Mindfulness Medicine: Basics for Pediatricians

Mindful Strategies to Deal with Stress, Anxiety and Conflict: Self and patient care

Daniel S. Lewin, Ph.D., D,ABSM
Director, Pulmonary Behavioral Medicine
Associate Director, Sleep Medicine
Children's National Medical Center
Assistant Professor of Pediatrics
George Washington University
School of Medicine

Future of Pediatrics, 2019

Children's National Medical Center

Overview

- Definitions of, anxiety, stress and conflict
- Stressors: patients, families, caregivers and providers.
- Mindfulness intervention strategies and resources

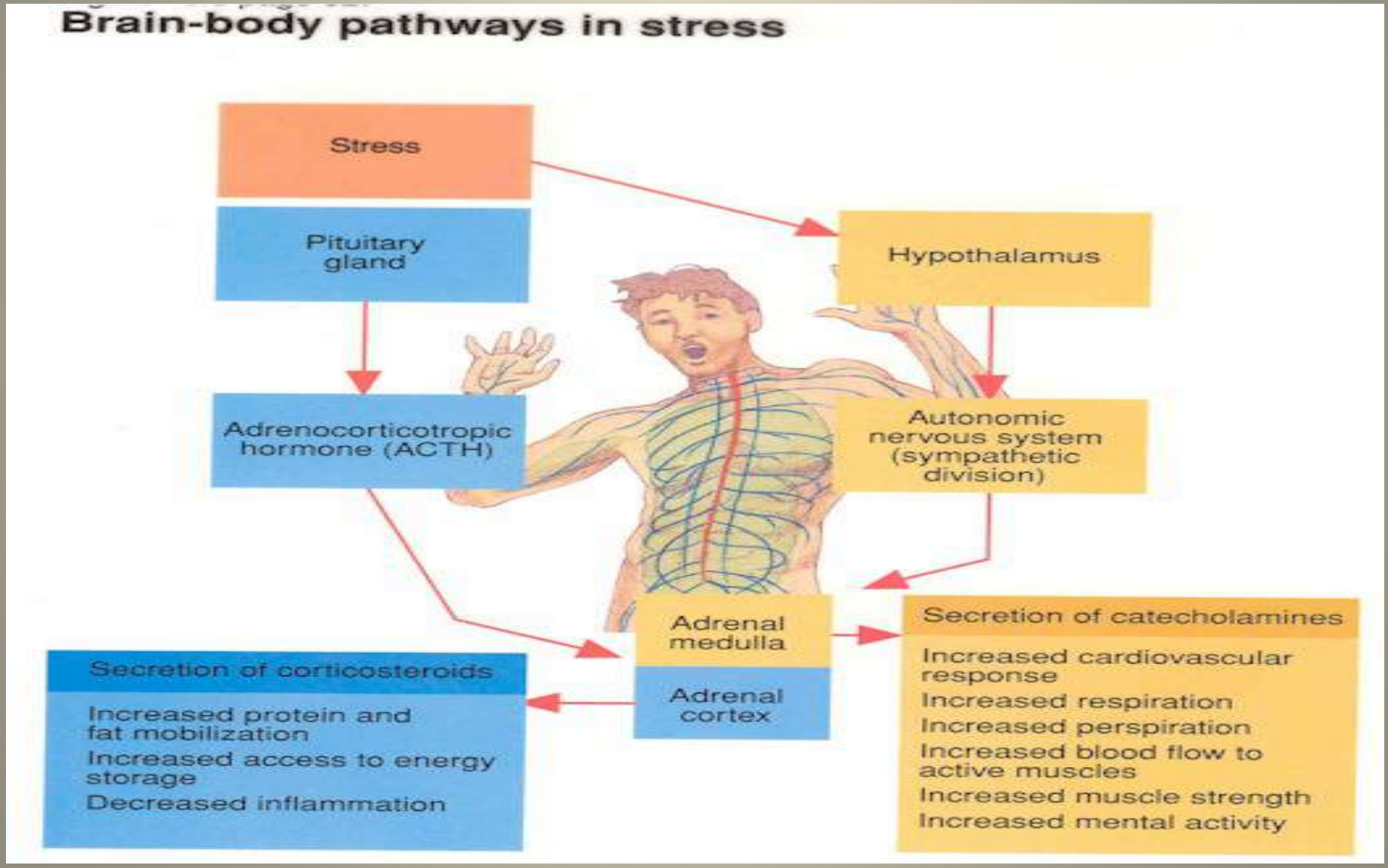
What are Stress, Anxiety and Conflict?

Stress results from interactions with the environment in which there is perceived or actual threat.

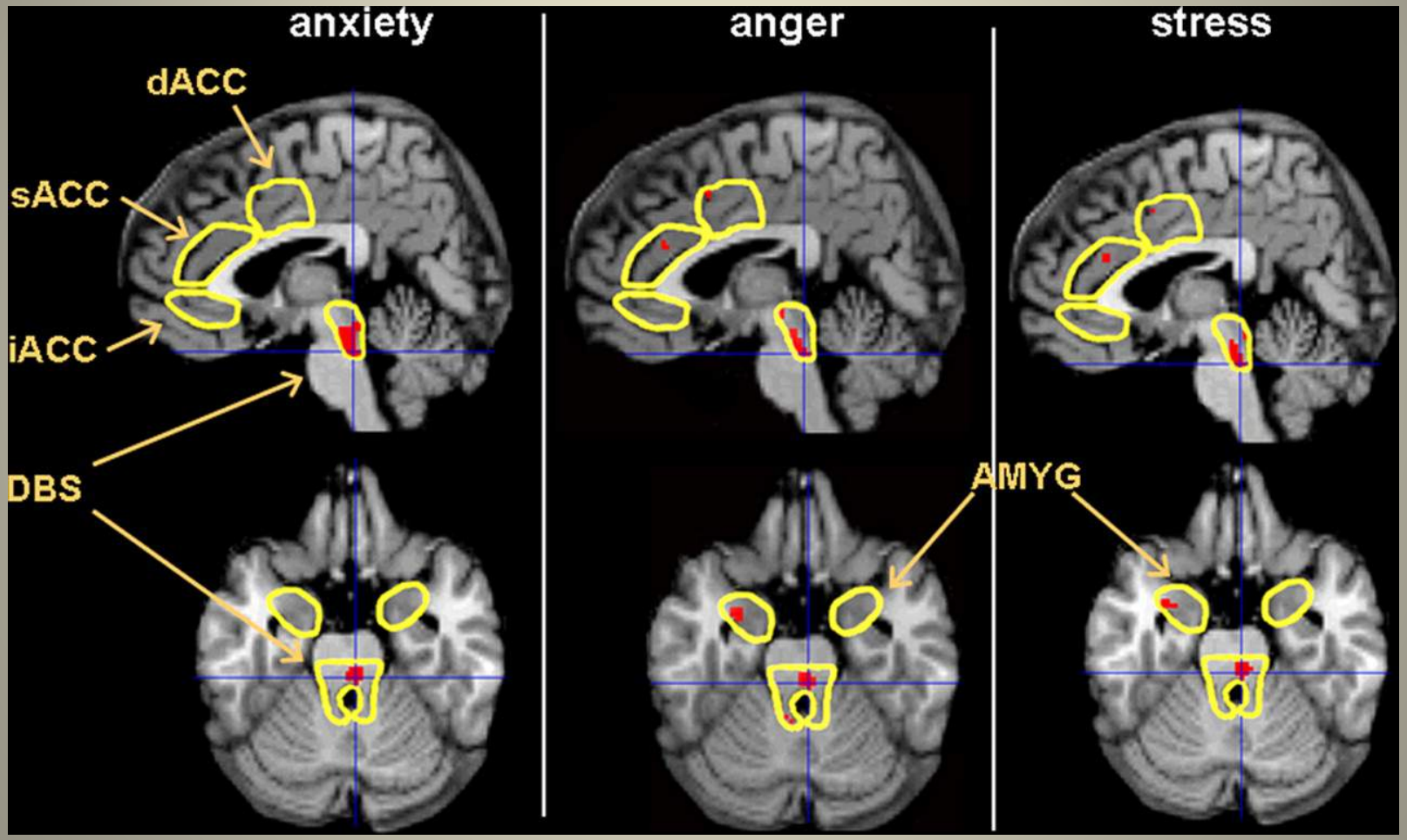
Anxiety is a psychophysiological phenomena originating in the body and/or brain and affects our behavior, thoughts and interactions with the environment.

Confilct is transient or chronic interactions, with outside forces (e.g., people, institutions) that are obstacles or threats, or a failure to have our needs met

What are Stress, Anxiety and Conflict?



What are Stress, Anxiety and Conflict?



PNAS
Proceedings of the National Academy of Sciences of the United States of America

Meditation experience is associated with differences in default mode network activity and connectivity

Judson A. Brewer, Patrick D. Worhunsky, Jeremy R. Gray, Yi-Yuan Tang, Jochen Weber, and Hedy Kober

PNAS December 13, 2011 108 (50) 20254-20259; https://doi.org/10.1073/pnas.1112029108

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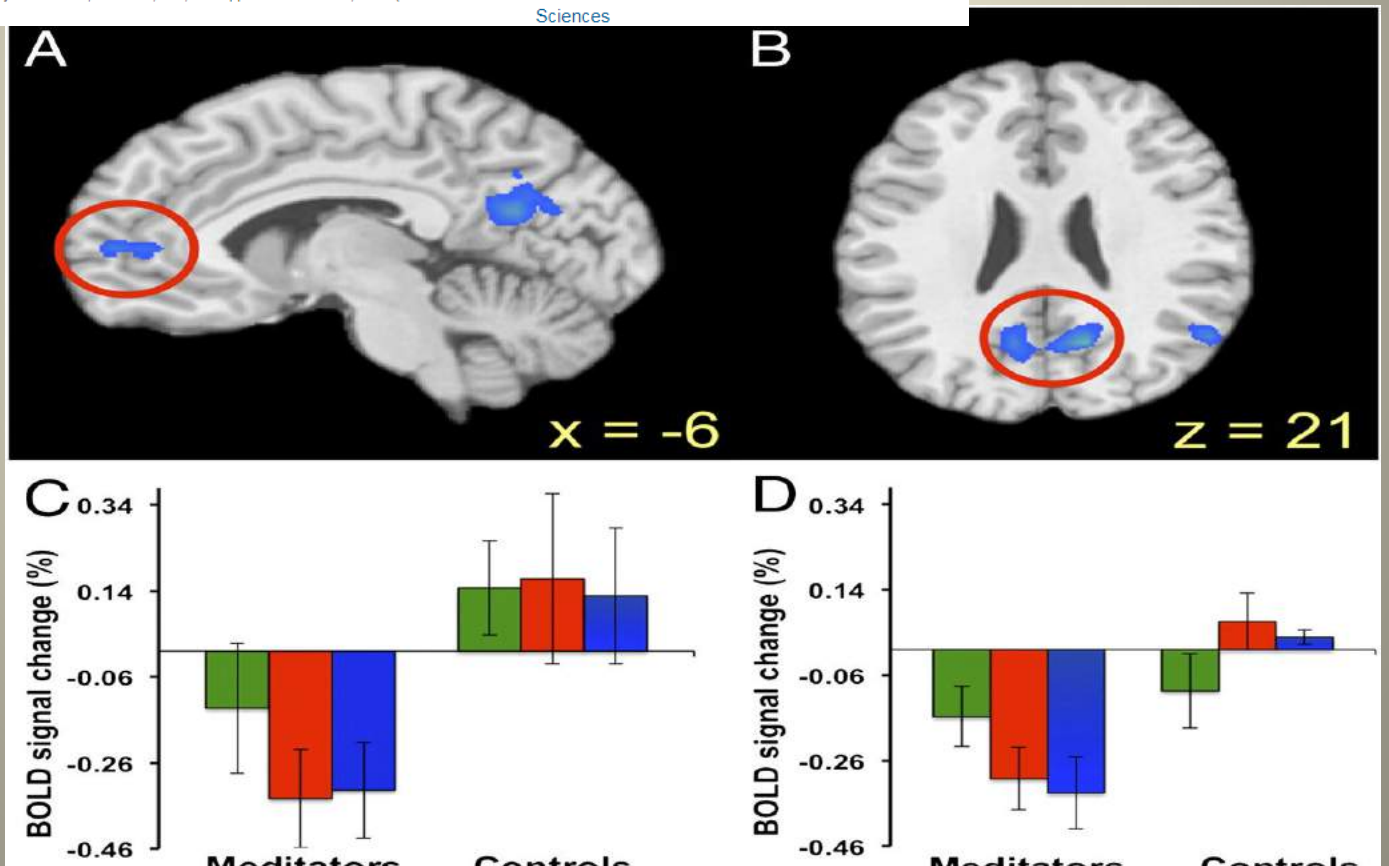
ARTICLE CLASSIFICATIONS

Biological Sciences » Psychological and Cognitive Sciences



Are Stress, Anxiety and Conflict Bad?

YES

- Change body and brain chemistry
- Increase morbidity – Illness
- Interference with goals and pursuit and realization of happiness

&

NO

- Essential part of human experience
- Coping changes body and brain chemistry
- Improves cognition, awareness and self efficacy

Central Tenet of Mindfulness Practices

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

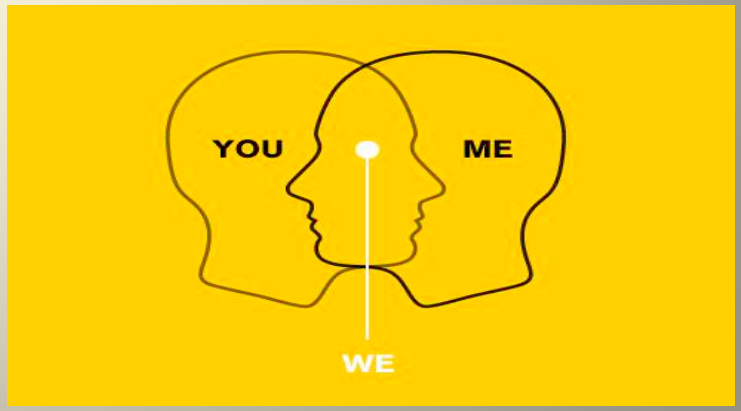
Attributed to: Viktor E. Frankl, Author - Man's Search for Meaning, 1946

Mindfulness Based Coping Strategies

MIND BODY INTERACTION

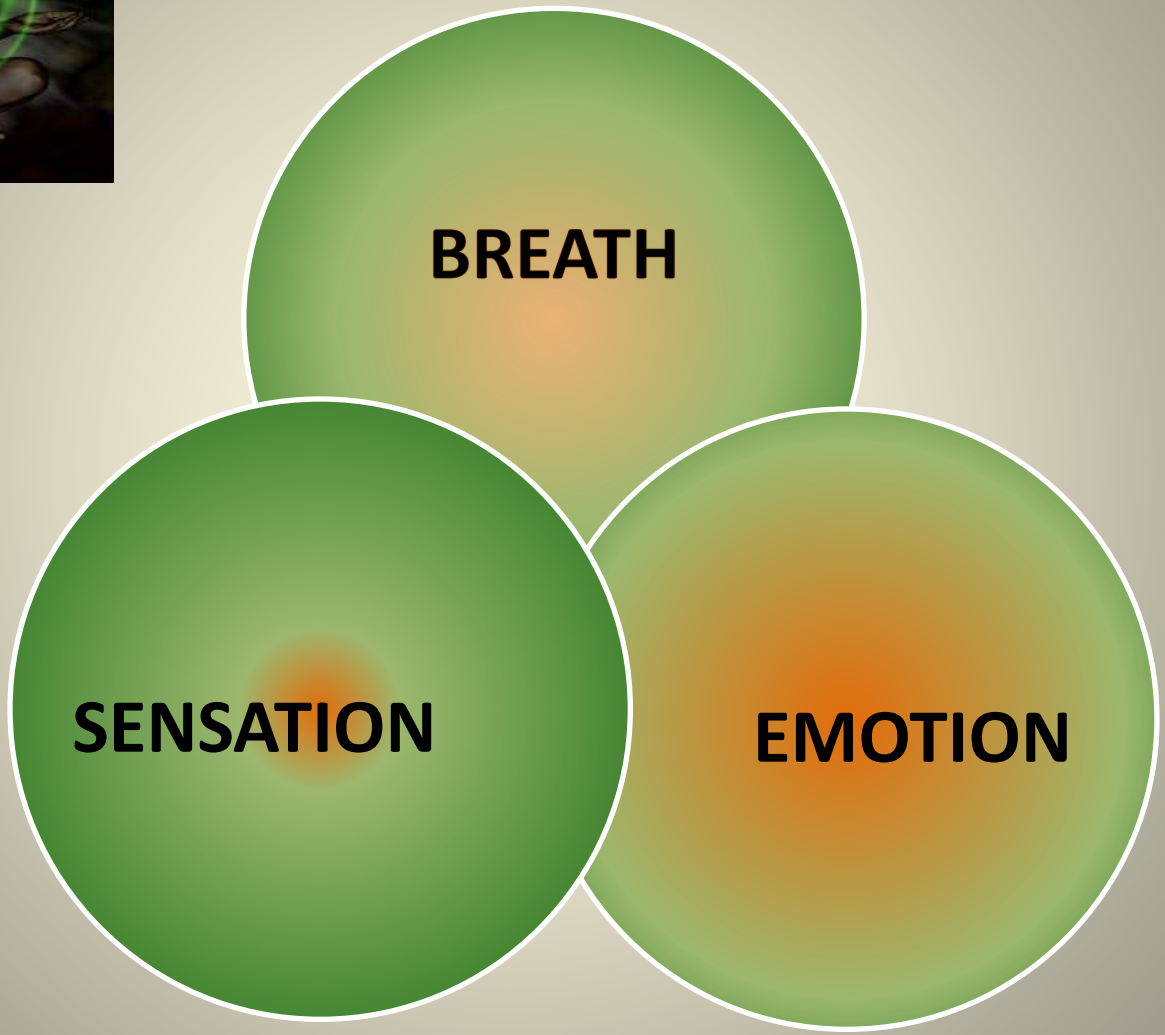
COMPASSION

ACCEPTANCE



MINDFUL COMMUNICATION

MIND BODY INTERACTION



Mom: Welcome home darling, how was school

A: Eh. Ok. I turned in my home work

Mom: Eh? What is up.

A: We had health today….I think I failed our mindfulness exercise. I am terrible at clearing my mind….I don’t understand it….!

- The whole class **meditated** at second meeting today.
- Once we finished, A asked right away, "Are we hollow inside?" J asked what he meant.
  A: I thought my brain was hollow. My neck and my stomach felt hollow.
  J: That's interesting. Why do you think A might have said that?
  E: You get more ideas when you're calmed down.
  Ge: I felt my bones were dinosaur bones. I felt heavy in my belly.
  W: I felt tall.
  H: I felt calm
  A: I felt hollow.

ACCEPTANCE

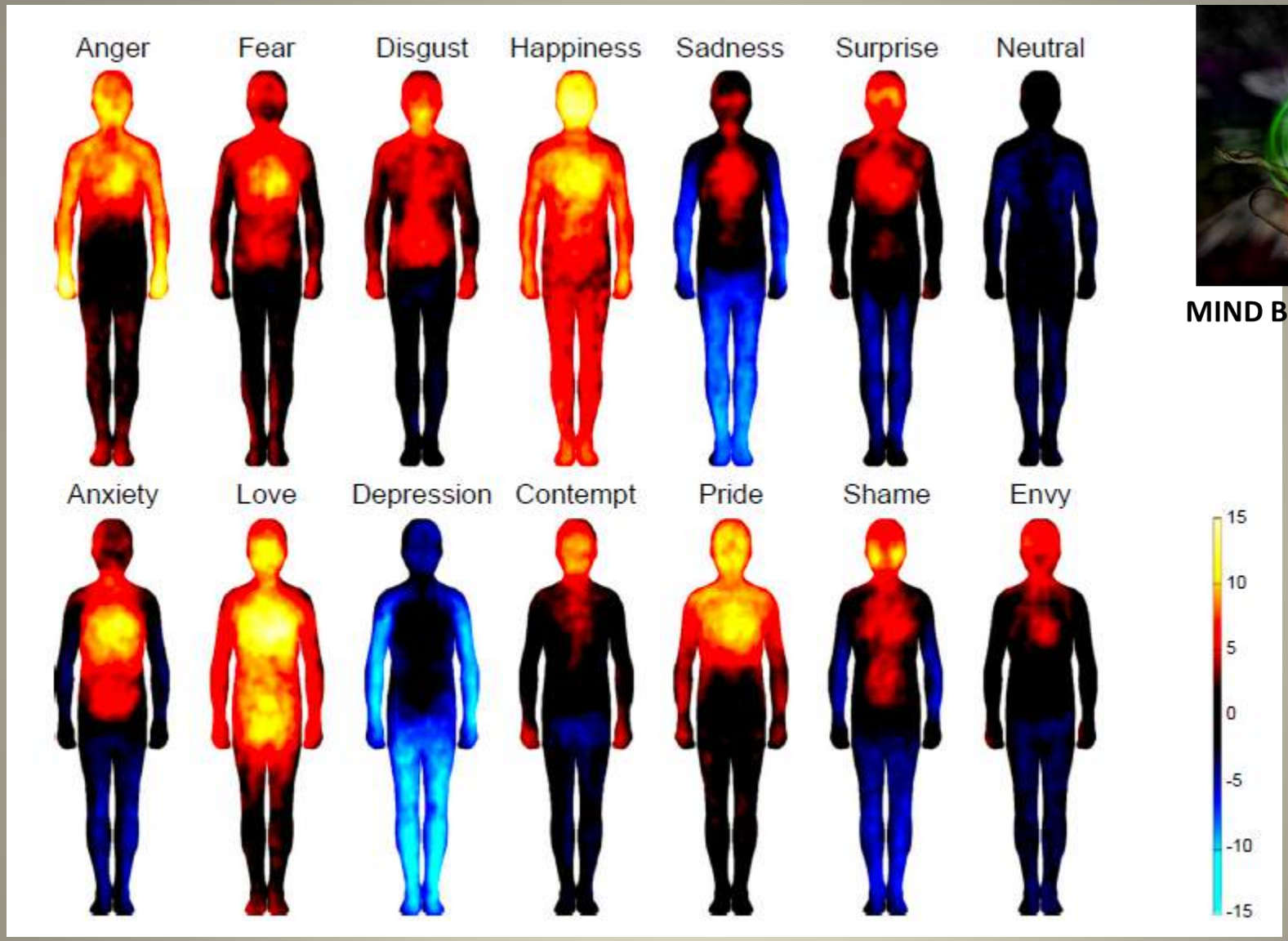
CHRONIC
CONTROLLABLE

ACUTE
CONTROLLABLE

STRESSORS

CHRONIC
UNCTONROLLABLE

ACUTE
UNCONTROLLABLE



MIND BODY INTERACTI

Fig. 2. Bodily topography of basic (*Upper*) and nonbasic (*Lower*) emotions associated with words. The body maps show regions whose activation increased (warm colors) or decreased (cool colors) when feeling each emotion. ($P < 0.05$ FDR corrected; $t > 1.94$). The colorbar indicates the *t*-statistic range.

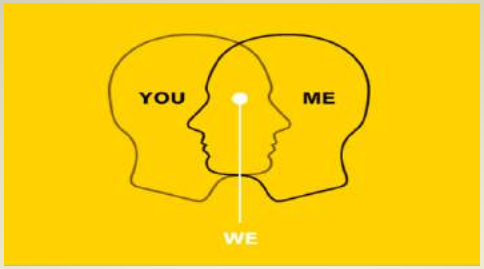
Nummenmaa et al, 2014, PNAS

Mindfulness Based Stress Reduction *http://www.umassmed.edu/cfm/*

- **Focus Mindfulness:** emphasis on internal thought/emotional/sensation
- **Awareness Mindfulness:** Observing your sensory, cognitive and emotional filters
- **Breath**
- **Body Scan**
- **Object Meditation**
- **Compassion Meditation**
- **Walking Meditation**

https://positivepsychologyprogram.com/mindfulness-based-stress-reduction-mbsr/#jon-kabat-zinn

Communication



MINDFUL COMMUNICATION

- Listen – look – Feel
- Repeat what you heard
- Check-in – “was I right”

Mindfulness Practice

Social Cognitive and Affective Neuroscience Advance Access published May 9, 2013

doi:10.1093/scan/nst060 SCAN (2013) 1 of 7

Differential pattern of functional brain plasticity after compassion and empathy training

Olga M. Klimecki,[1,2] Susanne Leiberg,[3] Matthieu Ricard,[4] and Tania Singer[1,3]

[1]Department of Social Neuroscience, Max Planck Institute for Human Cognitive and Brain Sciences, 04103 Leipzig, Germany, [2]Swiss Center for Affective Sciences, University of Geneva, 1205 Geneva, Switzerland, [3]Laboratory for Social and Neural Systems Research, Department of Economics, University of Zurich, 8006 Zurich, Switzerland and [4]Mind and Life Institute, Hadley, MA 01035, USA

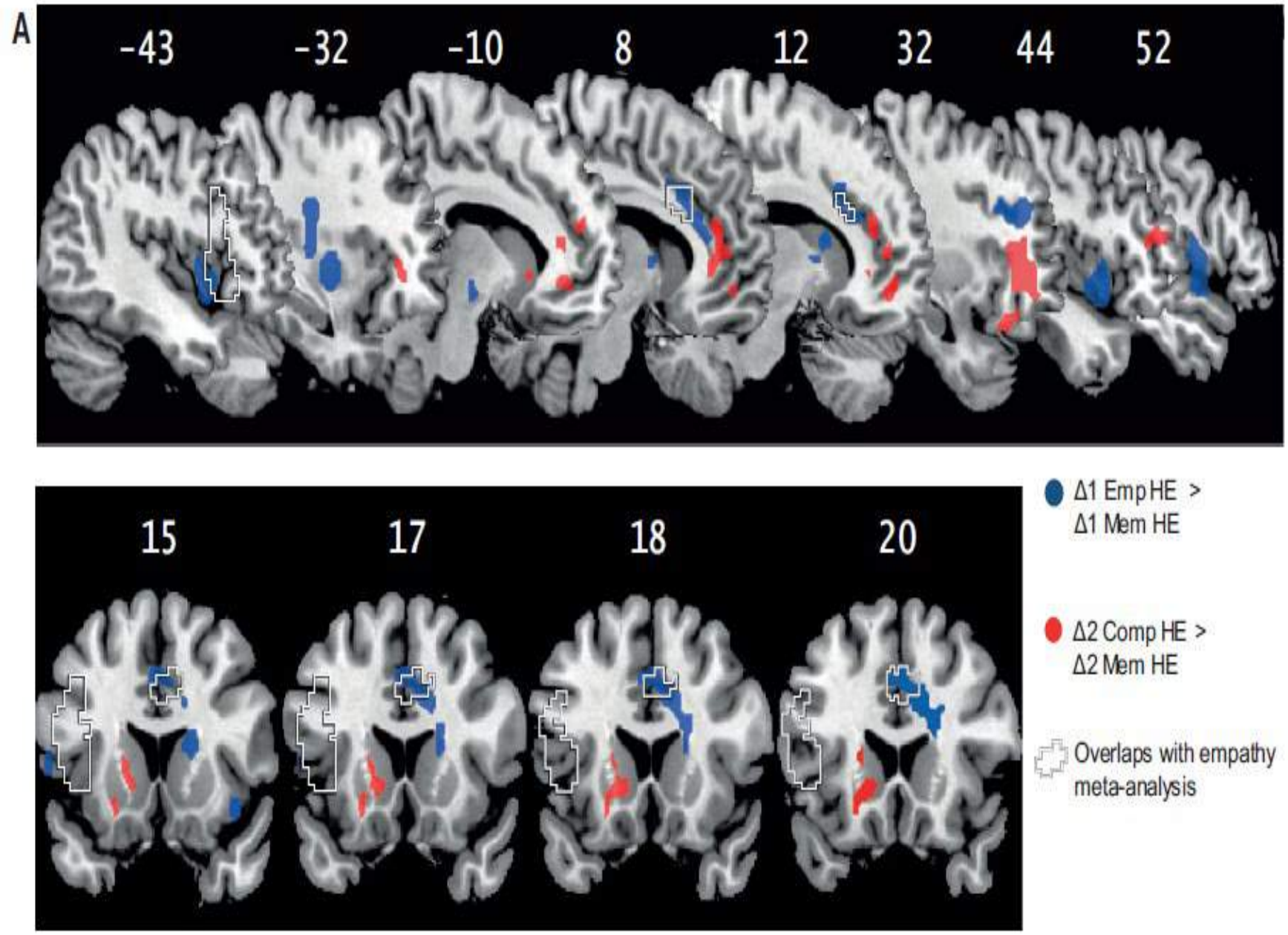
Although empathy is crucial for successful social interactions, excessive sharing of others' negative emotions may be maladaptive and constitute a source of burnout. To investigate functional neural plasticity underlying the augmentation of empathy and to test the counteracting potential of compassion, one group of participants was first trained in empathic resonance and subsequently in compassion. In response to videos depicting human suffering, empathy training, but not memory training (control group), increased negative affect and brain activations in anterior insula and anterior midcingulate cortex—brain regions previously associated with empathy for pain. In contrast, subsequent compassion training could reverse the increase in negative effect and, in contrast, augment self-reports of positive affect. In addition, compassion training increased activations in a non-overlapping brain network spanning ventral striatum, pregenual anterior cingulate cortex and medial orbitofrontal cortex. We conclude that training compassion may reflect a new coping strategy to overcome empathic distress and strengthen resilience.

Keywords: fMRI; social; emotion; insula; medial orbitofrontal cortex

Empathy Vs Compassion

Empathy: feeling the distress or pain that others feel

Compassion: …"a feeling of concern for the suffering of others that is associated with the motivation to help" (Keltner and Goetz, 2007)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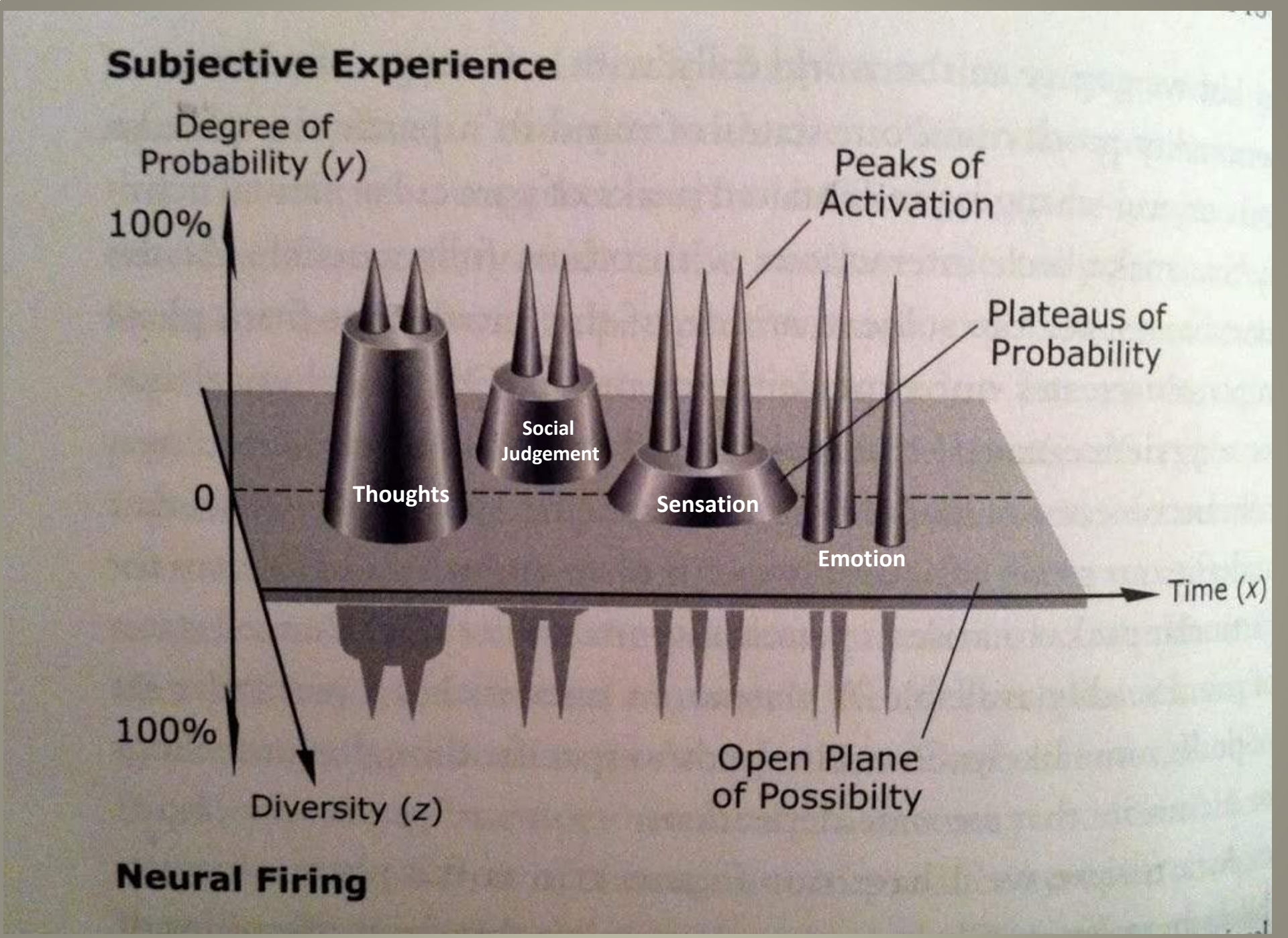
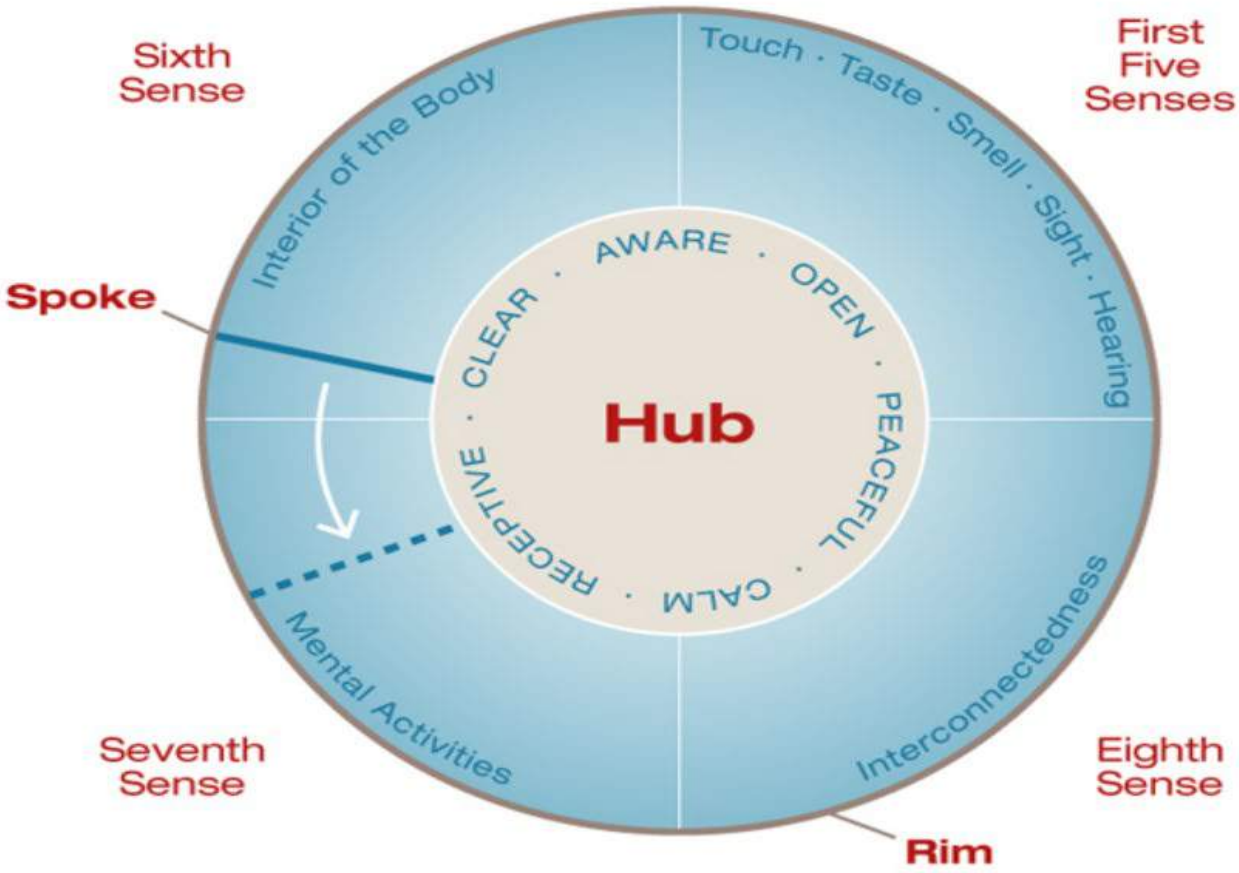
Δ1 Emp HE > Δ1 Mem HE
Δ2 Comp HE > Δ2 Mem HE
Overlaps with empathy meta-analysis


Subjective Experience
Degree of Probability (y)
100%
0
100%
Peaks of Activation
Plateaus of Probability
Social Judgement
Thoughts
Sensation
Emotion
Time (x)
Diversity (z)
Open Plane of Possibilty
Neural Firing

Wheel of Awareness



Aware: The Science and Practice of Presence--The Groundbreaking Meditation Practice Hardcover by Dr. Daniel Siegel M.D.

COMPASSION

FRIEND

CHILD

SELF

Daniel S. Lewin, Ph.D., D.ABSM
Children National Health System
Washington, DC
dlewin@cnmc.org

THANK YOU

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- Aware: The Science and Practice of Presence--The Groundbreaking Meditation Practice. Daniel Siegel, MD
- Chopraananda.com (App for children)
- Calm (App for adults and children)