



University of California
San Francisco

Wellbeing and Mindfulness for The Health Professions Educator

Carter Lebares, MD, FACS
Associate Professor of Surgery, UCSF
Director, UCSF Center for Mindfulness in Surgery
Sept 13-14, 2022 – TEACH Education Grand Rounds



OUTLINE

- Individuals, the universal stress response, and resilience

- Physician wellbeing vs Workplace Wellness

- Enhanced Stress Resilience Training (ESRT) and evidence of benefits

- How individual wellbeing skills influence systems and culture

4:30am – Wake up
5:30am – Hospital
6-7:00am – Round
7:30am – OR
6:00pm – Sign out
7-8:00pm – Round
8:30pm – Home

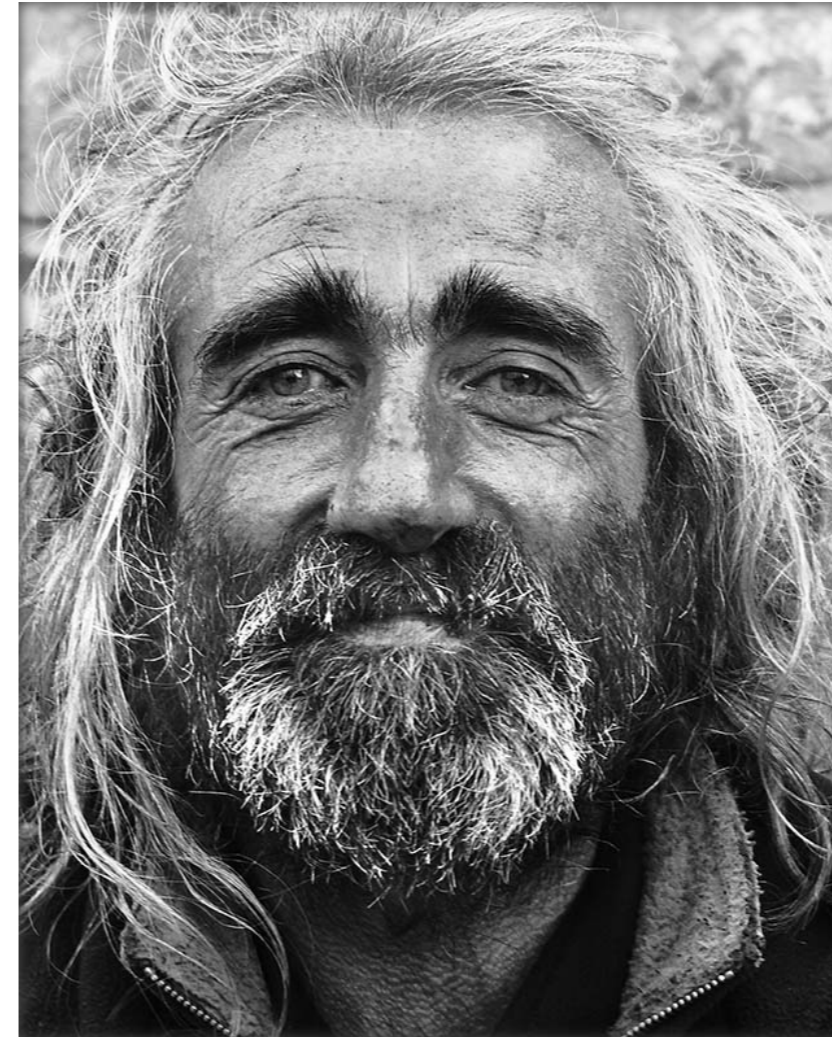
(-) 5h for sleeping
4 HOURS LEFT to:

Eat
Slower
Study
Practice
Exercise
Socialize



5 years
2 days off in every 14
48 weeks per year

Adapting to Stress – Thriving Despite Adversity

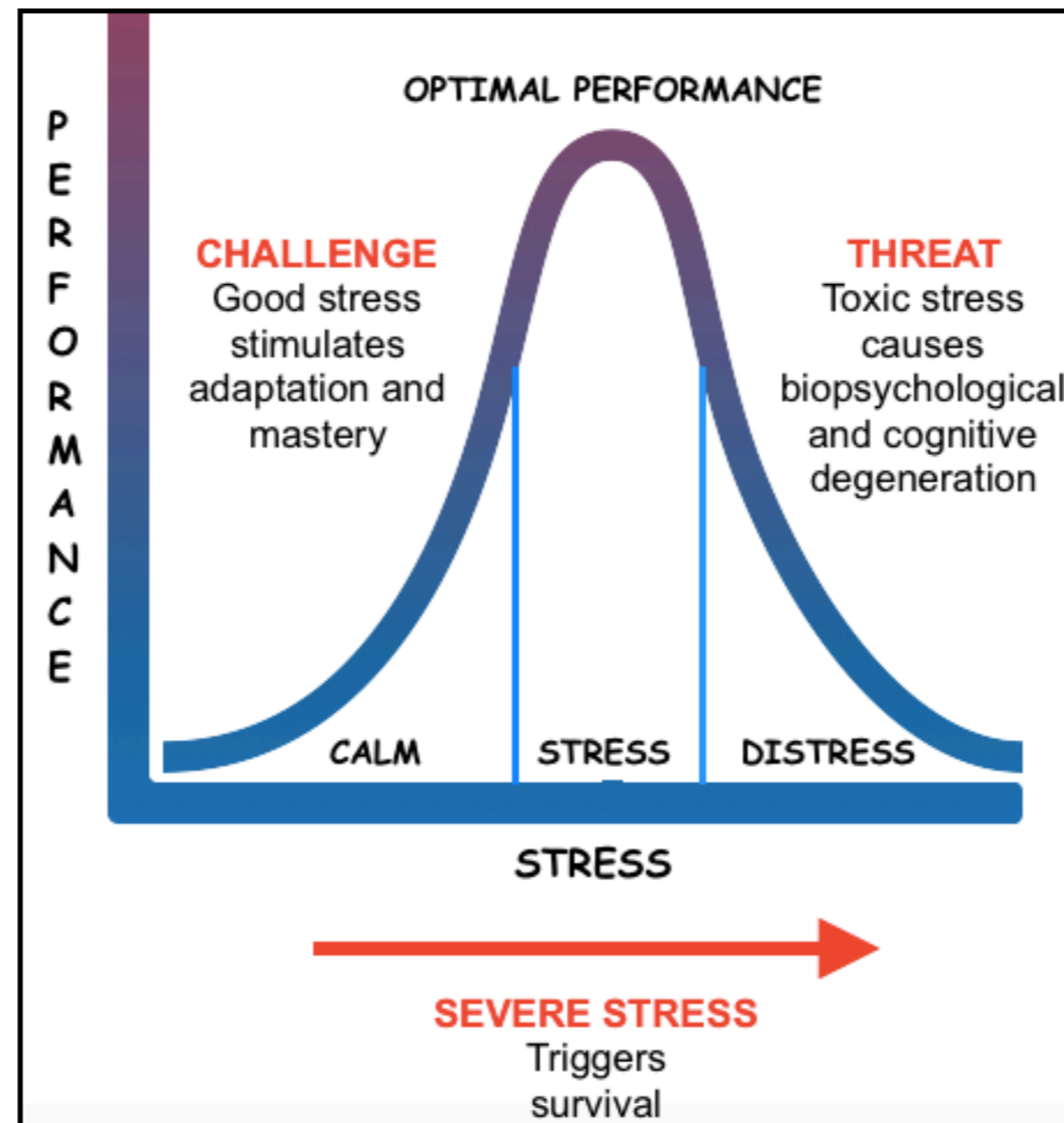


Masten, Am Psychol, 2001

Not all stress is the same

CHALLENGE
Good stress

High Resources



THREAT
Toxic stress

High Demands

Yerkes-Dodson, 1908

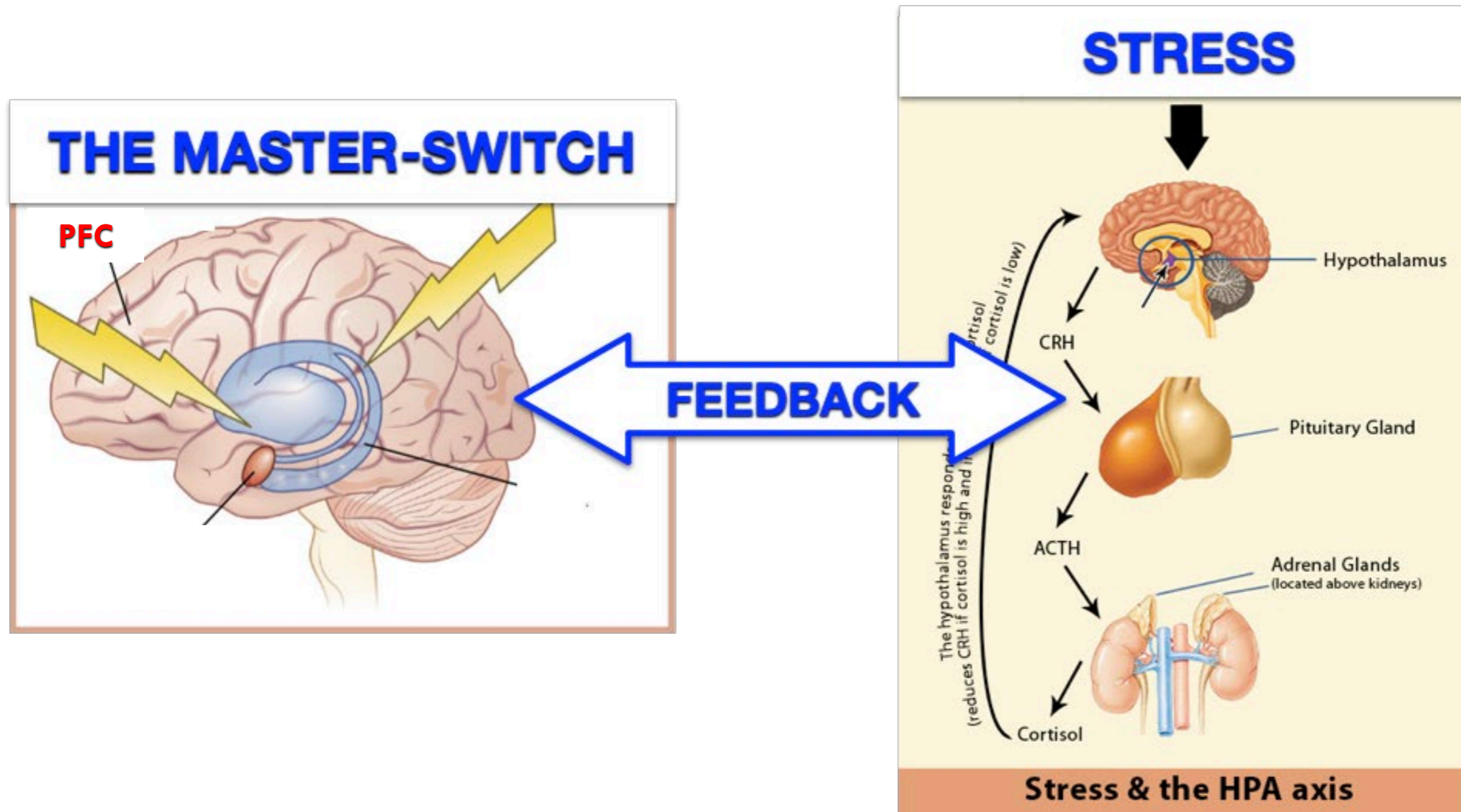
You can't control the ocean, but you can learn to ride the waves.....



“Calm seas never made a good sailor.”

~ Franklin Delano Roosevelt

Targeting a Central Mechanism



Feeling Good vs Being Well

“More than physical health and housing. Well-being refers to the quality of a person’s relationships, their positive emotions, sense of resilience, realization of their potential, and overall satisfaction with life.”



- Feeling good IS personal and often situational
- Wellbeing has established criteria, is constitutional, persistent and flexible

JAMA Internal Medicine | Special Communication | PHYSICIAN WORK ENVIRONMENT AND WELL-BEING

The Business Case for Investing in Physician Well-being

Tait Shanafelt, MD; Joel Goh, PhD; Christine Sinsky, MD



Integrating Patient Safety and Clinician Wellbeing

Privitera, American Association of Physician Leadership

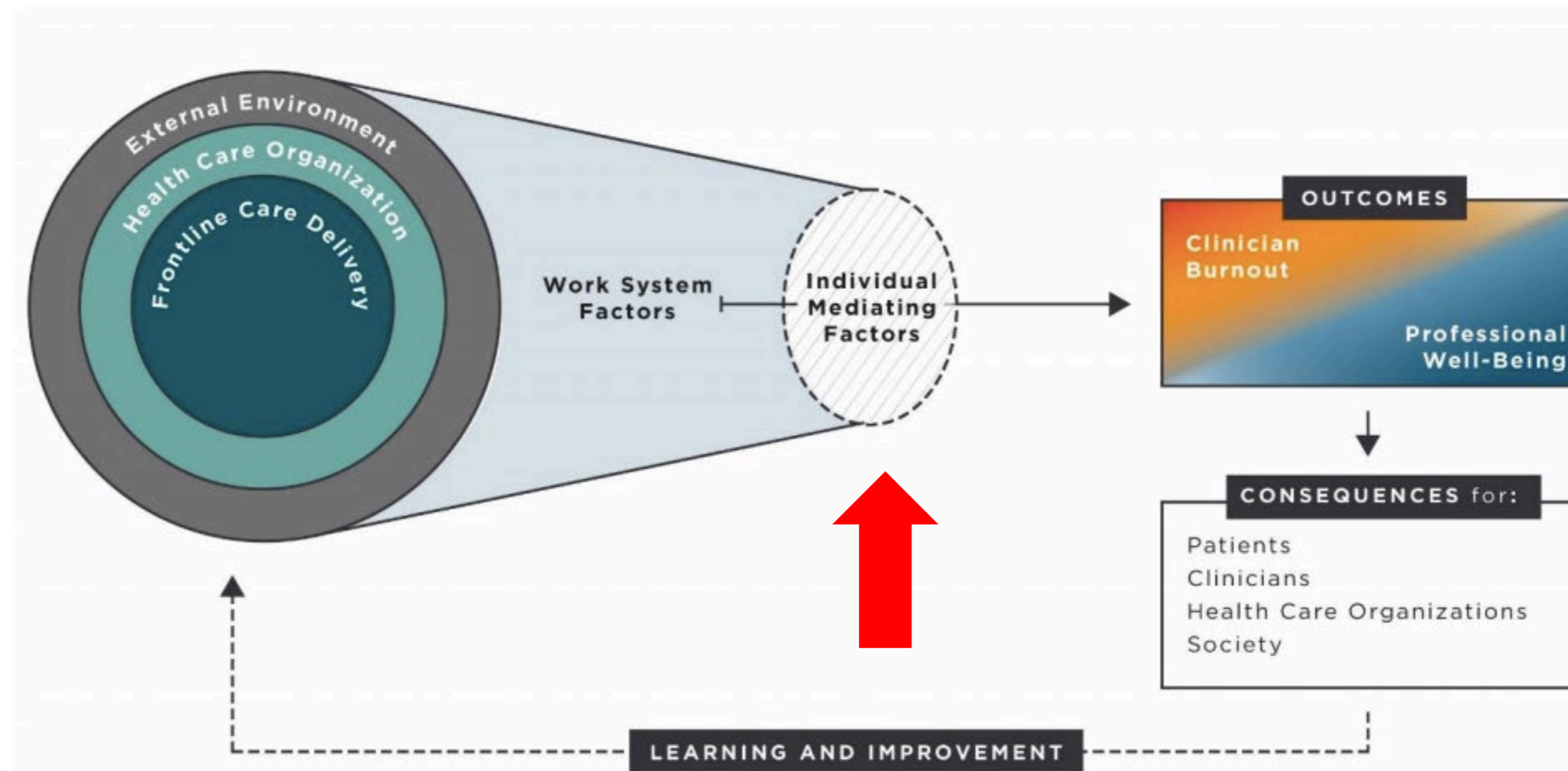
Shanafelt, JAMA Int Med, 2017

US Centers for Disease Control



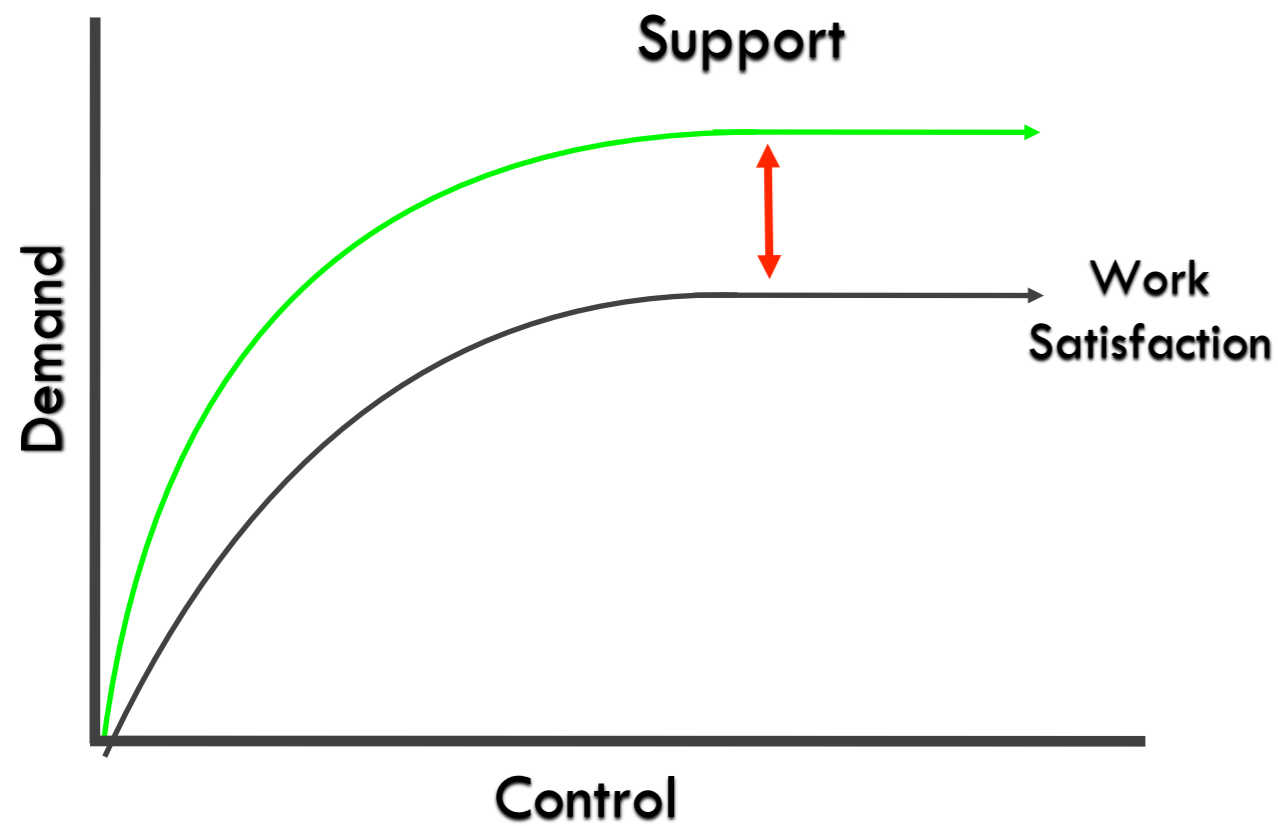
Conceptual Model of Physician Professional Wellbeing vs Burnout

National Academy of Medicine, Action Collaborative on Clinician Wellbeing and Resilience, 2017



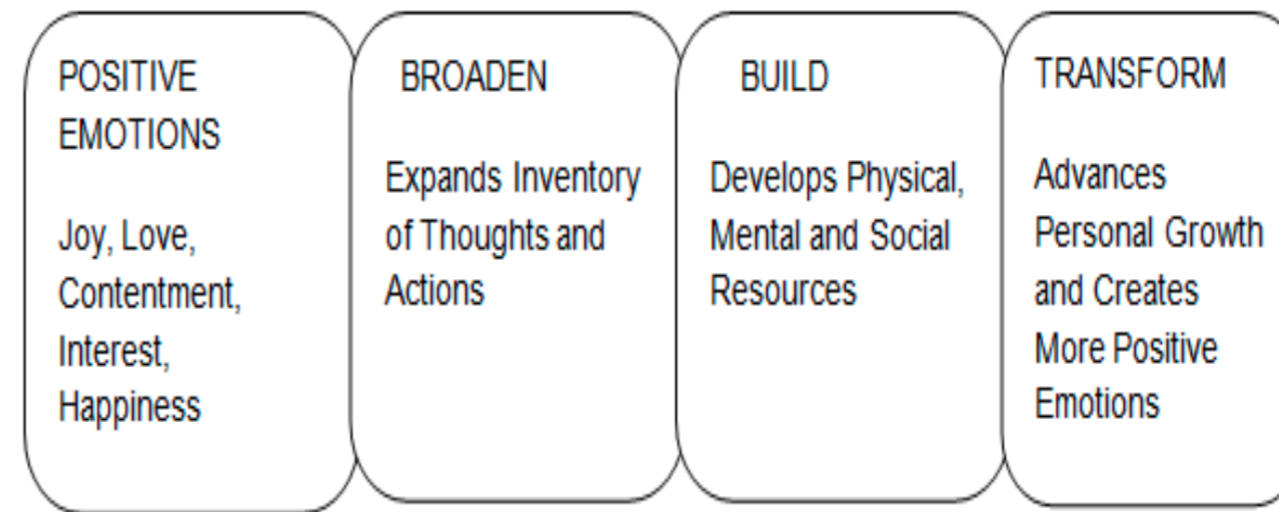
Carayon, JAMA, 2019

Theoretical Framework

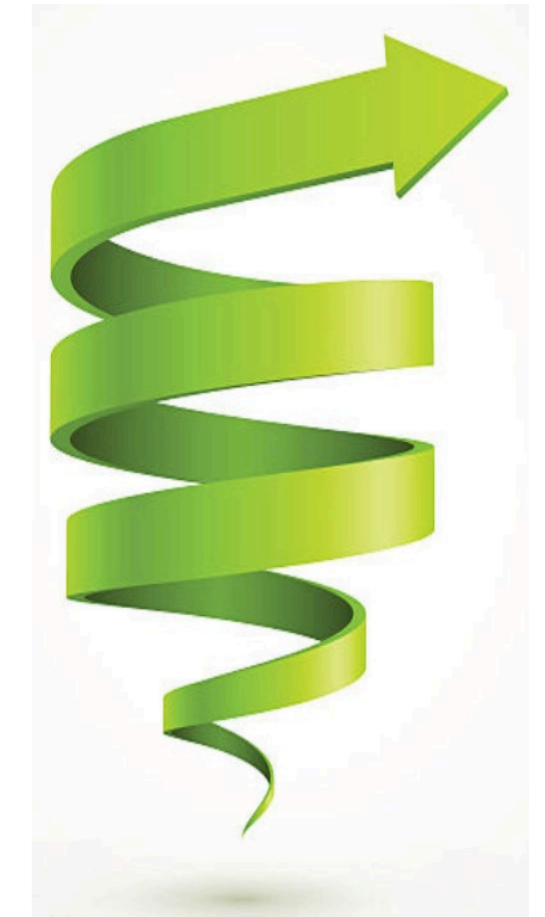


Job Demand Resource Theory

The Upward Spiral of Positive Emotions



Broaden-and-Build Theory



Bakker, Occup Health Psychol, 2017

Fredrickson, PNAS, 2001

Mindfulness as an Intervention?

	TOTAL BURNOUT	STRESS	ANXIETY	DEPRESSION	SUICIDALITY
HIGHER MINDFULNESS (Decreased Odds)	4.0	6.7	4.8	3.8	4.0
p-value	<0.001	<0.001	<0.001	<0.001	<0.001

Mindfulness Training

Mindfulness is the cognitive process of bringing one's attention to experiences occurring in the present moment and learning to observe those experiences without reacting.

A way of training the mind to sustain its focus
And training the mind to open its awareness

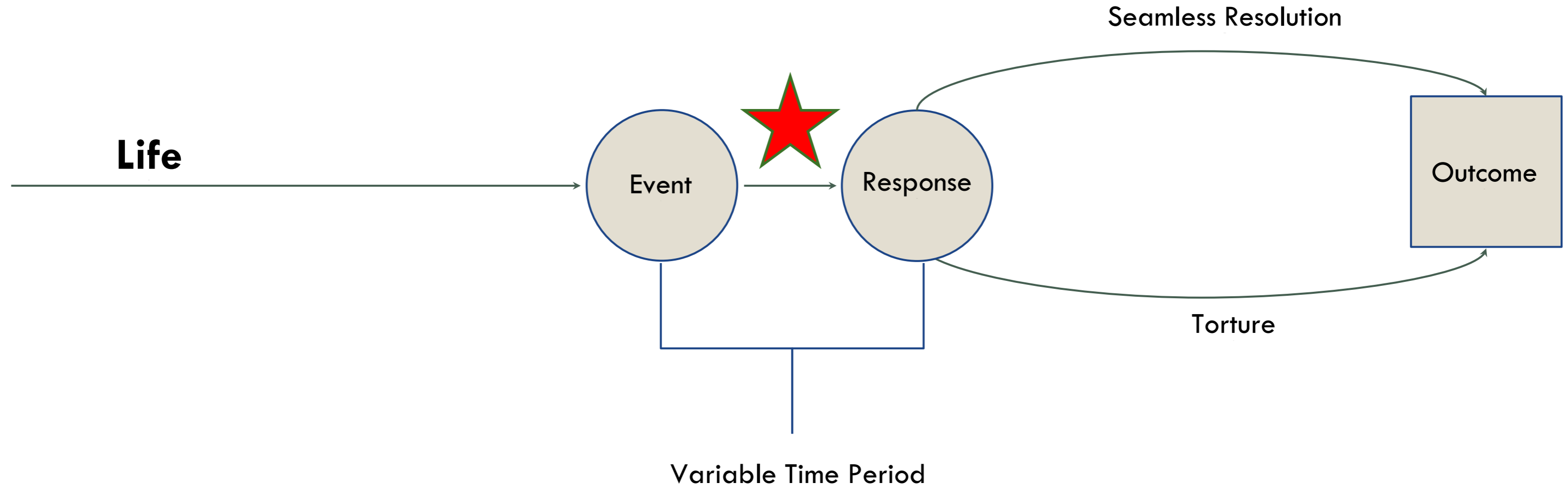
Training in a different way of perceiving.....

And a different way of responding.....

Specifically developed through the practice of meditation

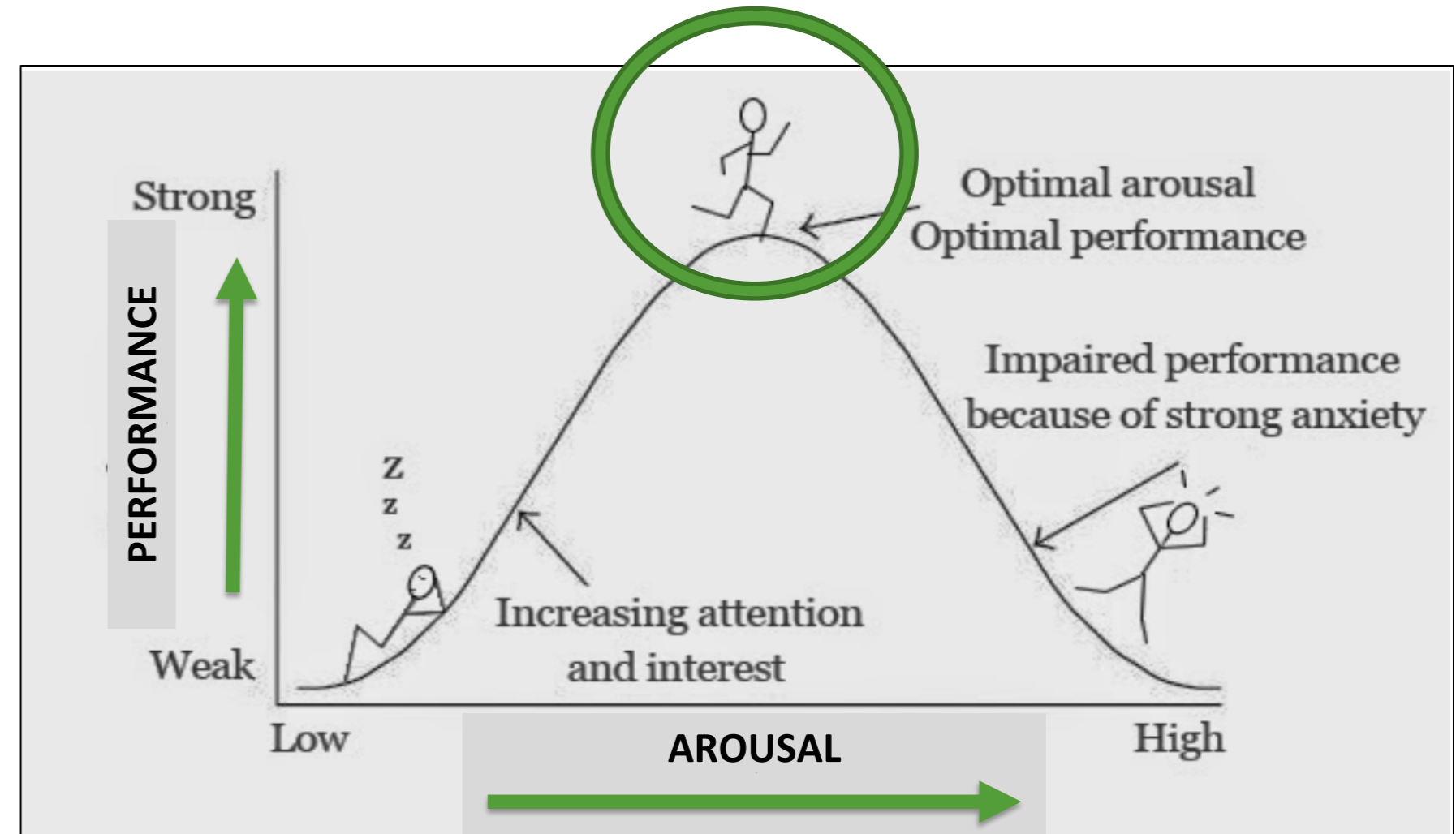
“Between stimulus and response there is a space. In that space is our power to choose... In our response lies our growth and our freedom.”

- Viktor Frankl (1905-1997)



Marin & Lodato, ACS-QS Conference, 2020

Mindfulness and Mental Skills Training



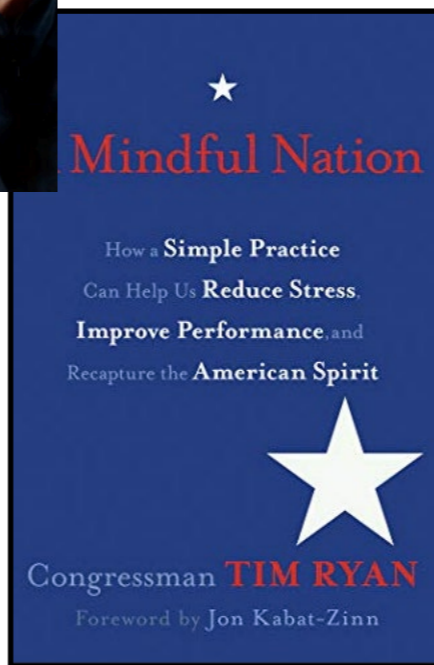
Stefanidis, Am J Surg, 2017
Anton/Lebares, JSR, 2020

Adler, J Appl Psychol, 2015
Fitzwater, Sport Exerc Perform Psychol, 2018



The New York Times

The Latest in Military Strategy: Mindfulness



Bristow Curr Op Psych, 2018
Jha, PLoSOne, 2015

Flook, Dev Psych, 2014
Caballero, Mind Brain Educ 2019

Mindful Surgeon

Enhanced Stress Resilience Training (ESRT)

Attention



(Ability to sustain focus, but also to direct awareness)



Emotional Regulation

(Ability to notice emotions, but also to respond without reactivity)

Meta-Cognition



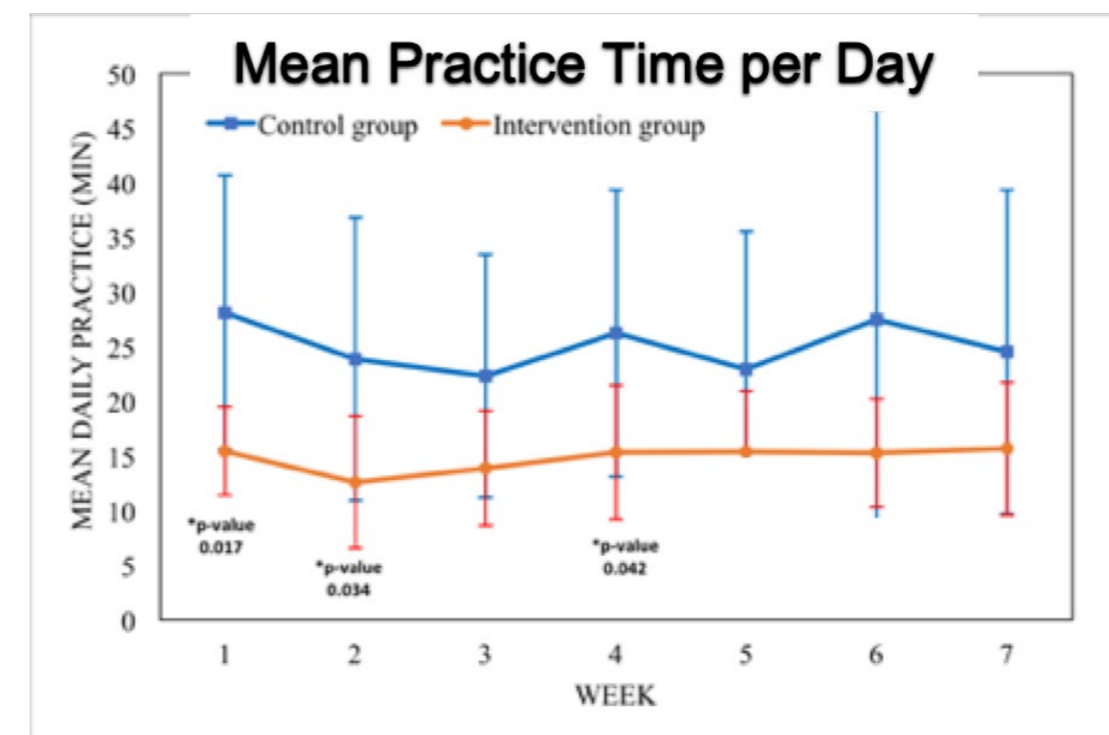
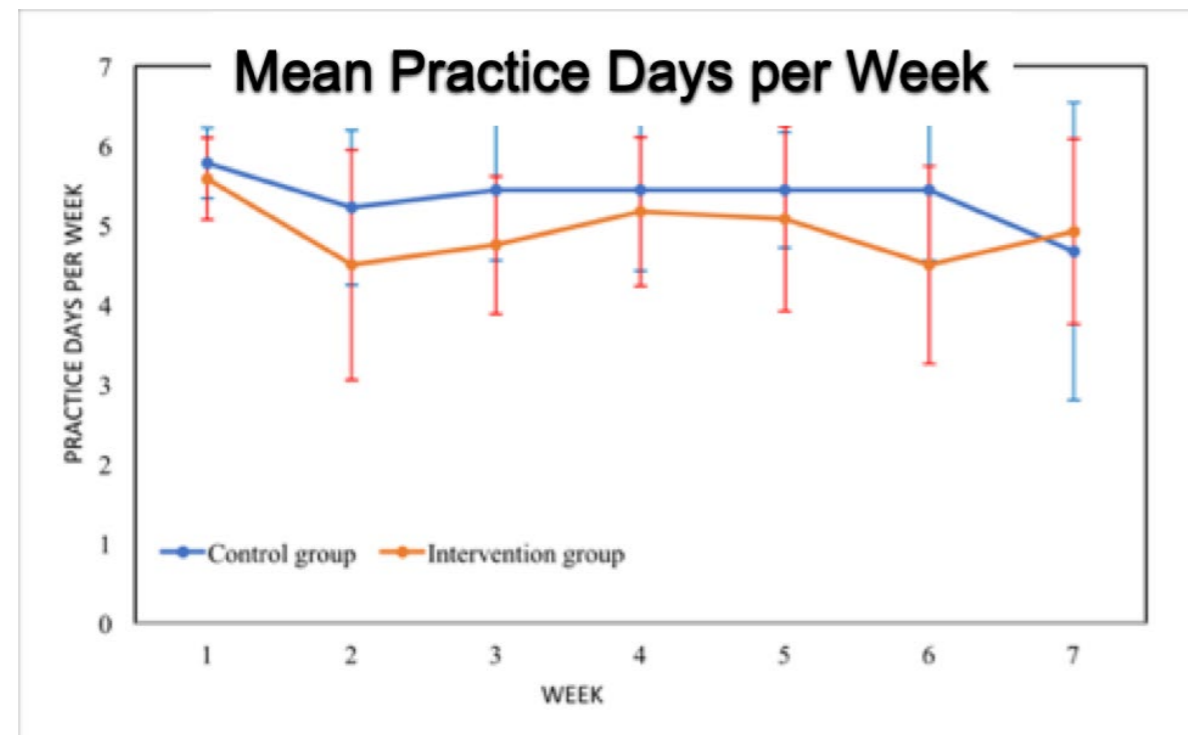
(Ability to see beyond personal perspective and reframe)

Feasibility

JAMA Surgery | Original Investigation

A Feasibility Trial of Formal Mindfulness-Based Stress-Resilience Training Among Surgery Interns A Randomized Clinical Trial

Carter C. Lebares, MD; Amy O. Hershberger, BS; Ekaterina V. Guvva; Aditi Desai; James Mitchell, PhD; Wen Shen, MD; Linda M. Reilly, MD; Kevin L. Delucchi, PhD; Patricia S. O'Sullivan, EdD; Nancy L. Ascher, MD, PhD; Hobart W. Harris, MD, MPH



Efficacy:

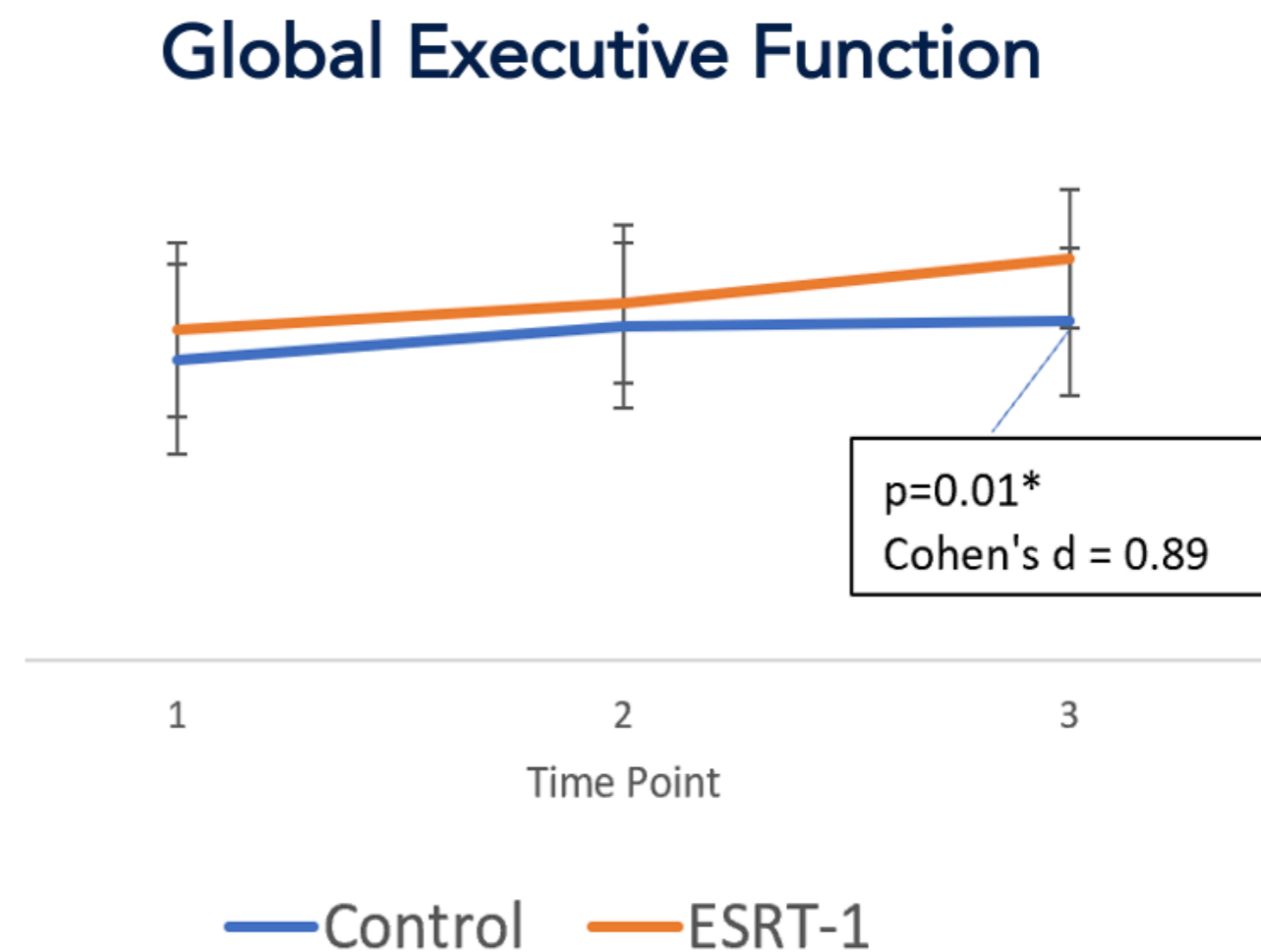
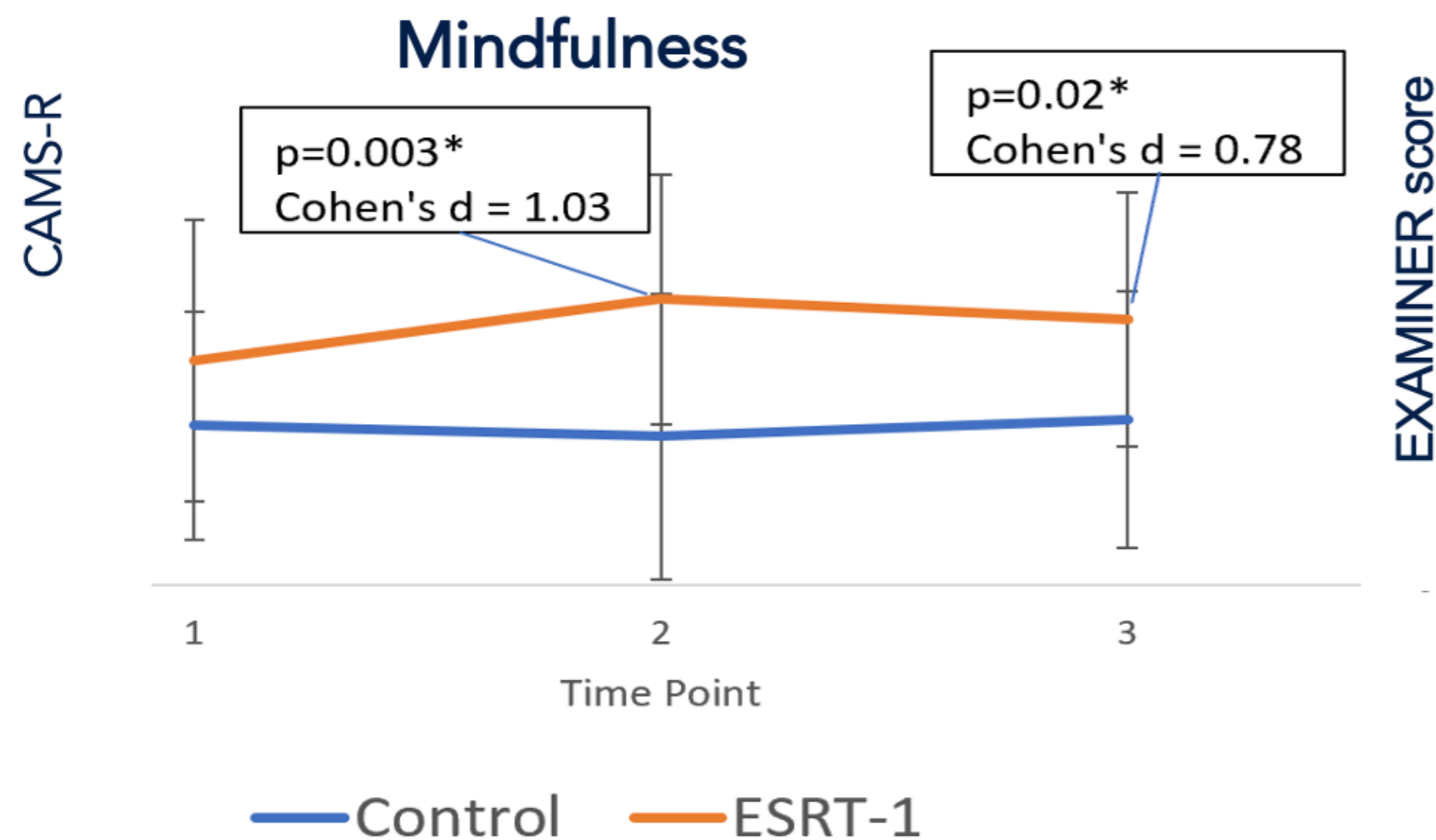
Mindfulness & Executive Function

JAMA Network | **Open**

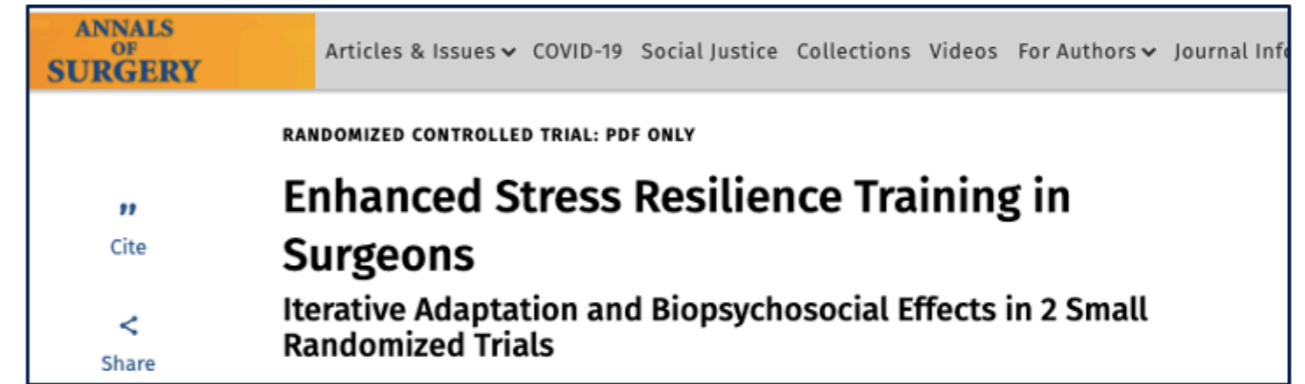
Original Investigation | Surgery

Efficacy of Mindfulness-Based Cognitive Training in Surgery
Additional Analysis of the Mindful Surgeon Pilot Randomized Clinical Trial

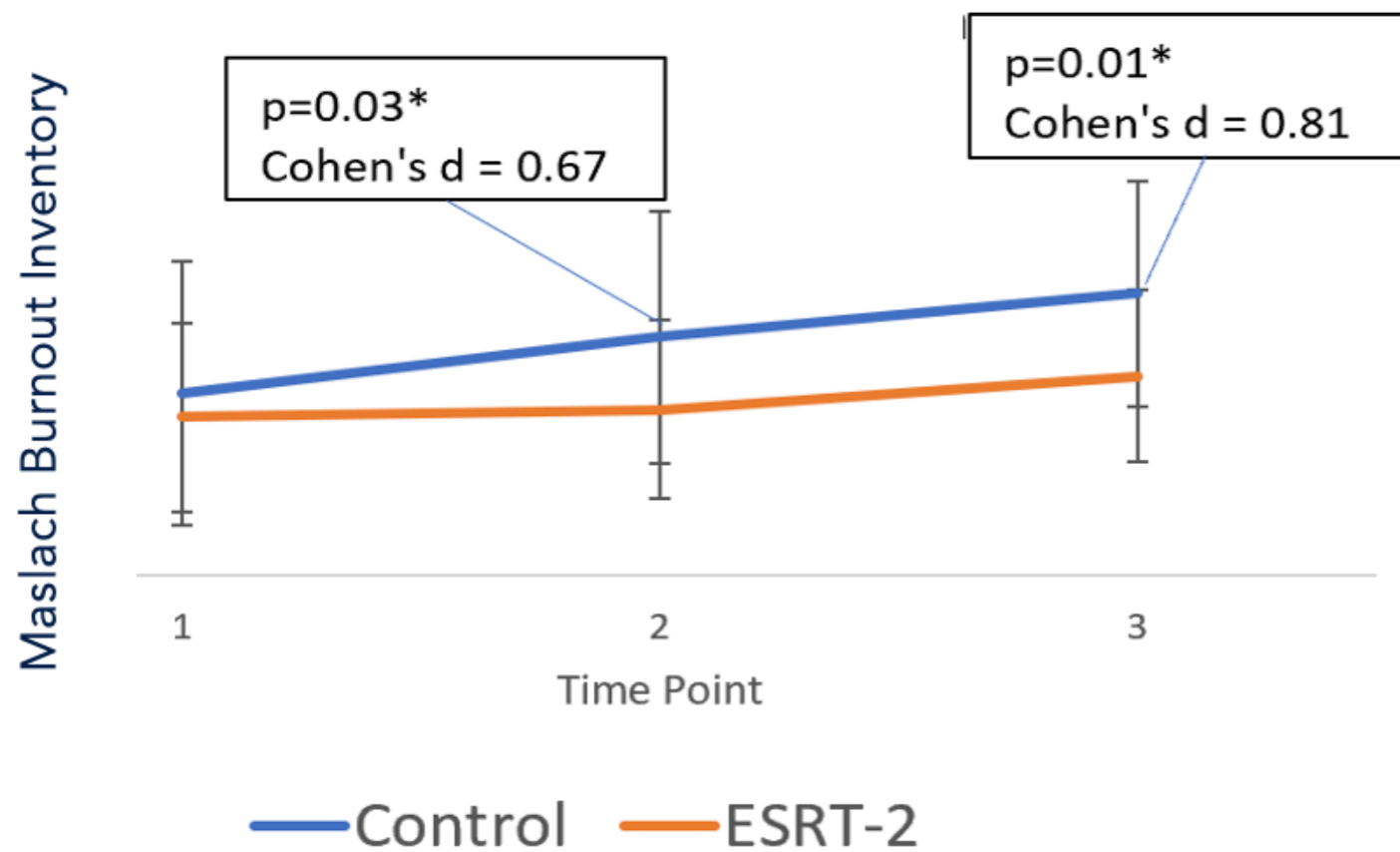
Carter C. Lebares, MD; Ekaterina V. Guvva, BS; Maria Olaru, BS; Leo P. Sugrue, MD, PhD; Adam M. Staffaroni, PhD; Kevin L. Delucchi, PhD; Joel H. Kramer, PsyD; Nancy L. Ascher, MD, PhD; Hobart W. Harris, MD, MPH



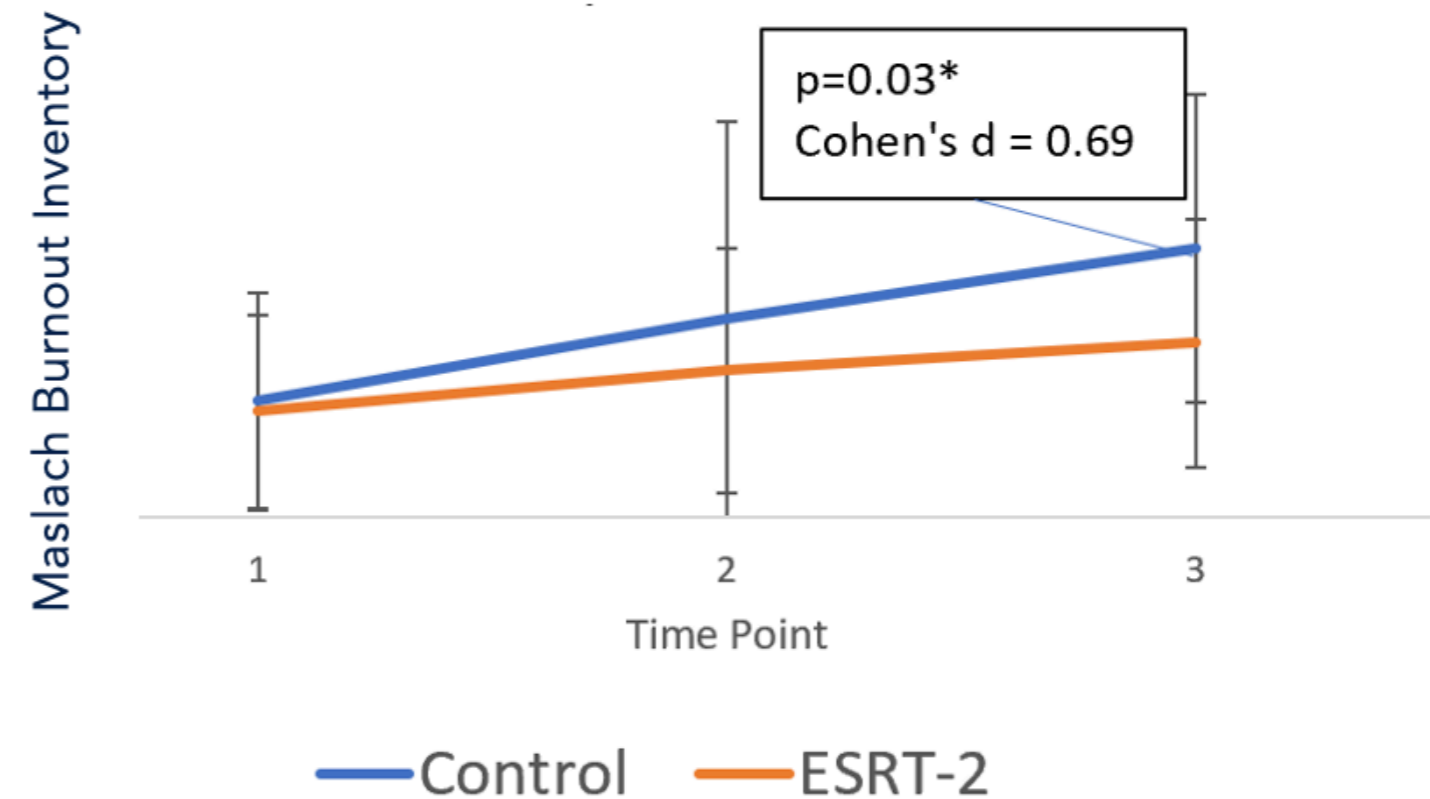
Efficacy: Burnout



Emotional Exhaustion



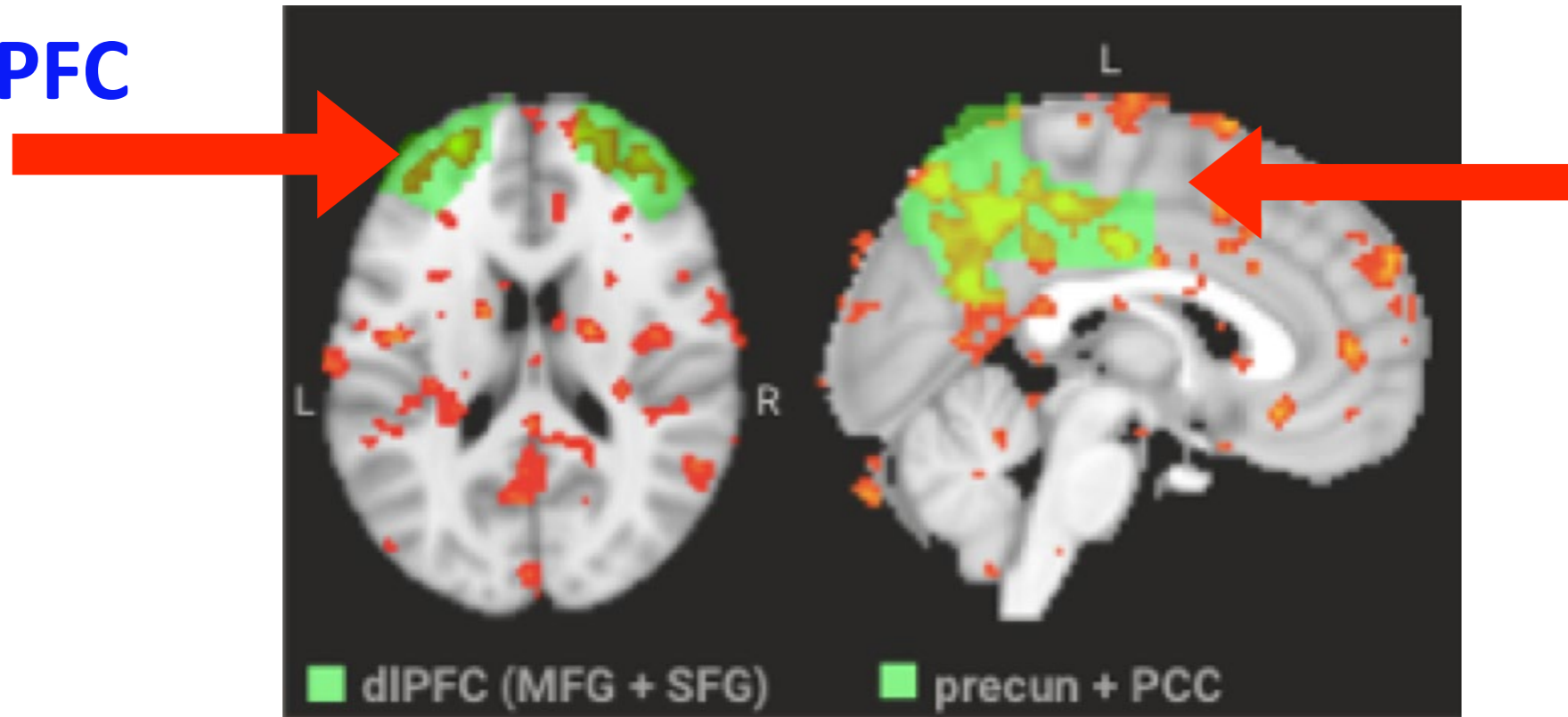
Depersonalization



Neural Substrates of Mindfulness



dI-PFC



PCC/Precuneus

JAMA Network | **Open**

Original Investigation | Surgery

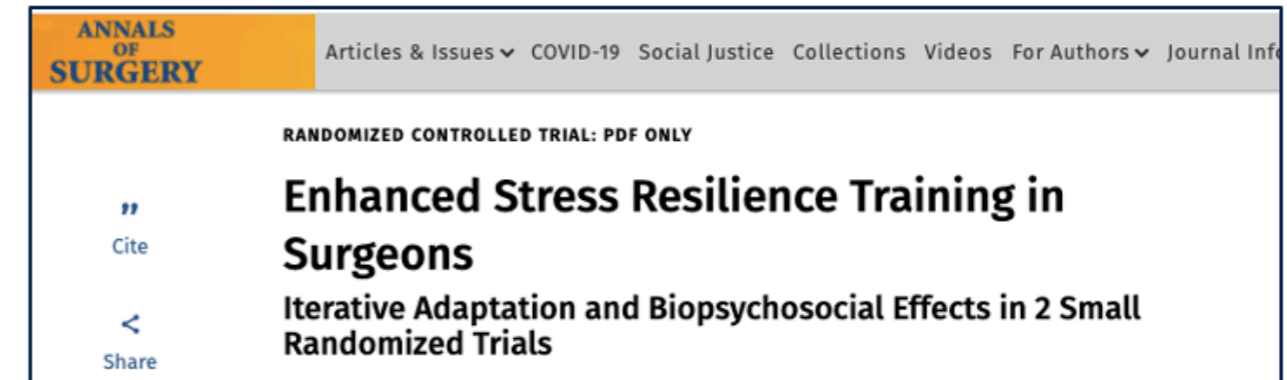
Efficacy of Mindfulness-Based Cognitive Training in Surgery
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Lebares, JAMA NetW Open, 2020

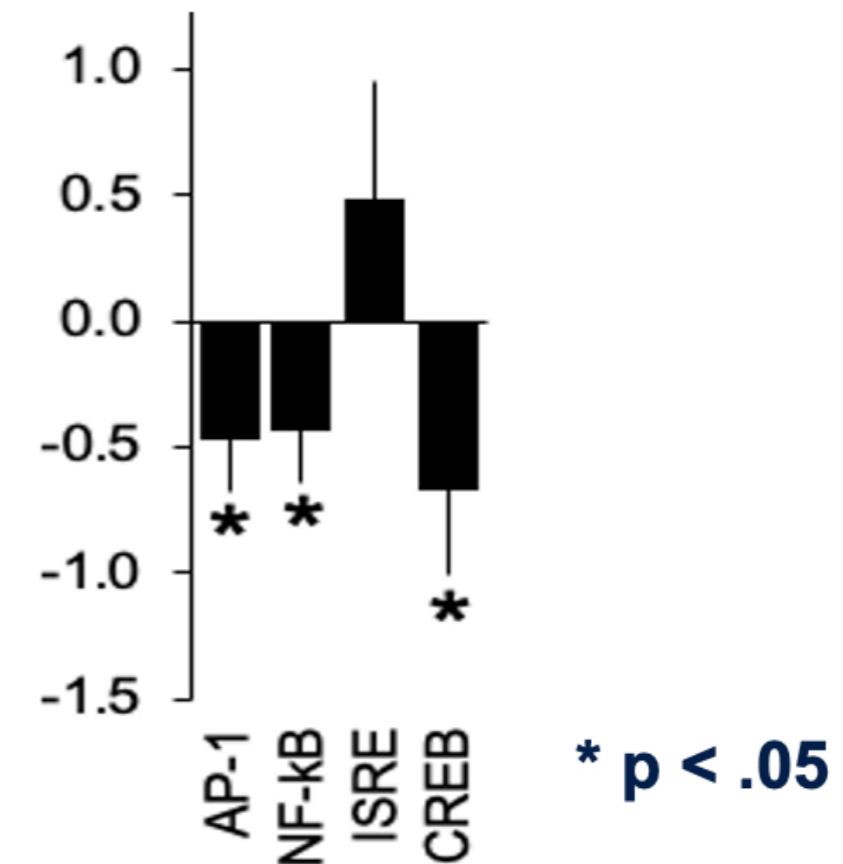
Kral/Davidson, Soc Cog Aff Neurosci, 2019

Efficacy: Physiologic stress



- Proinflammatory and beta-adrenergic (SNS) signaling pathways
- In Controls > 1.5-fold increase
- In ESRT >50% reduction

Relative Change in Signaling Activity
Log² (ESRT-Control)



2022

ESRT

ENHANCED STRESS RESILIENCE TRAINING
UCSF CENTER FOR MINDFULNESS IN SURGERY

GUIDE FOR COURSE INSTRUCTORS

CARTER LEBARES, MD
CENTER FOR MINDFULNESS IN SURGERY

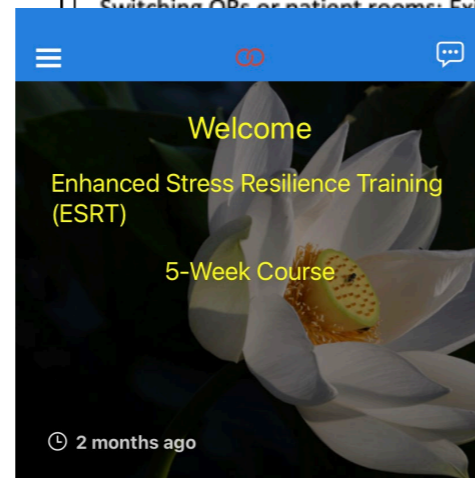
Five Ways to Ritualize Formal Mindfulness Practice

- R.P.M. Rise, Pee, Meditate**
Practice when you first rise, before the day gets in your way. Even 3 dedicated minutes can change everything.
- P.M.B. Pee, Meditate, Bed**
Morning or night, try following R.P.M. or P.M.B. everyday for 3 consecutive days and see what happens.
- Include your partner or kids.**
Try Belly Breathing together! Inhale deeply and slowly; imagine a balloon in your belly that expands when you inhale. Pause at the top of the inhale, and listen for your heartbeat. Exhale out of the nostrils, emptying the lungs of air. Focus on your body sensations for each moment, in silence.
- Mindfully walking**
Walk to or from any destination without doing anything else (no texting, talking, eating, etc). See your surroundings, feel your footfalls and notice the muscles involved in motion. How does it feel to balance? To propel yourself forward? For 3, 5, or 10 minutes, you can mindfully walk quickly or slowly.
- Schedule your meditation time.**
Just like you'd schedule a meeting or exercise, schedule when you will meditate every day and protect it.
- Make meditation fundamental, not optional.** Like brushing your teeth - if you skip it, you notice all day. Over time it's unhealthy. But daily brushing feels good, it's fundamental, and people like being around you!

Formal Mindful Practice happens when we purposefully set aside time to engage in formal meditation practices such as the body scan, sitting meditation, and mindful movement

© 2016 The Regents of The University of California, UCSF Center for Mindfulness in Surgery

Work
<p>Being paged: What happens in your body. Do your senses sharpen? What thoughts arise? Notice, let it go, and move on.</p>
<p>Rounding: Feel your footfalls as you walk the halls. Feel your jaw and shoulders. Is there tension? Can you release it?</p>
<p>Standing at the bedside: Purposefully shift the weight on your feet, or stand evenly on both. Notice the sensation of moving or being grounded.</p>
<p>Cleaning hands: Push dispenser and inhale; Rub hands and hold breath; Step forward and exhale.</p>
<p>Crossing Thresholds: <u>In the elevator:</u> Enter and inhale, hold your breath and ride, exhale when the door opens. <u>Switching ORs or patient rooms:</u> Exit one and breathe;</p>



Week 1 Pre Class Material: **Resilience is a Skill**
to 20th Jul

	Week 1 Resilience	Time (min)
Theme	Resilience is a learned skill	
Principle	How you think about the world changes how you live in the world.	
Pre-Class Videos	<ul style="list-style-type: none"> - Intro (Instructor) - Science background (Lebares) - Testimonial: Marissa, 'Where to Use' 	
Post-Class Videos	<ul style="list-style-type: none"> - Formal vs. Informal (Instructor) 	
Preceding Gap Week Text/Theme (Timing)		
Intro	Be here now. Theme Wk 1.	
Mind-Body Skill	Paying attention to the body <ul style="list-style-type: none"> - Sensations can alert us to thoughts and feelings 	
Experiences	Sitting/Breathing Meditation Tool kit: 16' to clarity Meditative breathing	15-20'
Experience	Walking	15'
Experience	Body Scan	15'
Concept Intellectual	Lebares Video (1'59") Resilience	3'
Discussion Gap Week Experiences (see Guide)	What do you hope/want to get out of ESRT?	5'

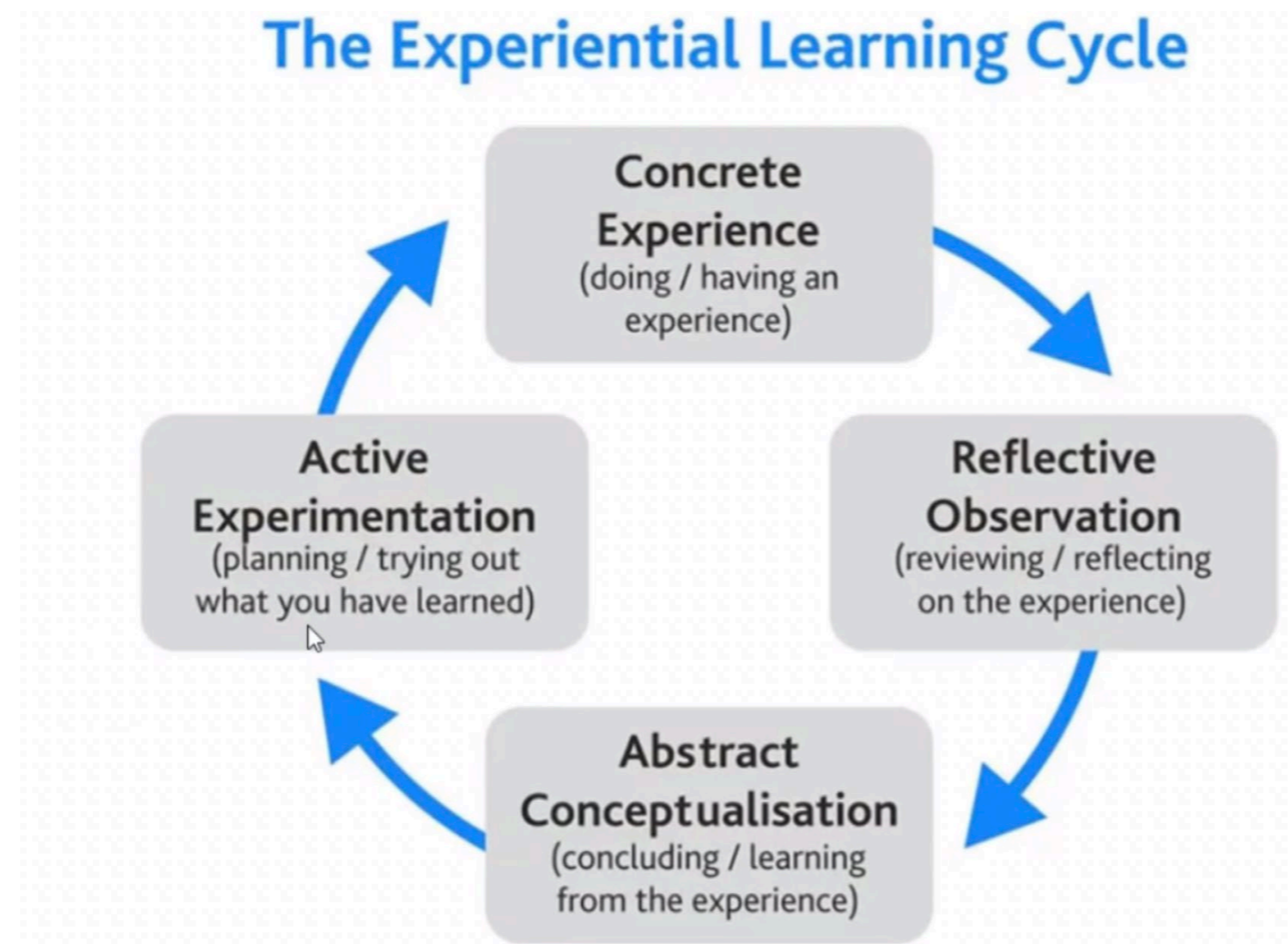
Internal Curriculum



- 5 weekly, 1-hour classes
- Graded daily practice
- Booster sessions
- Course Manual
- Conceptual framework
- Applied skills
- Bespoke app

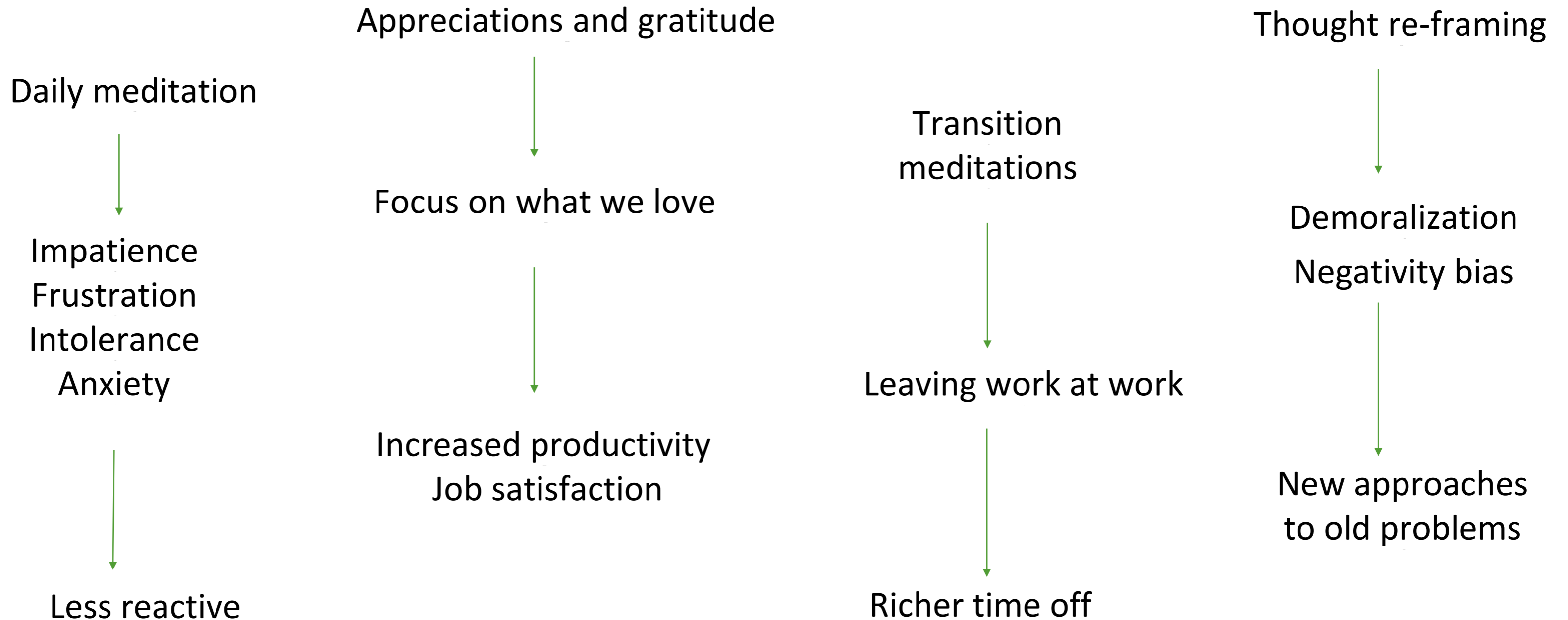
Kolb's Experiential Learning Cycle

- Learning involves acquiring abstract concepts through new experiences and being able to flexibly apply them across a range of situations.



Kolb, 1984

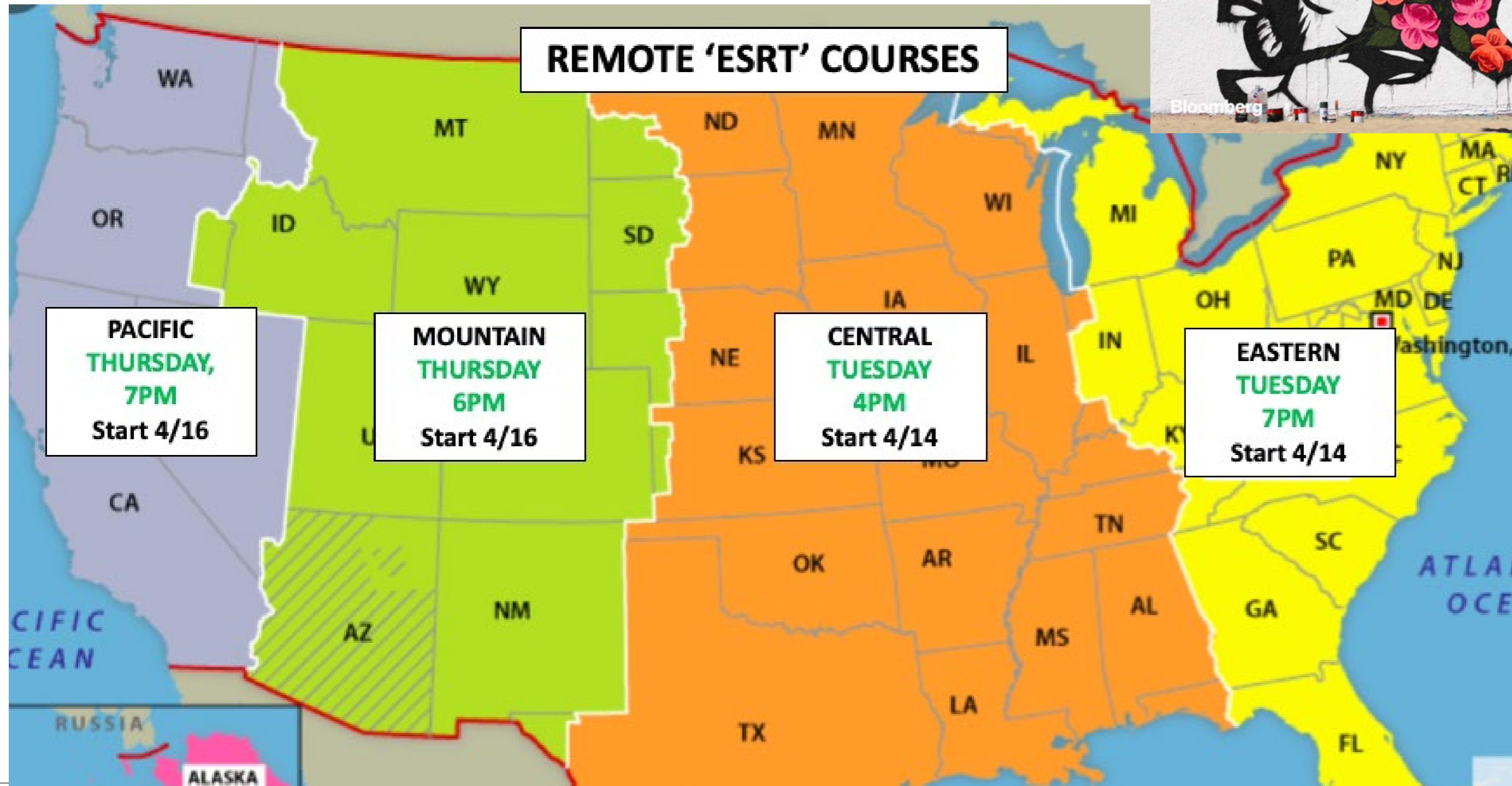
How Do Surgeons Practice Mindfulness?



Something more going on...



COVID & Remote ESRT



Real-life Application

Assessment of Anxiety at the start of COVID-19 (April 2020)

- 72 Respondents (73%)
 - ESRT: n = 29 (40%)
 - Non-ESRT: n = 43 (60%)

Anxiety level by ESRT exposure status.

ESRT Status	Low Anxiety	High Anxiety	Total	% High
Not Trained	34	9	43	20.9%
Trained	28	1	29	3.4%
Total	62	10	72	13.9%

$p = 0.036$

Independent of PGY level, gender, age, number of hours worked in previous month, +/- children or partner, high exposure risk setting

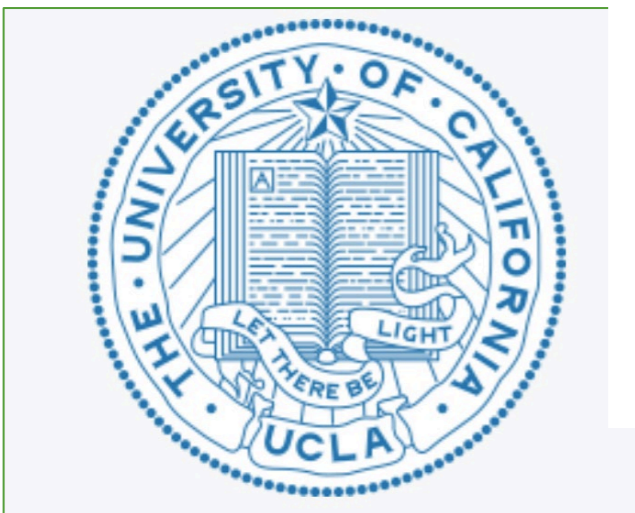
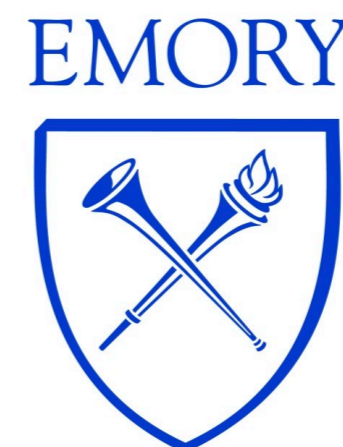
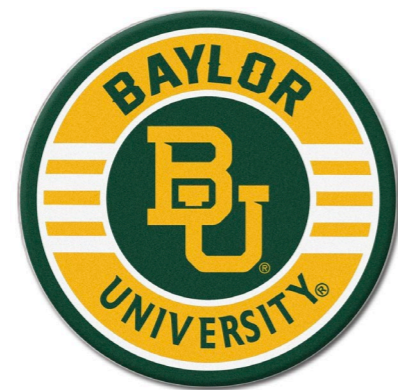
Greenberg, Acad Med, 2021



MADIGAN ARMY MEDICAL CENTER



WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON



Impacts on Systems



[Cochrane Database Syst Rev.](#) 2020 Jul; 2020(7): CD012527.

Published online 2020 Jul 5. doi: [10.1002/14651858.CD012527.pub2](https://doi.org/10.1002/14651858.CD012527.pub2)

Psychological interventions to foster resilience in healthcare professionals

OXFORD

BJS Open, 2021, zrab054
DOI: 10.1093/bjsopen/zrab054
Original Article

Enhanced stress-resilience training for surgical trainees

O. W. Luton ¹, O. P. James ¹, K. Mellor ¹, C. Eley ¹, L. Hopkins ¹, D. B. T. Robinson ¹, C. C. Lebares ²,
A. G. M. T. Powell ^{3,*}, W. G. Lewis ¹ and R. J. Egan ^{4,5}; on behalf of the Welsh Surgical Research Initiative (WSRI) Collaborative

¹Health Education and Improvement Wales
²University of California, San Francisco, Cal
³Division of Cancer and Genetics, Cardiff Un
⁴Department of Surgery, Morriston Hospital
⁵Swansea University, Swansea, UK



Journal of Surgical Education
Volume 78, Issue 2, March–April 2021, Pages 548-560



Original Reports

A Systematic Review of Interventions to Improve Humanism in Surgical Practice

Shawn Khan BHS^c *, Flora Jung BHS^c *, Abirami Kirubarajan BHS^c, MSc *, Khizar Karim BSc *,
Adena Scheer MD, MSc, FRCSC *, †, Jory Simpson MD, MEd, FRCSC *, † ☎

ORIGINAL REPORTS

Mental Skills Training and Resident Surgical Outcomes: A Systematic Review



The American Journal of
Surgery
Volume 222, Issue 2, August 2021, Pages 329-333



Greenberg, MD MPH^{†,‡,§}

University, Providence, Rhode Island; †Section
Island; ‡Division of Ophthalmology, A
Office of Academic Affiliations, US D

Original Research Article

Effect of a behavioral intervention on anxiety and perceived performance of non-technical skills during surgical simulations

Lisa Merriman ^a ☎, Rebecca L. Williams-Karnesky ^a, Renee Pepin ^a, Annette Brooks ^b, Jorge Wernly
^a Zeñ O. Jones S. John C. Russell^a

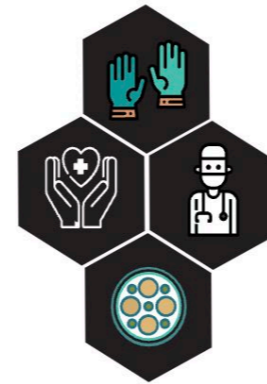
ORIGINAL REPORTS

Mindfulness in the OR: A Pilot Study Investigating the Efficacy of an Abbreviated Mindfulness Intervention on Improving Performance in the Operating Room



Brian F Saway, MD, * Laurie W Seidel, MSN, RN, † Francis C Dane, PhD, ‡ and Terri Wattsman, MD, FACS[†]

Impacts on Culture



THE SECOND TRIAL

Surgical Education Culture Optimization through
targeted interventions based on National comparative
Data (SECOND) Trial

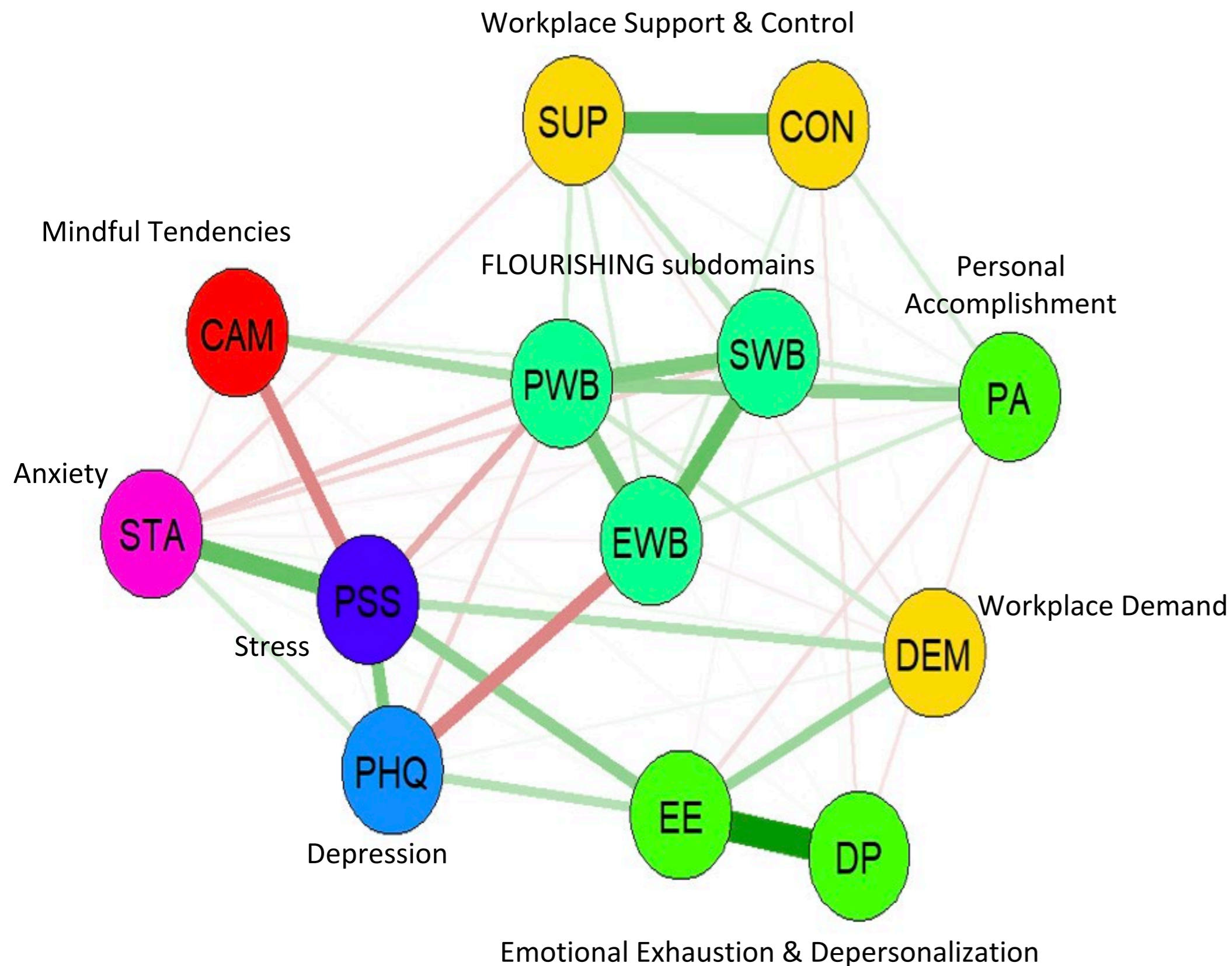


Emotional Intelligence competencies

“[When] implemented through **program-level interventions such as ESRT and ...:**

- 1) psychological safety** that fostered growth mindsets
- 2) a cohesive community** founded on vulnerability and experiences shared using a common language
- 3) public opportunities for expanded learning**

..... seen as a **competitive advantage** for recruiting new residents. “



Concerning Associations:

- Personal accomplishment and attrition
- Anxiety and Suicidal Ideation
- Emotional exhaustion and clinical performance
- Depersonalization and pt experience

Mediation Pathways:

- MF influence mediated through PWB and Stress

New Questions:

- Do we need different measures of workplace factors?
- Is Demand the most relevant factor in our environment?
- What elements of Demand are mutable?
- How might we directly target other elements?

Hu, NEJM, 2019

Khorfan, Ann Surg, 2021

Innovations Take Time



**A Cultural Sea Change:
Mindfulness for Surgical
Residents**

jamanetwork.com

SUMMARY

- Mental skills training to mitigate overwhelming stress has strong evidence of biopsychosocial benefits across high stakes professions
-
- Physician wellbeing is one part of Workplace Wellness but systems and culture must be addressed as well
-
- Workplace Wellness in medicine is an innovation. Expect disruption and challenge, but history shows us we just need to work together and stay the course.

Thank you



<https://CarterLebares.org>

<https://MindfulSurgeon.ucsf.edu>