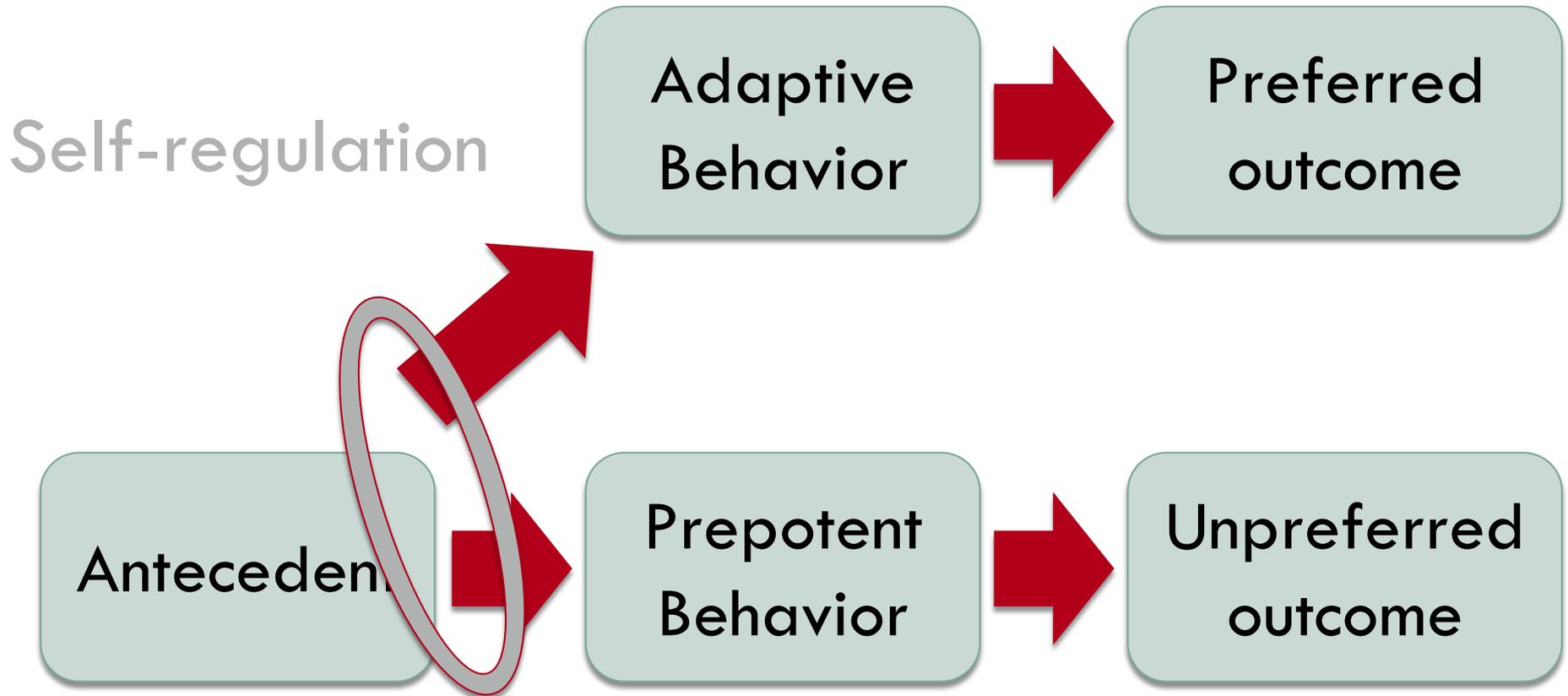
- Clinical utility of SOF
 - ▣ Statistically large effect size reduction to disruptive behavior
 - ▣ Clinically significant reductions to disruptive behavior



3. Soles of the Feet

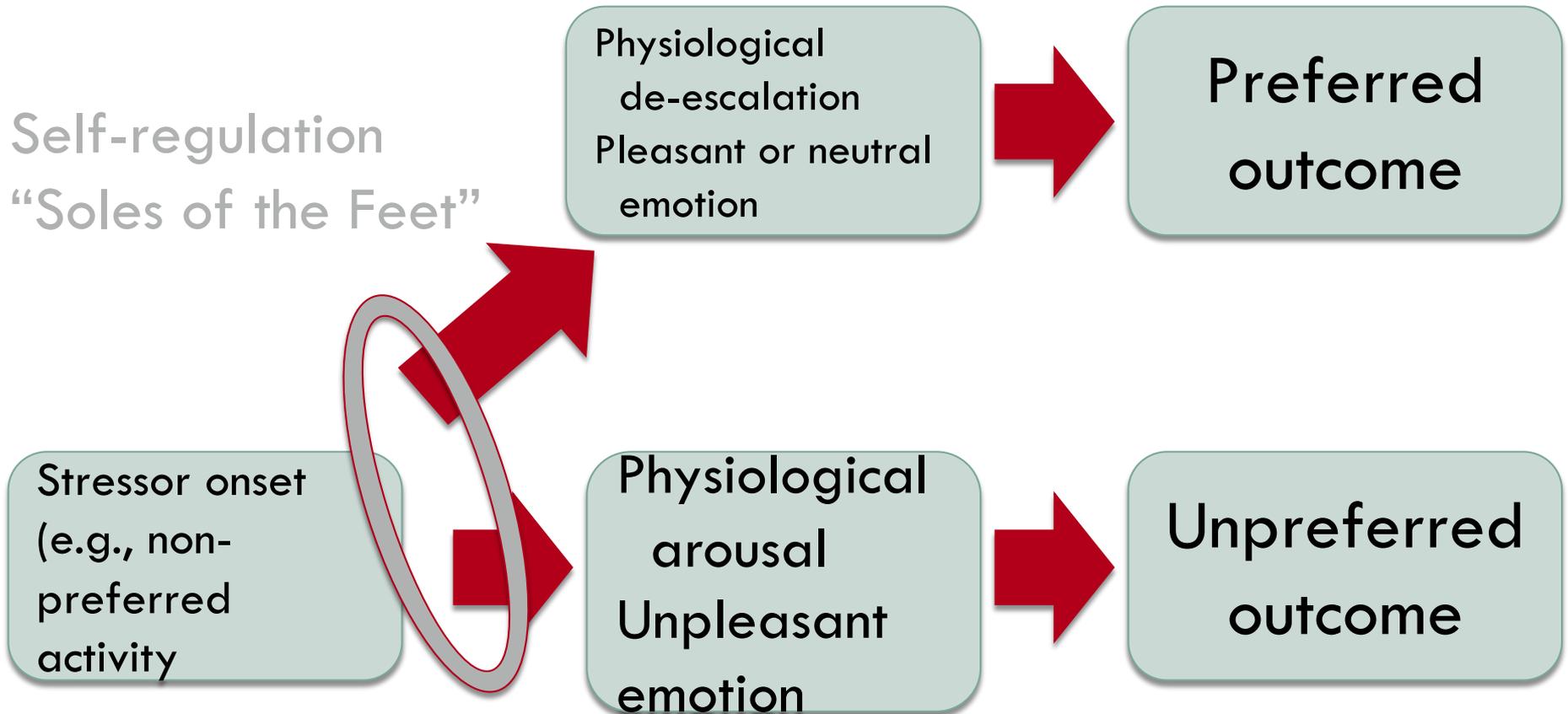


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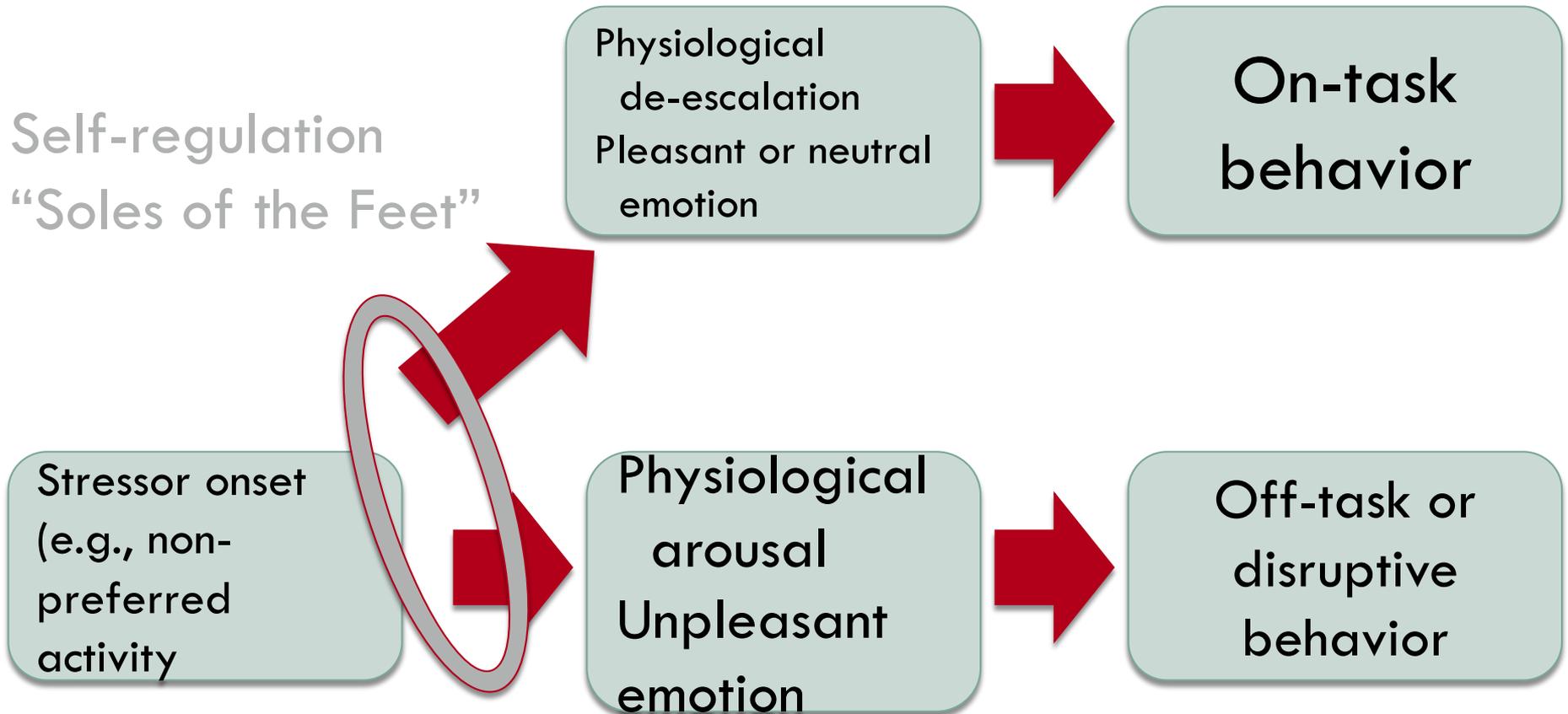


3. Soles of the Feet

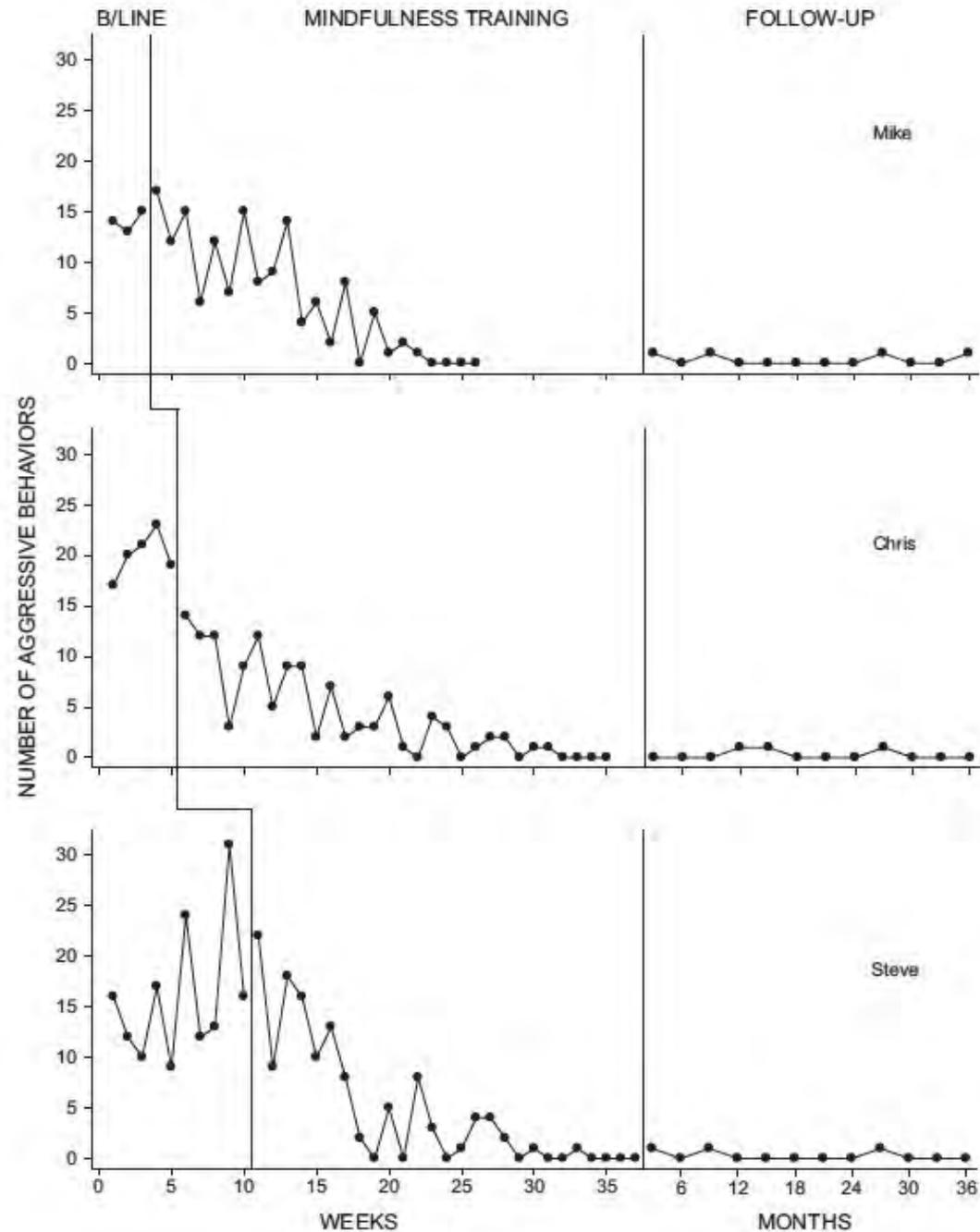
Self-regulation
“Soles of the Feet”



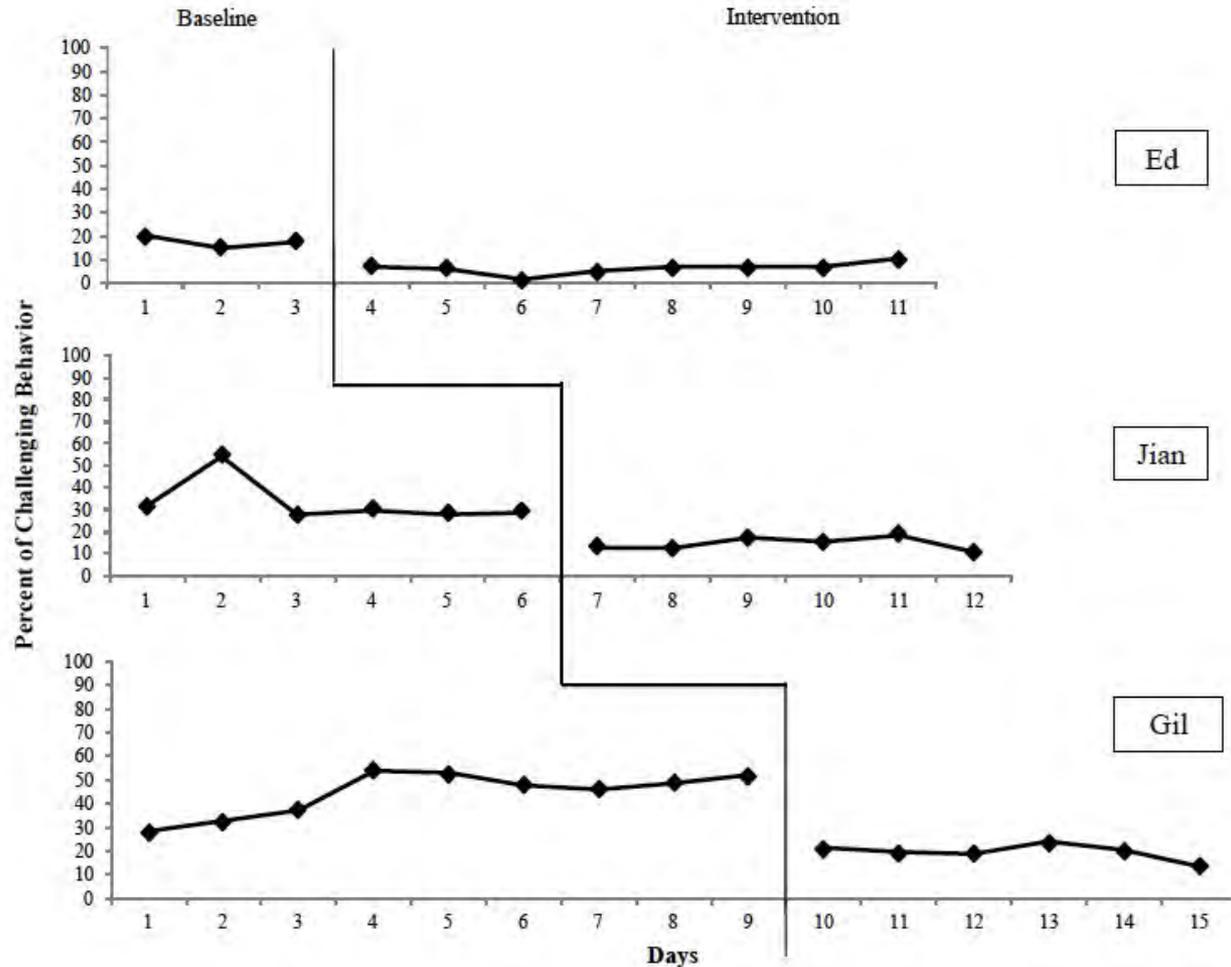
3. Soles of the Feet



- Clinical utility of SOF in homes
 - ▣ Autistic adolescents / adolescents with ASD who had high rates of aggressive behavior in home settings



- Clinical utility of SOF in schools
 - ▣ Autistic adolescents / adolescents with ASD who had high rates of off-task behavior in school settings



4. Next steps in SOF research

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- Clinical trials of group-delivery format
 - ▣ SOF for test anxiety; biomarkers of stress
- Clinical trials in diverse populations and settings
- Empirical testing of SOF for different functional classes of behavior
- Empirical testing of SOF for different types of behavior
- Determining when participants “learn” SOF to evaluate maintenance and dosage

4. Next steps in MBP research

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- Evaluating and adapting MBP for diverse populations and settings
- Developing more sophisticated measurement of MBP and practice
- Applying MBP technology to pressing real-world problems
 - e.g., stress and bias; risky health behavior
- Scaling up authentic MBP into community settings
- Including consideration of implementation elements into study design (*upcoming SI in *Mindfulness*)

4. Next steps in MBP research

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- Decomposition of MBP core components
- e.g., SOF Logic model
- (a) Direct instruction (psychoeducation) of antecedents that occasion disruptive behavior
- (b) Practice disengaging attention from antecedents
- (c) Reorienting attention to a neutral point on the body (i.e., somatic sensations of their feet)
- (d) Returning to original activity taking place

- Core components of MBP
 - ▣ **Self-awareness**
 - ▣ **Non-judging**
 - ▣ **Focused attention**
 - ▣ **Orienting to present moment**
 - ▣ **Acceptance**
 - ▣ *Compassion*
 - ▣ **Somatic awareness**
 - ▣ **Non-reacting**
 - ▣ *Decentering*

4. MBP practice considerations

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- Embody mindfulness! Start your own practice today
 - ▣ Start a practice in your classroom/home
- Authentic MBP instructors
 - ▣ Varying mindfulness and professional backgrounds
 - ▣ Not all experienced working with youth/schools/specific populations
- MBP core components and evidence-based practices
- Keep in mind best practices for your population
 - ▣ MBP for stress and MBP for specific populations
 - ▣ SOF is EBP for disruptive behavior
 - ▣ MBP adjunctively with SEL or other programming

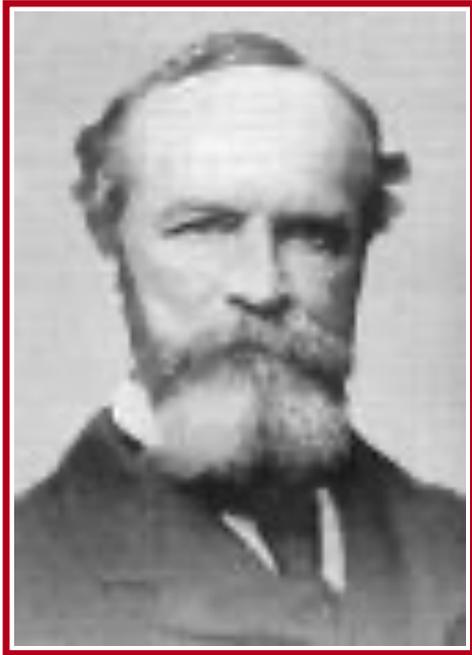
4. MBP practice considerations

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- **Embody mindfulness!**
 - ▣ While interacting with your youth
 - ▣ Toward yourself
- MBPs are not a panacea
 - ▣ What are the best practices?
- Mindfulness and trauma – notes of caution...
- Closing eyes is always optional
- Mindful breathing and panic symptoms
- Monitoring students during exercises

Thank you!

5. Questions and discussion...



"The faculty of voluntarily bringing back a wandering attention, over and over again, is the very root of judgment, character, and will. . . An education which should improve this faculty would be the education par excellence"

-William James 1890