

# Designing and Implementing Strategies to Prevent and Recover from Burnout

Sarah Bondos, Susy Kohout, Emily Mace, Edith Sanchez, Eleonora Zakharian

CPOW committee

BPS19, 63<sup>rd</sup> Annual Meeting of the Biophysical Society  
March 4<sup>th</sup>, 2:30-4:00 pm, 2018, Baltimore, Maryland

# Guest speakers:

- Vasanthi Jayaraman
- Kenton J. Swartz



# Discussing the problem

- Survey's results reflect pressing issues and struggles throughout the biomedical-research community...
- Department chairs at MD Anderson Cancer Center admitted that “the morale of faculty scientists has significantly worsened in recent years.”
- One interviewee said, “Many faculty are deflated, unsettled and depressed. There is a sense of hopelessness; they’ve given up. There is some resentment; they’ve spent a long time establishing their careers and now there doesn’t seem to be a way to continue doing what they like to do.”

<https://www.nature.com/naturejobs/science/articles/10.1038/nj7464-613a>

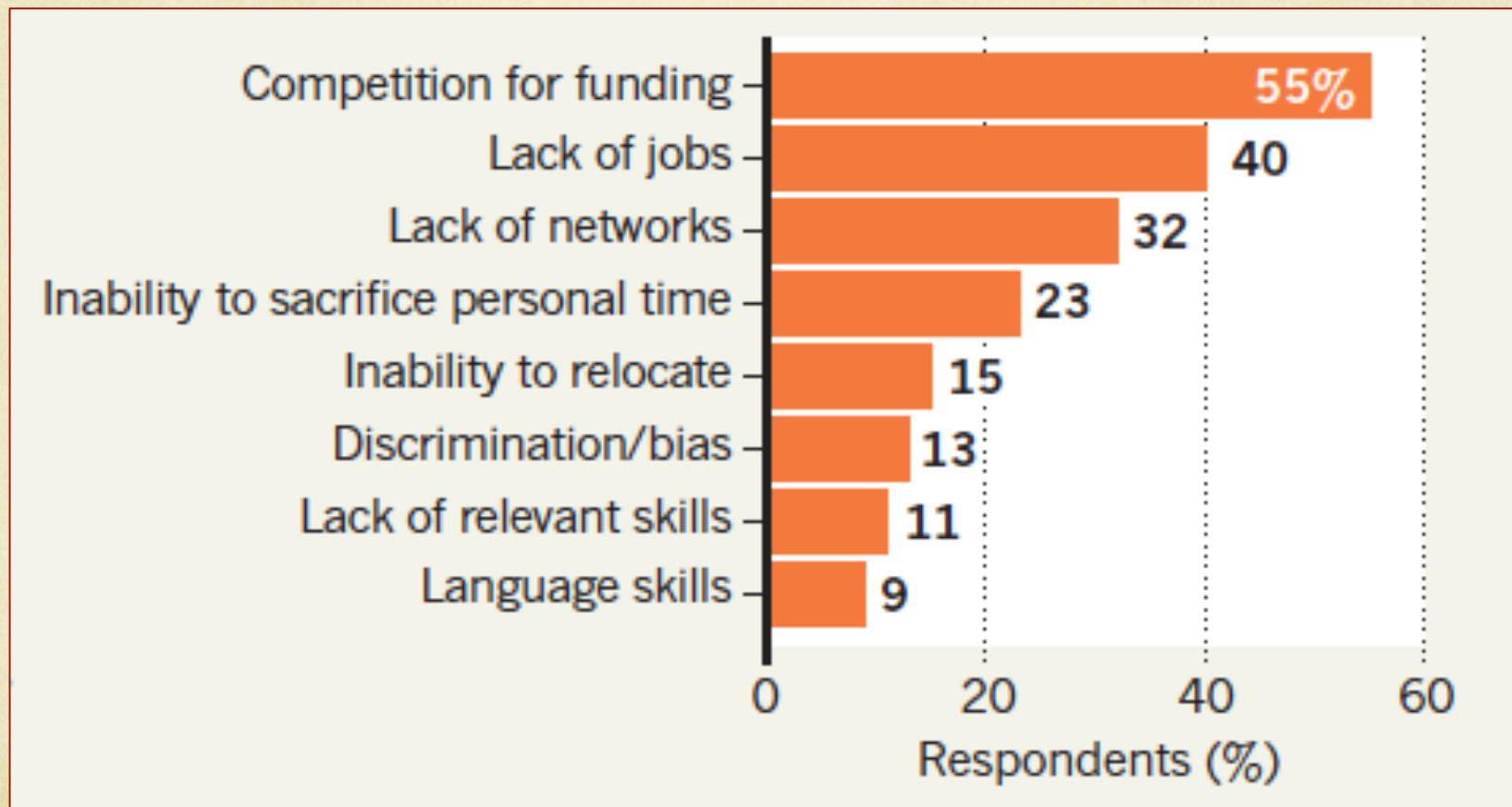
# Stressors:

- #1 stressor among different institutions and departments is **funding**
- Lack of solid support from home institutions that constantly raising the bar and intensify levels of **comparison** and **implicit competition**.
- Executive leadership of institutions expect faculty to seek and obtain more grants, high-impact journal publications, higher standards for academic excellence in teaching/collaborations
- Excessive **teaching load**, with many of the articles refer to teaching as a key source of burnout.
- A British 2005 study of workplace stress across 26 occupations found university faculty members to be among the worst professions in terms of self-reported psychological well-being.

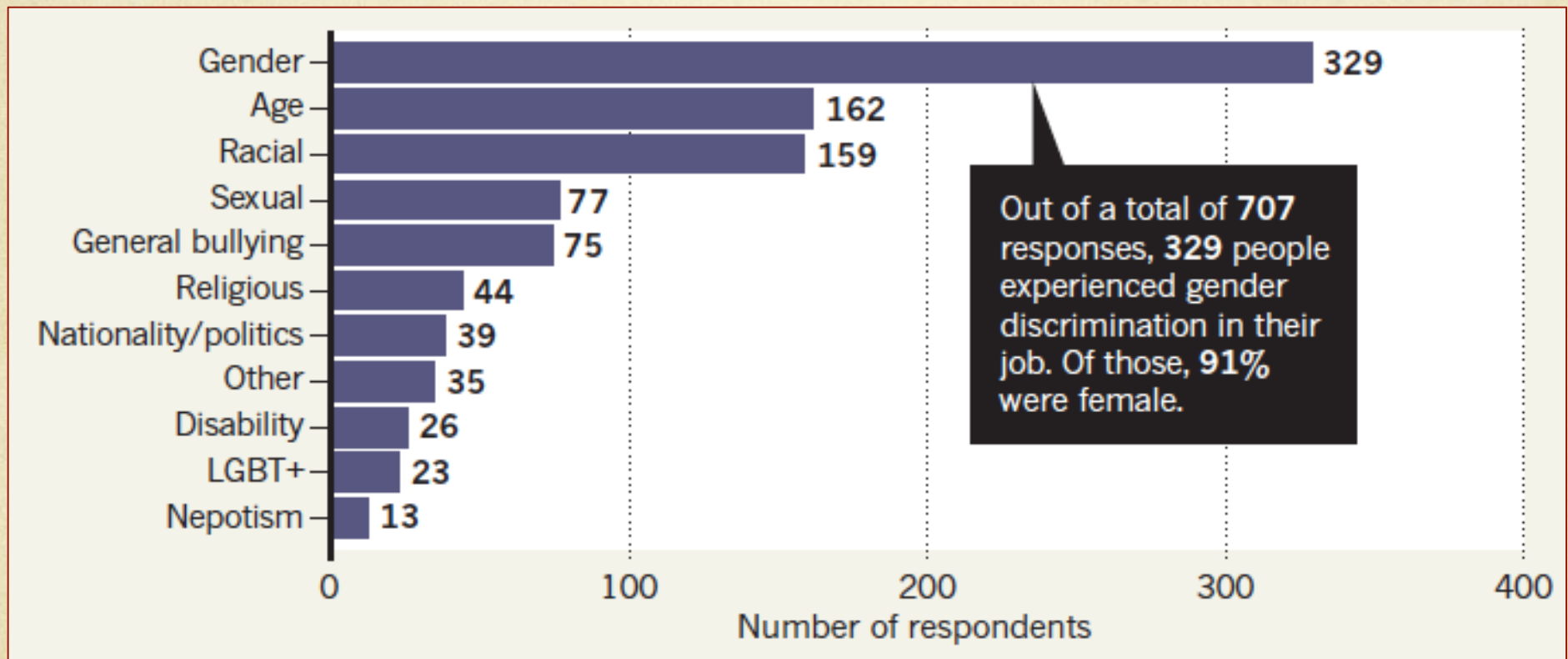
<https://www.chronicle.com/article/4-Ideas-for-Avoiding-Faculty/243010>



# Q: What is the biggest challenge to your career progression?



# Q: Have you experienced discrimination or harassment at your current job?









# What are the risks for graduate students?

Mental health problems and suicide in Ph.D. students:

- One survey of 3,659 students in Belgium suggests that 32% of Ph.D. students are at risk of having or developing a psychiatric disorder such as **depression** (*Res. Policy* 2017, DOI: [10.1016/j.respol.2017.02.008](https://doi.org/10.1016/j.respol.2017.02.008)).
- A survey of 301 graduate students at Emory University determined that more than 34% likely had moderate to severe **depression**, while 7.3% reported **suicidal thoughts**, and 2.3% reported having **plans for suicide** (*Acad. Psychiatry* 2014, DOI: [10.1007/s40596-014-0041-y](https://doi.org/10.1007/s40596-014-0041-y)).

“The rates of mental health issues in this population are elevated significantly above the general population,” says [Nathan L. Vanderford](#), assistant dean for academic development in the University of Kentucky College of Medicine.

“Students are putting so much effort and energy into pursuing the degree that every single step can carry a lot of weight. Certainly there’s fear of failure or perception of failure,” says [Christa Labouliere](#), a clinical psychology professor and administrator for a suicide prevention program at New York State Psychiatric Institute, which is part of Columbia University Medical Center.



# Suicidal thoughts

“I might not have felt so alone had I known how many people struggle with mental health issues in academia.”

- A 2015 study at the University of California Berkeley found that 47% of graduate students suffer from **depression**, following a previous 2005 study that showed 10% had **contemplated suicide**.
- A 2003 Australian study found that that the rate of mental illness in academic staff was **three to four times higher** than in the general population, according to a New Scientist article.
- The percentage of academics with mental illness in the United Kingdom has been estimated at 53%.

# A deficiency in the acceptance/ acknowledgment of the problem:

“In essence, many Ph.D. students are so accustomed to hard work and self-discipline that they beat themselves up when their efforts to manage depression fail to generate perfect results.”

“Too many people in academia assume that psychological problems are only for the weak.”



# Now what?

- Are there ways, solutions to overcome difficulties scientists facing in their everyday life?
- How to cope with the work-related problems and not to lose our humanity and continue to maintain work-life balance?
- How to recognize, prevent, and counteract burnout?
- How to manage stress, promote a sense of well-being, improve efficiency, and revive our genuine enthusiasm for science?

# Three ways Colleges can help faculty members avoid burnout

From The Chronicle of Higher Education: “There’s plenty of things that colleges and universities can do on this front, and the burden shouldn’t fall entirely on faculty members themselves.”

1. Treat all faculty members [including non-tenure track] like faculty members
2. Take a universal design approach to faculty mental health:
  - Create policies of inclusivity and support for faculty mental health.
  - Treat mental illness as abnormal part of a diverse professoriate.
  - Create a culture of access prioritizing mental health.
3. Support faculty work/life balance  
“prisoner of love” problem - employees who love what they do are easier for employers to Exploit  
Universities should:
  - create a work culture supportive of families
  - enable faculty to adjust their schedule to care for family members
  - departments should support family leave

<https://www.chronicle.com/article/3-Ways-Colleges-Can-Help/243134>



# Four ideas for avoiding faculty burnout

From The Chronicle of Higher Education: focuses on what individuals, rather than institutions, can do

1. Take time off, if only for an evening
2. Remember that your job is a job - even if you love it
3. Find ways to say no
4. Prioritize sleep over extra class-prep time.

# Why I collapsed on the job?

From the Chronicle of Higher Education:

- “A tenured professorship has always been my dream job, because it provides freedom and flexibility. You teach what you care about; you decide what to research. But the benefits of such freedom and flexibility in academia come at **the cost of disappearing boundaries between work and life**. We are so free to work whenever we want that many of us end up working all the time, not having full weekends and rarely taking off more than just a few days, despite popular perceptions to the contrary. We bring our work home or anywhere we go — on flights or long drives, to vacations or family reunions.”
- “We live a day-to-day illusion that we don’t have a boss. We have only “self-imposed” deadlines. Everything we do is our choice.”

<https://www.chronicle.com/article/Why-I-Collapsed-on-the-Job/242537>



# Well-Being

# The Four Constituents of Well-Being

- **Resilience:** the rapidity with which one recovers from adversity
- **Positive Outlook:** the ability to see the positive in others
- **Attention:** “a wandering mind is an unhappy mind” (Gilbert’s research at Harvard)
- **Generosity:** the practice of generosity and altruism activates circuits in the brain that are key to fostering well-being

## Credits:

- 1) [Davidson RJ](#), [McEwen BS](#). Social influences on neuroplasticity: stress and interventions to promote well-being. [Nat Neurosci](#). 2012 Apr 15;15(5):689-95. doi: 10.1038/nn.3093.
- 2) <https://centerhealthyminds.org/join-the-movement/why-well-being-is-skill>



# Well-Being

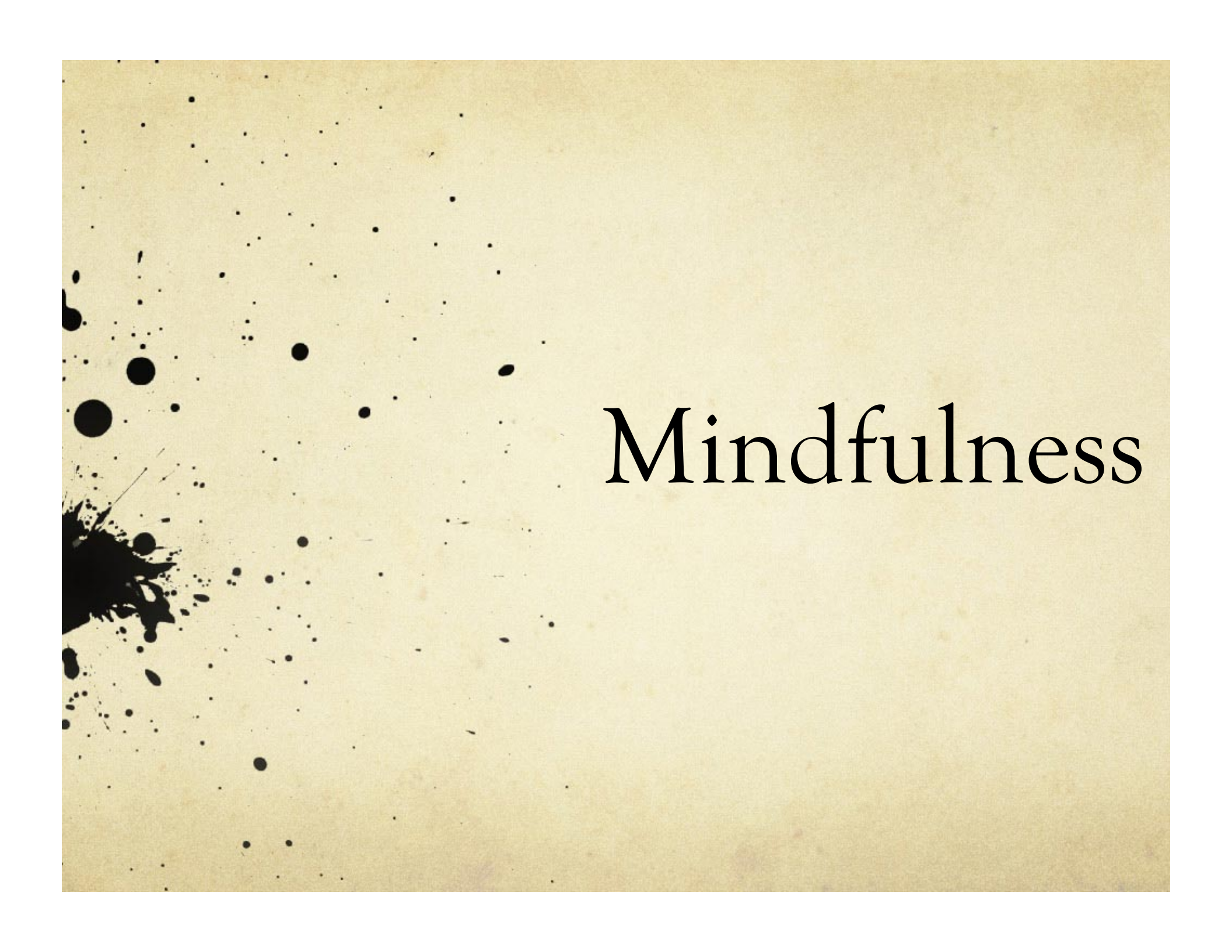
The neural circuits that underlie *Resilience, Positive Outlook, Attention, Generosity and Altruism* exhibit neuroplasticity.

Each can be shaped and strengthened by training.

Hence, well-being is a skill that can be developed.

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- 1) [Davidson RJ, McEwen BS](#). Social influences on neuroplasticity: stress and interventions to promote well-being. [Nat Neurosci](#). 2012 Apr 15;15(5):689-95. doi: 10.1038/nn.3093.
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The image features a light beige, textured background resembling aged paper. On the left side, there are several black ink splatters of varying sizes, with a larger, more complex splash near the bottom left corner. The word "Mindfulness" is written in a black, serif font, positioned on the right side of the image.

# Mindfulness



# Mindfulness

- Jon Kabat-Zinn defines mindfulness as “the awareness that arises through paying attention on purpose, in the present moment, non judgmentally.”
- Mindfulness also implies **recollection of qualities and values that we deem important, and that we want to remain mindful of in our every day lives.**
- In Asian languages, the word for mind and the word for heart are the same, hence mindfulness is heartfulness. **You could think of mindfulness as wise and affectionate attention.**

# Mindfulness

- Mindfulness requires attention stability
- Daniel Goleman's Three Focuses:
  - Inner focus: requires attention to become aware of our inner world of feelings, thoughts, and physical sensations
  - Other focus: requires attention to notice other's presence, feelings, needs, etc; it constitutes the basis upon which empathetic concern or compassion may develop
  - Outer focus: requires attention to the way systems interact and create webs of interdependence, thus systems thinking rather than the simplistic "A" causes "B", thereby allowing a broader prospect perception of phenomena and feelings

Cultivating Emotional Balance (CEB) course:

Credits: Drs. B.A. Wallace and P. Ekman

[Kemeny ME](#), [Foltz C](#), [Cavanagh JF](#), [Cullen M](#), [Giese-Davis J](#), [Jennings P](#), [Rosenberg EL](#), [Gillath O](#), [Shaver PR](#), [Wallace BA](#), [Ekman P](#).

Contemplative/emotion training reduces negative emotional behavior and promotes prosocial responses. [Emotion](#). 2012 Apr;12(2):338-50. doi: 10.1037/a0026118. Epub 2011 Dec 12

UICOMP course: Dr. Marcelo Bento Soares



# The Four Applications of Mindfulness

## - Cognitive Balance -

- Mindfulness of the Body
- Mindfulness of Feelings
- Mindfulness of the Mind
- Mindfulness of Phenomena

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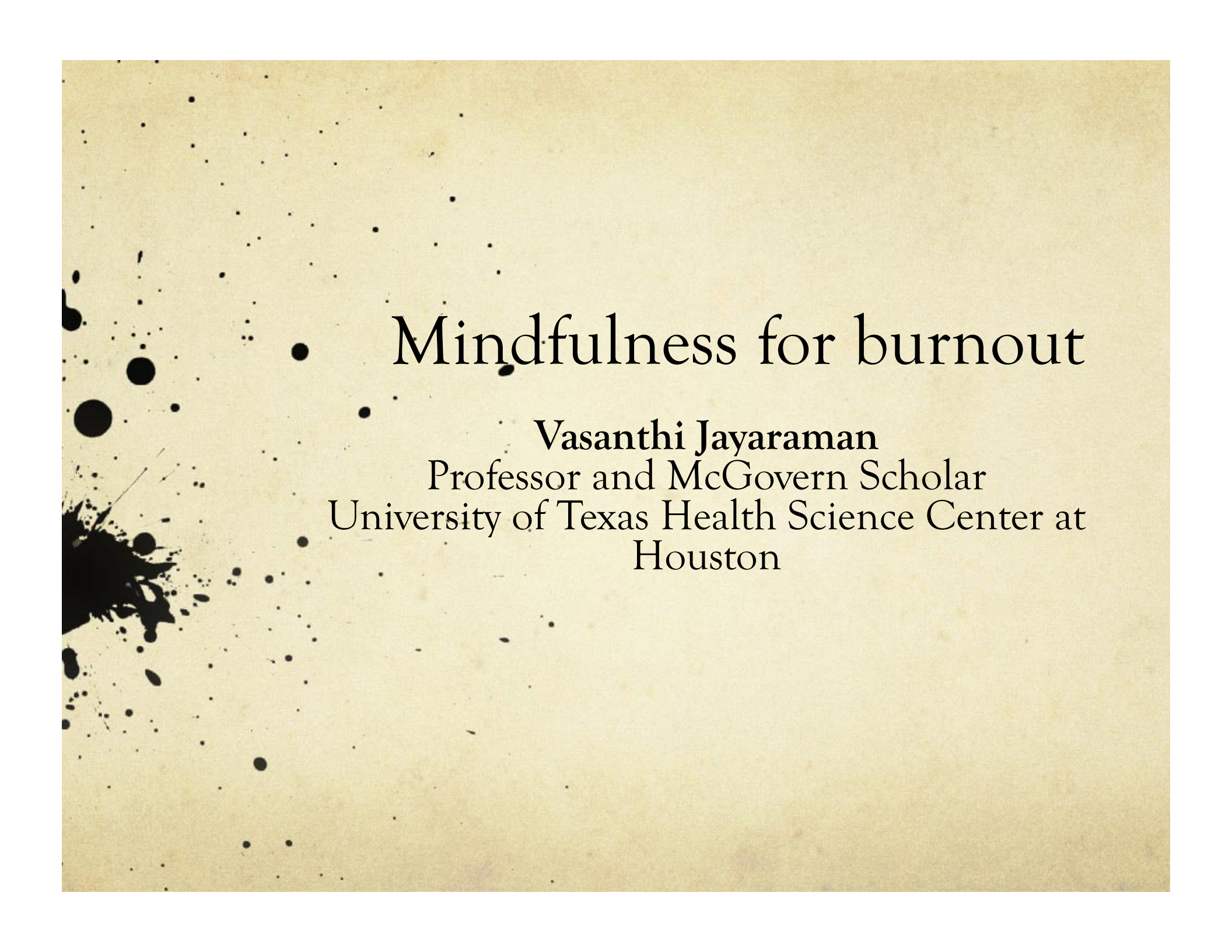
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# Mindfulness – a Path for Recovery

Vasanthi Jayaraman, Ph.D.

Professor, 2016 McGovern Scholar, 2016 Co-Chair Biophysical  
Society Annual Meeting  
Department of Biochemistry and Molecular Biology  
UTHealth Medical School





# Mindfulness for burnout

Vasanthi Jayaraman  
Professor and McGovern Scholar  
University of Texas Health Science Center at  
Houston

# Mindfulness





Wise men learn from other's  
mistake

Fools learn from their own

\$@%% fools never learn

- Improvised version of Otto Von Bismark

# Common misconceptions about mindful meditation

- Mindful meditation means going into a trance.
- Meditation is running away from reality.
- A couple of weeks of meditation and all my problems will go away.



My meditation app is stressing me out. Why is mindfulness so maddening?

I inhaled deeply. I exhaled, too. *Out. Out. Out.* I knew it was only a matter of time before I failed her again — and myself in the process. But at least I'm learning to fail my meditation app mindfully.

# Mindfulness and Yoga

Kenton J. Swartz, Ph.D.

Senior Investigator

Molecular Physiology and Biophysics Section

The National Institute of Health – NINDS



# Mindfulness programs offered at different universities:

- **Cognitively Based Compassion Training – CBCT®:**  
consists of a structured and progressive series of contemplative exercises. Practitioners begin by stabilizing attention and developing present-moment awareness (Modules I and II) and then use analytical practices to increase well-being and unbiased compassion toward others. (Modules III – VI).  
Offered at Emory University, University of Illinois  
<https://tibet.emory.edu/cognitively-based-compassion-training/>



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is an educational training committed to utilizing the experience of emotion as a path for developing the happiness of being for ourselves and in relationship to others.

Offered at University of Illinois

<http://cultivating-emotional-balance.org/>



CULTIVATING EMOTIONAL BALANCE

HOME WHO WE ARE ▾ ABOUT CONTACT

### CULTIVATING EMOTIONAL BALANCE

Cultivating Emotional Balance (CEB) is an educational training committed to utilizing the experience of emotion as a path for developing the happiness of being for ourselves and in relationship to others.

By integrating the wisdom traditions of modern psychology, current emotion research, and contemplative practices, CEB provides a secular platform for transformation.

With the tools of CEB, we can draw upon our human capacity to wisely and compassionately actualize individual and collective well-being and reform a wholesome relationship with the planet.



TEACHER PORTAL



RESOURCES



EXPERIENCE



# Mindfulness programs offered at different universities:

## ○ Compassion Cultivation Training – CCT:

A compassionate attitude can greatly reduce the distress people feel in difficult situations and can become a profound personal resource in times of stress. Compassion Cultivation Training (CCT) is an 8-week educational program designed to help you improve your resilience and feel more connected to others—ultimately providing an overall sense of well-being.

Offered at Stanford University

<http://ccare.stanford.edu/education/about-compassion-cultivation-training-cct/>



The screenshot shows the website for the Center for Compassion and Altruism Research and Education (CCARE) at Stanford University. The page is titled "About Compassion Cultivation Training (CCT)". It features a navigation bar with links for Home, Press, Contact, and Donate. The main content area includes a sidebar with links for Education, About Compassion Cultivation Training (CCT), Why Cultivate Compassion?, Benefits, Register Online, CCT Teacher Training Program, CCT Staff, Request a CCT Workshop, Global Directory of CCT Teachers, and FAQ. The main text describes CCT as an 8-week educational program designed to help improve resilience and feel more connected to others. It also mentions that the CCT course, developed by a team of contemplative scholars, clinical psychologists, and researchers at Stanford University, combines traditional contemplative practices with contemporary psychology and scientific research on compassion. Preliminary research suggests that CCT and similar programs can increase self-compassion and self-care, reduce stress, anxiety, and depression. Through instruction, daily meditation, mindfulness, and in-class interaction, you can strengthen the qualities of compassion, empathy, and kindness. Classes meet weekly for 2 hours and daily guided meditation home practice is assigned. A link for "Upcoming CCT Classes | Fees | CE Credit Information" is provided. The page also lists who is encouraged to attend, including parents and caregivers, educators, healthcare professionals and therapists, executives and managers, public service leaders and employees, and individuals seeking to increase awareness and mindfulness. A note at the bottom states that people working in a wide range of professions and life contexts can benefit from this program, and that no previous meditation experience is required, although willingness to practice daily meditation is a key component of the training.

Home | Press | Contact | Donate

ABOUT RESEARCH EDUCATION EVENTS VIDEOS BLOG

Stanford MEDICINE THE CENTER FOR COMPASSION AND ALTRUISM RESEARCH AND EDUCATION

**EDUCATION**

- About Compassion Cultivation Training (CCT)
- Why Cultivate Compassion?
- Benefits
- Register Online
- CCT Teacher Training Program
- CCT Staff
- Request a CCT Workshop
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- FAQ

**About Compassion Cultivation Training (CCT)**  
The Center for Compassion and Altruism Research and Education > Education > About Compassion Cultivation Training (CCT)

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Learn how to train your mind to intentionally choose compassionate thoughts and actions and develop skills that help you relate to others—and yourself.

[Upcoming CCT Classes](#) | [Fees](#) | [CE Credit Information](#)

**Who We Encourage to Attend**  
Compassion Cultivation Training is designed to support anyone who wants to cultivate compassion for themselves and others, such as:

- Parents and caregivers
- Educators
- Healthcare professionals and therapists
- Executives and managers
- Public service leaders and employees
- Individuals seeking to increase awareness and mindfulness

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- **Mindful Self-Compassion – MSC:**  
An eight-week program to teach self-compassion skills in daily life, has been developed by Kristin Neff, Ph.D., who is widely recognized as one of the world's leading experts on self-compassion  
<https://self-compassion.org>



# Literature:

## ○ CEB citation:

- Kemeny ME, Foltz C, Cavanagh JE, Cullen M, Giese-Davis J, Jennings P, Rosenberg EL, Gillath O, Shaver PR, Wallace BA, Ekman P. Contemplative/emotion training reduces negative emotional behavior and promotes prosocial responses. Emotion. 2012 Apr;12(2):338-50. doi: 10.1037/a0026118. Epub 2011 Dec 12.

## ○ Wellbeing:

- Davidson RJ, McEwen BS. Social influences on neuroplasticity: stress and interventions to promote well-being. Nat Neurosci. 2012 Apr 15;15(5):689-95. doi: 10.1038/nn.3093.
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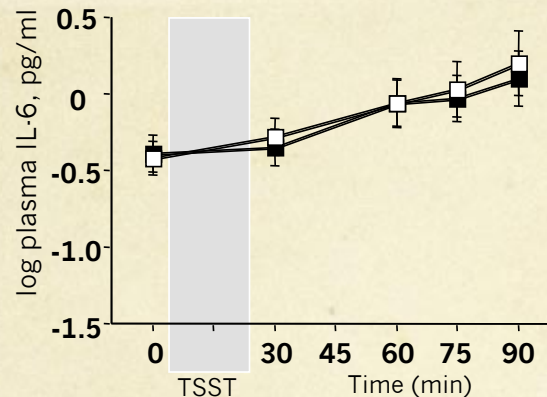
## ○ CBCT citations:

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- \_\_\_\_\_. 2015b. "Feasibility of Cognitively-Based Compassion Training (CBCT) for Breast Cancer Survivors: A Randomized, Wait List Controlled Pilot Study." Supportive Care in Cancer: Official Journal of the Multinational Association of Supportive Care in Cancer 23 (12): 3599–3608.
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- Gonzalez-Hernandez, Edgar, Rocio Romero, Daniel Campos, Diana Burychka, Rebeca Diego-Pedro, Rosa Baños, Lobsang Tenzin Negi, and Ausiàs Cebolla. 2018. "Cognitively-Based Compassion Training (CBCT®) in Breast Cancer Survivors: A Randomized Clinical Trial Study." Integrative Cancer Therapies 17 (3): 684–96.
- Mascaro, Jennifer S., Alana Darcher, Lobsang T. Negi, and Charles L. Raison. 2015. "The Neural Mediators of Kindness-Based Meditation: A Theoretical Model." Frontiers in Psychology 6 (February): 109.
- Mascaro, Jennifer S., Sean Kelley, Alana Darcher, Lobsang Tenzin Negi, Carol Worthman, Andrew Miller, and Charles Raison. 2018. "Meditation Buffers Medical Student Compassion from the Deleterious Effects of Depression." The Journal of Positive Psychology 13 (2): 133–42.
- Mascaro, Jennifer S., James K. Rilling, Lobsang Tenzin Negi, and Charles L. Raison. 2013. "Pre-Existing Brain Function Predicts Subsequent Practice of Mindfulness and Compassion Meditation." NeuroImage 69 (April): 35–42.
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- Pace, Thaddeus W. W., Lobsang Tenzin Negi, Brooke Dodson-Lavelle, Brendan Ozawa-de Silva, Sheerth D. Reddy, Steven P. Cole, Andrea Danese, Linda W. Craighead, and Charles L. Raison. 2013. "Engagement with Cognitively-Based Compassion Training Is Associated with Reduced Salivary C-Reactive Protein from before to after Training in Foster Care Program Adolescents." Psychoneuroendocrinology 38 (2): 294–99.
- Pace, Thaddeus W. W., Lobsang Tenzin Negi, Teresa I. Sivilli, Michael J. Issa, Steven P. Cole, Daniel D. Adame, and Charles L. Raison. 2010. "Innate Immune, Neuroendocrine and Behavioral Responses to Psychosocial Stress Do Not Predict Subsequent Compassion Meditation Practice Time." Psychoneuroendocrinology 35 (2): 310–15.

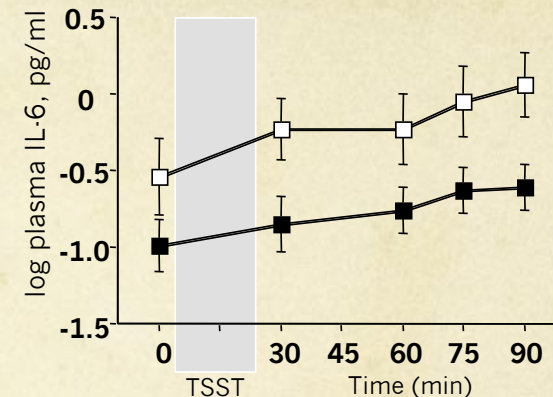
# Effectiveness of the Cognitively-Based Compassion Training (CBCT)

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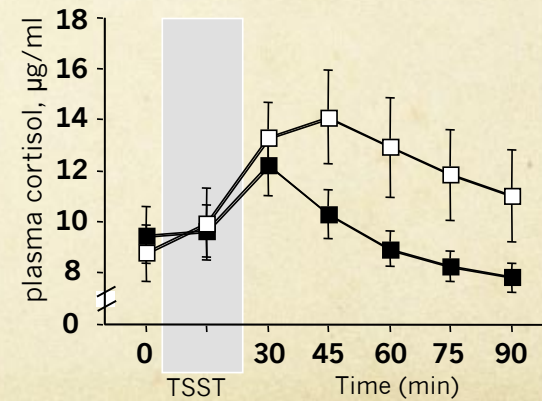
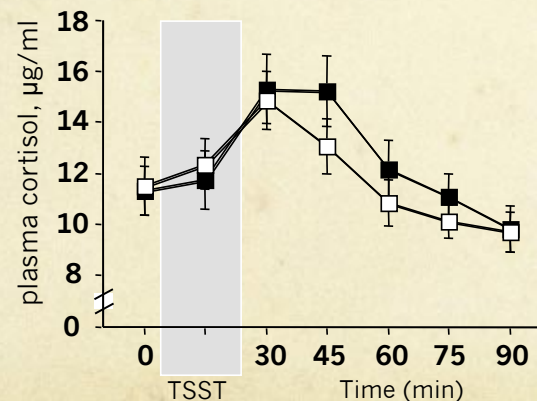
TSST prior to meditation training



TSST after meditation training



Cortisol



## CBCT and Psychosocial Stress in College Freshmen

Pace et al. *Psychoneuroendocrinol* 2009;34:87-98;

Pace et al. *Psychoneuroendocrinol* 2010; 35: 310-15

—□— low practice  
—■— high practice



Mindful  
Self  
Compassion



## **Dr. Kristen Neff: 3 Elements of Self-Compassion**

### **Self-Kindness:**

Understanding,  
not punishment

### **Sense of Common Humanity:**

Everybody  
goes through  
this

### **Mindfulness:**

Neither  
ignoring nor  
exaggerating  
feelings of  
failure



# Introspective Vision

- Mindfulness requires introspective vision, a vigilance to notice when attention deviates from the object of focus, so that attention can be brought back to the chosen object. Benefits include:
  - Impulse control: ability to resist from engaging in passing thoughts and emotions
  - Cognitive control: discernment to let go of passing thoughts and bring attention back to the chosen object
  - Resilience: the ability to return attention to the chosen object rather than “getting stuck” on destructive emotions builds resilience

CEB course:

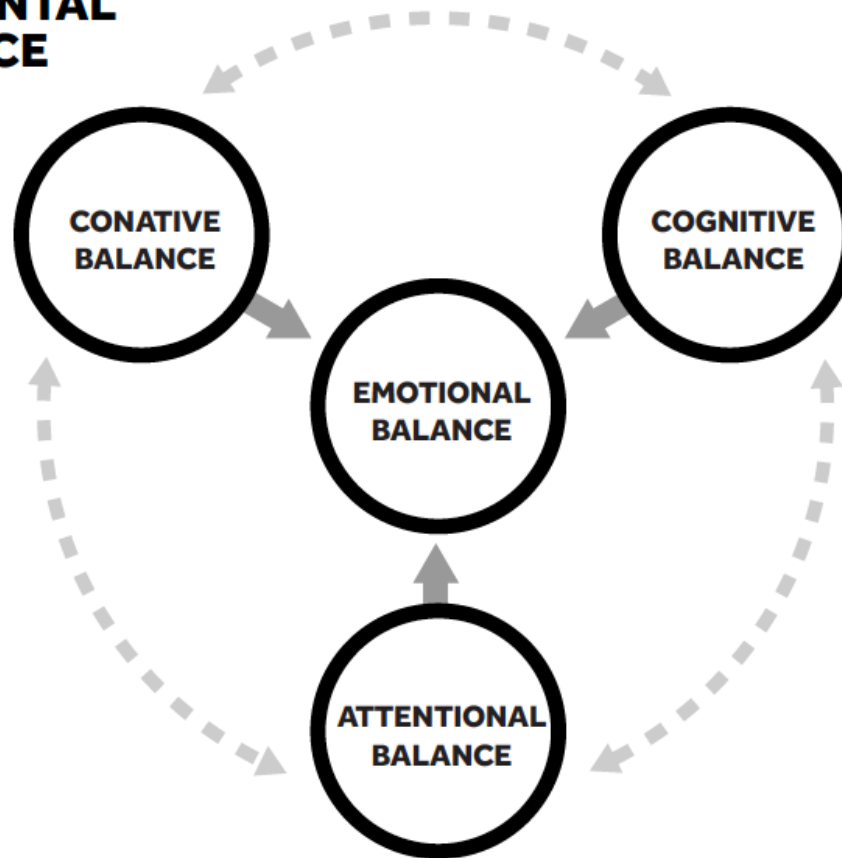
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UICOMP course: Dr. Marcelo Bento Soares

## A MODEL FOR MENTAL BALANCE



CEB course:

Credits: Drs. B.A. Wallace and P. Ekman

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# Definition of Emotion

- ✧ Emotion is a process, a particular kind of automatic appraisal influenced by our evolutionary and personal past, in which we sense that something important to our welfare is occurring, and includes a set of physiological changes and behaviors that begin to deal with the situation.
- ✧ In particular, emotions are thought to have arisen because they efficiently coordinate diverse response systems, thereby helping us respond to important challenges and opportunities.

# Constructive and Destructive Emotions

- Constructive emotions are emotions that are conducive to our own and others' happiness, and further our cooperation and collaboration.
- Destructive emotions are regrettable emotions that are incompatible with our own and others' happiness.

CEB course:

Credits: Drs. B.A. Wallace and P. Ekman

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# Pain is Inevitable, Suffering is Optional

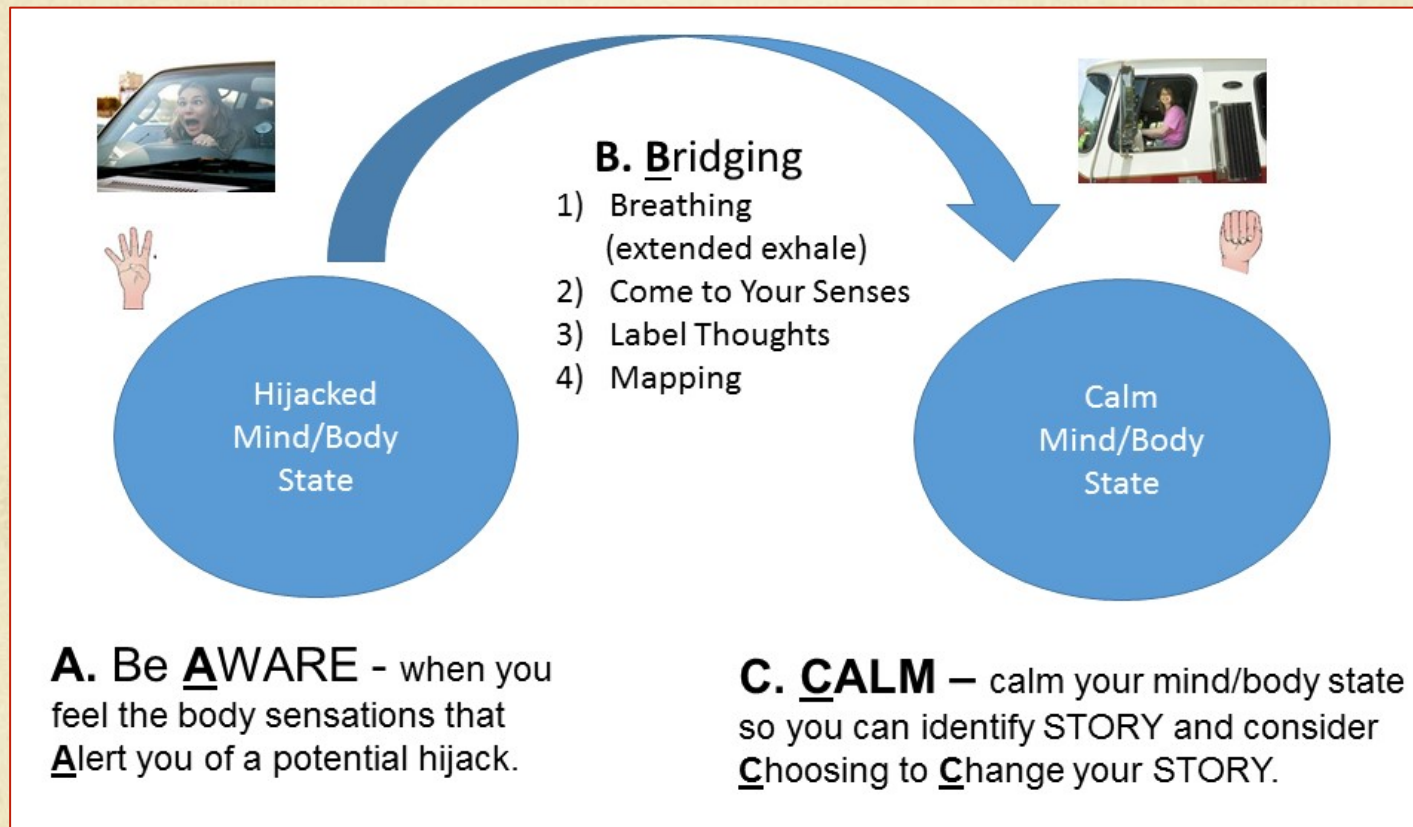
- Emotions, when experienced with the wrong intensity and duration may become destructive, i.e. conducive to behavior that is harmful/unhealthy/non-constructive to self and others
- This is a vulnerability that we all share

CEB course:

Credits: Drs. B.A. Wallace and P. Ekman

UICOMP course: Dr. M.B. Soares

# Anchoring your thoughts



CEB course:

Credits: Drs. B.A. Wallace and P. Ekman

UICOMP course: Drs. M.B. Soares and D. Disney



# Pain is Inevitable, Suffering is Optional

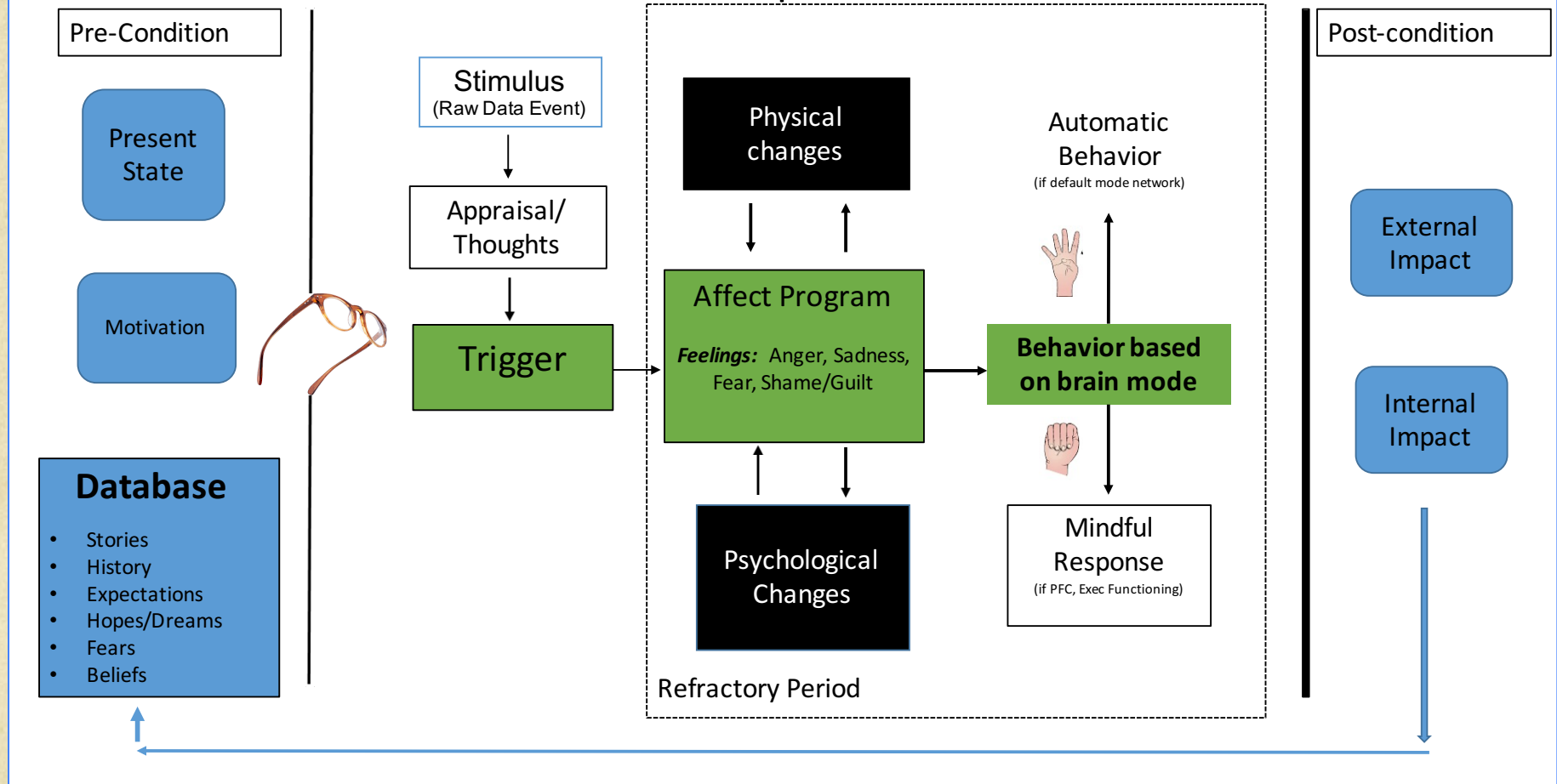
- Cognitive balance is therefore very important
- Cognition is the process of perception and knowing
- An accurate ascertainment of reality (cognitive balance) is key to the attainment of conative balance (without idealizations etc), as it is the cultivation of loving-kindness, compassion, empathetic joy and impartiality

CEB course:

Credits: Drs. B.A. Wallace and P. Ekman

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# Emotional Episode Timeline



CEB course:

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# The Four Applications of Mindfulness

- If we really want to understand our experience of suffering then we must look within
- We can all see that challenging life circumstances affect people in many different ways. This suggests that it is not the experience itself that makes us suffer, but it is in how we **choose** to relate to it

CEB course:

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# The Four Applications of Mindfulness

- If we begin to understand that the experience of suffering is less about what is happening to us and more about the state of our mind, we can then take the next step of clearly identifying how the mind can distort our perception causing internal dissatisfaction and uneasiness.
- To explore this process we can engage in a collection of practices called the Four Applications of Mindfulness

CEB course:

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Mindfulness exercise

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# Questions?

- Can't find program in your institution/area?  
Contact me for further guidance at:  
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Thank you!