The 3rd Seoul International Meditation Expo
6.17-19. 2022

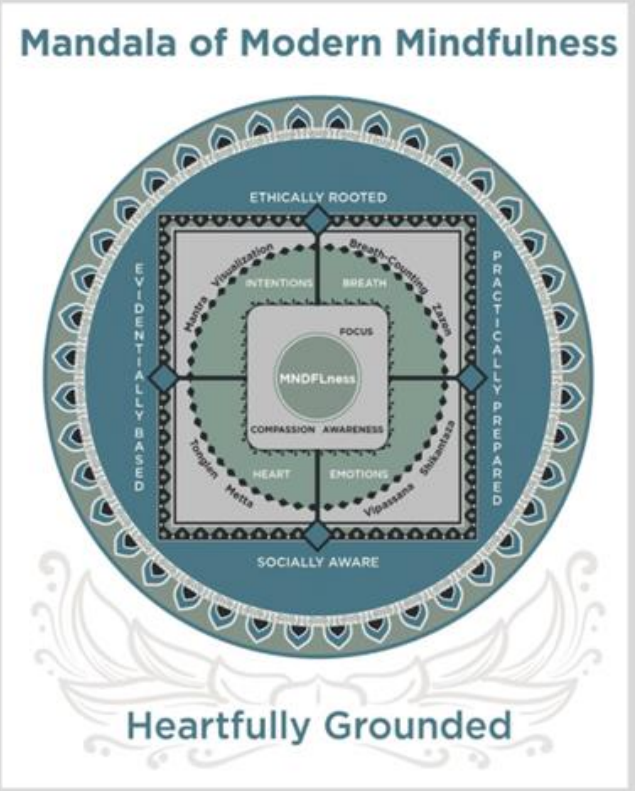
Meditation & Medicine

Kangwon National University School of Medicine

Kang-uk Lee

TIME **How Meditation Went Mainstream**

BY **ASHLEY ROSS** MARCH 9, 2016 9:30 AM EST



MNDFL

"It's no longer just your spiritual friend saying you should try meditation."

"It's your **doctor**."

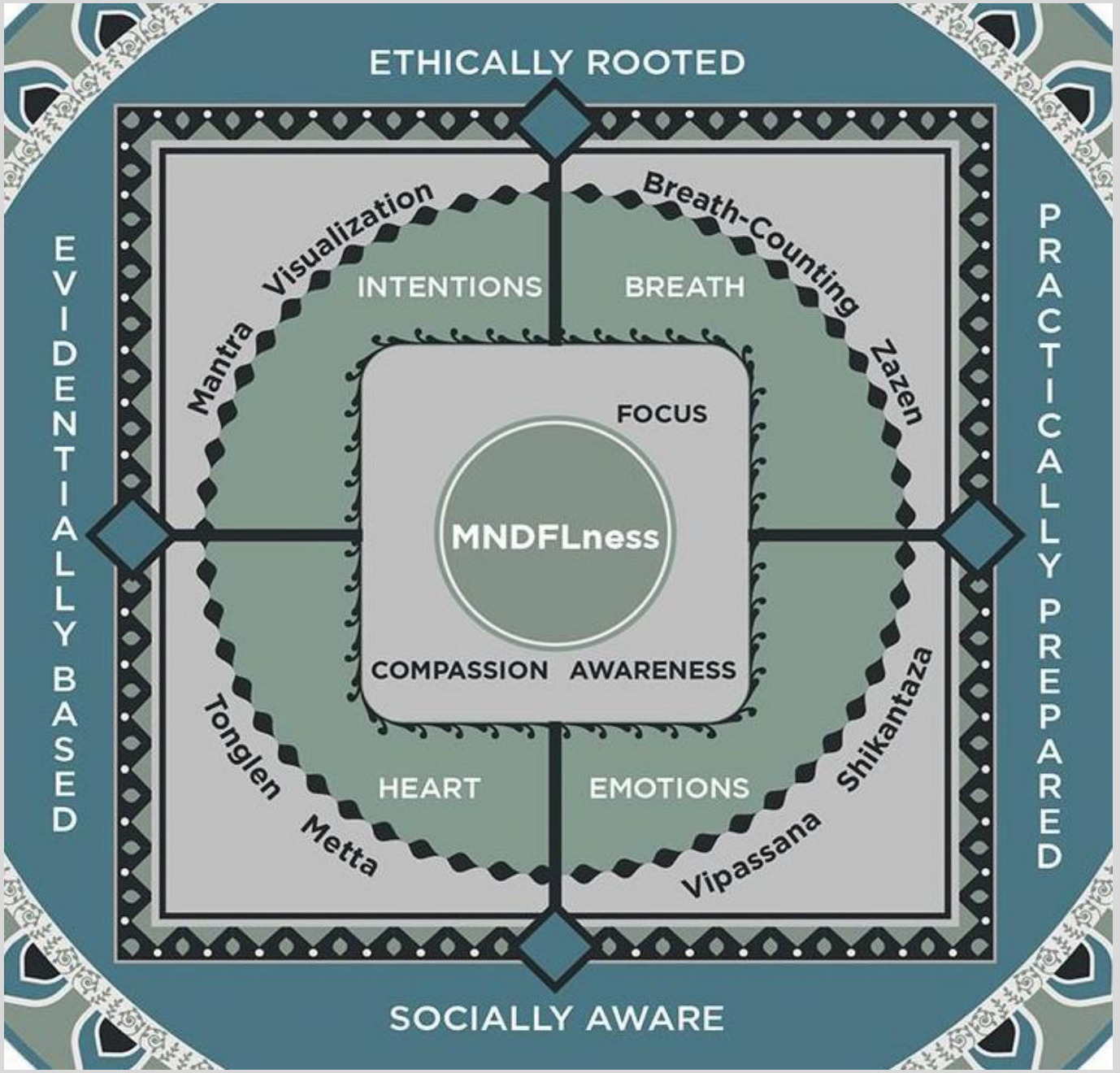
Lodro Rinzler, Chief Spiritual Officer at the Manhattan studio MNDFL

- Focus
- Compassion
- Awareness

- Intention
- Breath
- Heart
- Emotions

- Mantra Visualization
- Breath-counting Zazen
- Tonglen Metta
- Vipassana Shikantaza

- Ethically rooted
- Evidentially based
- Socially aware
- Practically prepared



"The Most Valuable Resource You Have, Is Your Attention"

– Rev. angel Kyodo williams

OPINION • MEDICINE

We Need To Take Meditation More Seriously As Medicine

By JACOBA URIST January 17, 2014

But a new review study, published last week in the Journal of the American Medical Association (**JAMA**) Internal Medicine, suggests that the **ancient Eastern practice** of **mindful meditation** can offer real help for patients with **depression**, **anxiety**, and **pain**. And researchers are increasingly demonstrating the measurable influence of meditation on the **brain**, proving that mindfulness programs can make us feel **happier**, have greater emotional **resilience** and take **fewer sick** days.

Original Investigation

Meditation Programs for Psychological Stress and Well-being

A Systematic Review and Meta-analysis

JAMA Intern Med. 2014;174(3):357-368. doi:10.1001/jamainternmed.2013.13018
Published online January 6, 2014.

- **Mindfulness meditation programs**
  - Moderate evidence : **anxiety** (effect size, 0.38), **depression** (0.30), **pain** (0.33)
  - Low evidence : stress/distress, mental health–related quality of life
  - No effect or insufficient evidence : positive mood, attention, substance use, eating habits, sleep, and weight

Outstanding medical effect was easily demonstrated.

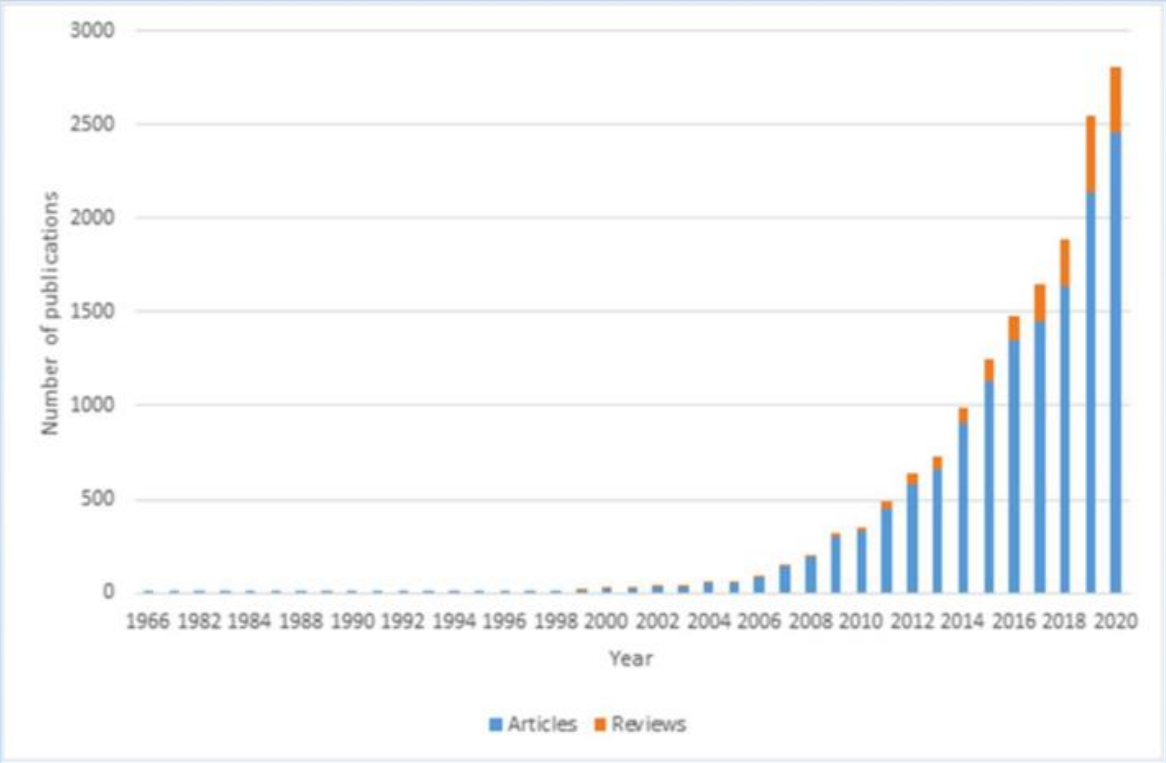
Mindfulness (2021) 12:2099–2116
https://doi.org/10.1007/s12671-021-01681-x

REVIEW

Trends and Developments in Mindfulness Research over 55 Years: A Bibliometric Analysis of Publications Indexed in Web of Science

Anuradha Baminiwatta[1] · Indrajith Solangaarachchi[2]

Accepted: 23 June 2021 / Published online: 16 July 2021



- 1966 : 1 paper
- 2020 : 2,808 papers
- 1966 – 2020 : 16,581 papers (14,682 articles, 1899 reviews)
- key word : mindfulness

Recent trends (2016–2021)

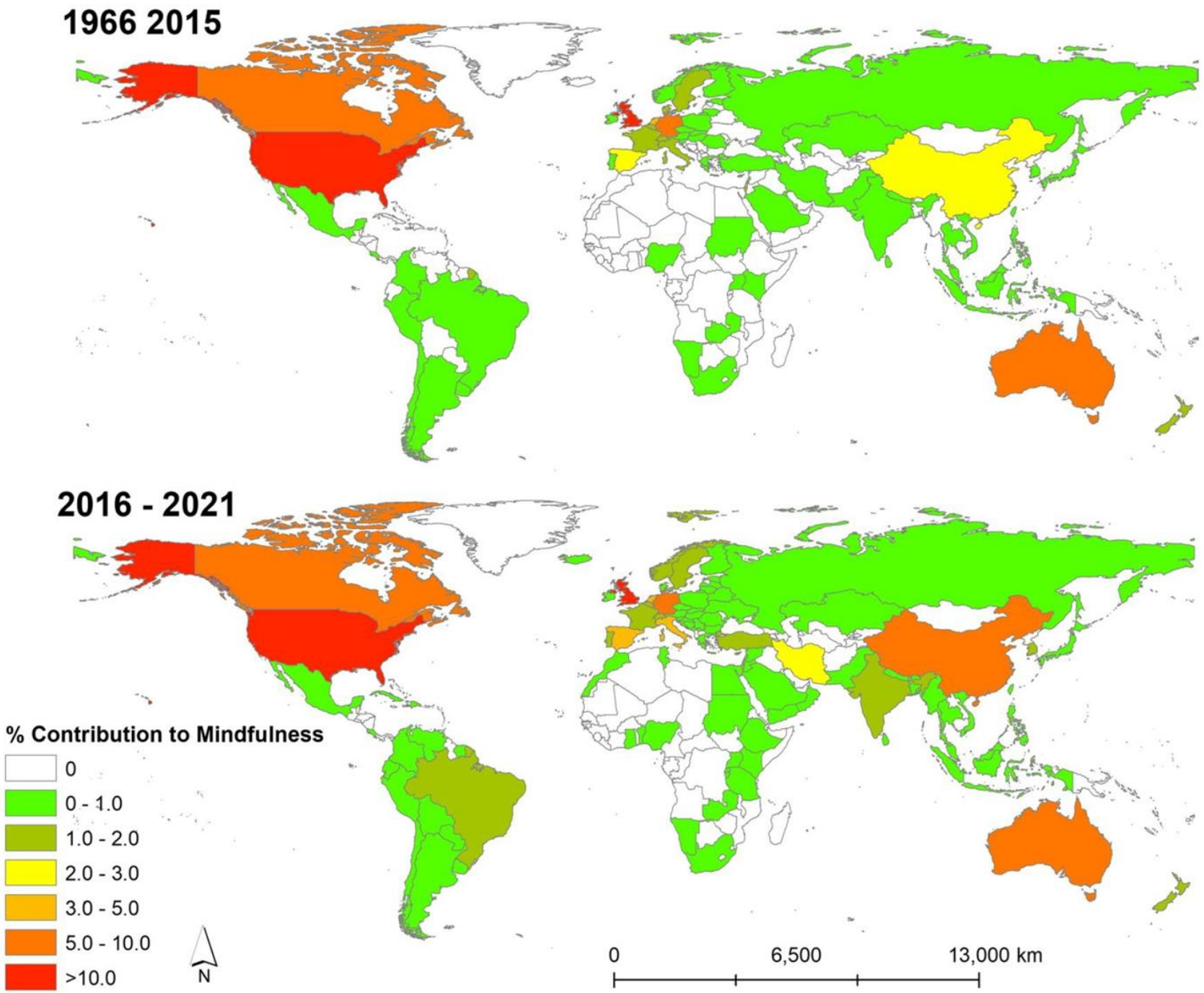
- Moderators
- Long-term meditation
- Mindfulness-based cognitive therapy
- Neuroscientific studies
- Smartphone/online delivery of interventions

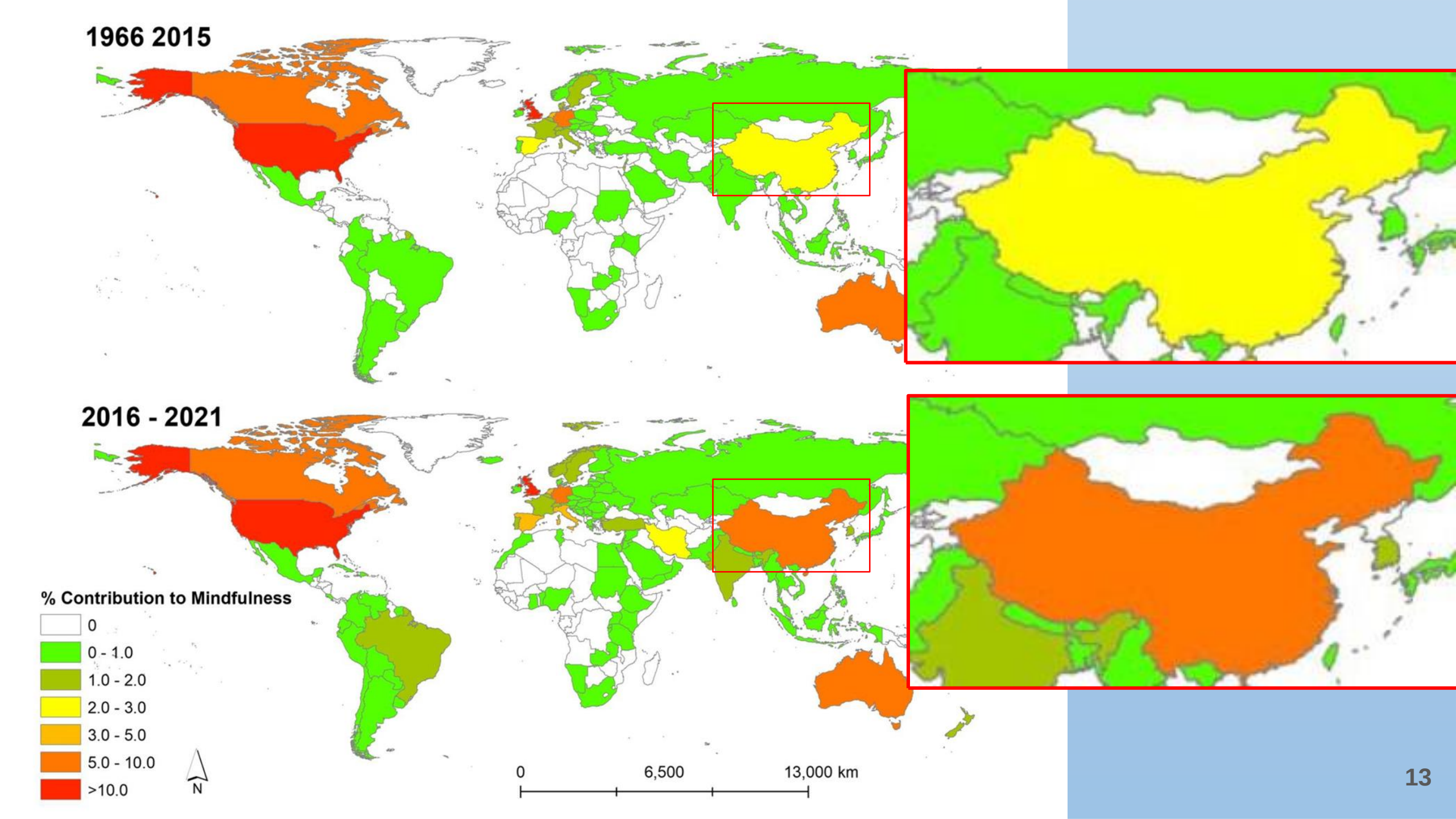
Most prolific authors in mindfulness research

		No. of publications	No. of citations
Zindel	**Segal**	44	9469
Mark	**Williams**	40	5901
Linda	**Carlson**	54	5707
Steven	**Hayes**	38	5544
Kirk	**Warren Brown**	51	5476
Richard	**Davidson**	53	3632
Eric	**Garland**	98	3591
Willem	**Kuyken**	58	3469
Katie	**Witkiewitz**	41	2323

most cited empirical articles on mindfulness

1. The benefits of being present: Mindfulness and its role in **psychological well- being**. Brown and Ryan (2003)
2. Using self-report **assessment methods** to explore facets of mindfulness. Baer et al. (2006)
3. An outpatient program in behavioral medicine for **chronic pain** patients based on the practice of mindfulness meditation-theoretical considerations and preliminary-results. Kabat-Zinn (1982)
4. Prevention of relapse/recurrence in **major depression** by mindfulness-based cognitive therapy. Teasdale et al. (2000)
5. Alterations in **brain** and **immune function** produced by mindfulness meditation. Davidson et al. (2003)


1966 2015
2016 - 2021
% Contribution to Mindfulness
0
0 - 1.0
1.0 - 2.0
2.0 - 3.0
3.0 - 5.0
5.0 - 10.0
>10.0
N
0
6,500
13,000 km


1966 2015
2016 - 2021
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0
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1.0 - 2.0
2.0 - 3.0
3.0 - 5.0
5.0 - 10.0
>10.0
N
0
6,500
13,000 km

NCCIH

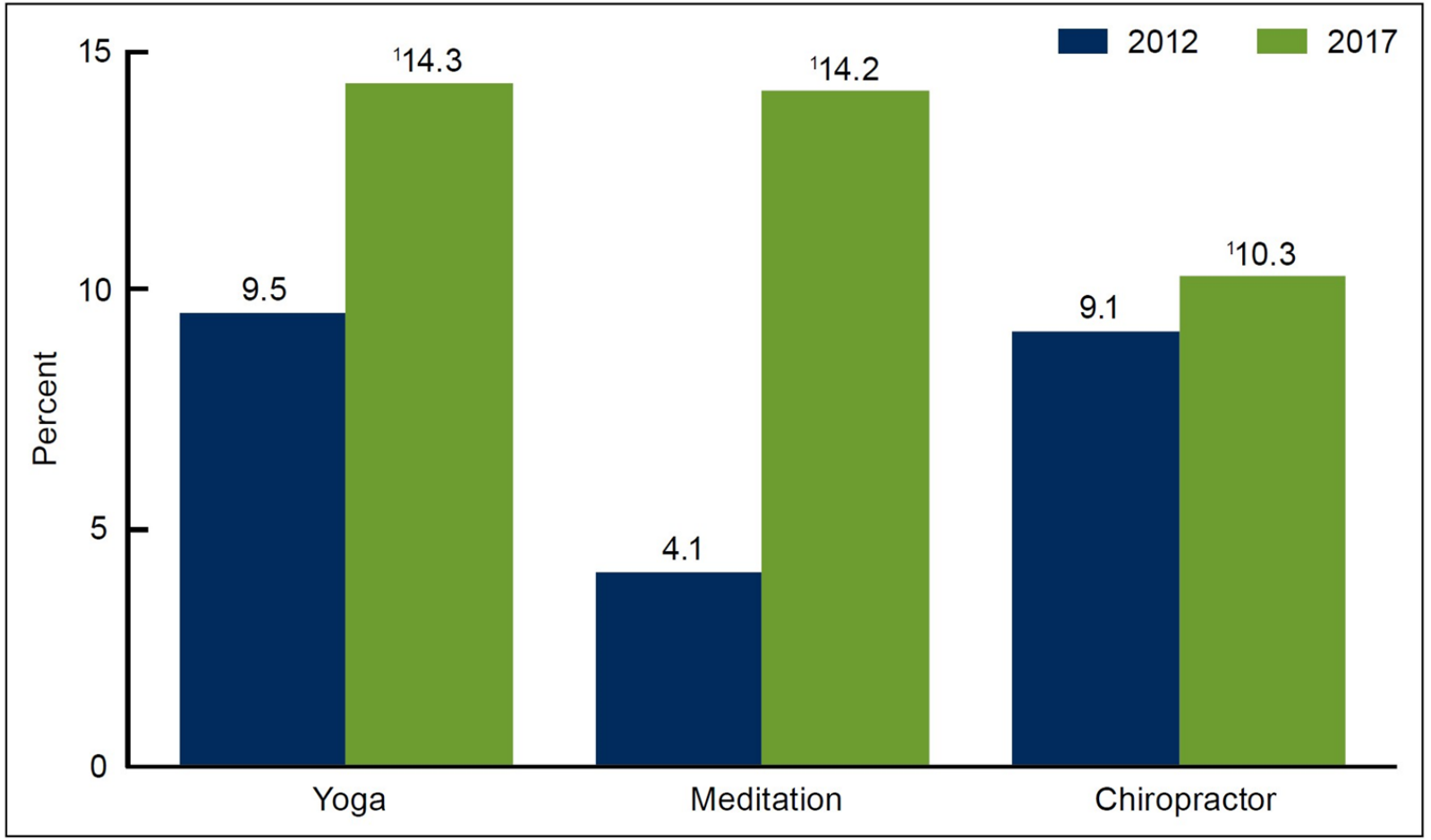
National Center for Complementary and Integrative Health

What the science says about the effectiveness of meditation

- **Pain**
- **High blood pressure**
- **Irritable bowel syndrome**
- **Ulcerative colitis**
- **Anxiety, depression, insomnia**
- **Smoking cessation**
- **Other :** Quality of life, Self-esteem, Stress reduction, Menopausal syndrome, ADHD, Stress-induced inflammation

National Health Interview Survey

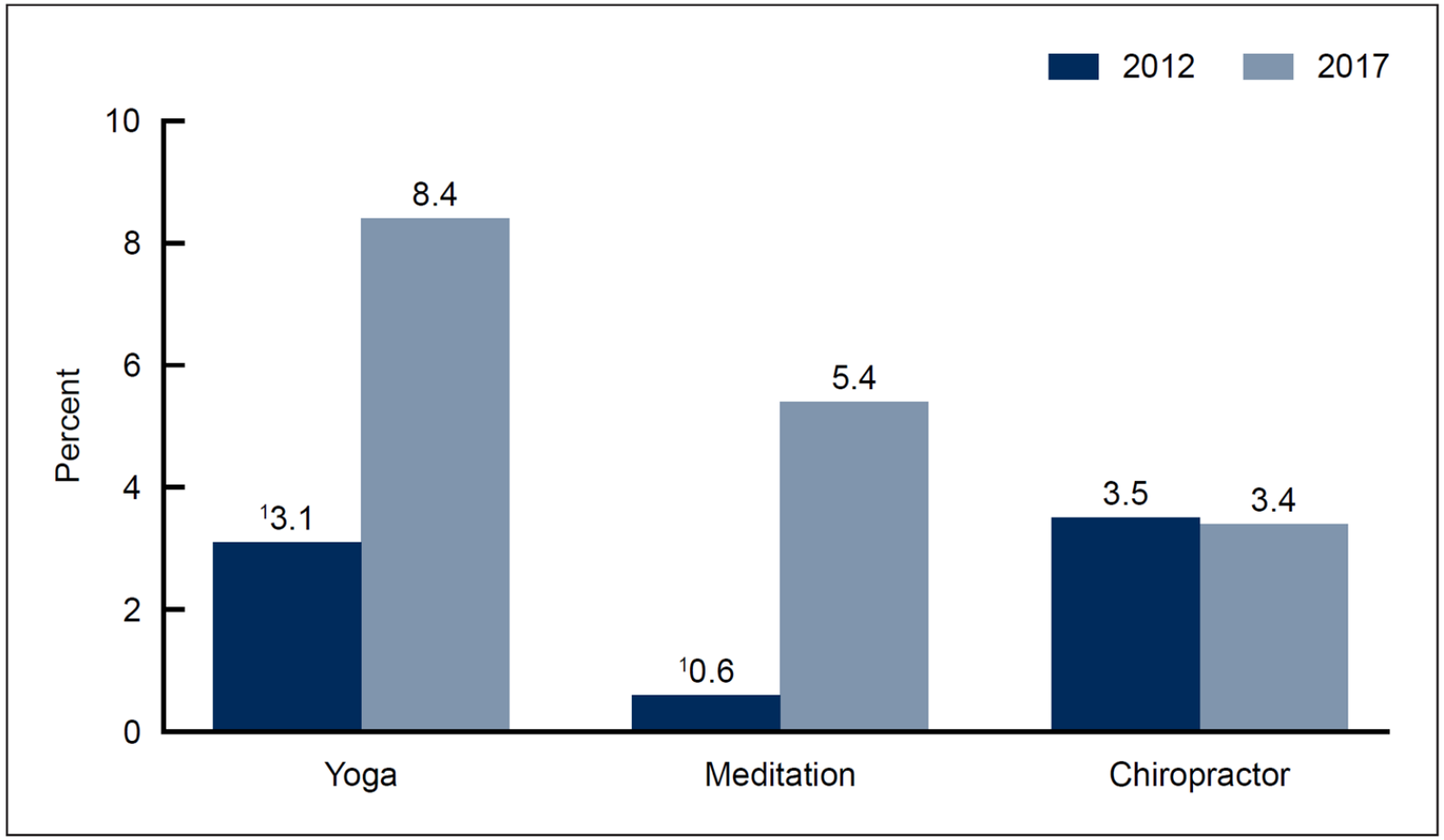
Figure 1. Age-adjusted percentage of adults who used yoga, meditation, or a chiropractor during the past 12 months, by year: United States, 2012 and 2017



[1]Significantly different from 2012 ($p < 0.05$).
NOTES: Estimates are age adjusted using the projected 2000 U.S. population as the standard population and three age groups: 18–44, 45–64, and 65 and over. Estimates are based on household interviews of a sample of the civilian noninstitutionalized population. Access data table for Figure 1 at: https://www.cdc.gov/nchs/data/databriefs/db325_table-508.pdf#1.
SOURCE: NCHS, National Health Interview Survey, 2012 and 2017.

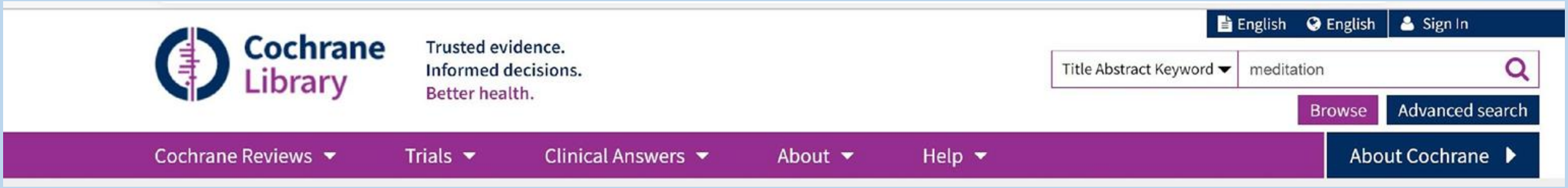
National Health Interview Survey

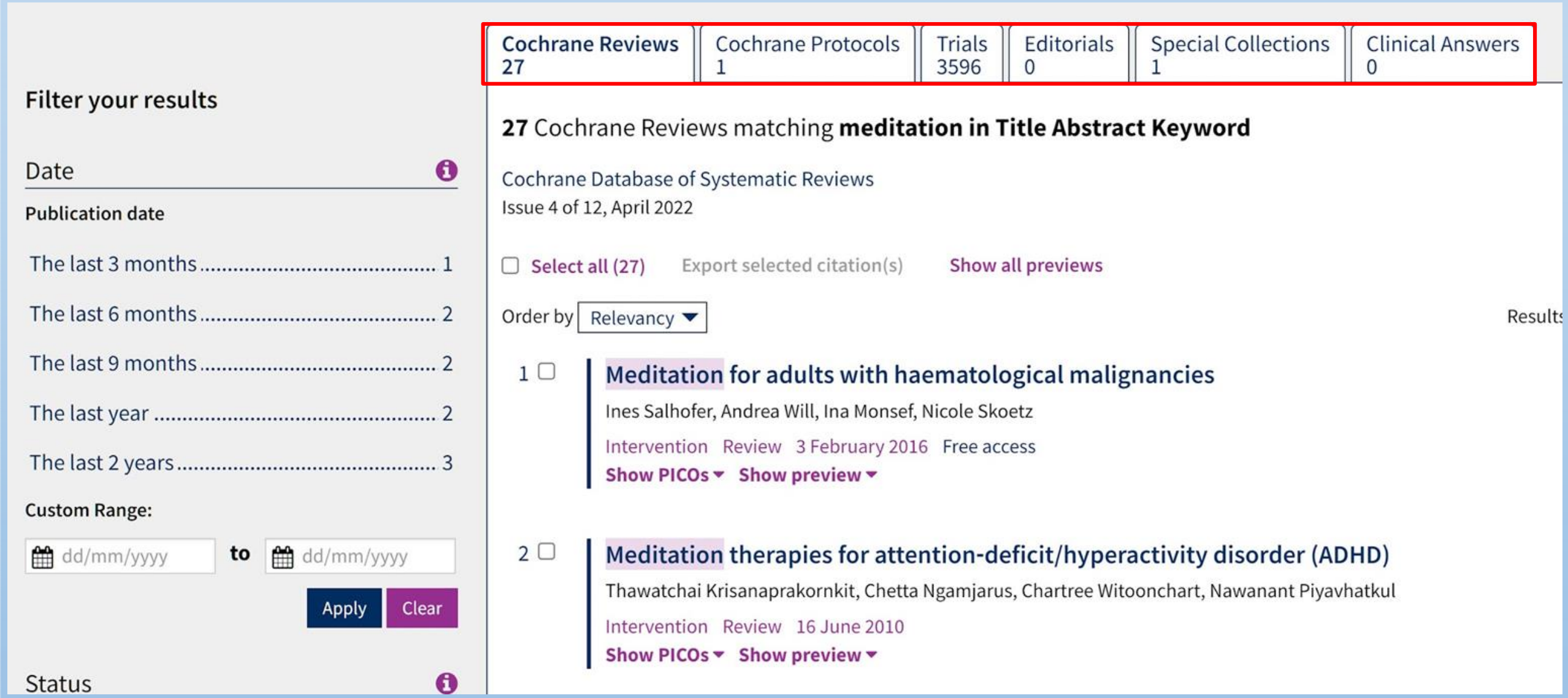
Figure 1. Age-adjusted percentage of children aged 4–17 years who used yoga, meditation, or a chiropractor during the past 12 months, by year: United States, 2012 and 2017



[1]Signifcantly different from 2017 ($p < 0.05$).
NOTES: Estimates are age adjusted using the projected 2000 U.S. population as the standard population and two age groups: 4–11 and 12–17 years. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population. Access data table for Figure 1 at: https://www.cdc.gov/nchs/data/databriefs/db324_table-508.pdf#1.
SOURCE: NCHS, National Health Interview Survey, 2012 and 2017.

Cochrane Library




Cochrane Reviews 27
Cochrane Protocols 1
Trials 3596
Editorials 0
Special Collections 1
Clinical Answers 0
Filter your results
Date
Publication date
The last 3 months 1
The last 6 months 2
The last 9 months 2
The last year 2
The last 2 years 3
Custom Range:
dd/mm/yyyy
to
dd/mm/yyyy
Apply
Clear
Status
27 Cochrane Reviews matching meditation in Title Abstract Keyword
Cochrane Database of Systematic Reviews
Issue 4 of 12, April 2022
Select all (27)
Export selected citation(s)
Show all previews
Order by Relevancy
Results
1
Meditation for adults with haematological malignancies
Ines Salhofer, Andrea Will, Ina Monsef, Nicole Skoetz
Intervention Review 3 February 2016 Free access
Show PICOs
Show preview
2
Meditation therapies for attention-deficit/hyperactivity disorder (ADHD)
Thawatchai Krisanaprakornkit, Chetta Ngamjarus, Chartree Witoonchart, Nawanant Piyavhatkul
Intervention Review 16 June 2010
Show PICOs
Show preview

- Hematological malignancies
- ADHD
- Anxiety disorders
- Epilepsy
- Terminal phase of disease care
- Cognitive impairment
- Pulmonary rehabilitation
- Depression in dialysis patients
- Occupational stress
- Cognitive rehabilitation
- Informal caregivers
- Substance use disorders
- Hypertension in pregnancy
- Cannabis use disorder
- Aggressive behaviour
- Women's anxiety during pregnancy
- Asthma
- Quality of life
- Irritable bowel syndrome
- Smoking cessation
- Dementia
- Prevention of cardiovascular disease

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Medical Hypotheses (2003) **61**(2), 282–291

doi:10.1016/S0306-9877(03)00175-0

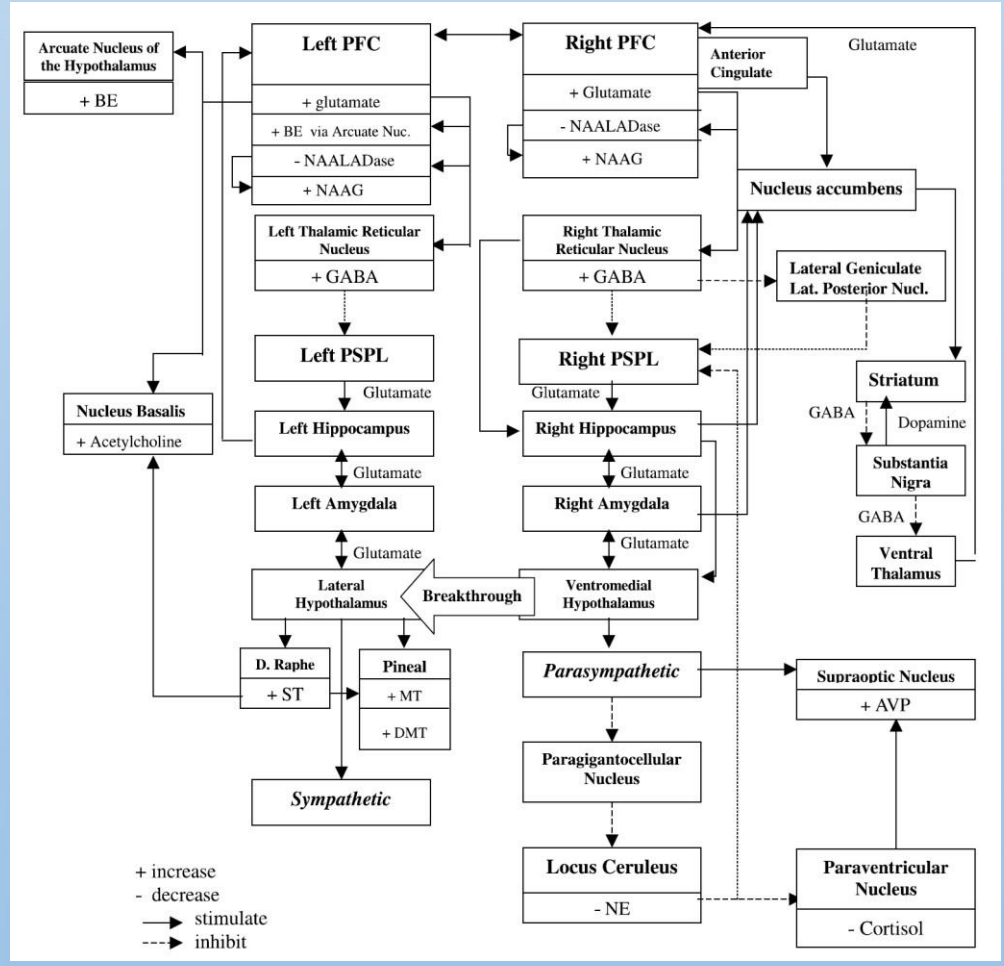
The neural basis of the complex mental task of meditation: neurotransmitter and neurochemical considerations

A. B. Newberg,[1] J. Iversen[2]

[1]University of Pennsylvania, Philadelphia, PA, USA; [2]Stanford University, Stanford, CA 94309, USA

Hypothesis from Neuroimaging studies(PET, SPECT, MRI)

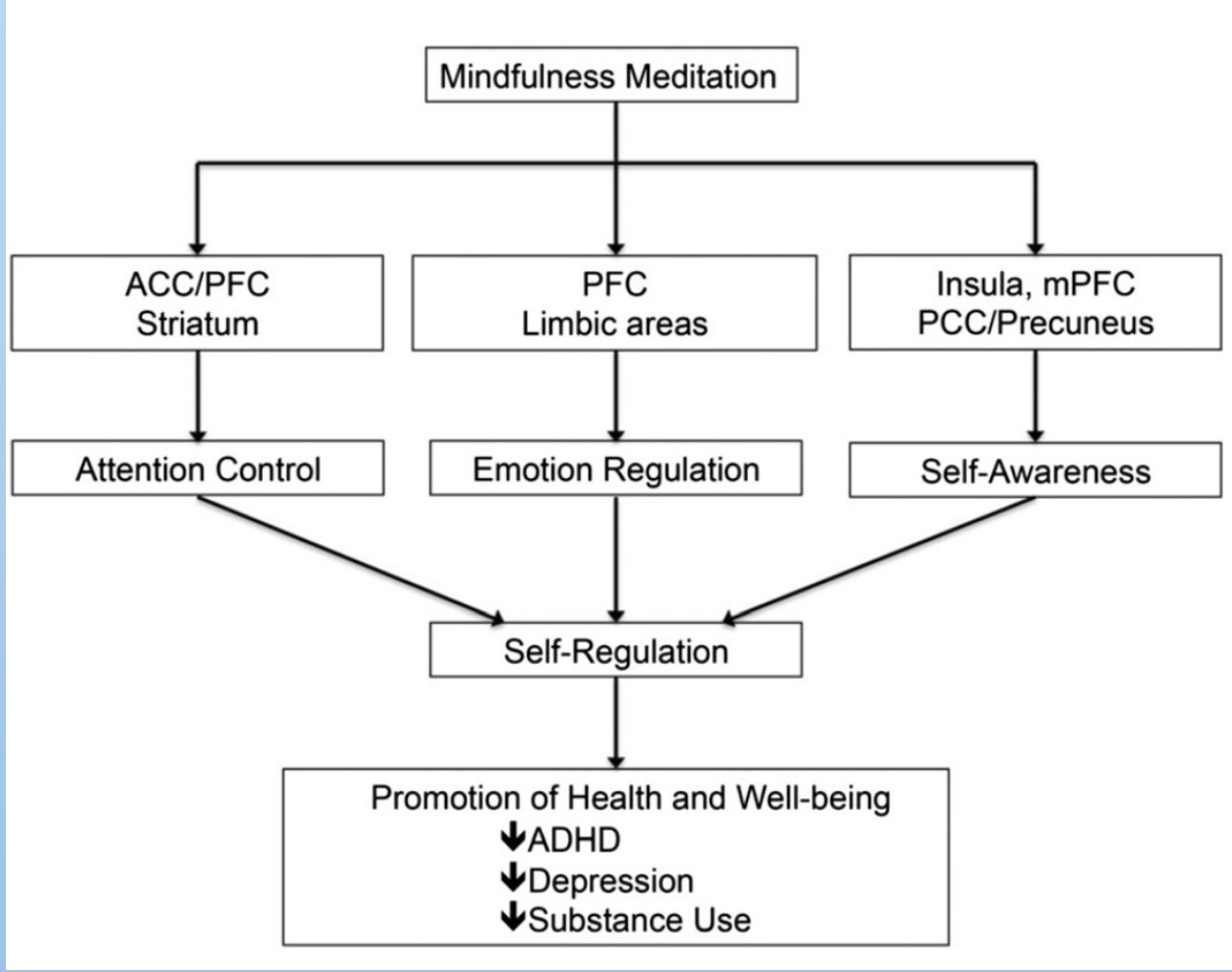
- prefrontal & cingulate cortex activation
- thalamic activation
- posterior superior parietal lobule deafferentation
- hippocampal & amygdala activation
- hypothalamic & autonomic nervous system changes
- prefrontal cortex effects on neurochemical system
- autonomic-cortical activity

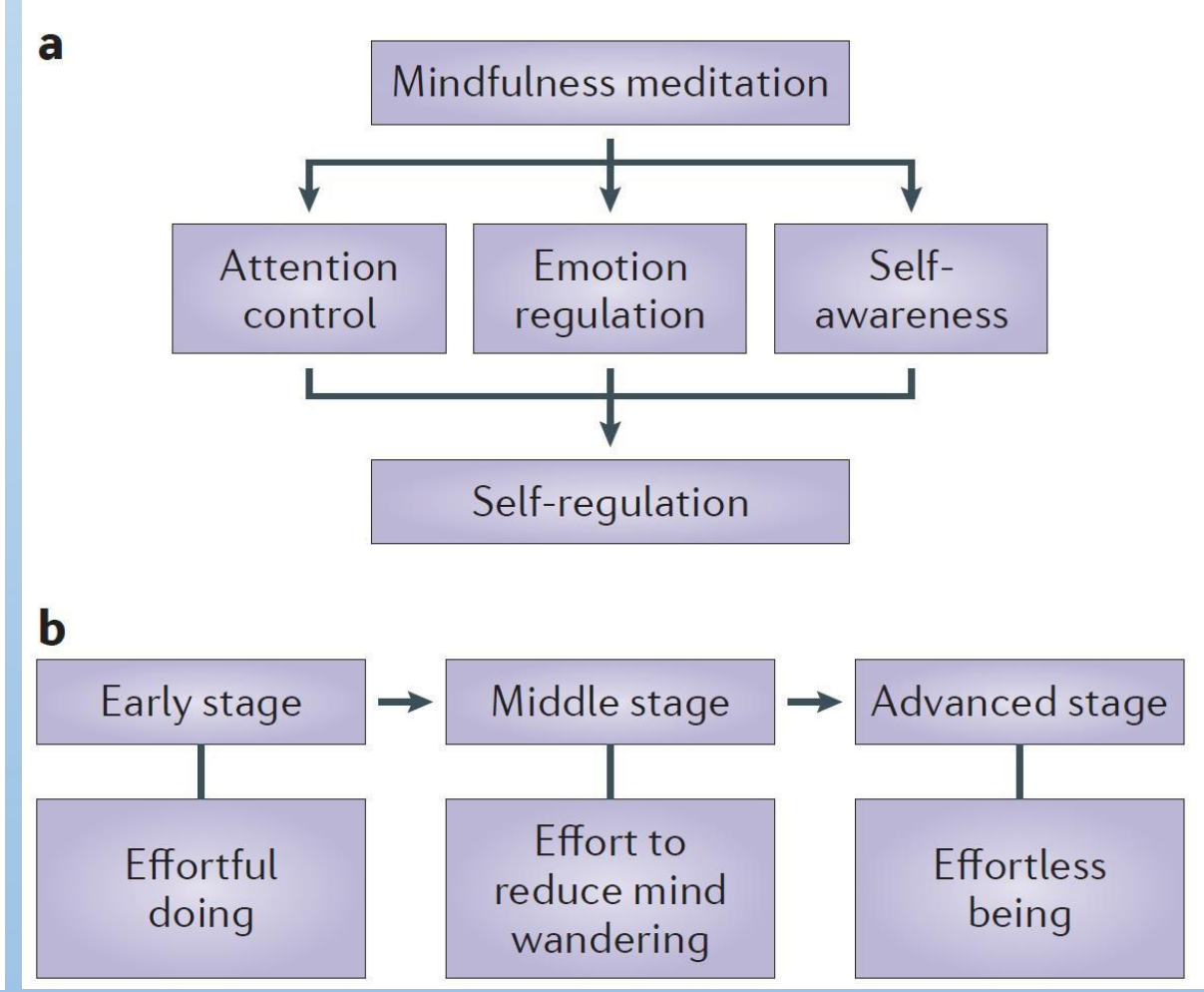


The neuroscience of mindfulness meditation

Yi-Yuan Tang[1,2], Britta K. Hölzel[3,4]* and Michael I. Posner[2]*

VOLUME 16 | APRIL 2015 | **213**


Mindfulness Meditation
ACC/PFC
Striatum
PFC
Limbic areas
Insula, mPFC
PCC/Precuneus
Attention Control
Emotion Regulation
Self-Awareness
Self-Regulation
Promotion of Health and Well-being
↓ADHD
↓Depression
↓Substance Use


a
Mindfulness meditation
Attention control
Emotion regulation
Self-awareness
Self-regulation
b
Early stage
Middle stage
Advanced stage
Effortful doing
Effort to reduce mind wandering
Effortless being

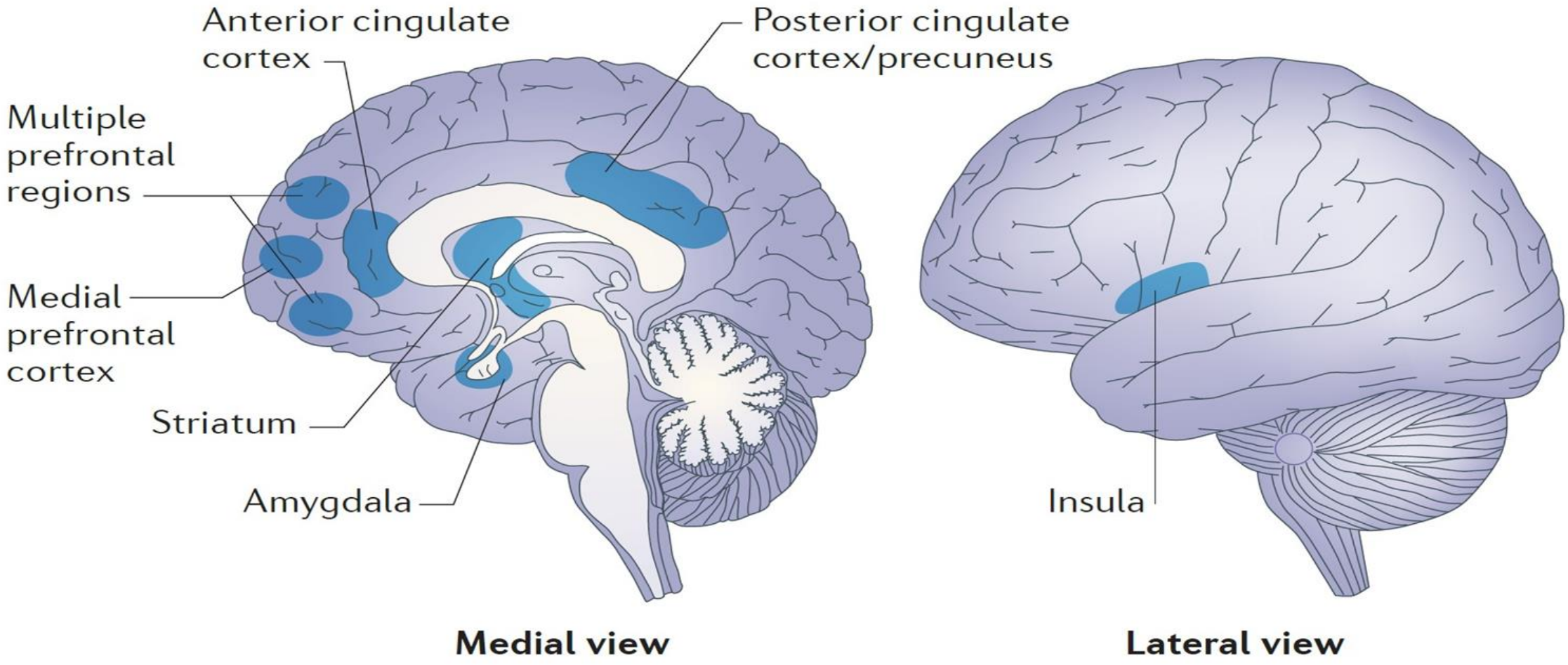


Figure 1 | **Brain regions involved in the components of mindfulness meditation.** Schematic view of some of the brain regions involved in attention control (the anterior cingulate cortex and the striatum), emotion regulation (multiple prefrontal regions, limbic regions and the striatum) and self-awareness (the insula, medial prefrontal cortex and posterior cingulate cortex and precuneus).

Complementary Medicine Research

Editorial

Complement Med Res 2021;28:183–186
DOI: 10.1159/000516849

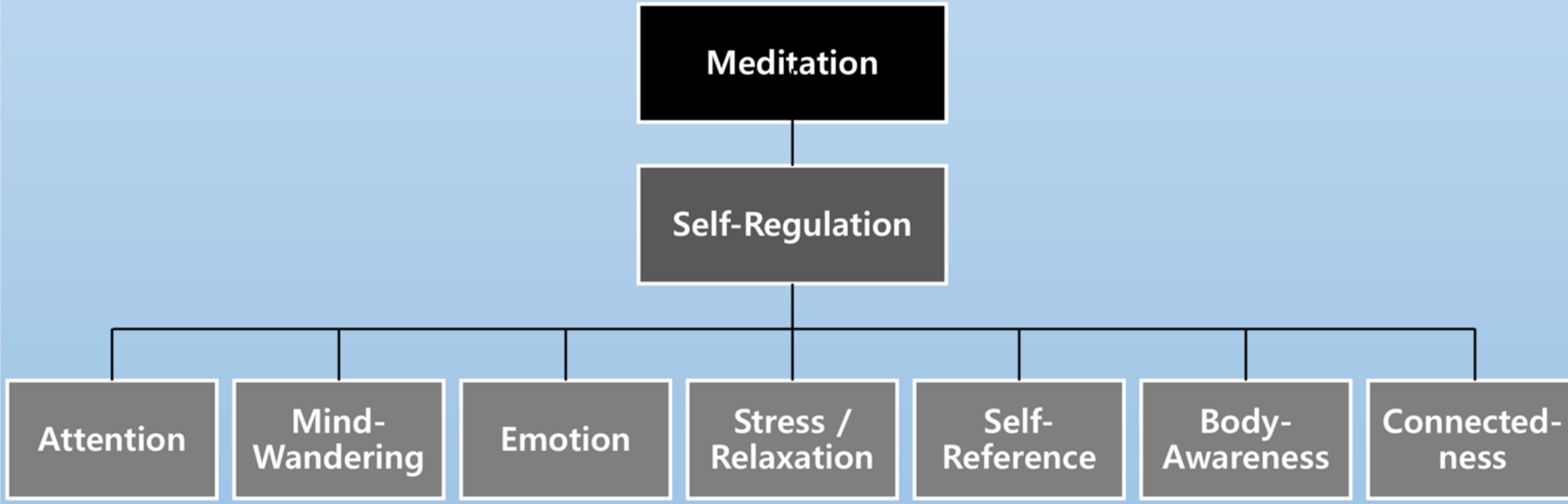
Received: April 13, 2021
Accepted: April 22, 2021
Published online: May 28, 2021

Meditation in Complementary and Integrative Medicine: Taxonomy of Effects and Methods

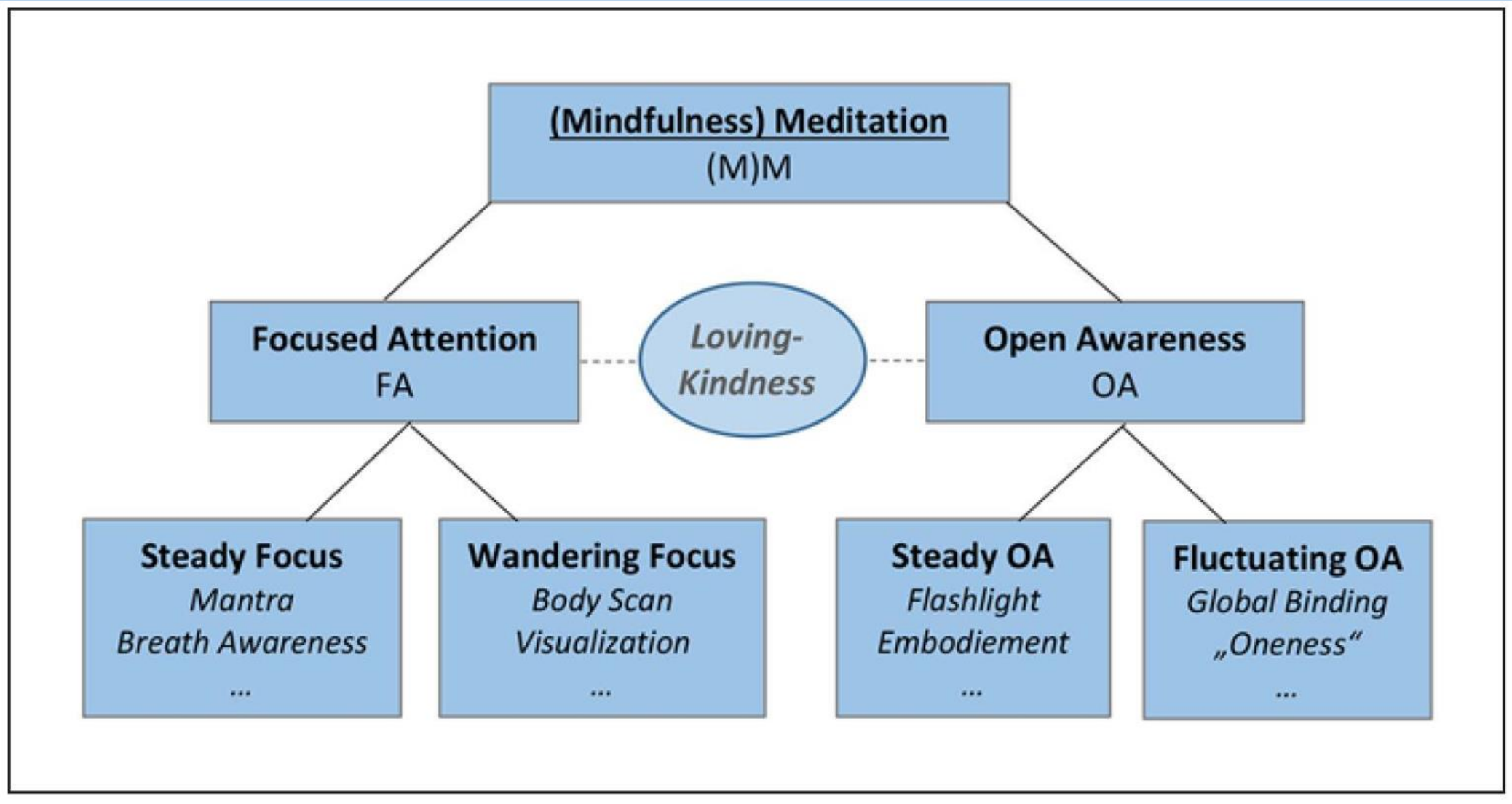
Tobias Esch

Institute for Integrative Health Care and Health Promotion, Faculty of Health, Witten/Herdecke University, Witten, Germany

Taxonomy of meditation effects



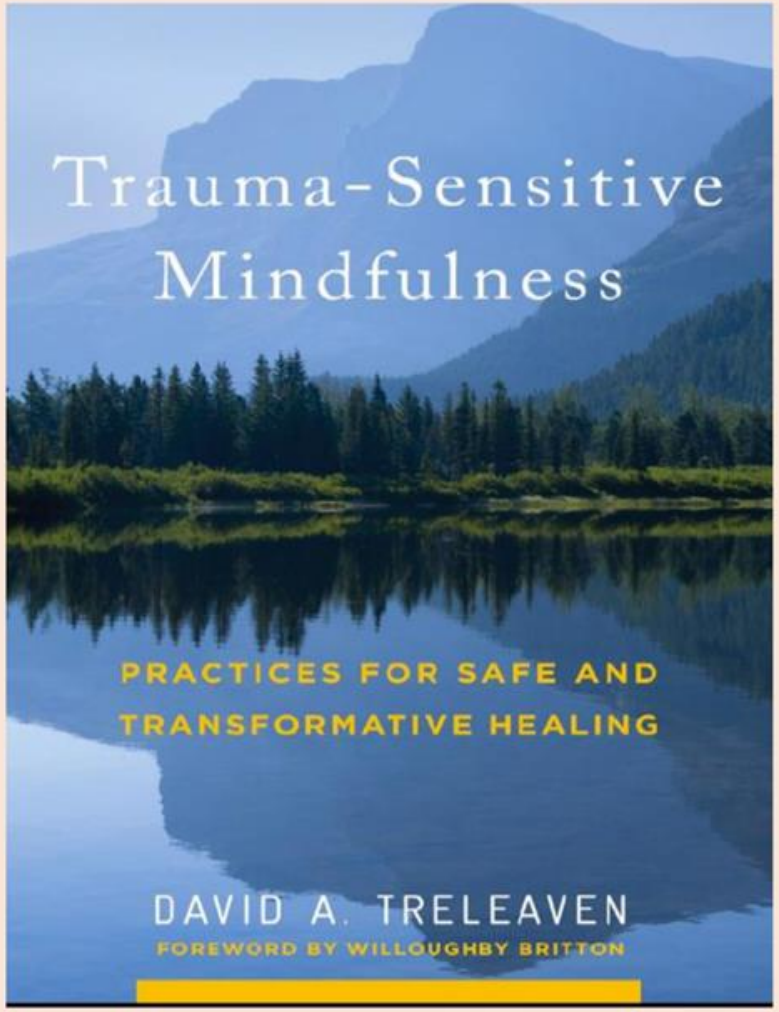
Taxonomy of meditation methods



Are the efforts to secure safe meditation practice appropriate?

- **Mind the Hype: A Critical Evaluation and Prescriptive Agenda for Research on Mindfulness and Meditation (Van Dam et al. 2018)**

- **"Not without Criticism"**
  - **Misinformation** not properly practiced
  - **Poor methodology**
    - Definition of mindfulness
    - Interpretation of assessment result
  - **Commercialization**
    - McMindfulness (Purser 2019)
  - **Some clinical conditions** call for caution!



Trauma informed, Trauma Sensitive

- **Trauma-sensitive mindfulness**
  - Trauma를 겪은 사람의 욕구를 존중하는 방식으로 수행되는 mindfulness
  - Four Rs
    - Realize how widespread the impact of trauma is
    - Recognize trauma symptoms
    - Respond to symptoms effectively
    - Re-traumatization (avoid)
  - Main issues
    - Stay Within the Window of Tolerance: The Role of Arousal
    - Shift Attention to Support Stability: Avoiding the Fear/Immobility Cycle
    - Keep the Body in Mind: Working with Dissociation
    - Practice in Relationship: Supporting Safety and Stability in Survivors
    - Understand Social Context: Working Effectively Across Difference

Table 3 Baer et al 2019

Sources of harm in related approaches to health and wellbeing.

Discipline	Program/intervention factors	Participant factors
Psychotherapy	theoretically unsound, interferes with natural psychological processes, wrong treatment for presenting problem	symptom severity, comorbidity, poor interpersonal functioning, severe psychosocial stressors
Pharmacotherapy	dosage, frequency of administration, pharmacodynamics	genetic profile, other drugs in body, pharmacokinetics, nonadherence
Physical exercise	not tailored for individual, too intense, lack of screening or education about risks	age, health status, fitness level, physical activity
Meditation in contemplative traditions	amount, intensity, consistency of practice; type or stage of practice	psychiatric, medical, or trauma history; goals for practice, personality, health habits, relationships

As in other therapies, meditation-based therapies must be definitely mindful of the possible aftereffects or aggravated symptoms.

Table 4. Phenomenology coding structure.

Lindahl 2017

Cognitive	Perceptual	Affective	Somatic	Conative	Sense of Self	Social
10 categories 93% reported	7 categories 78% reported	13 categories 100% reported	15 categories 88% reported	3 categories 82% reported	6 categories 75% reported	5 categories 90% reported
Change in worldview (48%)	Hallucinations, visions, or illusions (42%)	Fear, anxiety, panic or paranoia (82%)	Somatic energy (63%)	Changes in motivation or goal (78%)	Changes in self-other or self-world boundaries (53%)	Social impairment (50%)
Delusional, irrational, or paranormal beliefs (47%)	Visual lights (33%)	Positive affect (75%)	Sleep changes (62%)	Change in effort or striving (42%)	Loss of sense of agency (25%)	Integration following retreat or intensive practice (47%)
Mental stillness (37%)	Somatosensory changes (32%)	Depression, dysphoria, or grief (57%)	Pain (47%)	Anhedonia and avolition (18%)	Loss of sense of basic self (25%)	Change in relationship to meditation community (45%)
Vivid imagery (35%)	Perceptual hypersensitivity (28%)	Re-experiencing of traumatic memories (43%)	Pressure, tension or release of pressure, tension (38%)		Change in sense of embodiment (22%)	Occupational impairment (42%)
Change in executive functioning (33%)	Distortions in time or space (25%)	Change in doubt, faith, trust or commitment (40%)	Appetitive or weight changes (38%)		Change in narrative self (22%)	Increased sociality (7%)
Meta-cognition (30%)	Dissolution of objects (18%)	Crying or laughing (38%)	Thermal changes (37%)		Loss of sense of ownership (18%)	
Increased cognitive processing (25%)	Derealization (7%)	Empathic or affiliative changes (32%)	Involuntary movements (37%)			

Mindfulness (2021) 12:2890–2895
https://doi.org/10.1007/s12671-021-01682-w

ORIGINAL PAPER

The Dangers of Mindfulness: Another Myth?

Bhikkhu Anālayo[1]

Barre Center for Buddhist Studies, 149 Lockwood Road, Barre, MA 01005, USA

Accepted: 26 June 2021 / Published online: 9 August 2021

Those who don't have correct understanding of mindfulness apply meditation techniques in their own ways, and make false claims about the ills and dangers of mindfulness.

Is this good enough?

Natural Science

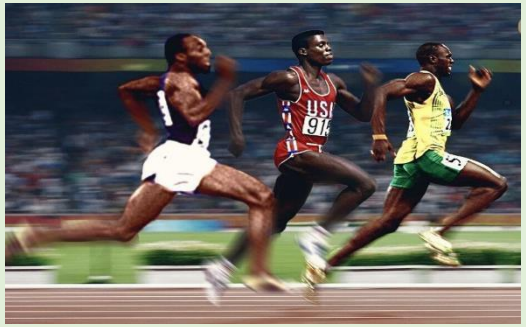
- **Events like tides, oxidation, cell division, and evolution, are *not done* - involve no agency - but just happen.**
- **Events like tides, oxidation, cell division, and evolution are to be explained by other natural events.**

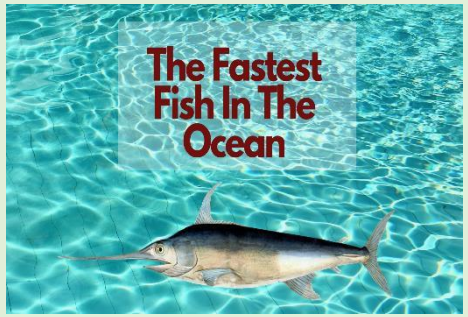
Presence awareness or Consciousness?

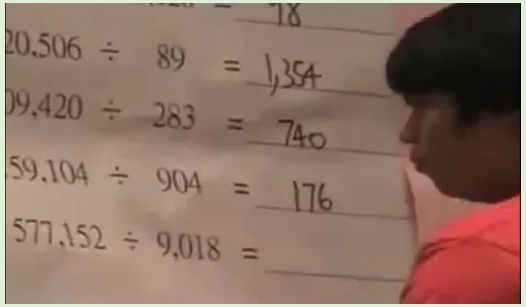
Choice of life or Liberated mind?

Technology

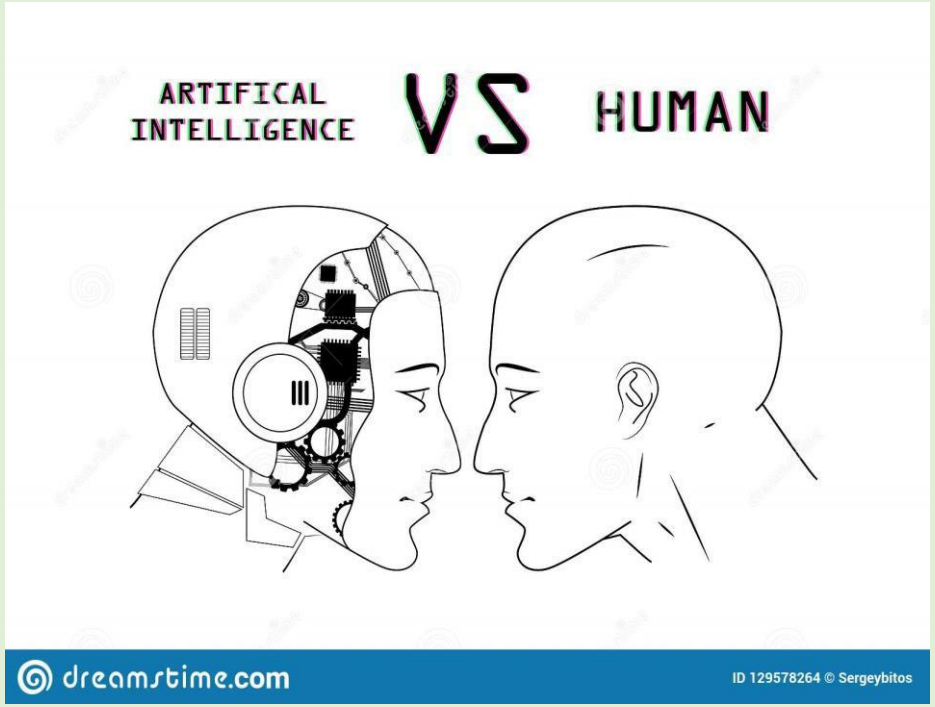
reconstructed face
lived 70,000 years ago







Artificial Intelligence



At last humanity put human intelligence as the object they want to overcome.

The Fourth Industrial Revolution (world of intellectualization)

Does humanity make use of technology?
vs
Is humanity controlled by technology?

Can humanity think beyond artificial intelligence?

Clinical Imaging 69 (2021) 246–254

Contents lists available at ScienceDirect

Clinical Imaging

journal homepage: www.elsevier.com/locate/clinimag

Artificial Intelligence

Artificial intelligence in stroke imaging: Current and future perspectives

Vivek S. Yedavalli[a,f,*], Elizabeth Tong[b], Dann Martin[a], Kristen W. Yeom[c], Nils D. Forkert[d,e]

Clinical Imaging 69 (2021) 246–254

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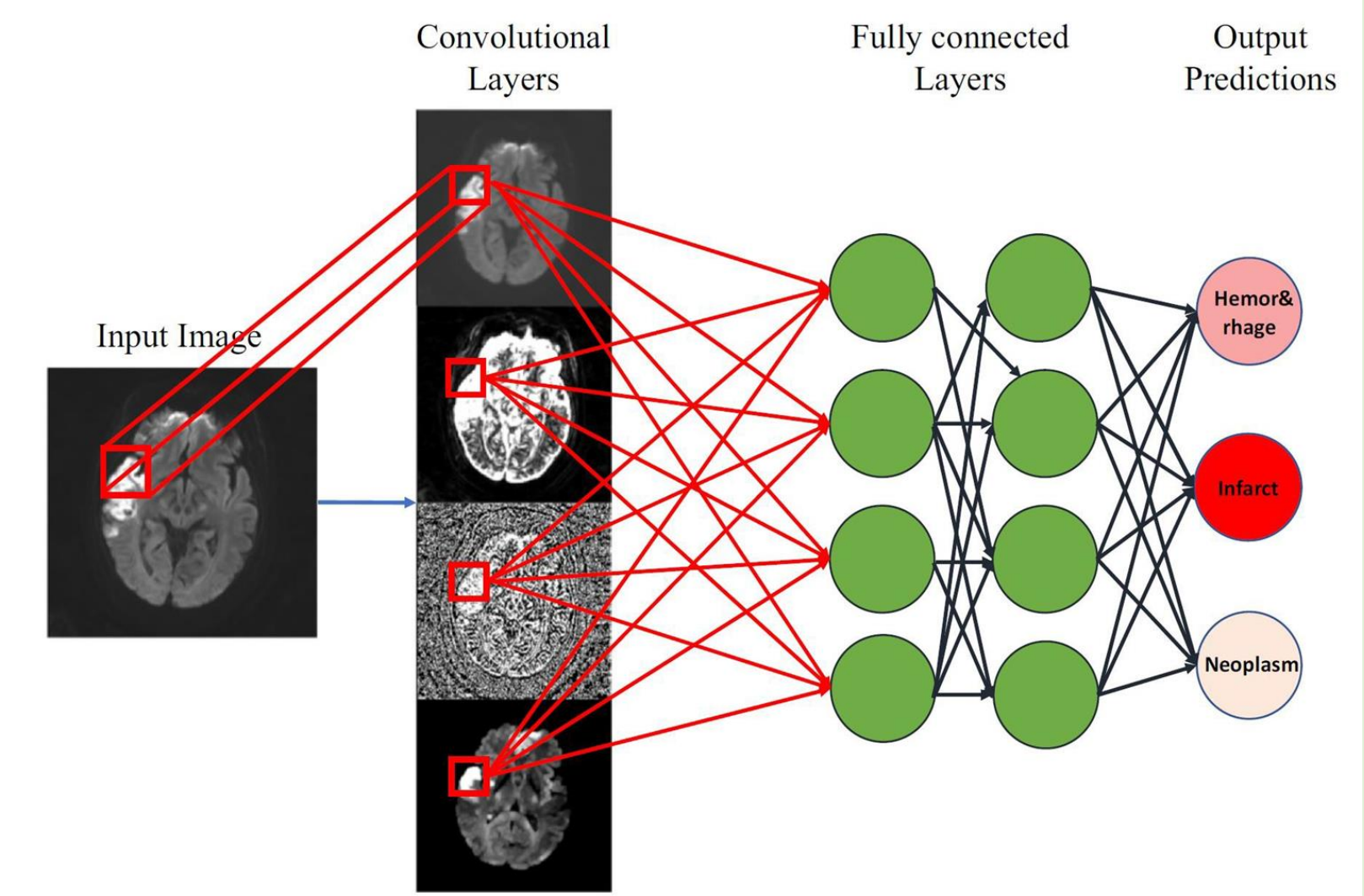
Artificial Intelligence

Artificial intelligence in stroke

Vivek S. Yedavalli[a,f,*], Elizabeth Tong[b],



Clinical Imaging 69 (2021) 246–254

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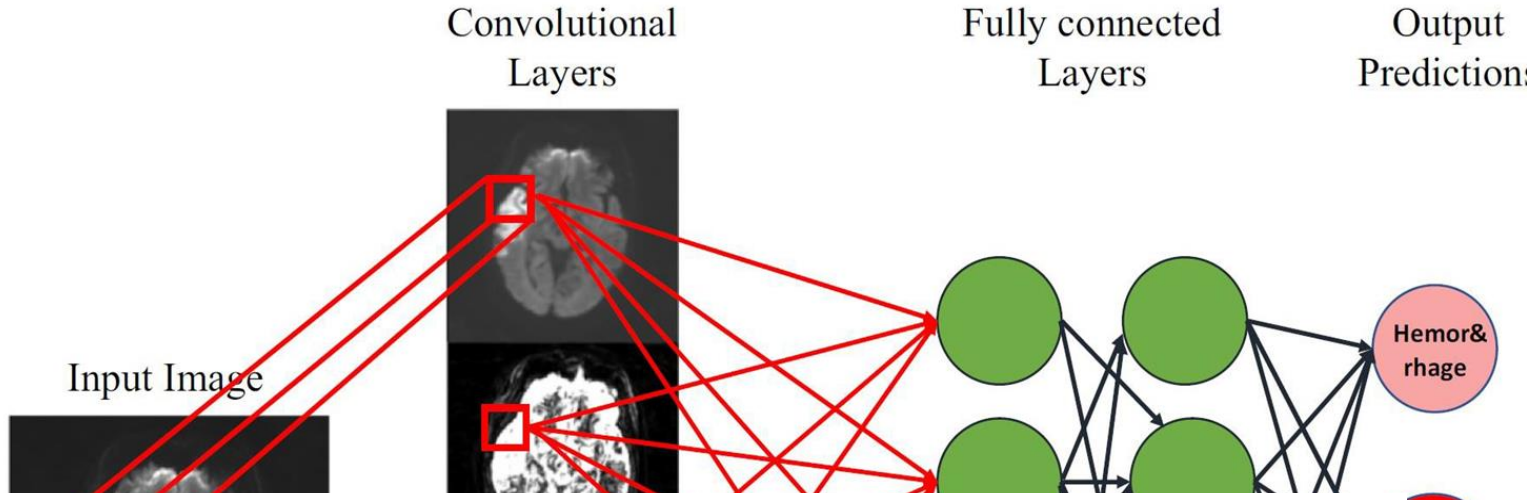
Artificial Intelligence

Artificial intelligence in stroke imag

Vivek S. Yed



RapidAI stroke triage or transfer mobile interfac

Psilocybin

- FDA designated psilocybin a breakthrough therapy in 2018 and 2019 for treating drug-resistant depression and major depressive disorder.

The NEW ENGLAND JOURNAL of MEDICINE

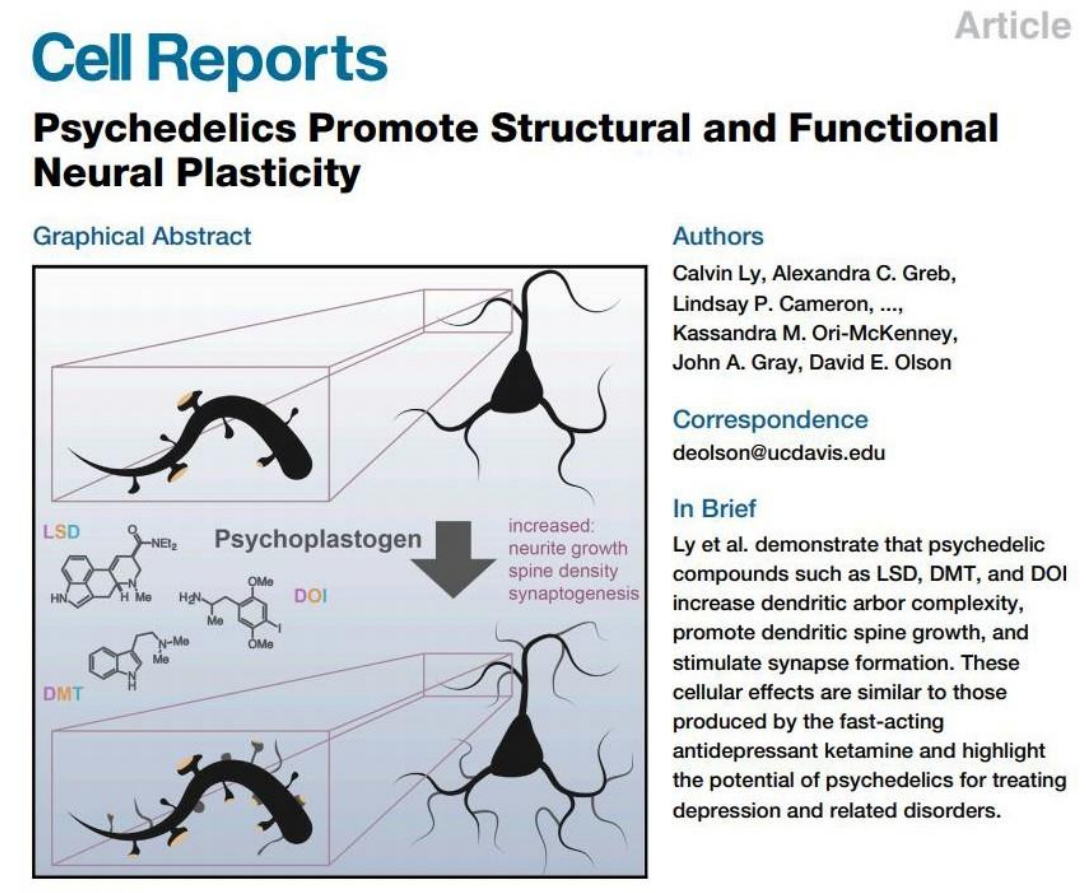
N Engl J Med 2021;384:1402-11.

ORIGINAL ARTICLE

Trial of Psilocybin versus Escitalopram for Depression

Robin Carhart-Harris, Ph.D., Bruna Giribaldi, B.Sc., Rosalind Watts, D.Clin.Psy., Michelle Baker-Jones, B.A., Ashleigh Murphy-Beiner, M.Sc., Roberta Murphy, M.D., Jonny Martell, M.D., Allan Blemings, M.Sc., David Erritzoe, M.D., and David J. Nutt, M.D.

Psychedelics



Article

Cell Reports

Psychedelics Promote Structural and Functional Neural Plasticity

Graphical Abstract

Authors

Calvin Ly, Alexandra C. Greb, Lindsay P. Cameron, ..., Kassandra M. Ori-McKenney, John A. Gray, David E. Olson

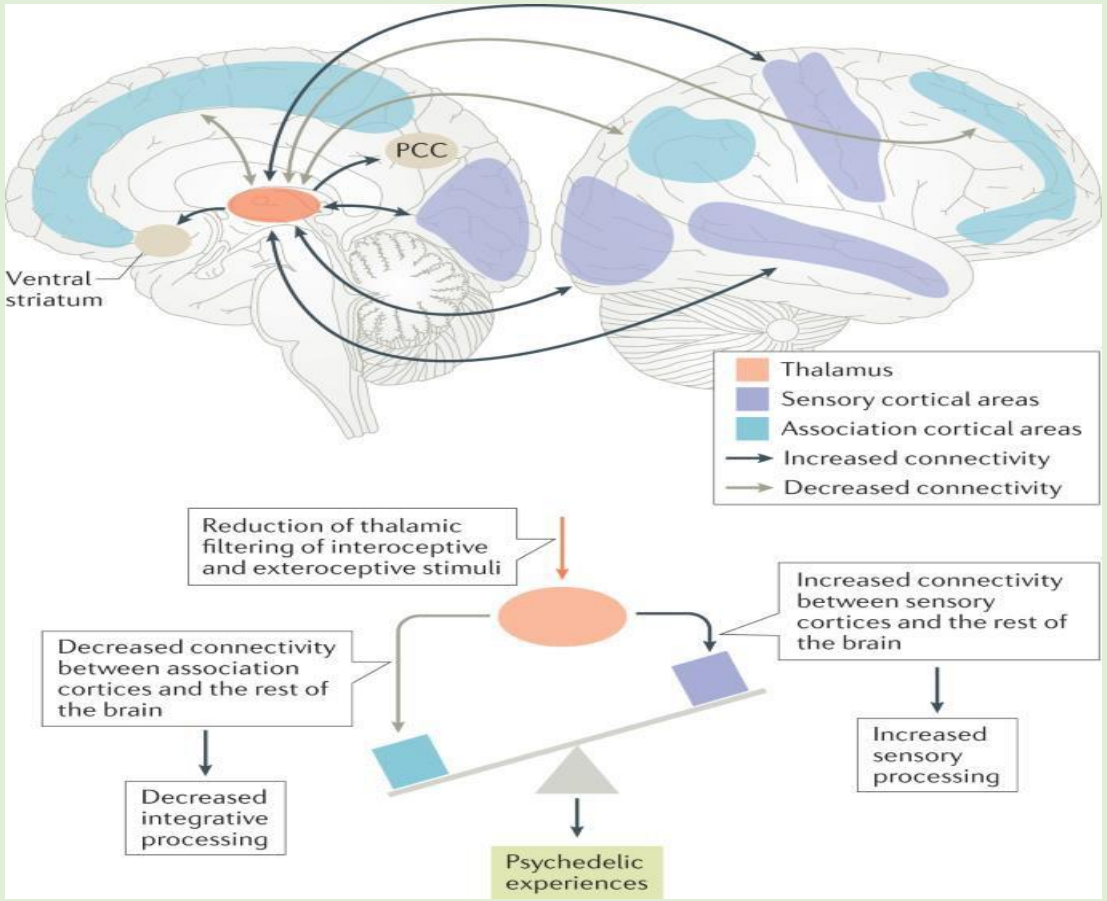
Correspondence

deolson@ucdavis.edu

In Brief

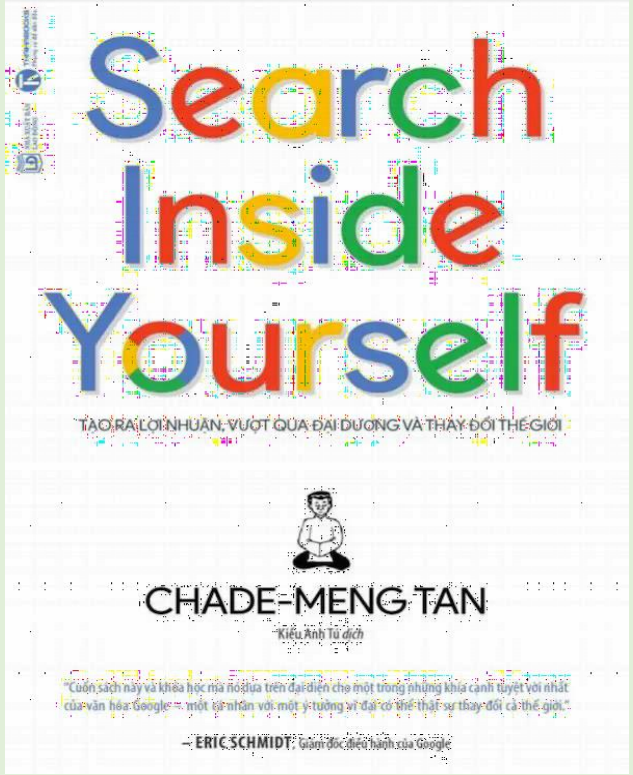
Ly et al. demonstrate that psychedelic compounds such as LSD, DMT, and DOI increase dendritic arbor complexity, promote dendritic spine growth, and stimulate synapse formation. These cellular effects are similar to those produced by the fast-acting antidepressant ketamine and highlight the potential of psychedelics for treating depression and related disorders.

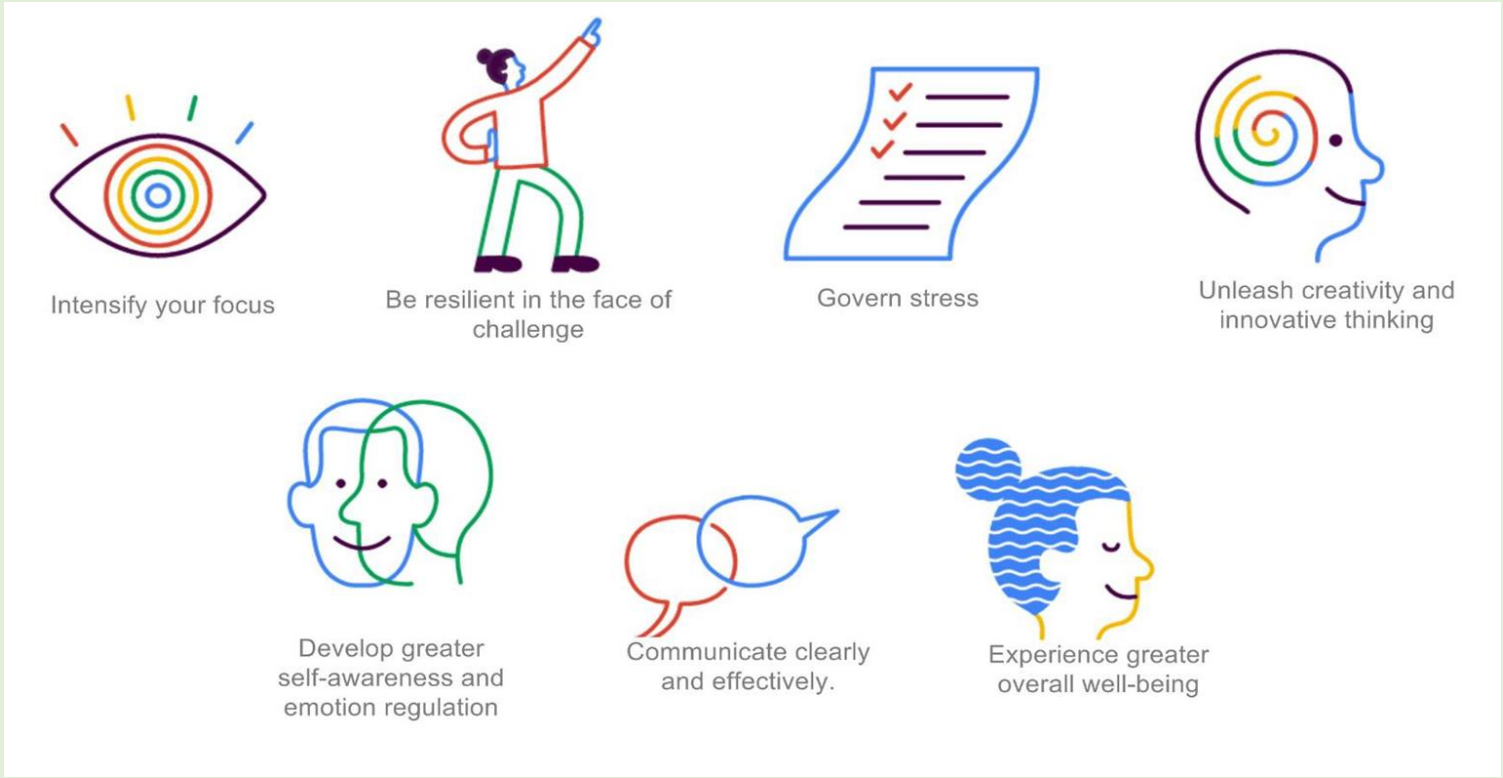
Neuroplastic Effects



Brain Connectivity

“Time and space ceased to exist for me.”





Meditation and mindfulness are the new rage in Silicon Valley. And it's not just about inner peace.

it's about getting ahead.

Curious points of differences:

Buddhist Wisdom

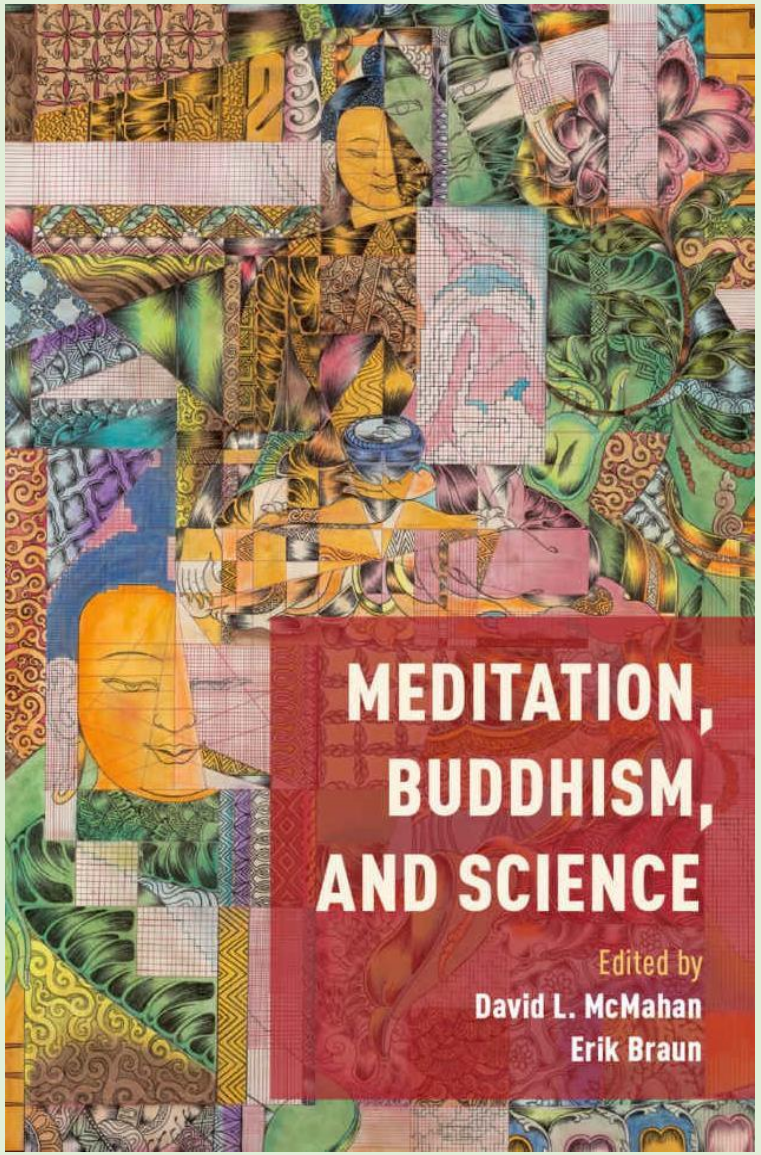
Birth, aging, sickness, death

The Four Noble Truths
When clinging ceases, suffering also ceases.

The ultimate goal of modern medicine

Health & longevity

To attain health and longevity by applying elements of



- **Current meditation researches focus on whether a meditation technique brings benefits to people in advanced countries, and research funds are granted based on the measurable "results."**
- **The Buddhist origin of meditation or language of awakening has been removed, and only tools satisfying secular objectives are provided.**


Melvin Konner, M.D., Ph.D.
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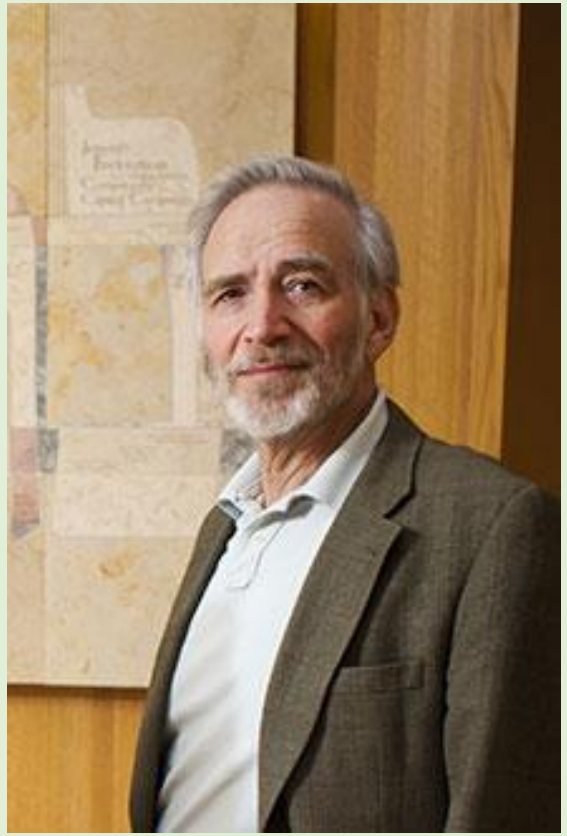

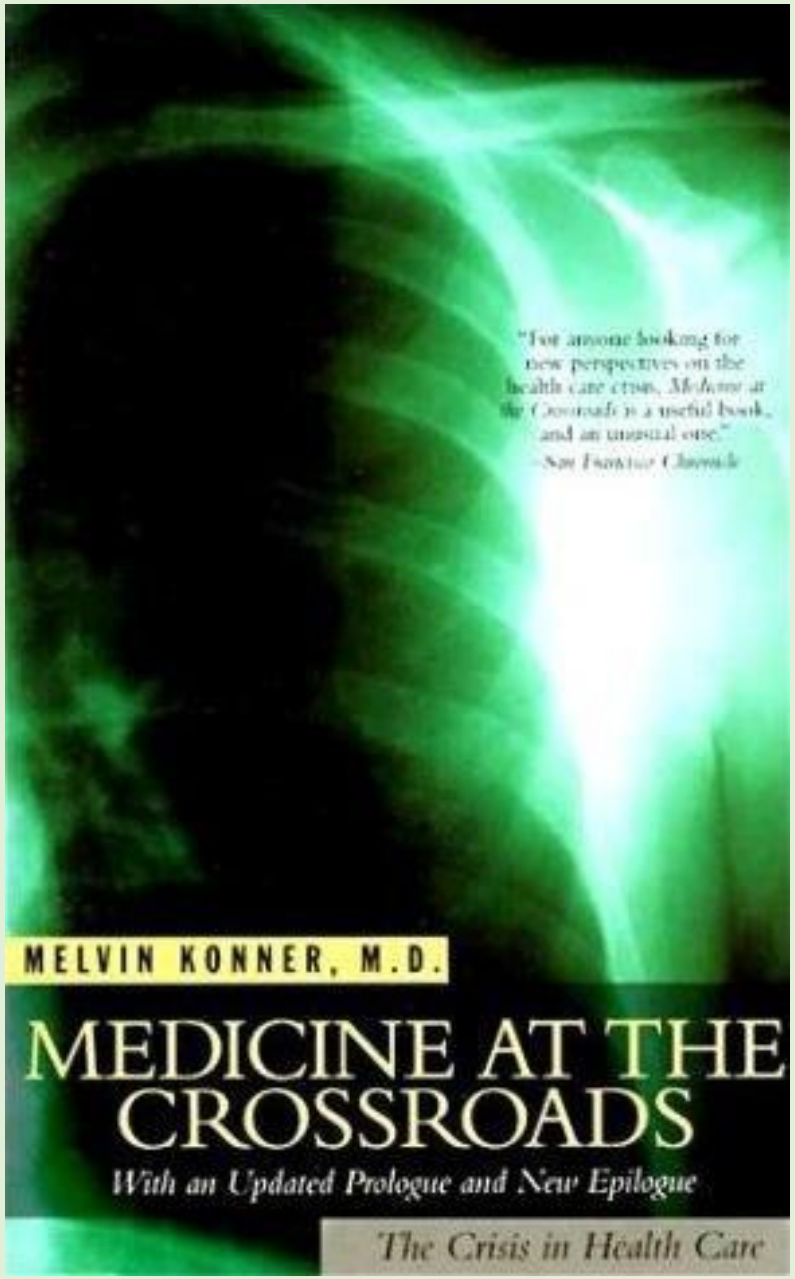
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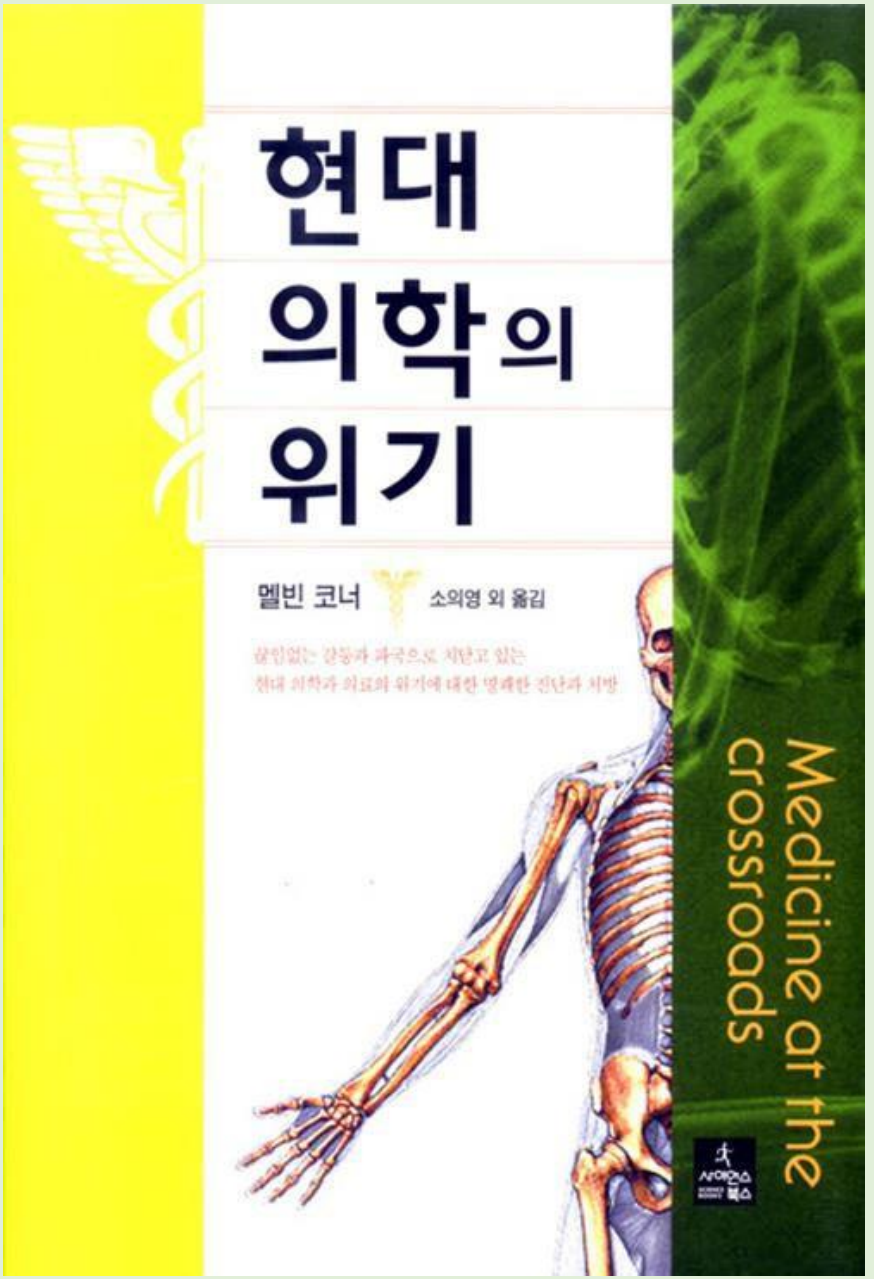
MEDICINE AT THE CROSSROADS
With an Updated Prologue and New Epilogue
The Crisis in Health Care


현대 의학의 위기
멜빈 코너
소의영 외 옮김
Medicine at the crossroads

- Treat patients like colleagues: **Top-notch technology reduces patients to silence.**
- The dilemma of scientific medicine: **The underprivileged of Baltimore find it hard to use the Johns Hopkins Hospital .**
- Disease, drug, and humanity: **Even verified drugs are later denied of their effectiveness.**
- Two faces of gene therapy: **Certain gene therapies trigger unexpected diseases.**
- Appropriateness and abuse of surgery: **Surgery methods are determined by cultural factors instead of cure rates.**
- Endless suffering of mental patients: **A rich New Yorker vs a poor Indian, who's happier?**
- Happier later years and the path to death: **Life extension vs happier death**
- AIDS is a social disease: **Warm-hearted attention to human beings heals AIDS.**

Declaration of Physicians' Ethics (Korean Medical Association, Amended on Apr. 23, 2017)

We physicians will honor human dignity and values, and dedicate to the protection and enhancement of human health by practicing medicine properly and fairly.

1. We will practice medicine following professional conscience based on medically stable knowledge and technology, and preserve dignity and honor as physicians.

2. We will strive to acquire new medical knowledge and technology, cultivate professional expertise, and contribute to the improvement and development of public health.

4. We will maintain mutually trusting and respecting relationship with patients, protect patients' interest and privacy to the best of our abilities, and respect **patients' personality and self-determination.**

5. We will respect **patients' right to know**, and protect patients' secrets and personal information that have been acquired during our medical practice.

Declaration of Physicians' Ethics (Korean Medical Association, Amended on Apr. 23, 2017)

6. We will treat all fellow medical professionals with respect and trust for the best possible treatment of patients, and collaborate together to enhance **patients' safety and quality of medicine.**

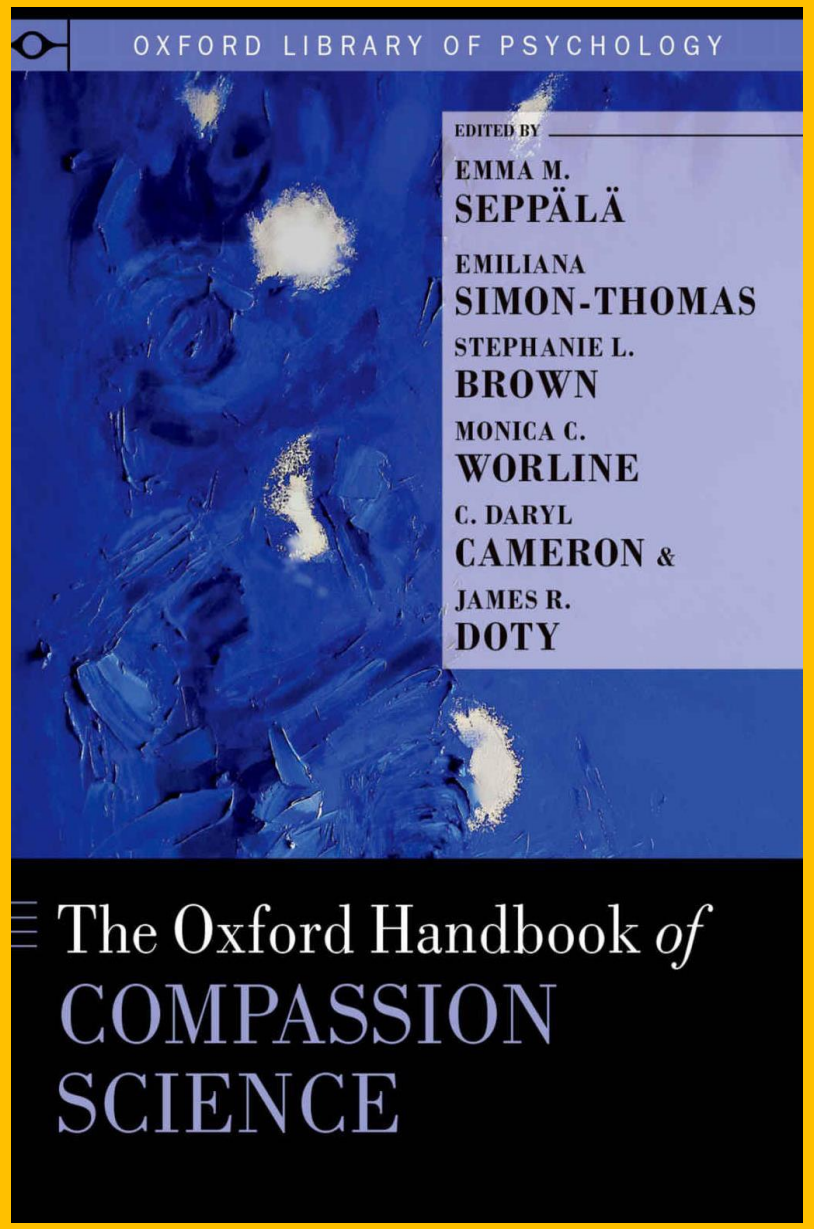
7. We will contribute to promoting national health and quality of life, use medical resources properly, and strive to improve law and system to **establish desirable medical environment and healthier society.**

8. We will strive to secure objectivity and reliability of medical information, and properly balance personal interest and conflict of interests, and thereby **retain the trust of patients and society.**

9. We will protect and honor **human life and dignity, lessen the suffering of terminal patients,** and do our utmost to help patients **meet humane and natural death.**

10. In researches on humans, we will protect the rights, safety and welfare of research participants, **retain scientific and ethical aspects of researches,** and thereby contribute to medical advancement and improvement of human health.

Then, what is the direction we should take?



CHAPTER 32

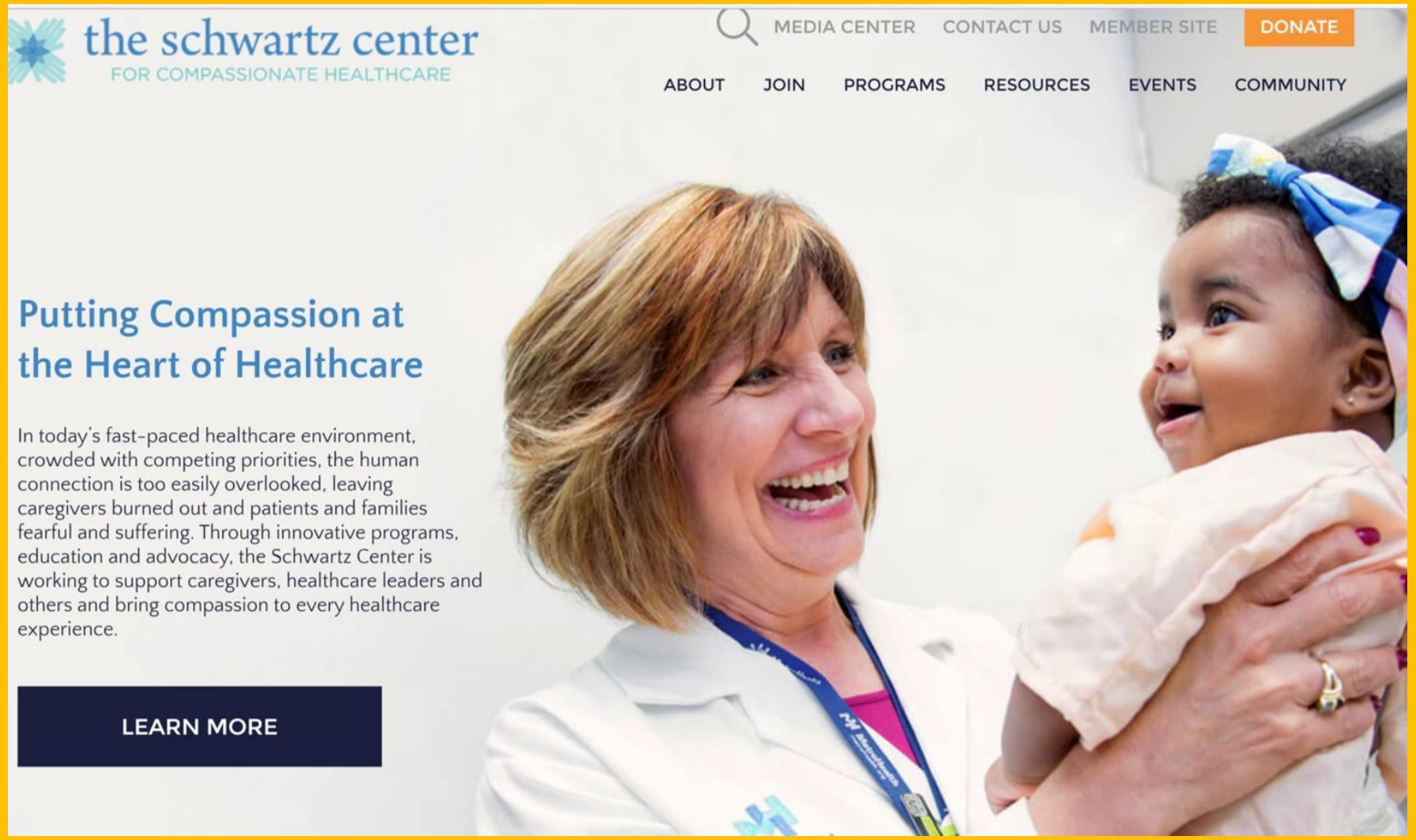
The Call for Compassion in Health Care

Sue Shea and Christos Lionis

Abstract

The concept of compassion applies to a number of situations and deserves to play a major role in health care. Within this chapter, we discuss the importance of compassionate care within both the hospital and primary healthcare settings, with a view to identifying ways of improving quality of care. We then discuss the importance of addressing compassion and health with regard to specific societal conditions such as during times of austerity, and towards vulnerable individuals such as the homeless who might experience specific health and social needs. Finally, we address factors that may hinder or promote compassion, before considering how compassion can be sustained in the longer term, and the extent to which the concept may be effectively incorporated in teaching and training programs.

Keywords: compassion, health care, hospitals, specific conditions, primary care, austerity, homelessness, organizational factors, teaching/training



"These acts of kindness – the simple human touch from my caregivers – have made the unbearable bearable" – Ken Schwartz

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Mindfulness (2021) 12:2099–2116
https://doi.org/10.1007/s12671-021-01681-x

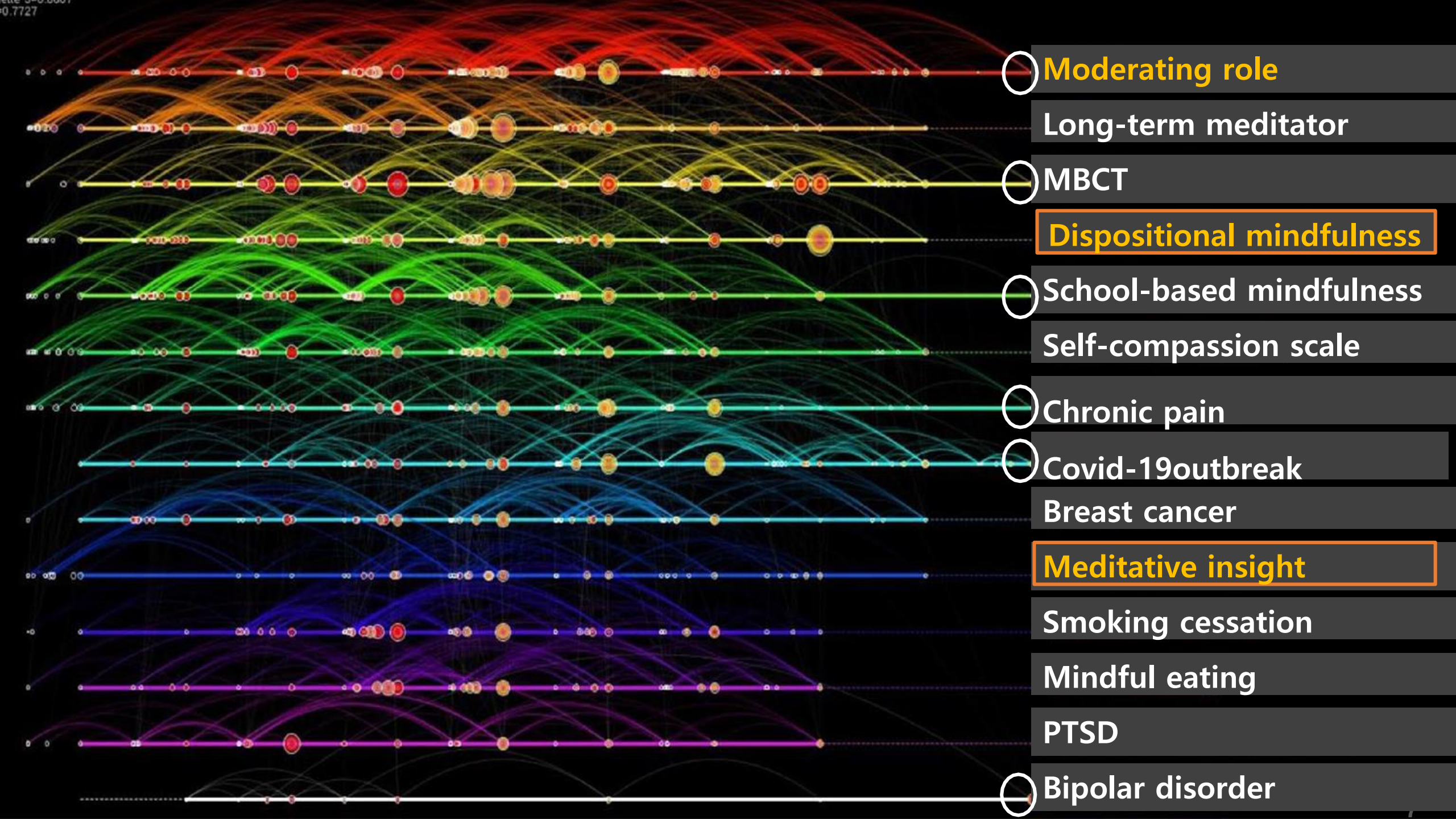
REVIEW

Trends and Developments in Mindfulness Research over 55 Years: A Bibliometric Analysis of Publications Indexed in Web of Science

Anuradha Baminiwatta[1] · Indrajith Solangaarachchi[2]

Accepted: 23 June 2021 / Published online: 16 July 2021

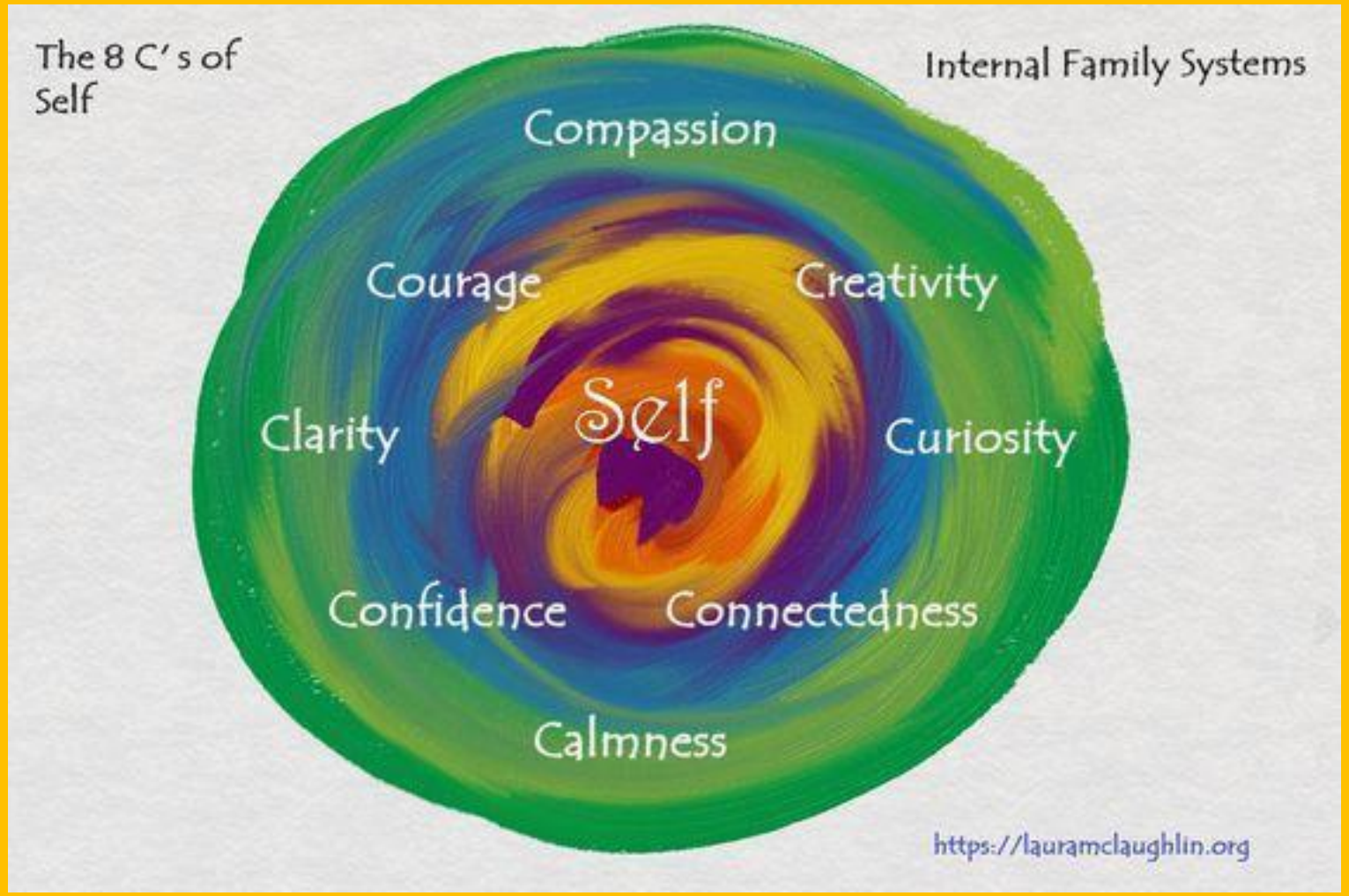
1966-2015	2016–2021 Research area	Number of publications	%
1	1. Psychology	5044	45.2
2	2. Psychiatry	2386	21.4
3	3. Neurosciences neurology	790	7.1
4	4. Education educational research	677	6.1
8 →	5. Public environmental occupational health	584	5.2
7 →	6. Nursing	499	4.5
5	7. Integrative complementary medicine	398	3.6
10 →	8. Social sciences other topics	390	3.5
13 →	9. General internal medicine	389	3.5
12 →	10. Health care sciences services	382	3.4


Moderating role
Long-term meditator
MBCT
Dispositional mindfulness
School-based mindfulness
Self-compassion scale
Chronic pain
Covid-19outbreak
Breast cancer
Meditative insight
Smoking cessation
Mindful eating
PTSD
Bipolar disorder

Attainment of fruition(Grabovac 2015)

- **Mind and body:** One distinguishes between physical sensations and mental impressions, which is an ability pursued by mindfulness meditation.
- **Cause and effect:** Phenomena consist of cause and effect. One's intentions precede thoughts and actions.
- **Three Characteristics:** One begins to have direct experience of impermanence, suffering, and non-self.
- **Arising and Passing Away:** One has strong experience of impermanence where all experiences arise from emptiness and disappear into the vast emptiness.
- **Dissolution, Fear, Misery, Disgust, and Desire for Deliverance:** With deeper experience of impermanence that all things cease and there is nothing to rely on, one experiences the sense of self as impermanent. Experiencing suffering including cessation, fear, misery, and disgust, one develops a strong desire for liberation/deliverance.
- **Re-observation:** One accepts the insight into the three characteristics, and realize their profound meaning.
- **Equanimity:** As the sense of self that is suffering ceases, suffering ceases. (There is no self, or there is nothing that belongs to the self.)
- **Attainment of fruition:** One attains the first fruit of enlightenment where the self ceases, and mental process disappears in a flash.

Qualities of Inner Strength, Stability and Resilience



8C
Compassion
Courage
Creativity
Clarity
Curiosity
Confidence
Connectedness
Calmness

True Self/Wise Heart **True Self/Wise Heart** **Richard Schwartz**

Whatever beautiful technologies we may have,..... technology is not going to tell us how we are supposed to use it from a moral spiritual point of view.

We as individuals need to proactively engage with the technology.

Thank you!