PROGRAM BOOK

The 3rd Seoul International Meditation Expo 2022

2022 Meditation, a New World

Conference lecture materials

Academic Virtual Conference

2022. 6. 17Fri - 19Sun

HOST dongguk UNIVERSITY Seoul International Meditation Expo

Steering Committee for the Seoul International Meditation Expo.
The Institute for the Jogye Order Studies at Dongguk University

SUPPORT Ministry of Culture, Sports and Tourism SEOUL METROPOLITAN GOVERNMENT

PROGRAM BOOK

The 3rd Seoul International Meditation Expo 2022

2022 Meditation, a New World

Conference lecture materials

Academic Virtual Conference

2022. 6. 17Fri - 19Sun

HOST dongguk UNIVERSITY Seoul International Meditation Expo

Steering Committee for the Seoul International Meditation Expo.
The Institute for the Jogye Order Studies at Dongguk University

SUPPORT Ministry of Culture, Sports and Tourism SEOUL METROPOLITAN GOVERNMENT

Contents

DAY 01 | 6. 17 Fri

DAY 02 | 6. 18 Sat

DAY 03 | 6. 19 Sun

Presentation 01	| Meditation and Psychotherapy: Learning from Nondaily Conditions **Judson Brewer** Brown University	276
Presentation 02	| Meditation in Education and Experiential Learning Using Metaverse **Yuseop Lee** Dongguk University New media Design Lab **Ven. Eunsan** Dongguk University	306
Presentation 03	| The Future of Meditation: Aspects of everyday life, virtual, and clinic **Jungho Chae** The Catholic University of Korea	318
Presentation 04	| The Role of Korean Meditation in the Era of 4th Industrial Revolution **Sister. Hyunmin Choi** Seton Inter-religious Center **Yonghan Park** Korean Academy of Meditation in Medicine **Ven. Seogwang** Dongguk University	362

Program

DAY 1 6. 17 Fri | Meditation and Healing

Time	Program
10:30~11:30	| MTLW: Mindfulness Training for Living Well | MTPC: Mindfulness Training for Primary Care Zev Schuman Olivier | Harvard University
11:30~12:30	**IFS(Internal Family Systems)** Richard Schwartz | Harvard University
14:00~15:00	**CBCT(Cognitively-Based Compassion Training)** Timothy Harrison | Emory University
15:00~16:00	**The Effects of Meditation on the Nervous System of Social Cognition and the Emotional Base** Tania Singer | Scientific head of the Social Neuroscience Lab of the Max Planck
16:00~17:00	**MSC(Mindful Self-Compassion)** Christopher K. Germer | Co-creator of the MSC

DAY 2 6. 18 Sat | Meditation and Science

Time	Program
10:00~11:00	**Heart Rate Variability, Mindfulness and Compassion** Inna Khazan | Harvard University
11:00~12:00	**The Neuroscience of Meditation** Sara W. Lazar | Harvard University
13:00~14:00	**Mechanisms of Meditation in Dialectrical Behavior Therapy (DBT); Self-harm and Suicide Crisis** Christian Stiglmayr | Psychotherapist Germany
14:00~15:00	**Mechanisms of Meditation in Oriental medicine** Jongwoo Kim | Kyung Hee University
15:00~16:00	**Mechanisms of Meditation in physics** Moonho Park | Brain science expert
16:00~17:00	**Mechanisms of Meditation in psychiatry** Ganguk Lee | Gang-won University

DAY 3 6. 19 Sun | Meditation and Future Society

Time	Program
10:00~11:00	**Meditation and Psychotherapy: Learning from Nondaily Conditions** Judson Brewer | Brown University
11:00~12:00	**Meditation in Education and Experiential Learning Using Metaverse** Yuseop Lee | Dongguk University New media Design Lab Ven. Eunsan | Dongguk University
14:00~15:00	**The Future of Meditation: Aspects of everyday life, virtual, and clinic** Jungho Chae | The Catholic University of Korea
15:00~17:00	**The Role of Korean Meditation in the Era of 4th Industrial Revolution** Sister. Hyunmin Choi | Seton Inter-religious Center Yonghan Park | Korean Academy of Meditation in Medicine Ven. Seogwang | Dongguk University

DAY 1

2022. 6. 17 Fri

Meditation and Healing

| MTLW: Mindfulness Training for Living Well
| MTPC: Mindfulness Training for Primary Care

Zev Schman Olivier
Harvard University

Mindfulness Training for Living Well (MTLW): A three-week meditation healing program that provides skills for behavior change and teaches how to live well in stressful situations, including chronic illness. MTLW fosters healthy community connections by strengthening mindfulness and managing chronic illness and stress to maintain healthy and enjoyable behavior.

Mindfulness Training for Primary Care (MTPC): An 8-week meditation healing program with an approach developed in Mindfulness-based stress reduction (MBSR). It aims at primary care adaptation and includes the use of mindfulness and chronic disease self-management to support healthy behavior change in ways to live bette

CHA Cambridge Health Alliance | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Mindfulness as a Transformational Practice for Living Well

Seoul International Meditation Expo 2022

Zev Schuman-Olivier, M.D.
Director, Center for Mindfulness and Compassion
Cambridge Health Alliance Department of Psychiatry
Assistant Professor in Psychiatry, Harvard Medical School

CHA Cambridge Health Alliance | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

THE BENEFITS OF MINDFULNESS

Physical	Mental
Boost energy levels	Relieves stress
Improves sleep	Reduces anxiety
Reduces chronic pain	Improves mood and happiness
Improves heart function	Boosts concentration and focus
Helps with digestive problems	Improves self-esteem

image from https://studenthealth.uconn.edu/mindfulness/

What about Transforming the Way We Live?

CHA Cambridge Health Alliance | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

CHA Cambridge Health Alliance | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Center for Mindfulness and Compassion

The mission of the CHA Center for Mindfulness and Compassion (CMC) is to enhance health and well-being by integrating mindfulness and compassion into healthcare and our communities with a commitment to inclusivity, accessibility, and diversity.

To cultivate mindfulness and compassion learning and practice in:

- Patient care
- Professional education and training
- Scientific research
- Workplace well-being
- Our communities

www.chacmc.org

CHA Cambridge Health Alliance | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

What is Transformational Practice?

- An intentional activity committed to for extended periods of time with the purpose of empowering change and/or transformation.
- Transformation can happen on multiple levels:
  - Individual
  - Relational/interpersonal
  - Organizational
  - Societal/Structural
  - Global
- The **Mindfulness Training for Living Well** Curriculum is designed to help people **warmly be with their present moment experience**, building the capacity to live intentionally and to allow transformational change on the individual and relational levels.

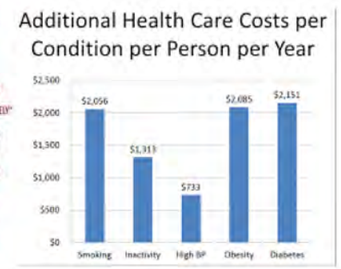
CHA Cambridge Health Alliance | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Why Focus on Individual Health Behavior Change and Chronic Illness Self-Management?

- Health Behavior impacts overall well-being
- Health Behavior can prevent chronic illness
- Chronic illness self-management and medical regimen adherence can improve health, extend life and reduce costs.
- Ongoing unhealthy behaviors can lead to multiple chronic illnesses
- Ongoing unhealthy behaviors impact relationship, organization, society, and the world
- Living with chronic illness effects mental state leading to a reciprocal relationship with mental health that impacts self-regulation and can disempower people with chronic illness

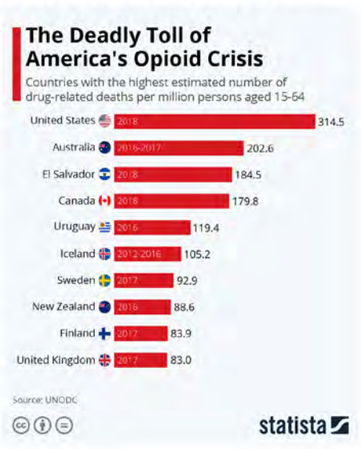
CHA Cambridge Health Alliance | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Health Behavior is Key Driver of Health Costs



CHA Cambridge Health Alliance | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Unhealthy behavior hastens death

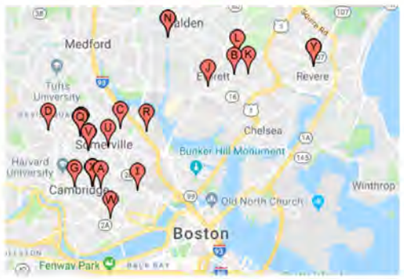


CHA Cambridge Health Alliance | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Mindfulness Training for Primary Care (MTPC)

CHA Cambridge Health Alliance | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Center for Mindfulness and Compassion

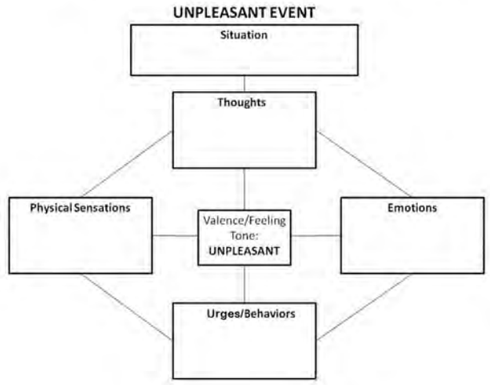


- 8-week groups for primary care patients
- Designed to enhance chronic illness self-management, reduce stress, anxiety, and depression, while motivating behavior change.
- Referral-based, insurance-reimbursable
- Trauma-Informed

CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Diamond of Experience



CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

MTPC Structure

- Section 1-4: Cultivating Mindfulness
- Section 5-8:
  - Kindness and Coping
  - Accessing Core Values and Aspiration
  - Living Well through Wise Action
  - Connection, Communication, Community
- 3 threads:
  - Warmth and Common Humanity
  - Interpersonal Mindfulness
  - Behavior Change

CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Stop or **S**low down

Turn towards experience or (**T**ake notice of breathing)

◊**bserve with O**penness (thoughts, sensations, emotions, urges) (Diamond of Experience)

Pleasantness (notice **P**leasant, un**P**leasant, or neutral feeling tone)

Allow it to be as it is, **A**ccept the ACHE is here or (**A**nchoring to present with breathing)

Compassion/**C**uriosity – bring these qualities to areas of tightness or unpleasantness

Hold the experience with warmth– bring **H**and to **H**eart or **H**olding touch

Expand awareness from ACHE to breathing, then to the body, then to all the senses.

&

Gratitude (that there is something you can do) then **G**rounding in values

Open to life, its challenges and its beauty, and **O**rient towards experience with kindness

Relating to Change

- Reconciling non-striving with need for change
- Everything changes – we need to let it
- Allowing change to emerge
- Holding aspiration just right--like an egg
- Skillful goal-setting with inner kindness

Accessibility

- Study 1
  - 46% private, 52% subsidized/CMS, 2% other
  - 62% with less than $40K annual income
  - 22% non-white race, 15% English 2nd language
- Study 2
  - 45% private, 53% subsidized/CMS, 2% other
  - 29% with less than $20K annual income
  - 23% non-white race, 17% English 2nd language

Study Design

Randomized Comparative Effectiveness
8-week MTPC vs Low-Dose Mindfulness Comparator

Mindfulness Training for Primary Care (MTPC) (66% of participants)	Low Dose Comparator (LDC) (33% of participants)
• **Group program**: MTPC groups are 2 hours long for 8 weeks + 7-hour day of silent practice • **Co-located**: Delivered by mental health clinicians/PCP in primary care • **Insurance-reimbursed**: Billed as group psychotherapy or medical group visits with ~10 pts	• 60-minute introduction to mindfulness • Referral to community mindfulness resources (classes, top mobile apps, books, websites) • Called every 2 weeks and encouraged in mindfulness practice • Placed on a 6-month waitlist for group

Action Plan Initiation Survey

1. Please choose the category of your goal (choose one):
   - ☐ **Activity level/exercise**
   - ☐ **Diet/eating/drinking**
   - ☐ **Self-care practice**
   - ☐ **Other** ___
2. My Goal (be specific): _____
3. In the last two weeks, did you meet your goal?

Not met at all — Totally met

1 2 3 4 5 6 7

CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

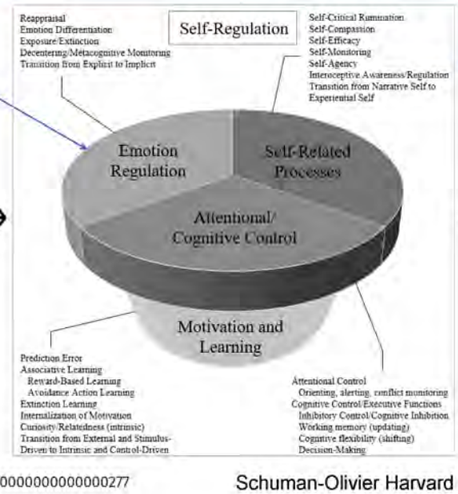
STUDY GROUP	WEEK 0	WEEKS 0-1	WKS 1-4	WKS 5-6	WK 7	WK 8	WK 9	WK10	WK24
BOTH GROUPS	Informed Consent Session	Randomization			Action Plan Creation	AP Initiation Survey	AP Initiation Survey	AP Initiation Survey	
	T0 Surveys				T1 Surveys	T2 Surveys			T3 Surveys
	Mindfulness Orientation		Weekly Mindfulness Resource Diary Card Weekly Mindfulness Practice Diary Card						
INTERVENTION		fMRI Pre	MTPC Intervention				fMRI Post		
COMPARATOR			MINDFUL-PC Staff Check-In (Every 2 weeks)						

CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Mindful Self-Regulation Model

DERS

MAIA



Mindfulness-Based Interventions → → Behavior Change

doi: 10.1097/HRP.0000000000000277

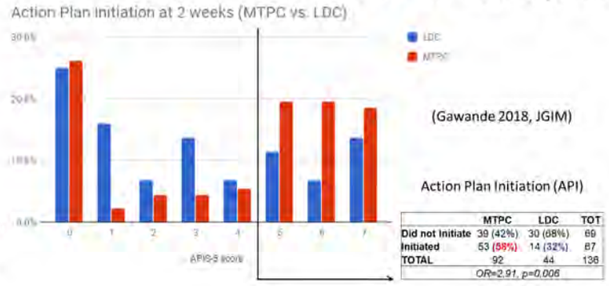
Schuman-Olivier Harvard Review of Psychiatry 2020

CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

MINDFUL-PC Studies

Action Plan Initiation

- Study 1-- 2015-2016 N=81 35% v 11% OR: 4.09, p<0.05
- Study 2 -- 2017 N=136 58% v 32% OR: 2.91, p<0.01



(Gawande 2018, JGIM)

Action Plan Initiation (API)

	MTPC	LDC	TOT
Did not initiate	39 (42%)	30 (68%)	69
Initiated	53 (58%)	14 (32%)	67
TOTAL	92	44	136
	OR=2.91, p=0.006		

Study 1:
Gawande, et al, Mindfulness (2019) 10:1744–1759
DOI: 10.1007/s12671-019-01116-8

Study 2: Gawande, et al, J Gen Intern Med (2018)
DOI: 10.1007/s11606-018-4739-5

CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

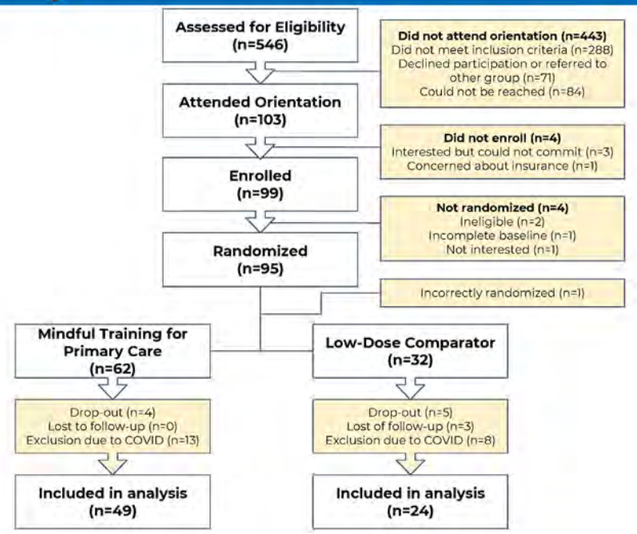
Study #3

- Primary Aim: Emotion Regulation
- Secondary Aim: Replication of Action Plan Initiation Outcome

Overall project

- Main Aim: Role of Interoceptive Awareness Facets as mediator
- Secondary Analysis: Change in Interoceptive Appreciation (Body Listen and Body Trust) as mediator of change

CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL



CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

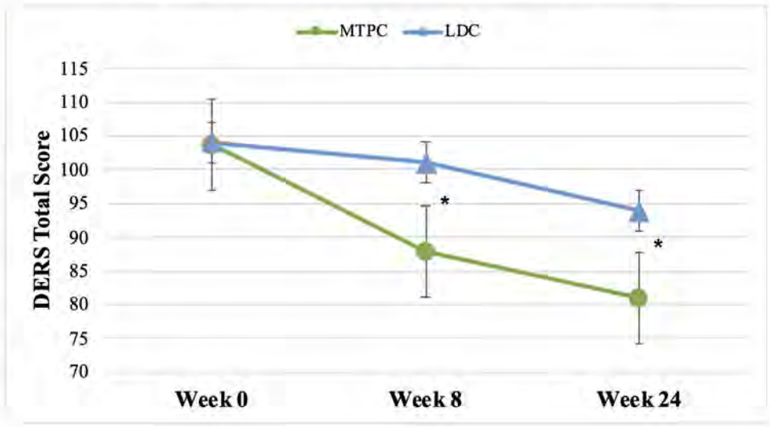
Change in Difficulties in Emotion Regulation Scale

Study 3 Results

Between group effects at Week 8
β = -12.98
95% CI [-23.3,- 2.6]
d = -0.59, *p* = .01

These effects held at Week 24
β = -13.35
95% CI [-24.3,- 2.4]
d = -0.61, *p* = .02

*p<0.05



CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Participant Demographics

Variable	Total (n = 73)	MTPC (n = 49)	LDC (n = 24)
Gender: Female, *N* (%)	43 (59%)	28 (57%)	15 (63%)
Age, *Mean* (SD)	37 (12)	37 (13)	36 (12)
Race: White, *N* (%)	55 (75%)	35 (71%)	20 (83)
Race: BIPOC or multi-racial, *N* (%)	18 (25%)	14 (29%)	4 (17%)
MDD Diagnosis, *N* (%)	23 (32%)	14 (29%)	13 (54%)

CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Study 3 Results

DERS Subscales	β	*d*	*p*
Nonacceptance	**3.12**	**0.55**	**0.036**
Goal-directed behavior	**3.48**	**0.82**	**< 0.001**
Impulse control	0.47	0.11	0.687
Lack of emotional awareness	1.13	0.24	0.314
Emotional regulation strategies	**4.99**	**0.74**	**0.001**
Lack of emotional clarity	-0.18	-0.05	0.836

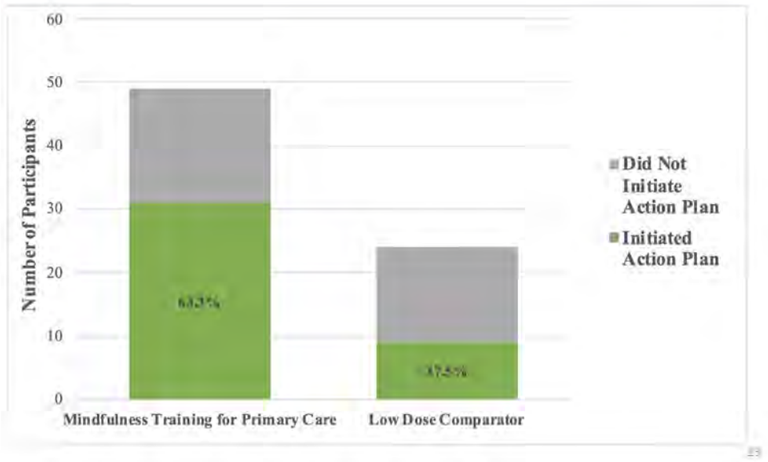
CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Study 3 Results

80% of all participants rated their API

MTPC had greater odds of initiating their action plan compared to LDC

OR=2.87
95% CI [1.1, 7.9]
p=0.04



CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Losing trust in body sensations: Interoceptive awareness and depression symptom severity among primary care patients

Julie Dunne [a,b,*], Michael Flores [c,d], Richa Gawande [a,d], Zev Schuman-Olivier [a,d]

Table 2c
Adjusted Estimates of Multidimensional Assessment of Interoceptive Awareness Subscale Scores by Depression Severity Categories with Anxiety and Other Covariates.

	Noticing			Emotional Awareness			Self-regulation			Body Listening			Trusting		
	Coef	SE	95%CI	Coef	SE	95%CI	Coef	SE	95%CI	Coef	SE	95%CI	Coef	SE	95%CI
PROMIS Depression (Reference None to slight)															
Mild	-0.30	0.17	-0.64 to 0.04	-0.21	0.18	-0.57 to 0.14	-0.31	0.16	-0.63 to 0.01	-0.33	0.19	-0.70 to 0.03	-0.74***	0.21	-1.16 to -0.32
Moderate to Severe	-0.47*	0.19	-0.86 to -0.09	-0.52**	0.19	-0.89 to -0.15	-0.40*	0.17	-0.74 to -0.07	-0.57**	0.2	-0.96 to -0.18	-0.75***	0.23	-1.21 to -0.30

†p<0.10*p<0.05; **p<0.01 (significant after correction for multiple comparisons).
Adjusting for gender, race/ethnicity, age, education level, marriage status, employment status, PROMIS Anxiety, any PTSD diagnosis, any substance use disorder diagnosis, any antidepressent prescription.

N=281

Journal of Affective Disorders 282 (2021) 1210–1219

CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

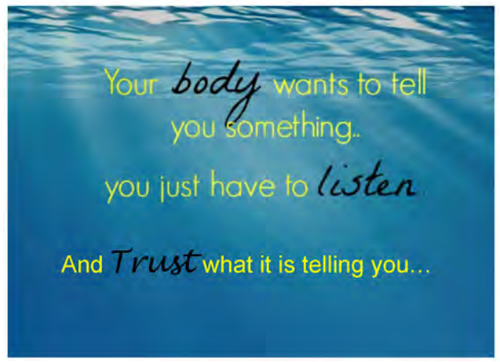
MINDFUL-PC Studies

		Action Plan Initiation	
• Study 1-- 2015-2016	N=81	35% v 11%	OR: 4.09, p<0.05
• Study 2 -- 2017	N=136	58% v 32%	OR: 2.91, p<0.01
• Study 3 -- 2018-2020	N=73	63% v. 38%	OR: 2.87, p<0.05

Study 1: Gawande, et al, Mindfulness (2019) 10:1744–1759
DOI: 10.1007/s12671-019-01116-8
Study 2: Gawande, et al, J Gen Intern Med (2018)
DOI: 10.1007/s11606-018-4739-5
Study 3: Gawande, et al, under review

CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

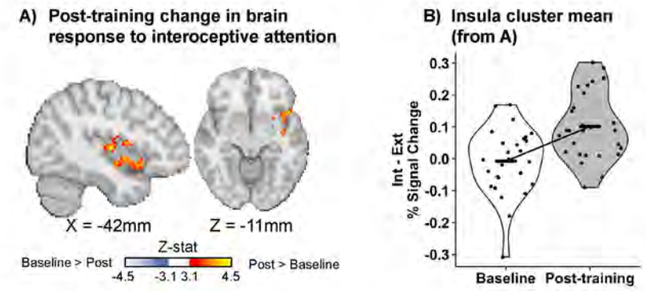
Interoceptive Appreciation



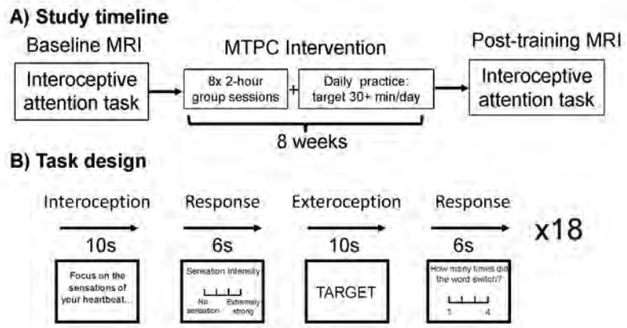
Neuroimaging Study Methods

- 41 Participants (23 women, 18 men)
- 21-60 years of age (mean 33.78)
- History of either Major Depressive Disorder, dysthymia, or generalized anxiety disorder
- No significant current or former meditation or intense yoga practice
- 7 participants did not complete post-training visits
- 6 participants were excluded from the fMRI analysis due to excessive head motion (>2mm max displacement)
- N = 28 participants included in the final analysis (14 women, 14 men)

Interoceptive Attention and Insula Results



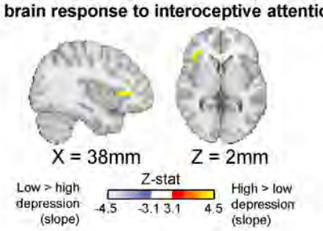
Neuroimaging Methods

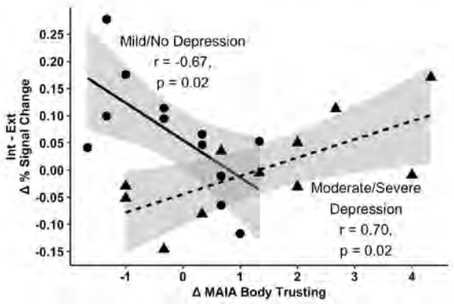


Effects of Mindfulness on Interoceptive Attention, Interoceptive Body Trust and Insula Activity

Two sub-groups within our sample:
- Anxiety + moderate/severe depression (n =13)
- Anxiety alone (none/mild depression) (n= 15)

Depression moderates the association between post-training change in MAIA Body Trusting and brain response to interoceptive attention





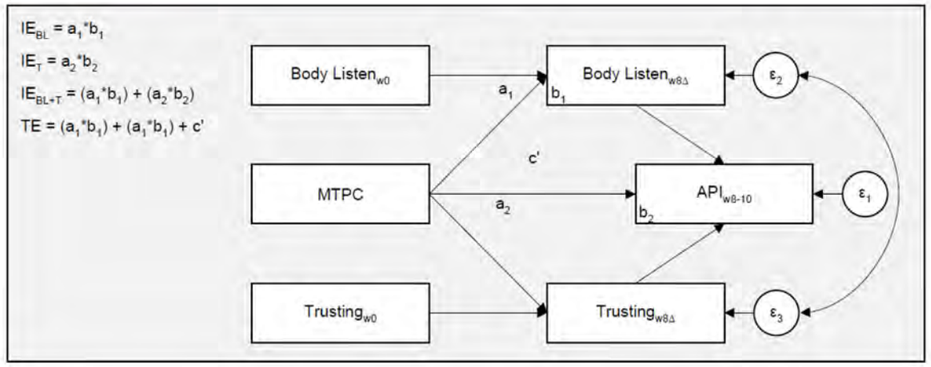


Figure 1. Path diagram specifying causal mediation analyses

Demographics

Variable	Subtotal (n=206)	MTPC (n=141)	LDC (n=65)
Female N (%)^	138 (67)	94 (67)	44 (68)
Age (years), mean (SD)	40 (13)	40 (13)	39 (13)
Race, N (%)			
White	165 (80)	111 (79)	54 (83)
Black	10 (5)	8 (6)	2 (3)
Multiple	6 (3)	4 (3)	2 (3)
Other	25 (12)	18 (13)	7 (11)
Ethnicity Hispanic, N (%)	27 (13)	20 (14)	7 (11)
Annual income < $20K, N (%)	51 (25)	40 (28)	11 (17)

Variable	Subtotal (n=206)	MTPC (n=141)	LDC (n=65)
Primary DSM-V dx, N (%)			
MDD	59 (29)	38 (27)	21 (33)
GAD	40 (20)	28 (20)	12 (19)
Anxiety NOS	23 (11)	16 (11)	7 (11)
Adjustment disorder	36 (18)	24 (17)	12 (19)
Other depressive d/o	22 (11)	15 (11)	7 (11)
Other[d]	25 (12)	20 (14)	5 (8)
2+ DSM-V dx	66 (32)	49 (35)	17 (26)
Any PTSD dx, N (%)	15 (7)	13 (9)	2 (3)
Any depressive dx, N (%)	98 (48)	66 (47)	32 (49)

No significant differences between groups, p<0.05

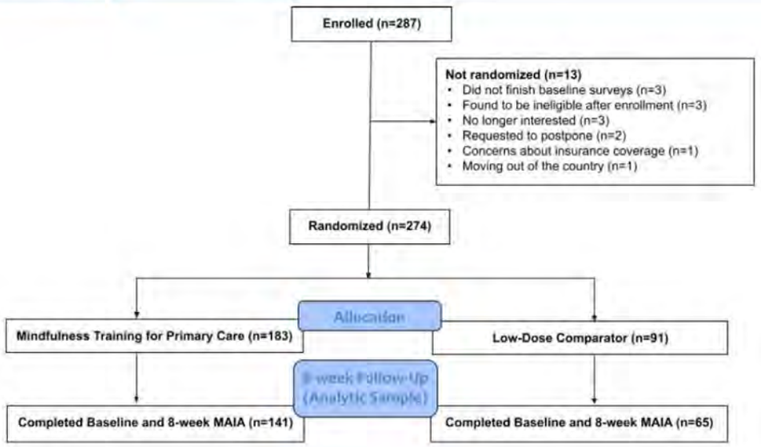
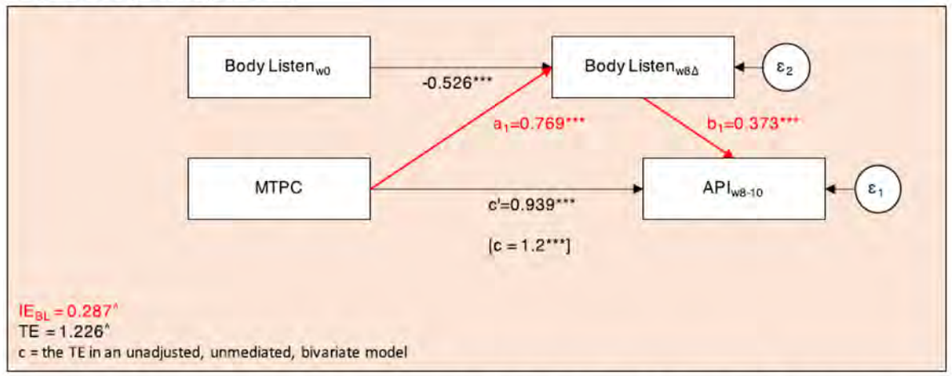


Figure 2. Consort Diagram

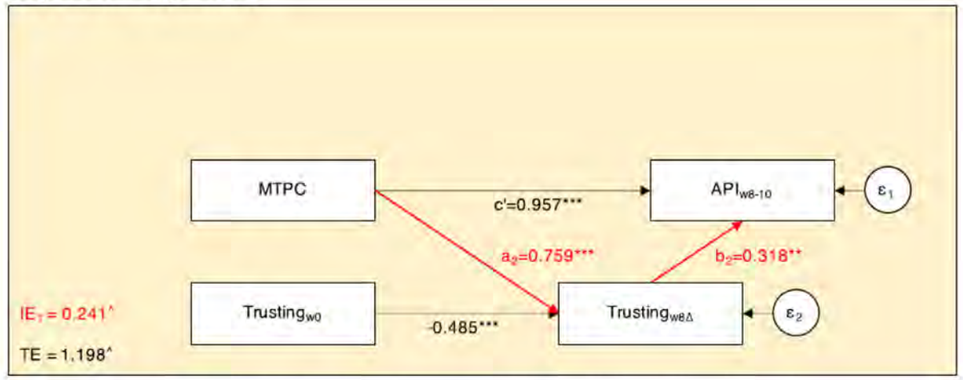
Fig. 3a. Body Listen paths only



IE, indirect effect; TE, total effect; BL, body listen; T, trusting; *p<0.05; **p<0.01; ***p<0.001; ^95% CI did not cross critical value threshold; computed using bootstrap standard errors with the percentile method and 10,000 replications.

CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

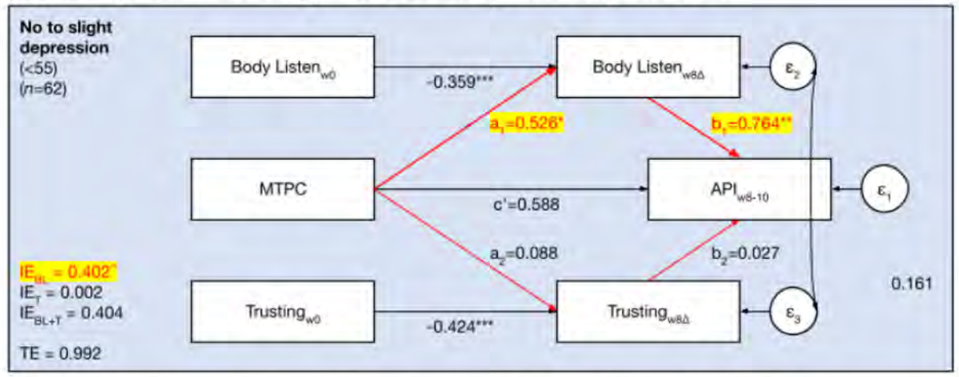
Fig. 3b. Trusting path only



IE, indirect effect; TE, total effect; BL, body listen; T, trusting; *p<0.05; **p<0.01; ***p<0.001; ^95% CI did not cross critical value threshold; computed using bootstrap standard errors with the percentile method and 10,000 replications.

CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

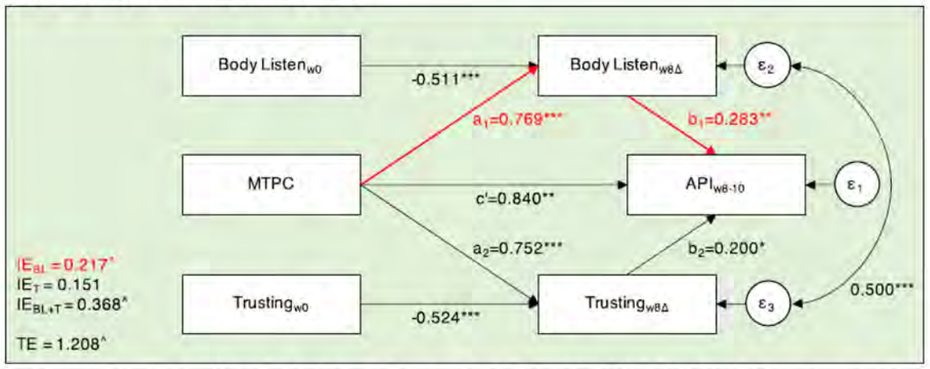
Fig. 4. Body Listen and Trusting paths, moderated by baseline depression level



IE, indirect effect; TE, total effect; BL, body listen; T, trusting; *p<0.05; **p<0.01; ***p<0.001; ^95% CI did not cross critical value threshold; computed using bootstrap standard errors with the percentile method and 10,000 replications.

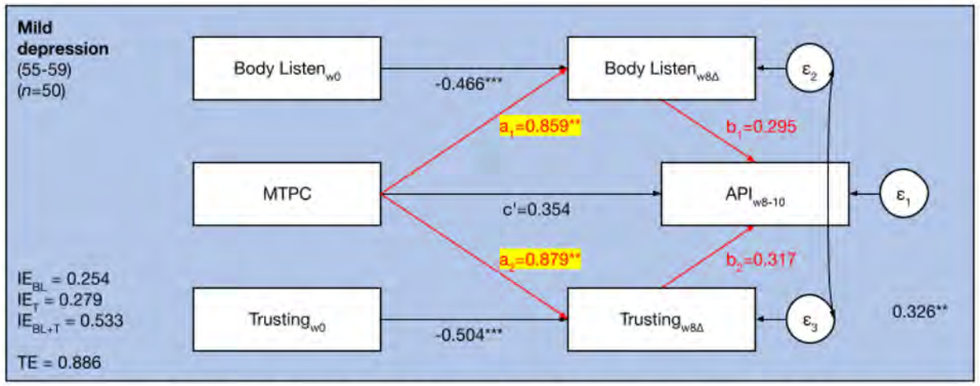
CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Fig. 3c. Body Listen and Trusting paths



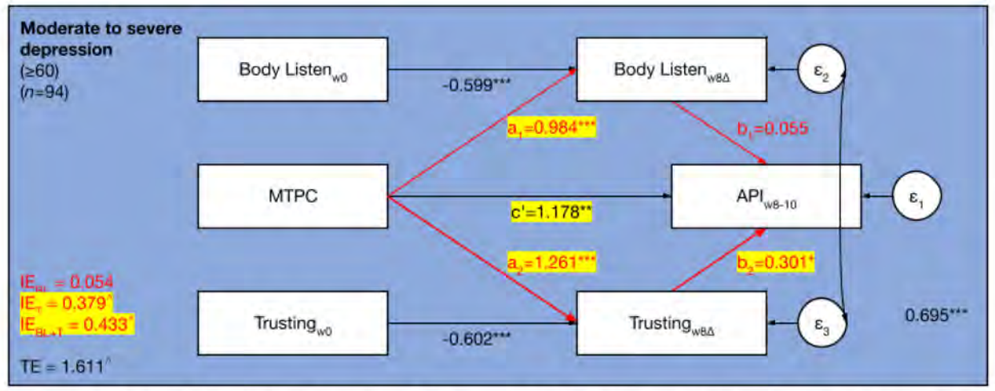
IE, indirect effect; TE, total effect; BL, body listen; T, trusting; *p<0.05; **p<0.01; ***p<0.001; ^95% CI did not cross critical value threshold; computed using bootstrap standard errors with the percentile method and 10,000 replications.

CHA Cambridge Health Alliance — HARVARD MEDICAL SCHOOL TEACHING HOSPITAL



IE, indirect effect; TE, total effect; BL, body listen; T, trusting; *p<0.05; **p<0.01; ***p<0.001; ^95% CI did not cross critical value threshold; computed using bootstrap standard errors with the percentile method and 10,000 replications.

CHA Cambridge Health Alliance | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL



IE, indirect effect; TE, total effect; BL, body listen; T, trusting; *p<0.05; **p<0.01; ***p<0.001; ^95% CI did not cross critical value threshold; computed using bootstrap standard errors with the percentile method and 10,000 replications.

CHA Cambridge Health Alliance | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Conclusions

- ***Interoceptive appreciation*** **partially mediates the effect of mindfulness on behavior change by helping people trust the body and listen to bodily signals that motivate change.**
- **The combined indirect effect of *interoceptive appreciation* (Body-Listen & Body-Trust) was greater than either individually (B=0.37, 95% CI=0.17-0.59).**
- **Among those without depression (n=62), Body-Listen alone was a significant MTPC-API mediator (B=0.40, 95% CI=0.02, 0.88).**
- **Among those with moderate-to-severe depression (n=94), Body-Trust was a significant MTPC-API mediator (B=0.38, 95% CI=0.02-0.082).**
- **In depression, feeling safe in and regaining trust with the body may be a key step on the mindful path towards change.**

CHA Cambridge Health Alliance | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Conclusions

- **MTPC is implementable in a diverse safety net health care system and is accessible to socio-economically and culturally diverse population in primary care in a safety net healthcare system.**
- **MTPC supports primary care patients with anxiety, depression, and stress related to living with chronic illness to be able to initiate health behavior change and chronic illness self-management behaviors.**
- **MTPC improves emotion regulation, especially in aspects related to acceptance of emotions, goal-directed behaviors, and emotion regulation strategies.**
- **MTPC increases insula activation during an interoceptive attention task among primary care patients with anxiety and depression.**
- **Change in insula activation during an interoceptive attention task is largest among those with depression who have an increase in body trust during MTPC**

CHA Cambridge Health Alliance | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Summer 2022

Mindfulness Training for Living Well

Continuing Education Credits (CEs) Available

Teresa Yeh, LCSW | Rohil Rajani

8-Week Course: Live online via Zoom. Wednesdays, 5:30 to 7:30pm (Eastern Time)
Dates: July 6, 13, 20, 27, August 3, 10, 17, and 24, 2022
Retreat: Live online via Zoom, Saturday, August 13, 2022, 9am-1pm (Eastern Time)
Regular Rate: $650, $50 Early Bird rate for registration before June 6
50% off for CHA staff and patients
Scholarships available

REGISTRATION

Mindfulness Training for Primary Care (MTPC): Group Leader Training

November 9-10, 14-15 and 17-18, 2022|Live Online

IFS(Internal Family Systems)

Richard Schwartz
Harvard University

IFS(Internal Family Systems) views the symptoms of mental health as various expressions of parts rather than pathological aspects. It presents a way that helps you understand how each part works together and how to heal the structural dynamics such as their functioning and conflicts, and alliances. This treatment can be particularly effective for those experiencing anxiety, depression, PTSD, and drug abuse-related trauma. IFS presents a new approach to the field of psychotherapy and counseling and provides numerous examples and techniques for meditation-based healing.

IFS (Internal Family Systems Model)

INTERNAL FAMILY SYSTEMS MODEL
Richard C. Schwartz, Ph.D.

Parts

A. Subpersonalities or aspects of our personality that interact internally in sequences and styles that are similar to the ways that people interact.

B. All parts are valuable and want to have a positive role. We are born with them or their potential - it is the nature of the mind to be subdivided. It is good to be multiple.

C. Parts become extreme and can be destructive because of life experiences.

Self

A. Different level of entity than the parts - the seat of consciousness. Unlike parts, is invisible because it is the Self who is observing.

B. The Self contains qualities like compassion, confidence, curiosity, and perspective; i.e., qualities of good leadership. Everyone has such a Self, but it can be obscured by the extremes of parts.

Basic Goals

A. To release parts from their extreme roles so they can find and adopt their preferred, valuable roles.

B. To differentiate client's Self so Self can help harmonize and balance their inner and outer life.

Assumptions

A. As we develop, our parts form a complex system of interaction with polarizations and alliances. Systems theory and technology can be applied to the internal system. When the system reorganizes, parts can change rapidly.

B. Changes in the internal system will affect changes in the external system and vice versa. One can work with either to change the other.

Using the Model

A. Assess external system to make sure it is safe to do work.

B. Introduce language, ask about relationship with different parts, ask about what person would like to change.

C. Work with managers first; discuss their fears and how they can be addressed; form collaborative relationship with them; and respect their pace.

D. Ask about and defuse any dangerous firefighters.

E. With permission of managers, begin working with exiles - retrievals and unburdening.

F. After each retrieval, ask how everyone is doing.

G. Throughout, keep your parts from interfering, and have client help you.

Three-Group Model of Common Parts Roles

A. Exiles: Young, vulnerable parts that have experienced trauma and are isolated from the rest of the system for their own and the system's protection. Exiles carry the memories, sensations, and emotions of the events and are stuck in the past.

B. Managers: Parts that run the day-to-day life of the person trying to keep exiles exiled by staying in control of events or relationships, being perfect and pleasing, caretaking, scaring the person out of taking risks by criticizing, apathy, worry,

C. Firefighters: Parts that react when exiles are activated in an effort to extinguish their feelings or dissociate the person from them. Common firefighter activities include: drug or alcohol use, self mutilation (cutting), binge-eating, sex binges, suicidal ideation, and rage. They have the same goals as managers (to keep exiles away), but different, more impulsive strategies.

Selected IFS Readings:

Nichols, M. and Schwartz, R. Family Therapy Concepts and Methods. 6th Edition, Allyn & Bacon, New York, 2004

Goulding, R. and Schwartz, R. The Mosaic Mind: Empowering the Tormented Selves of Child Abuse Survivors. Trailheads Publications, Oak Park, 2002

Schwartz, R. Introduction to the Internal Family Systems Model. Trailheads Publications, Oak Park, 2001

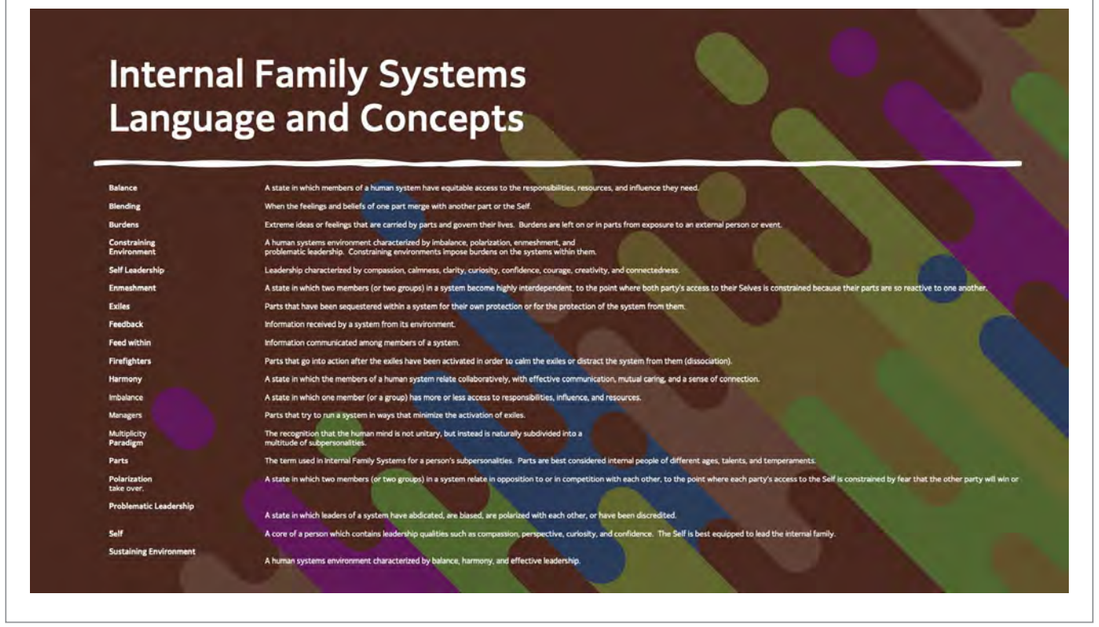
Schwartz, R. Internal Family Systems Therapy. Guilford, New York, 1995

Breunlin, D., Schwartz, R., and Karrer, B. Metaframeworks: Transcending the Models of Family Therapy. Jossey Bass, San Francisco, 1992

Schwartz, R. (1992) Rescuing the exiles. Family Therapy Networker, May-June

Schwartz, R. (1988) Know they selves. Family Therapy Networker, 12, 21-29

Schwartz, R. (1987) Our multiple selves. Family Therapy Networker, 11, 24-31



CBCT(Cognitively-Based Compassion Training)

Timothy Harrison
Emory University

CBCT(Cognitively-Based Compassion Training) includes training that improves attentional stability, emotional awareness, and analytical reflection that helps you better understand yourself and your relationships with others.
It supports individual resilience, promotes a comprehensive and accurate understanding of others, and ultimately strengthens altruistic motivation. It forms new relationships with your experiences through affection and compassion, which are more positive ways to benefit yourself and others.

CBCT® Theory of Change

from contemplative science and neuroscience perspectives

Timothy Harrison, Associate Director for CBCT®

Seoul International Meditation Expo, Dongguk University, Korea
June 17, 2022, 2 pm – 3 pm Korea (1 am – 2 am Eastern US)

THE COMPASSION SHIFT
CBCT Compassion Training
Center for Contemplative Science and Compassion-Based Ethics
EMORY UNIVERSITY

THE EMORY COMPASSON CENTER

THE COMPASSION SHIFT
Center for Contemplative Science and Compassion-Based Ethics
EMORY UNIVERSITY

CBCT ® – Cognitively-Based Compassion Training
A research-based series of contemplative exercises to cultivate tools for self-awareness, well-being, and compassion in adults and young adults.

SEE Learning ® – Social Emotional and Ethical Learning
A comprehensive framework and curriculum to teach awareness and compassion to children in educational settings across the globe.

ETSI - Emory-Tibet Science Initiative
Translating and teaching western science in Tibetan monastic institutions.

Higher Education
Emory University academic offerings.

Research
Scientific investigations of body and mind.

THE EMORY COMPASSON CENTER

THE COMPASSION SHIFT
Center for Contemplative Science and Compassion-Based Ethics
EMORY UNIVERSITY

VISION
A compassionate and ethical world for all.

MISSION
To promote human flourishing by developing educational programs, facilitating dialogue, and engaging in research.

UNDERSTANDING COMPASSION

THREE ASPECTS

Affective
Feeling of warm-heartedness or closeness

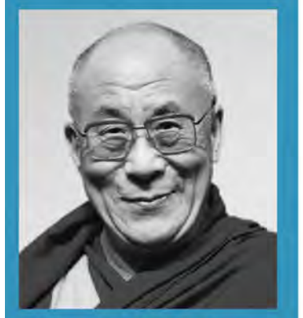
Cognitive
Awareness or understanding of someone's suffering

Motivational
Desire or wish to alleviate the suffering

a **warm-hearted concern** that unfolds when we witness the suffering of others and feel motivated to relieve it

CBCT Compassion Training

EXPANDING COMPASSION

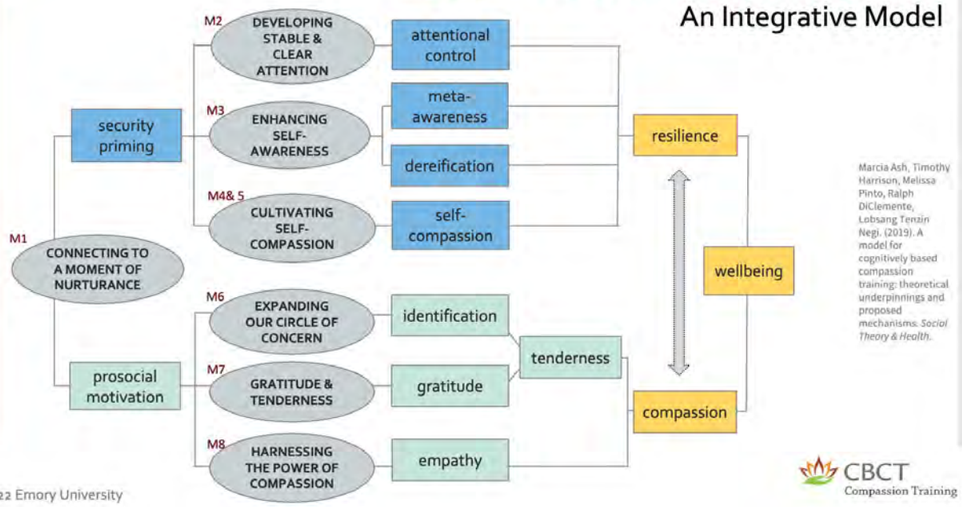


His Holiness the Dalai Lama and Rasmus Hougaard
Harvard Business Review

The ultimate source of a happy life is warm-heartedness. Even animals display some sense of compassion. When it comes to human beings, compassion can be combined with intelligence. Through the application of reason, compassion can be extended to all seven billion human beings.

CBCT Compassion Training

CBCT® TRAINING COMPASSION
An Integrative Model



Marcia Ash, Timothy Harrison, Melissa Pinto, Ralph DiClemente, Lobsang Tenzin Negi. (2019). A model for cognitively based compassion training: theoretical underpinnings and proposed mechanisms. *Social Theory & Health*.

CBCT Compassion Training

ORIGINS of CBCT®

My hope is that someday society will see compassion to be as valuable and essential to a good life as clean water.

Prof. Lobsang Tenzin Negi

- Developed as a protocol in 2005 for research at Emory University by **Lobsang Tenzin Negi**, PhD, former monk and Executive Director of the Center for Contemplative Science and Compassion-Based Ethics.
- Drawn from the ***lo jong*** ("mind training") tradition of Indo-Tibetan Buddhism, combined with insights emerging from evolutionary psychology, neurobiology of emotions, and social sciences.
- Secularized so that the practices are available to individuals of any – or no - faith tradition.

CBCT Compassion Training

CBCT RESEARCH HIGHLIGHTS

1. Pace et al., *Psychoneuroendocrinology, 2008*
2. Pace, Negi, Raison, et al. *Psychoneuroendocrinology*, July 2, 2012
3. Mascaro et al. *Social Cognitive and Affective Neuroscience*, 2012
4. Pace et al. *BMC Complementary and Alternative Medicine*, 12(Suppl 1):P175, 2012
5. Reddy, Negi, Raison, et al. *Journal Child Family Studies*, February 21, 2012
6. Mascaro et al. *Journal of Positive Psychology*, 2016
7. DesBordes et al., *Frontiers in Human Neuroscience*, 2012
8. Dodds, et al. *Support Care Cancer*, 2015
9. Lang et al. *Mindfulness*. 2017
10. Gonzalez-Hernandez et al. *Integrative Cancer Therapies*. 2018.
11. Ash et al. *Journal of Healthcare Chaplaincy*. 2020.
12. Kolchraiber et al. *SciELO Brasil*. 2022.
13. Sun et al. *Mindfulness*. 2019.
14. *Titanji et al.* Journal of Acquired Immune Deficiency Syndrome. 2021.
15. Fernandez-Carriba, et al. *Mental Health in Family Medicine*. 2019.
16. Aguilar-Raab et al. *BMJ Open*. 2018.

Research populations

- Patients with HIV [14]
- Patients with PTSD [9]
- African-American suicide attempters [13]
- Cancer survivors (US, Spain) [8,10]
- Hospital chaplains [11]
- Medical students [6]
- Depressed patients and supportive partners (Germany) [16]
- Marginalized women (Brazil) [12]
- Parents of children with autism [15]

Significant decrease:

- stress biomarkers and inflammatory response [1,2,4,5,14]
- depression [6,9]
- loneliness [6]
- PTSD symptoms [9]

Significant increase:

- compassion and related neural activity [6,7]
- empathy and related neural activity [3]
- self-compassion [10,13,14]
- hopefulness [5]

CBCT Compassion Training

CBCT THEORY OF CHANGE

Cognitive Strategies for Emotion Regulation

Craig Moodie, et al, with James Gross.

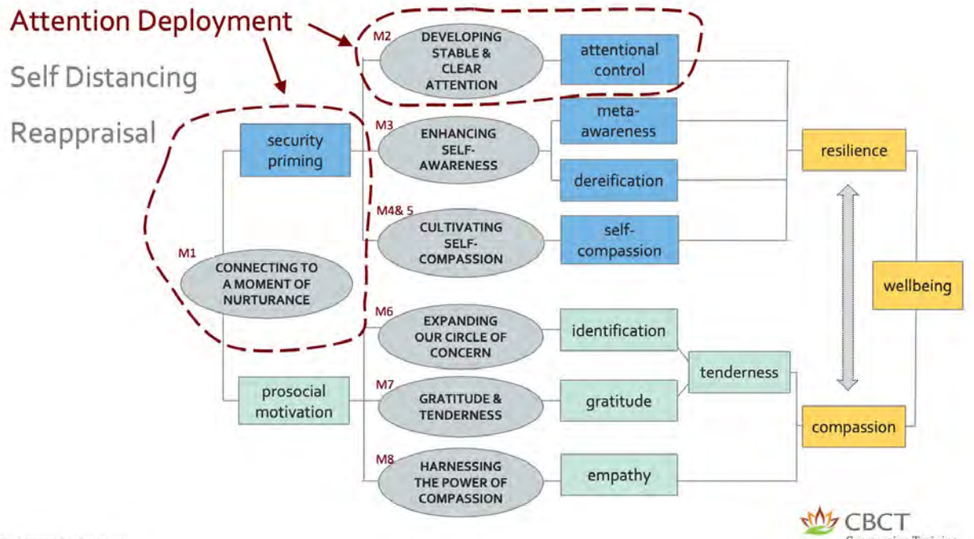
Cognitive, Affective, & Behavioral Neuroscience, 2020

- Attention deployment
- Self distancing
- Reappraisal

"One of the reasons that cognition is so useful a part of the mental arsenal is that it allows this shift from reaction to action. The survival advantages that come from being able to make this shift may have been an important ingredient that shaped the evolutionary elaboration of cognition in mammals and the explosion of cognition in primates."

- Joseph LeDoux, *The Emotional Brain*, 1996

CBCT Compassion Training



© 2022 Emory University

CBCT Compassion Training

CBCT THEORY OF CHANGE

Cognitive Strategies for Emotion Regulation

Craig Moodie, et al, with James Gross.

Cognitive, Affective, & Behavioral Neuroscience, 2020

- Attention deployment — *Modules 1 and 2*
- Self distancing — *Module 3*
- Reappraisal — *Modules 4 through 8*

"As an **attention deployment**, distraction involves directing attention towards the non-emotional aspects of a situation, away from the emotion eliciting situation altogether, or changing the object of one's internal locus."

CBCT Compassion Training

© 2022 Emory University

CBCT THEORY OF CHANGE

Cognitive Strategies for Emotion Regulation

Craig Moodie, et al, with James Gross.

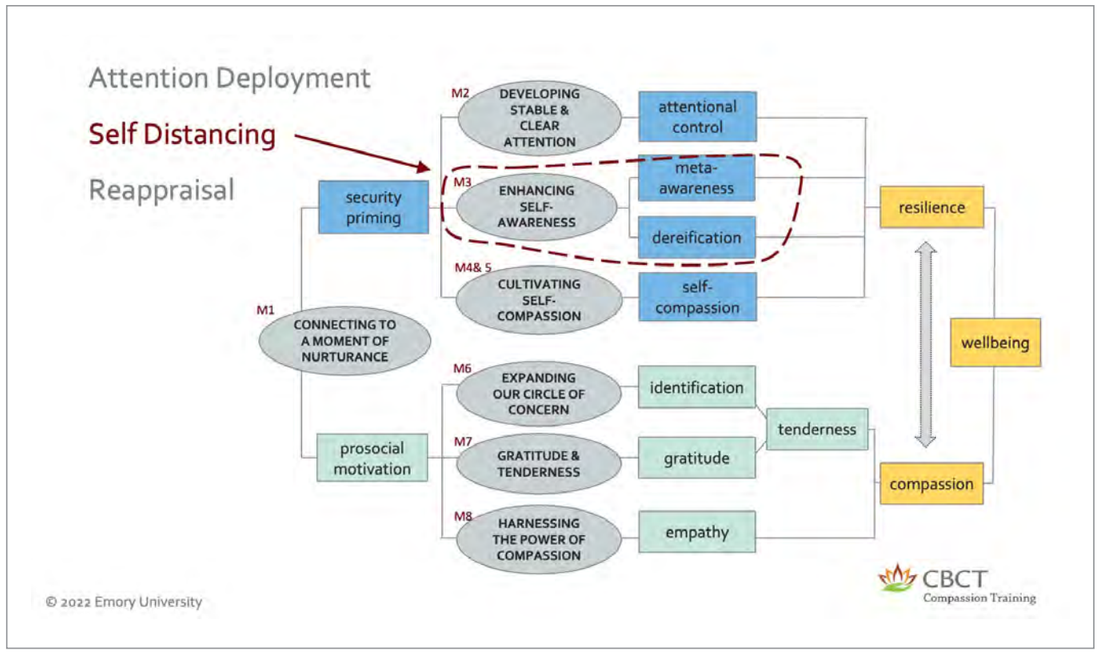
Cognitive, Affective, & Behavioral Neuroscience, 2020

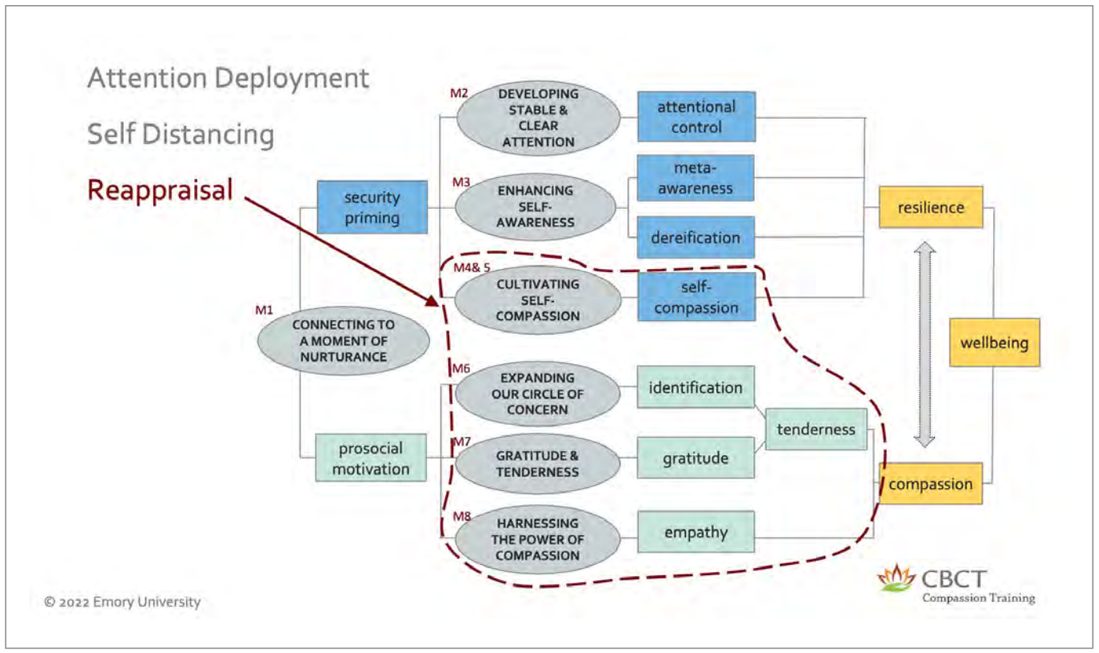
- Attention deployment — *Modules 1 and 2*
- Self distancing — *Module 3*
- Reappraisal — *Modules 4 through 8*

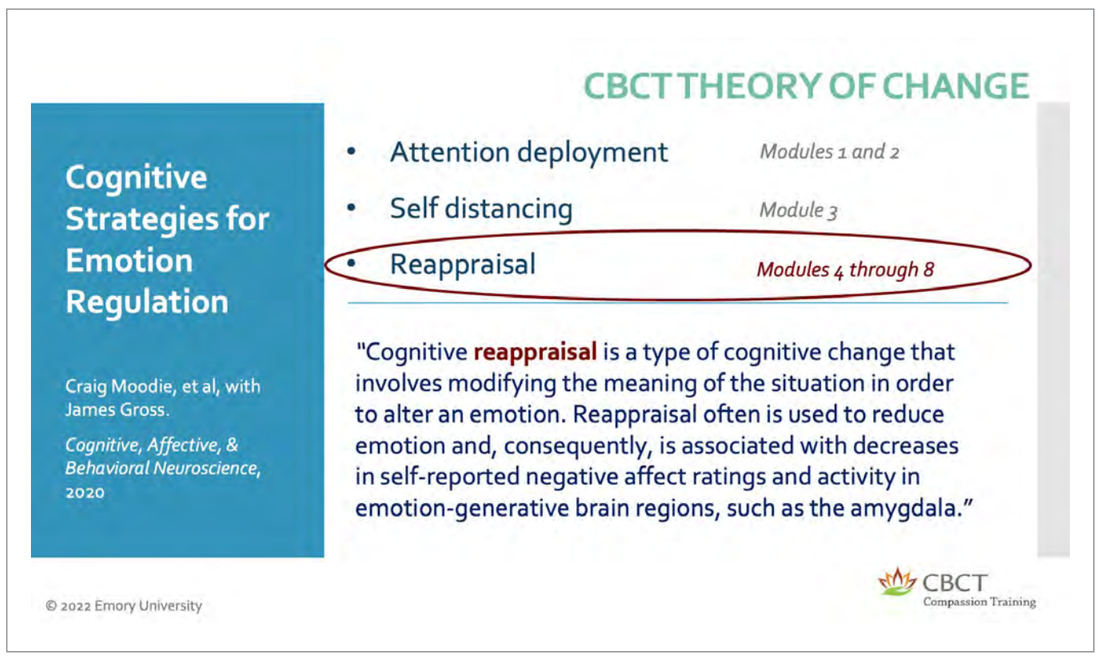
"On the continuum of cognitive regulation strategies, **self-distancing** is thought to lie between cognitive change and attentional deployment. The mechanism of self-distancing operates by individuals separating themselves from the reality of the situation by taking the perspective of a detached and objective observer, such as a doctor treating a patient or a film director observing a scene."

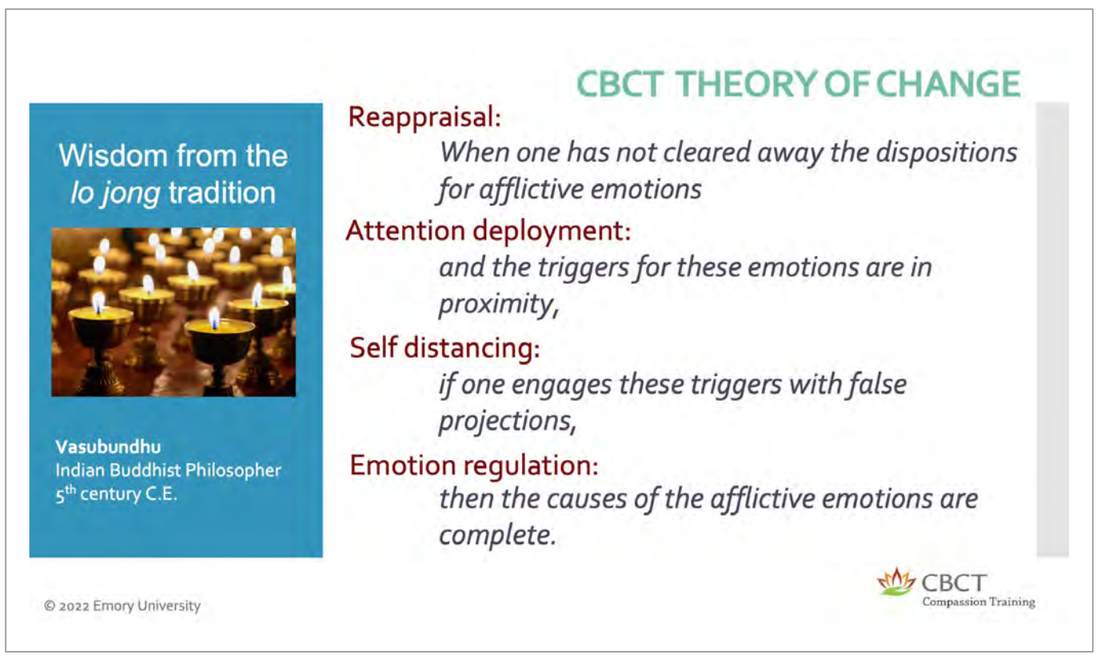
CBCT Compassion Training

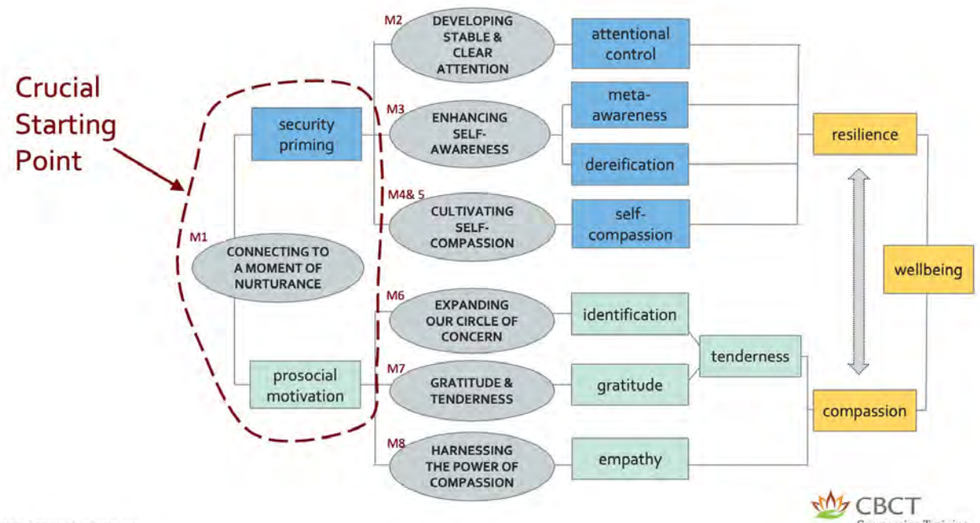
© 2022 Emory University


Attention Deployment
Self Distancing
Reappraisal
M2
DEVELOPING STABLE & CLEAR ATTENTION
attentional control
M3
ENHANCING SELF-AWARENESS
meta-awareness
dereification
M4& 5
CULTIVATING SELF-COMPASSION
self-compassion
security priming
M1
CONNECTING TO A MOMENT OF NURTURANCE
M6
EXPANDING OUR CIRCLE OF CONCERN
identification
tenderness
prosocial motivation
M7
GRATITUDE & TENDERNESS
gratitude
M8
HARNESSING THE POWER OF COMPASSION
empathy
resilience
wellbeing
compassion
© 2022 Emory University
CBCT Compassion Training


Attention Deployment
Self Distancing
Reappraisal
M2
DEVELOPING STABLE & CLEAR ATTENTION
attentional control
M3
ENHANCING SELF-AWARENESS
meta-awareness
dereification
M4& 5
CULTIVATING SELF-COMPASSION
self-compassion
security priming
M1
CONNECTING TO A MOMENT OF NURTURANCE
M6
EXPANDING OUR CIRCLE OF CONCERN
identification
tenderness
prosocial motivation
M7
GRATITUDE & TENDERNESS
gratitude
M8
HARNESSING THE POWER OF COMPASSION
empathy
resilience
wellbeing
compassion
© 2022 Emory University
CBCT Compassion Training


CBCT THEORY OF CHANGE
Cognitive Strategies for Emotion Regulation
Craig Moodie, et al, with James Gross.
Cognitive, Affective, & Behavioral Neuroscience, 2020
• Attention deployment Modules 1 and 2
• Self distancing Module 3
• Reappraisal Modules 4 through 8
"Cognitive reappraisal is a type of cognitive change that involves modifying the meaning of the situation in order to alter an emotion. Reappraisal often is used to reduce emotion and, consequently, is associated with decreases in self-reported negative affect ratings and activity in emotion-generative brain regions, such as the amygdala."
© 2022 Emory University
CBCT Compassion Training


CBCT THEORY OF CHANGE
Wisdom from the lo jong tradition
Vasubundhu
Indian Buddhist Philosopher
5th century C.E.
Reappraisal:
When one has not cleared away the dispositions for afflictive emotions
Attention deployment:
and the triggers for these emotions are in proximity,
Self distancing:
if one engages these triggers with false projections,
Emotion regulation:
then the causes of the afflictive emotions are complete.
© 2022 Emory University
CBCT Compassion Training



INSIGHT ACTIVITY

DISCUSSION
The importance of safety and nurturance

From this exercise, what did you learn or notice about the importance of compassion and nurturance?

CBCT Compassion Training

INSIGHT ACTIVITY

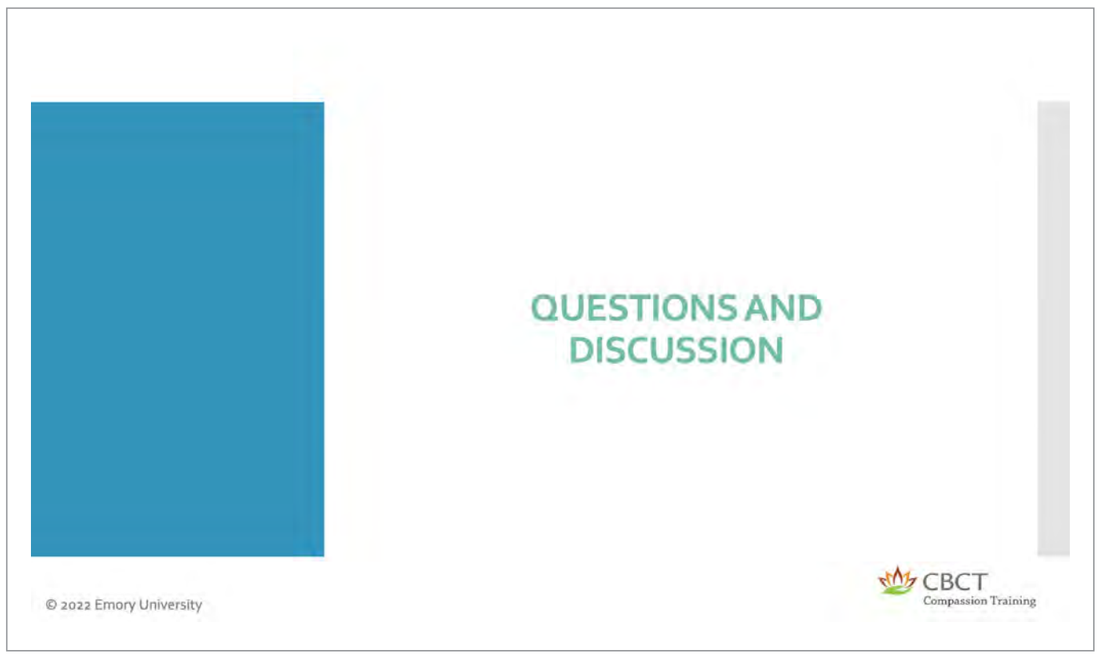
REFLECTION
The importance of safety and nurturance

- List a few moments when you have felt especially safe, seen, or valued.
- Choose one such experience and recall the details, sensations, and factors that led to these feelings.
- How did this moment impact your relationships or other aspects of your life, such as your level of confidence, motivation, trust, or joy?
- What if we never had such moments? How important is it for our world that we all have access to safety and nurturance?

CBCT Compassion Training

REFLECTIVE PRACTICE

CBCT Compassion Training



The Effects of Meditation on the Nervous System of Social Cognition and the Emotional Base

Tania Singer
Scientific head of the Social Neuroscience Lab of the Max Planck

Tania Singer is a German social neuroscientist and psychologist and a world expert in the study of empathy, compassion, and mental training practices. She is the Scientific Director of the Max Planck Institute for Social Neuroscience in Germany, served as the First President and Co-Director of Social Neuroscience and Neuroeconomics in Zurich from 2007 to 2010, and served as Director of the Department of Social Neuroscience at the Max Planck Institute for Human and Cognitive Brain Sciences from 2010 to 2019. Her research focuses on human social emotions such as fairness, empathy, compassion, and the underlying hormones and behaviors. She developed the framework of 'The Economics of Caring' with Professor Dennis Snow and is currently conducting a large-scale Covid19-related study of the mental health and social cohesion of Berlin citizens.

Effects of Meditation on the Neural System Underlying Social Cognition and Emotion

Prof. Dr. Tania Singer

SOCIAL NEUROSCIENCE LAB

Dissecting the Social Brain, Empathy, Compassion and Theory of Mind

Objectives

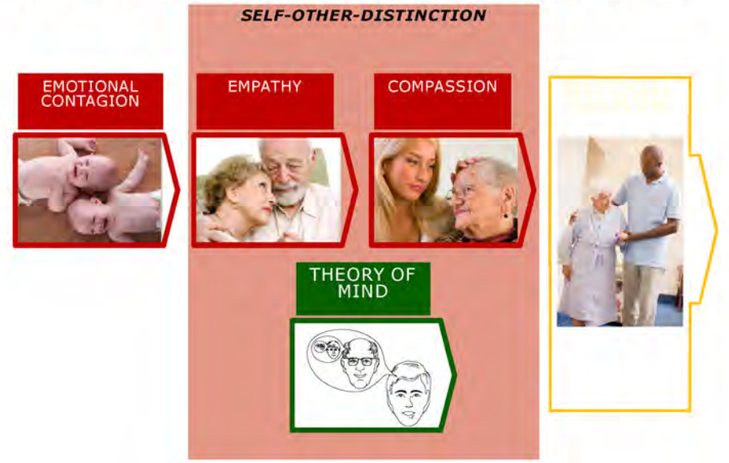
Dissecting the Social Brain: Theory of Mind, Empathy, and Compassion

The *ReSource Project*: An Example for an Integrative and Multi-Method Longterm Mental Training Study

Differential Training Effects on: Social Cognition, Brain Plasticity, Stress, Body Awareness and Prosociality

The CovSocial Project and Transfer into Society

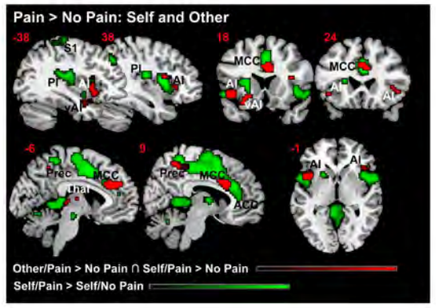
Different Routes to the Understanding of Others



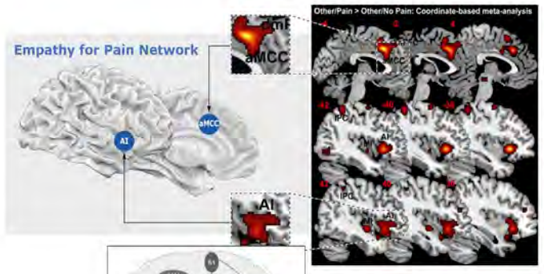
Singer (2012). NeuroImage; Bernhardt & Singer (2012). Ann Rev Neurosci; De Vignemont & Singer (2006). TICS

Empathy: The Shared Network Hypothesis

The Pain Matrix



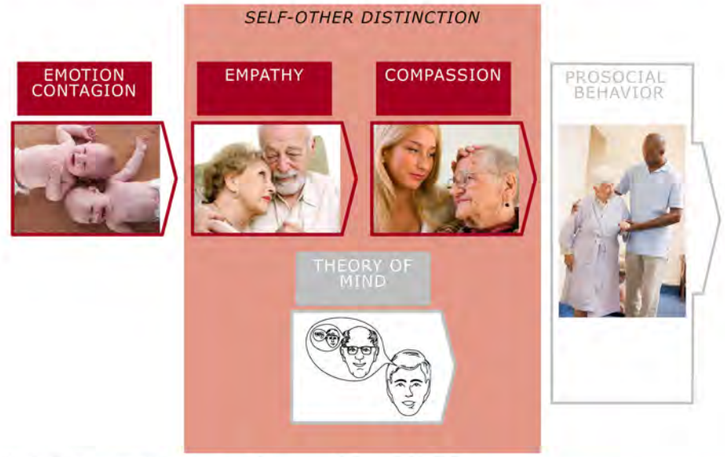
Empathetic Brain Reactions on the Pain of Others



Pain Matrix

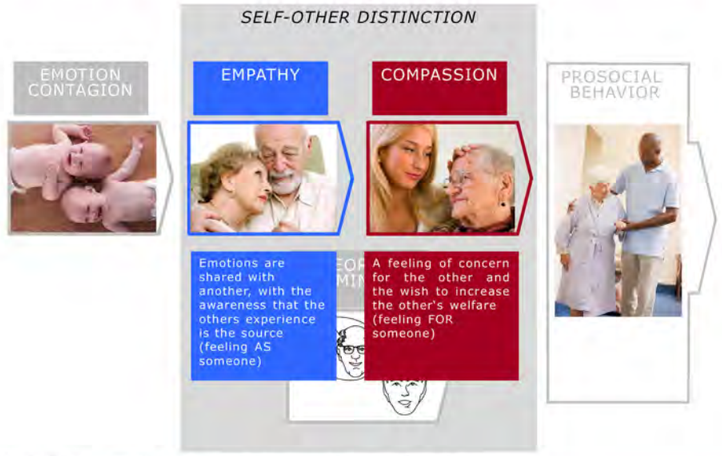
Lamm, Decety, & Singer (2011). NeuroImage; Singer (2012). Neuroimage.

Different Routs to the Understanding of Others



Singer (2012). NeuroImage; Bernhardt & Singer (2012). AnnRevNeurosci; De Vignemont & Singer (2006). TICS

Different Routes to the Understanding of Others

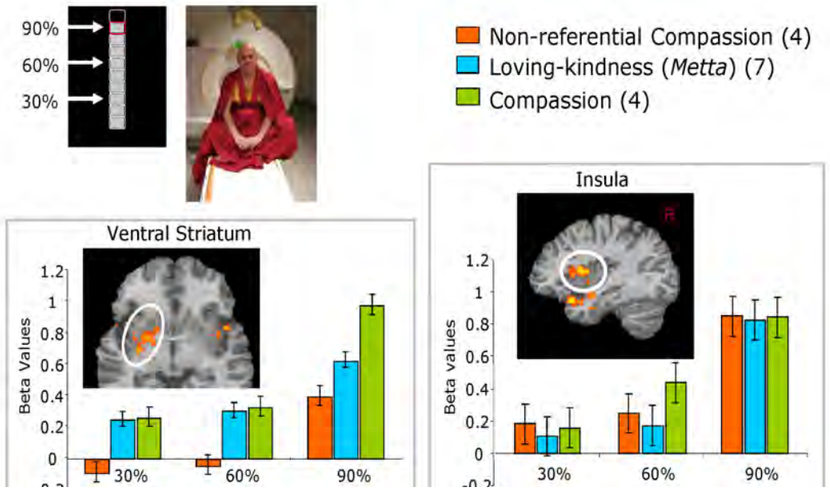


Singer (2012). NeuroImage; Bernhardt & Singer (2012). AnnRevNeurosci; De Vignemont & Singer (2006). TICS

Monks in the lab

Mind & Life Conference 2007, Dharamsala

Studying Experts in Compassion Meditation



Empathy, Empathic Distress, and Compassion

Empathy

- Compassion
  - Other-related Emotion
  - Positive Feelings: Love
  - Good Health
  - Prosocial Motivation
- Empathic Distress
  - Self-related Emotion
  - Negative Feelings: Stress
  - Poor Health, Burnout
  - Withdrawal

Klimecki et al. (2013). Cereb Cortex; Leiberg et al. (2011). PLoS ONE; Klimecki et al. (2014). SCAN; Klimecki & Singer (2012). In: Pathological altruism. New York: Oxford University Press

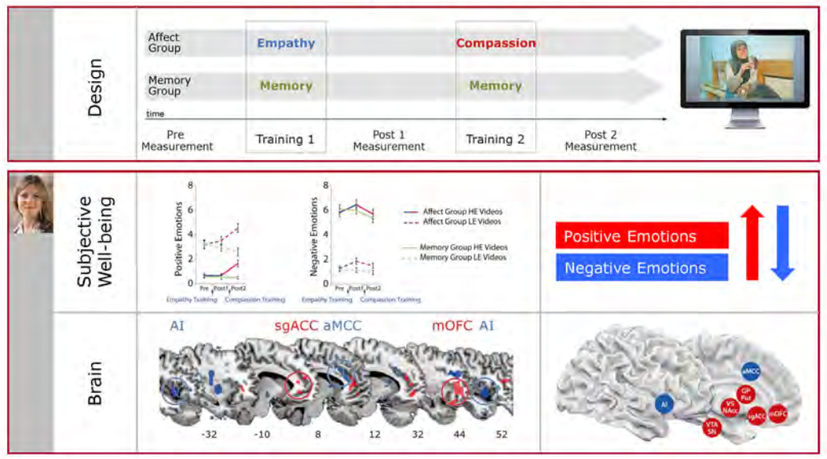
Empathy, Empathic Distress, and Compassion

Empathy

- Compassion
  - Other-related Emotion
  - Positive Feelings: Love
  - Good Health
  - Prosocial Motivation
- Empathic Distress
  - Self-related Emotion
  - Negative Feelings: Stress
  - Poor Health, Burnout
  - Withdrawal

Klimecki et al. (2013). Cereb Cortex; Leiberg et al. (2011). PLoS ONE; Klimecki et al. (2014). SCAN; Klimecki & Singer (2012). In: Pathological altruism. New York: Oxford University Press

Empathy vs. Compassion



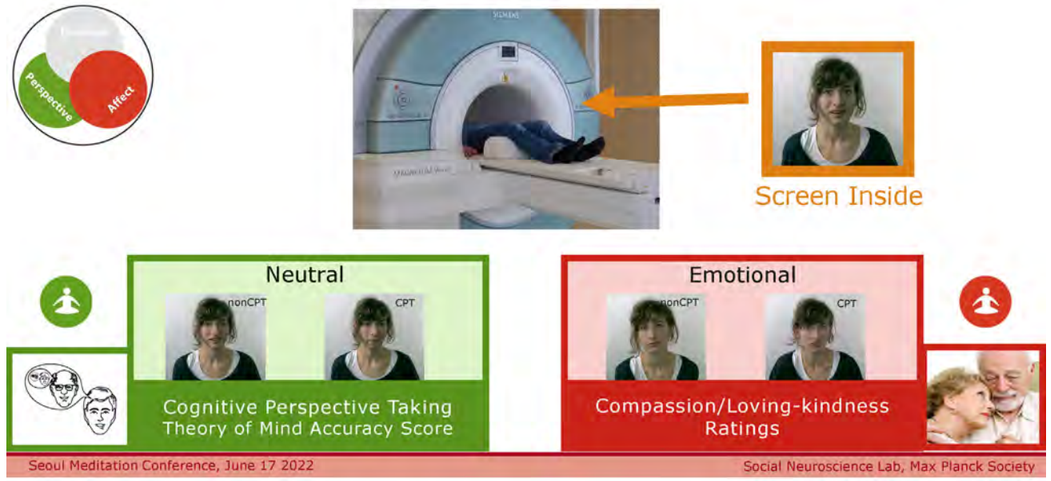
Klimecki et al. (2014). SCAN

Theory of Mind, Perspective Taking or Mentalizing

Different Routes to the Understanding of Others

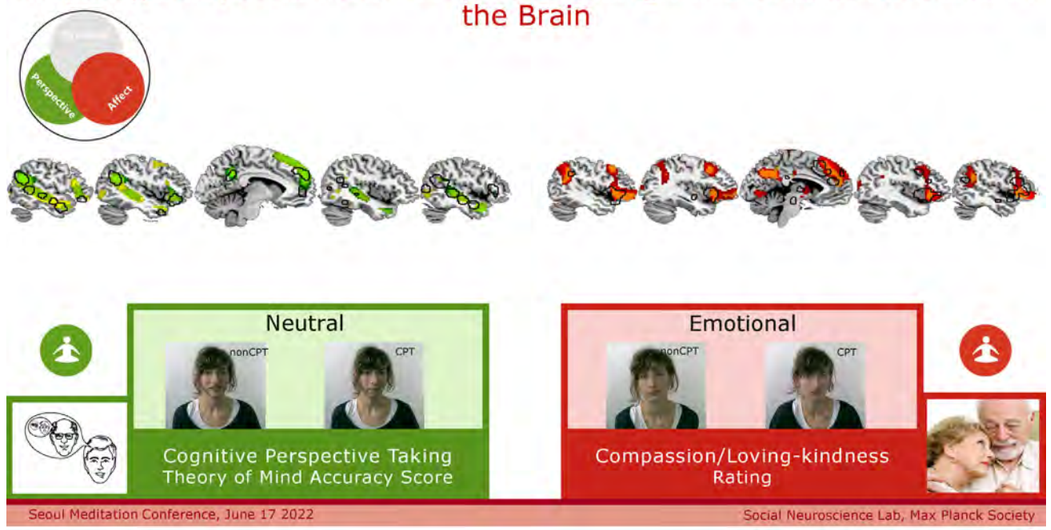
Singer (2012). NeuroImage; Bernhardt & Singer (2012). Ann Rev Neurosci; De Vignemont & Singer (2006). TICS

How do We Measure Brain Responses of Empathy/Compassion and Perspective Taking?



Perspective Taking Needed to Move into Global Compassion

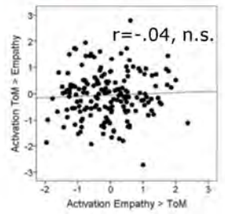
Empathy/Compassion and Perspective Taking Have Distinct Networks in the Brain



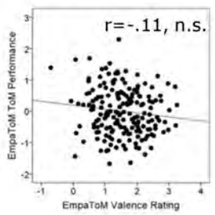
Independency of Networks

ToM effect questions > Empathy effect videos
Empathy effect videos > ToM effect questions

Specific contrasts



Behavioral measures



Kanske, Böckler*, Trautwein*, Singer (2015). NeuroImage *contributed equally*

These socio-affective / socio-cognitive abilities are based on different networks

SELF-OTHER DISTINCTION

EMPATHY

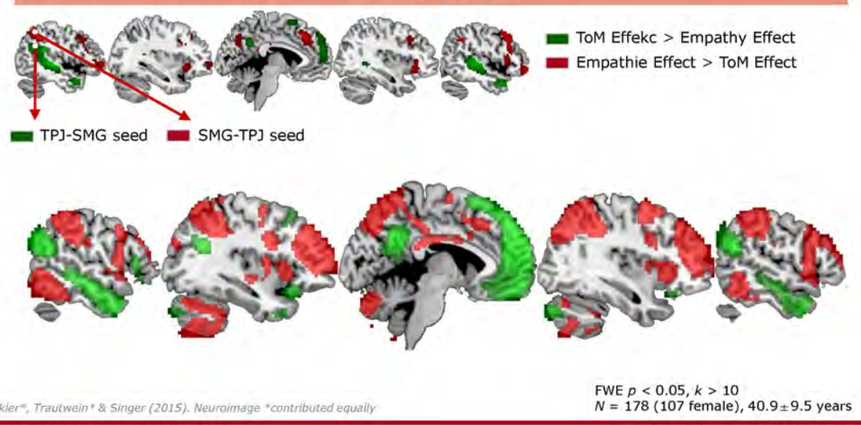
COMPASSION

THEORY OF MIND

PROSOCIAL BEHAVIOR

연민 The EmpaToM – *ReSource* Resting State Validation

Empathy and ToM



FWE $p < 0.05$, $k > 10$
N = 178 (107 female), 40.9±9.5 years

Kanske, Böckler*, Trautwein* & Singer (2015). Neuroimage *contributed equally*

Two Mental Training Studies

The ReSource Project

9-month intensive in-person mental training study

European Research Council
Established by the European Commission

COVSOCIAL

10-weeks online mental training study

Partner

MAX PLANCK

Berlin University Alliance

CHARITÉ

Global Problems

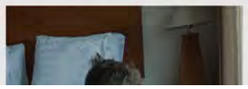
Loneliness

Stress

Individualism/Narcisism

Climate Crisis

Depression



Poverty

The ReSource Project

A One-Year longitudinal Training Study to induce Plasticity in the Social Brain

European Research Council
Established by the European Commission

SOCIAL NEUROSCIENCE LAB

Seoul Meditation Conference, June 17 2022 — Social Neuroscience Lab, Max Planck Society

Aims

Social Connectedness

Social Skills

Global Cooperation

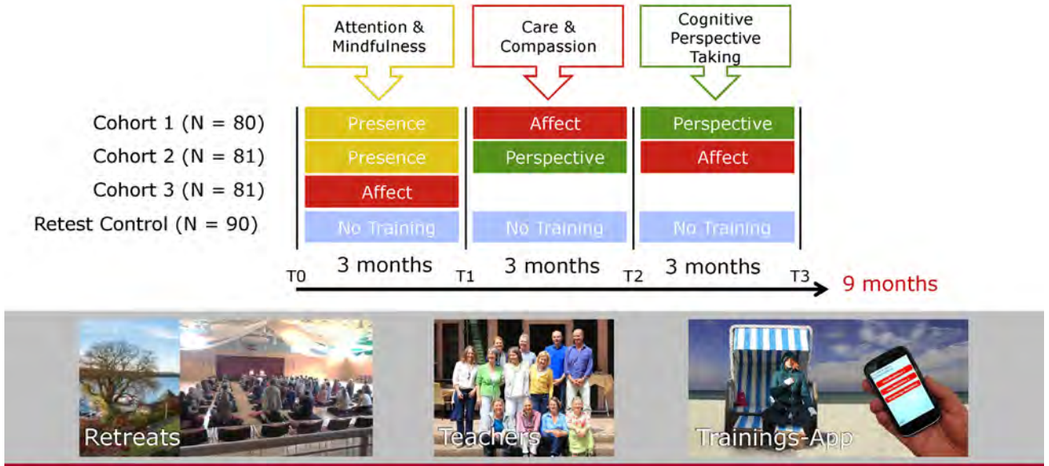
Shared Humanity

Mental Health

Stress Reduction

Seoul Meditation Conference, June 17 2022 — Social Neuroscience Lab, Max Planck Society

The Design of the *ReSource* Project



Seoul Meditation Conference, June 17 2022 — Social Neuroscience Lab, Max Planck Society

The *Resource* Model

- Attention
- Interoceptive Awareness

The Core Exercises

- Breathing Meditation
- Body Scan

Presence

Seoul Meditation Conference, June 17 2022 Social Neuroscience Lab, Max Planck Society

The *ReSource* Model

- Attention
- Interoceptive Awareness

The Core Exercises

- Breathing Meditation
- Body Scan

- Meta-Cognition
- Perspective taking on Self
- Perspective taking on Others

The Core Exercises

- Observing-thoughts Meditation
- Perspective Dyad

Presence
Perspective
Affect

- Care / Compassion / Gratitude
- Prosocial Motivation
- Dealing with difficult Emotions

The Core Exercises

- Loving-kindness Meditation
- Affect Dyad

Seoul Meditation Conference, June 17 2022 Social Neuroscience Lab, Max Planck Society

The *ReSource* Model

- Attention
- Interoceptive Awareness

The Core Exercises

- Breathing Meditation
- Body Scan

Presence
Affect

- Care / Compassion / Gratitude
- Prosocial Motivation
- Dealing with difficult Emotions

The Core Exercises

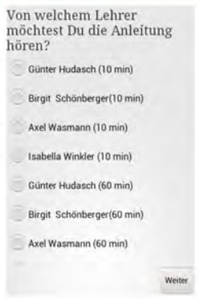
- Loving-kindness Meditation
- Affect Dyad

Seoul Meditation Conference, June 17 2022 Social Neuroscience Lab, Max Planck Society

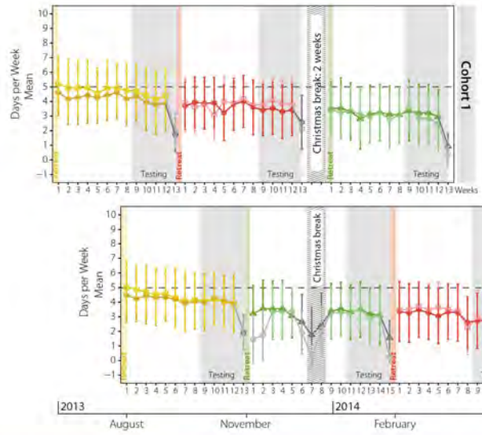
Daily Practice via
Internet-Platform and Smartphone App

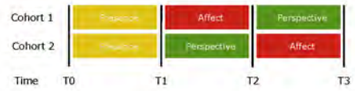
Seoul Meditation Conference, June 17 2022 Social Neuroscience Lab, Max Planck Society

Daily Excercises via a Smartphone App



Practice of the Core Exercises of both Cohorts

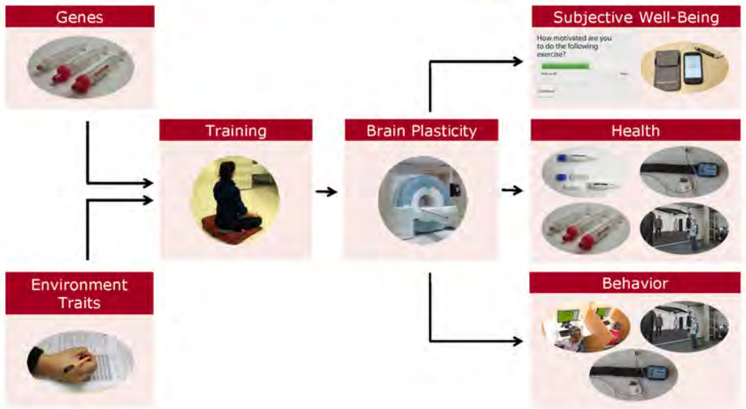




Total dropout during the Training Phases (T0–T3)
7.83 %

- Breathing Meditation
- Body Scan
- Loving–kindness Meditation
- Observing–thoughts Meditation
- Affect Dyad
- Perspective Dyad

The *ReSource* Design



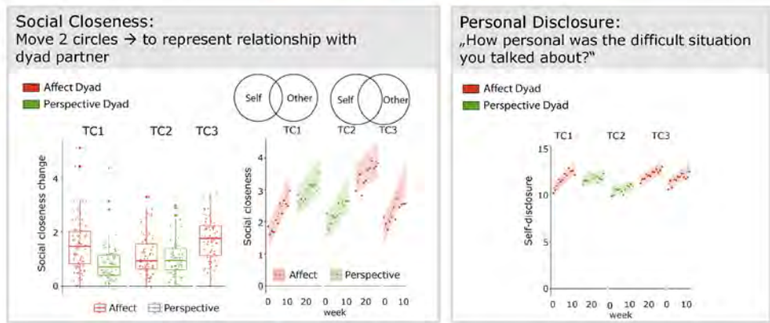
- 10 MRI Paradigms
- 4 Virtual Scenarios
- 10 Computer Paradigms
- 5 Economic Games
- 5 Paradigms for ANS
- 9+ Biological Measures
- 49 Trait Questionnaires
- Several other Questions
- Experience Sampling

Σ > 90 Measures

Contemplative Dialogues
Dyadic Exercises

Contemplative Dyadic Practices: Life and Online via App

Changes in Social Closeness & Personal Disclosure over Time



Kok & Singer (2017), JAMA Psychiatry

Contemplative Dyads

Affect Dyad

- Empathic Listening
- Accepting difficult emotions
- Gratitude/Care/Self-comapssion
- Interoceptive Body Awareness
- Social Closeness and Connectedness

Perspective Dyad

- Meta-Cognition on thoughts
- The inner Observer
- Inner Part Work (IFS)
- Perspective on Self and ohters (ToM)
- Social Closeness & Connectedness

Dyads and Intersubjectivity

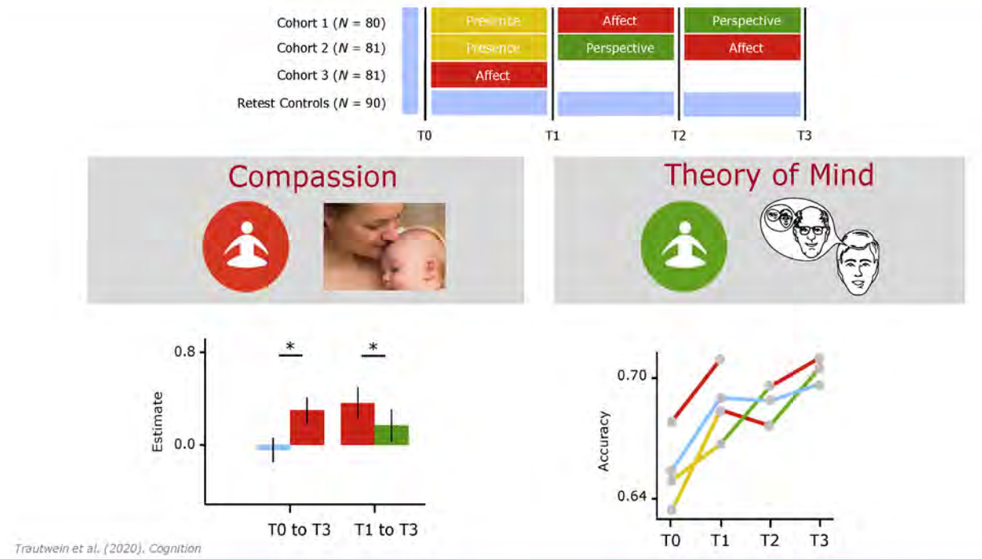
- Participants liked the Dyadic Exercises
- Participants practiced the Dyadic Exercises

Interdependence
Shared Humanity

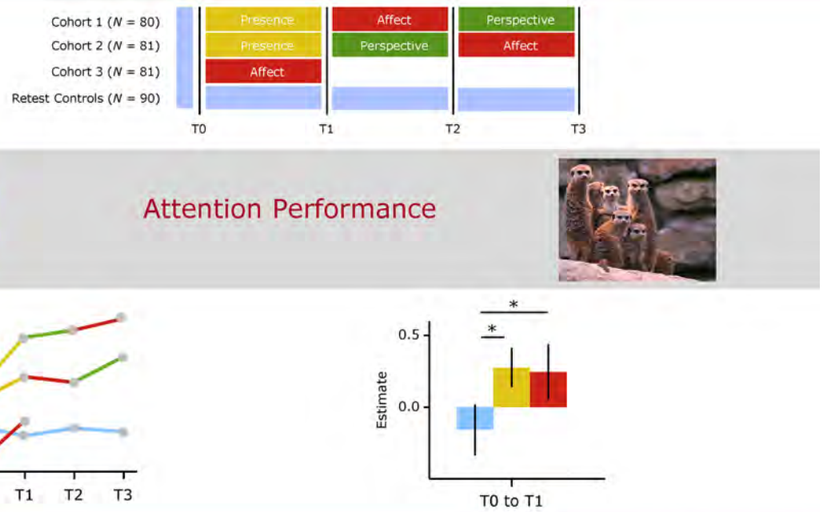
Social Closeness

Changes in Attention, Compassion, Cognitive Perspective Taking and Cortical Thickness after Mental Training

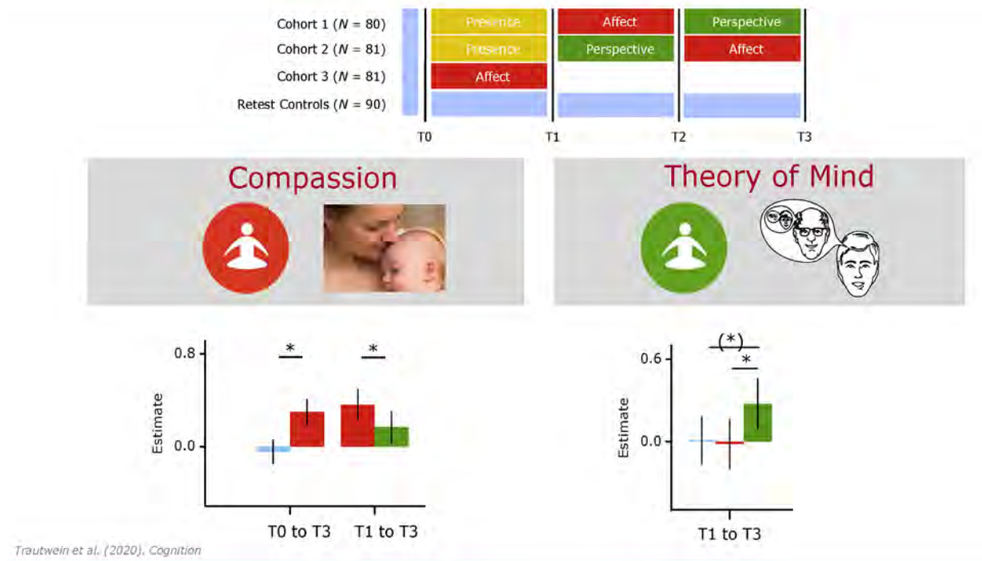
Valk et al. (2017). SciAdv; Trautwein et al. (2020). Cognition.



Trautwein et al. (2020). Cognition

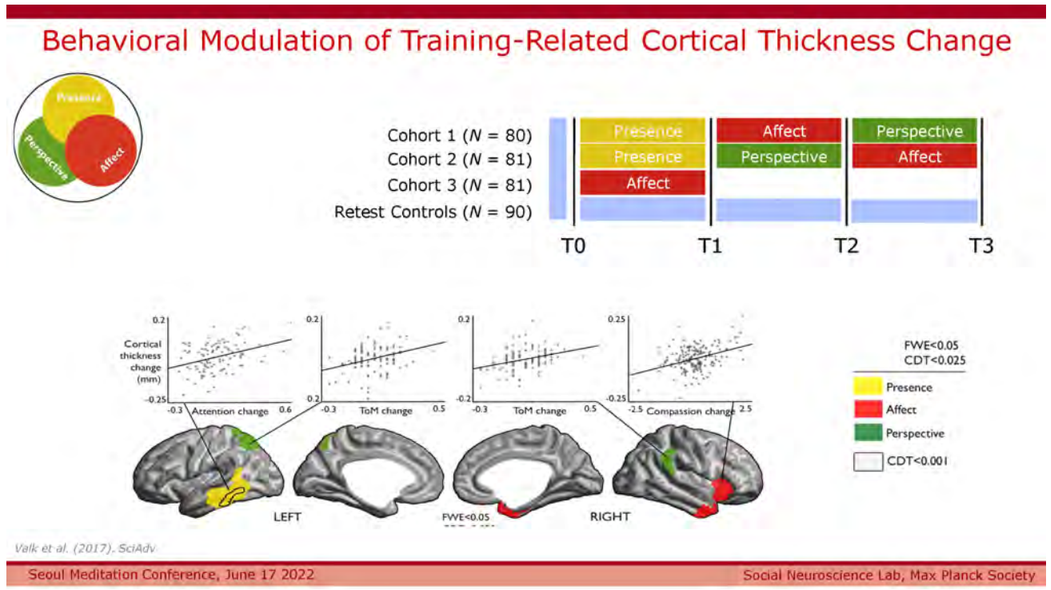


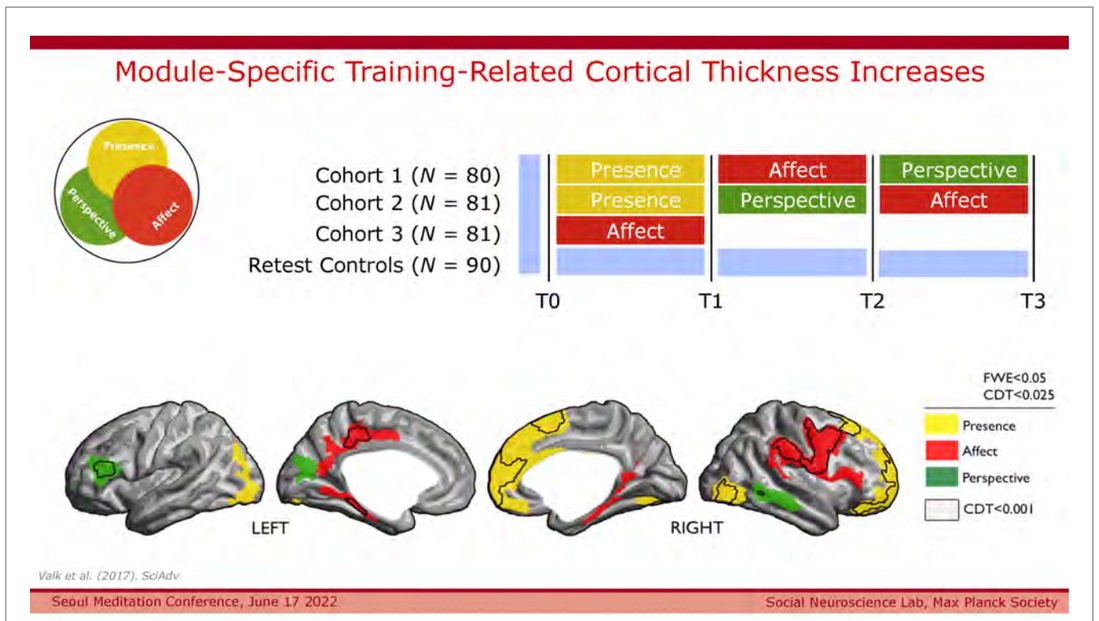
Trautwein et al. (2020). Cognition



Trautwein et al. (2020). Cognition

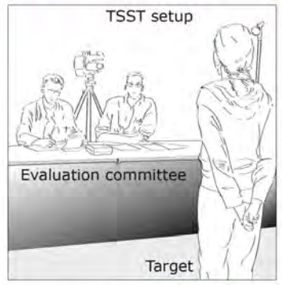

Science Advances
Changes in Cortical Thickness

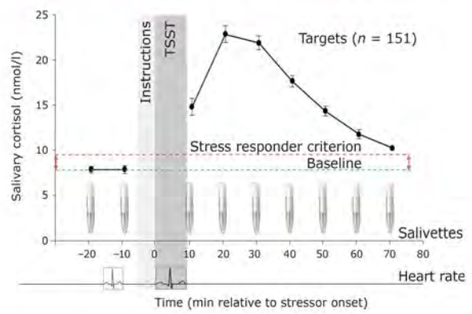

Behavioral Modulation of Training-Related Cortical Thickness Change
Presence
Affect
Perspective
Cohort 1 (N = 80)
Cohort 2 (N = 81)
Cohort 3 (N = 81)
Retest Controls (N = 90)
Presence
Presence
Affect
Affect
Perspective
Perspective
Affect
T0
T1
T2
T3
Cortical thickness change (mm)
Attention change
ToM change
ToM change
Compassion change
FWE<0.05
CDT<0.025
Presence
Affect
Perspective
CDT<0.001
LEFT
RIGHT
Valk et al. (2017). SciAdv
Seoul Meditation Conference, June 17 2022
Social Neuroscience Lab, Max Planck Society


Module-Specific Training-Related Cortical Thickness Increases
Presence
Affect
Perspective
Cohort 1 (N = 80)
Cohort 2 (N = 81)
Cohort 3 (N = 81)
Retest Controls (N = 90)
Presence
Presence
Affect
Affect
Perspective
Perspective
Affect
T0
T1
T2
T3
FWE<0.05
CDT<0.025
Presence
Affect
Perspective
CDT<0.001
LEFT
RIGHT
Valk et al. (2017). SciAdv
Seoul Meditation Conference, June 17 2022
Social Neuroscience Lab, Max Planck Society


Influence of Training
on Stress Responsivity
Engert et al. (2017). SciAdv
Seoul Meditation Conference, June 17 2022
Social Neuroscience Lab, Max Planck Society

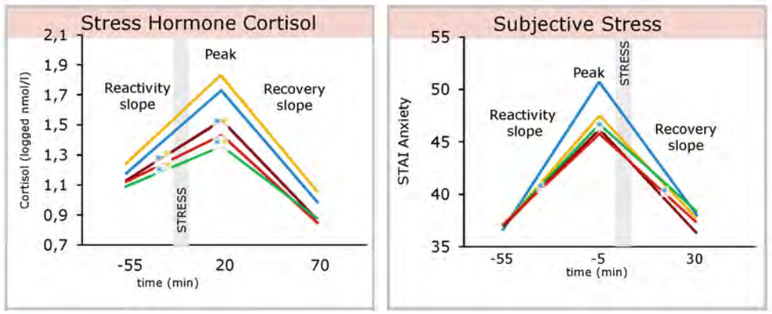
Experimental Design of the Trier Social Stress Test





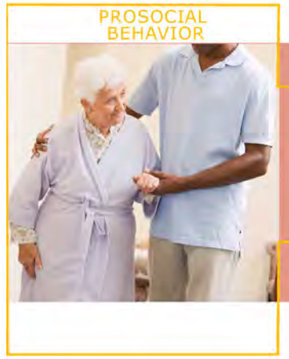
Seoul Meditation Conference, June 17 2022 — Social Neuroscience Lab, Max Planck Society

Social Stress Reduction as a Function of Training Modules



Engert et al. (2017). SciAdv

Seoul Meditation Conference, June 17 2022 — Social Neuroscience Lab, Max Planck Society



Can Mental Training Improve Prosocial Behavior and Cooperation

Böckler et al. (2018). SPPS; Böckler et al. (2018). SciRep.

Seoul Meditation Conference, June 17 2022 — Social Neuroscience Lab, Max Planck Society

Film on Prosocial Behavior

Seoul Meditation Conference, June 17 2022 — Social Neuroscience Lab, Max Planck Society

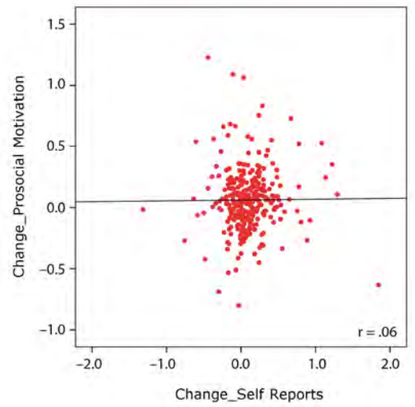
The Structure of Human Prosociality

1) Altruistically motivated Behavior
(e.g. Trust, Donation, Helping)

2) Self-report / Do I think that I am Altruistic?
(e.g. Questionnaires)

Böckler et al. (2018). SPPS

No Correlation Between Changes in objective and subjective measures of prosocial behaviors

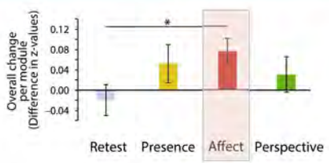


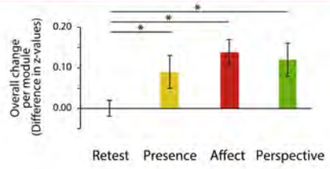
Böckler et al. (2018). SciRep

The Structure of Human Prosociality

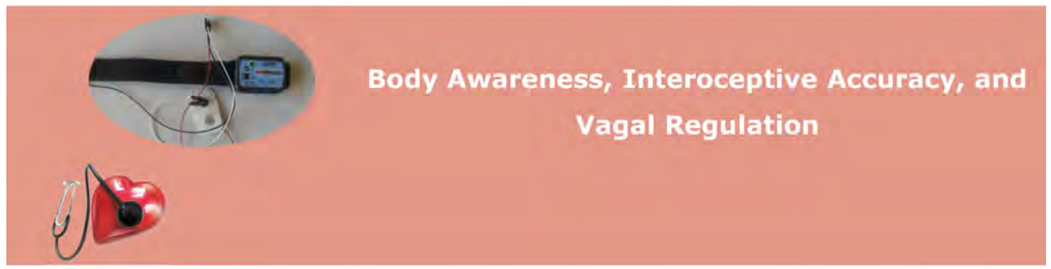
1) Altruistically Motivated Behavior
(e.g. Trust, Donation, Helping)

2) Self-Report / Do I think that I am Altruistic? (e.g. Questionnaires)





Böckler et al. (2018). SPPS; Böckler et al. (2018). SciRep



Interoceptive Accuracy

Interoceptive accuracy measured through:

Heart Beat Perception task

(Brener & Jones, 1974; Schandry, 1981; Whitehead et al., 1977)

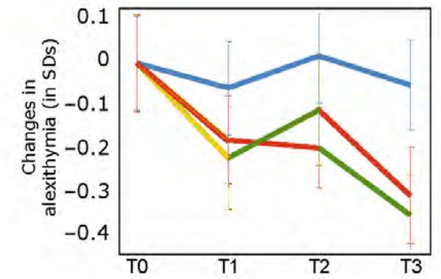
Subjectively counted heartbeats

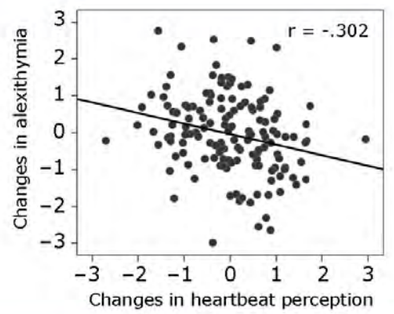
Objectively counted heartbeats

Changes in Emotional Awareness

(measured by Toronto Alexithymia Scale, Bagby et al., 1994)

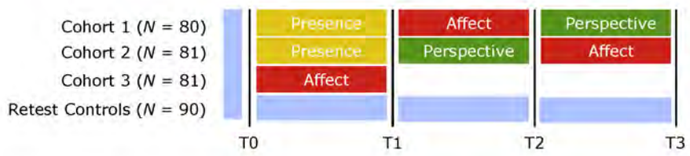
„I am often unsure, what I actually feel."
„It is difficult for me, to express my feeling with the right words."
„I rather talk to people about every day things than my feelings."

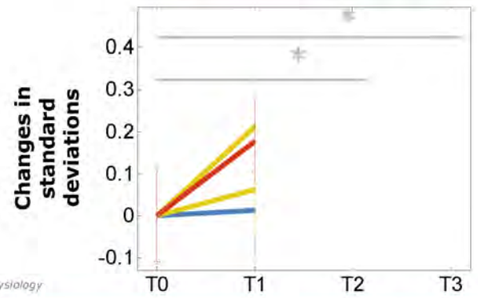




Bornemann & Singer (2016). Psychophysiology

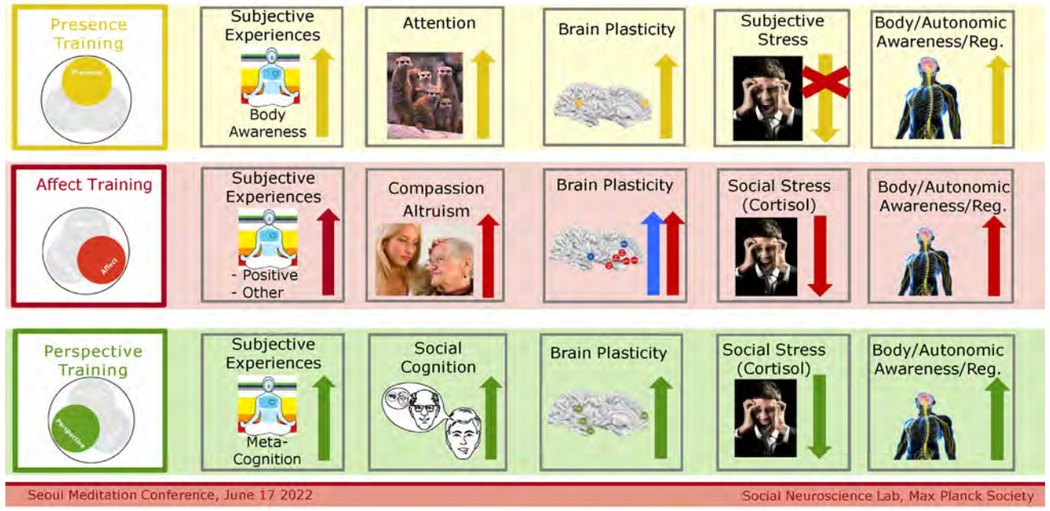
Changes in Interoceptive Accuracy

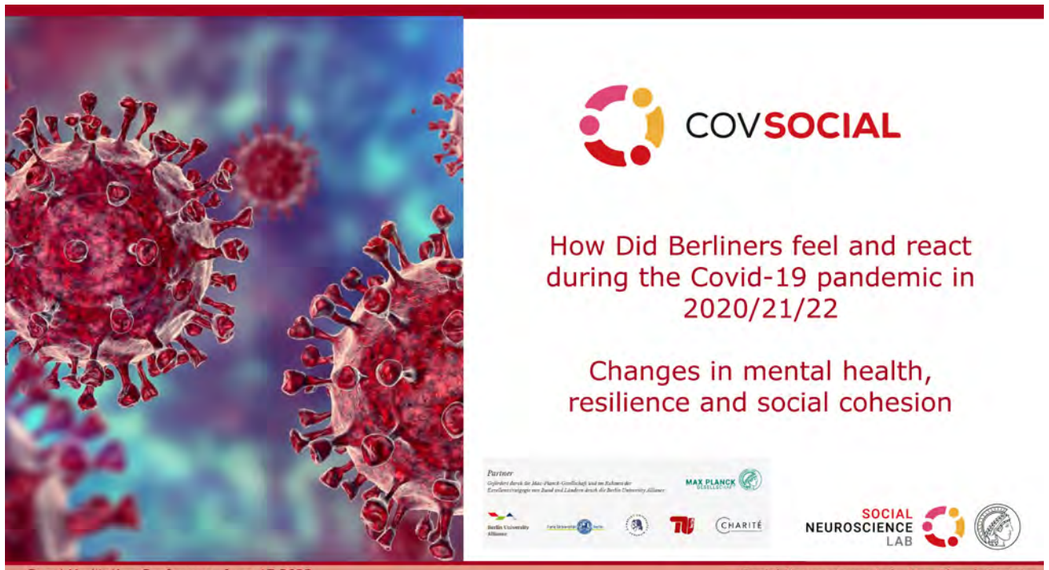


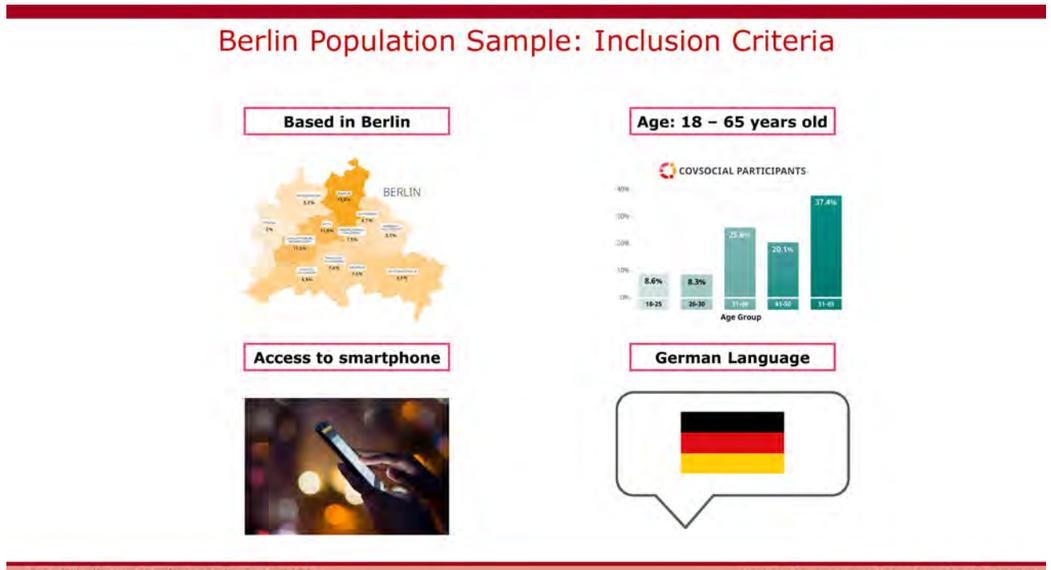


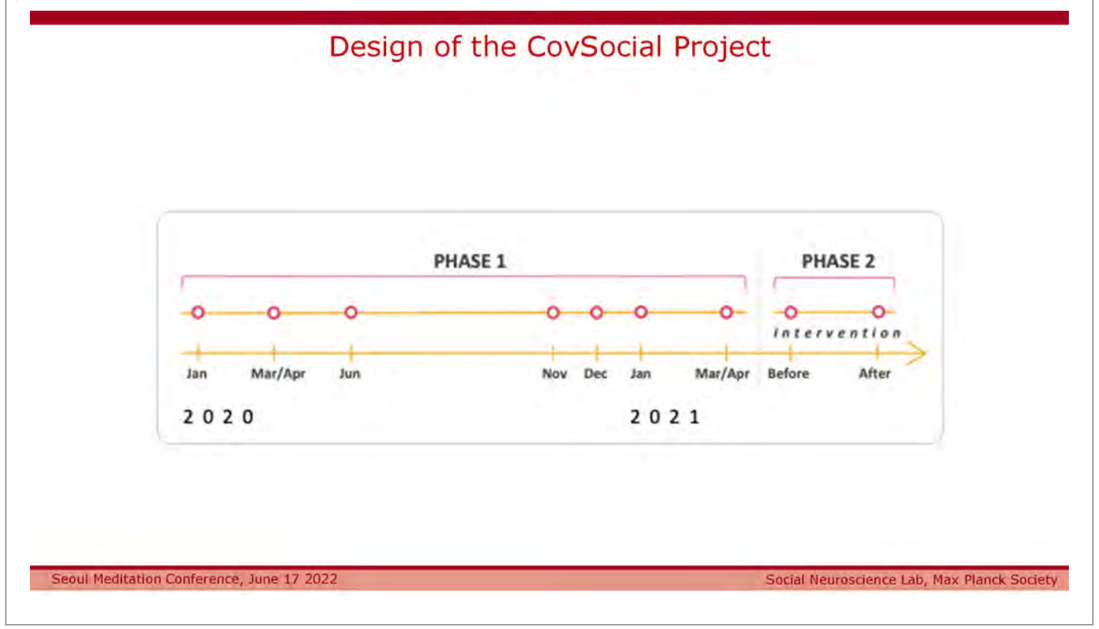
Bornemann & Singer (2016). Psychophysiology

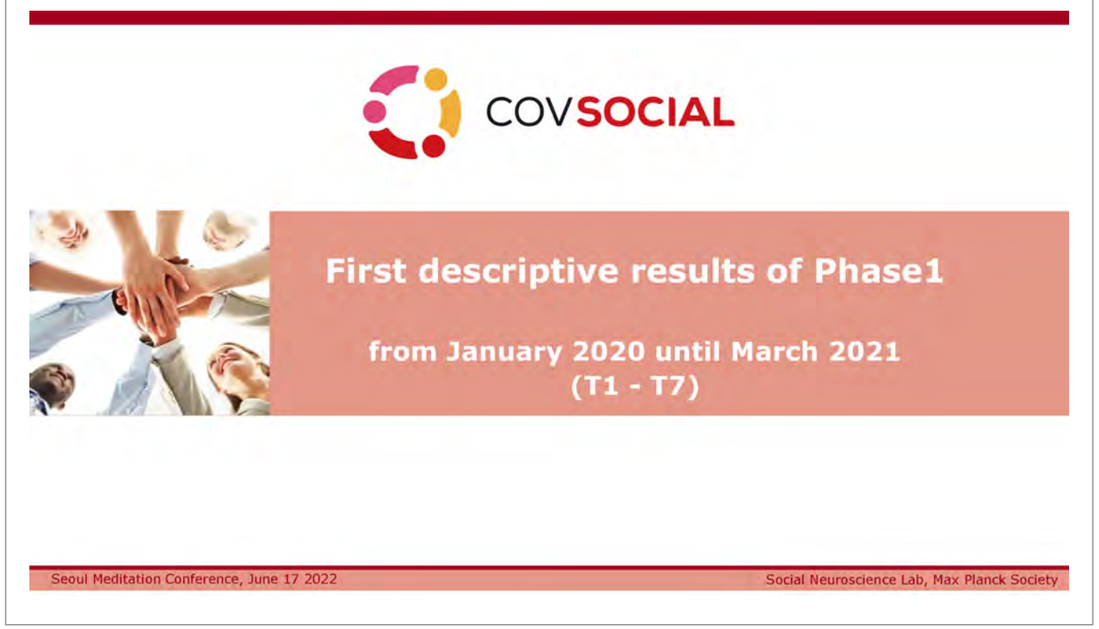
Summary




COVSOCIAL
How Did Berliners feel and react during the Covid-19 pandemic in 2020/21/22
Changes in mental health, resilience and social cohesion
Partner
MAX PLANCK
CHARITÉ
SOCIAL NEUROSCIENCE LAB
Seoul Meditation Conference, June 17 2022
Social Neuroscience Lab, Max Planck Society


Berlin Population Sample: Inclusion Criteria
Based in Berlin
BERLIN
Age: 18 – 65 years old
COVSOCIAL PARTICIPANTS
8.6%
8.3%
25.8%
20.1%
37.4%
Age Group
Access to smartphone
German Language
Seoul Meditation Conference, June 17 2022
Social Neuroscience Lab, Max Planck Society


Design of the CovSocial Project
PHASE 1
PHASE 2
intervention
Jan
Mar/Apr
Jun
Nov
Dec
Jan
Mar/Apr
Before
After
2020
2021
Seoul Meditation Conference, June 17 2022
Social Neuroscience Lab, Max Planck Society


COVSOCIAL
First descriptive results of Phase1
from January 2020 until March 2021
(T1 - T7)
Seoul Meditation Conference, June 17 2022
Social Neuroscience Lab, Max Planck Society

COVSOCIAL

MEASURES

Questionnaires

- Demographics
- Trait Questionnaires
- 7 Time-Specific Surveys

Phase 1

Genetic markers

- Genetics sample from saliva sample

Computerized Behavioral Tasks

- EmpaToM
- Zurich Prosocial Game
- Scrambled Sentences Task

Questionnaires

- Phase 1 questionnaires
- Pre and post intervention questionnaires
- Weekly questionnaires

On anxiety, emotion regulation, depression, Alexitymia, stress, (self)compassion, resilience, loneliness, health, covid, interoceptive awarness

Phase 2

Ecological Momentary Assessment (EMA)

- 5 x/day on 8 days pre and post intervention
- 66 days EMA during the intervention
- 56 x Daily EMA pre and post practice

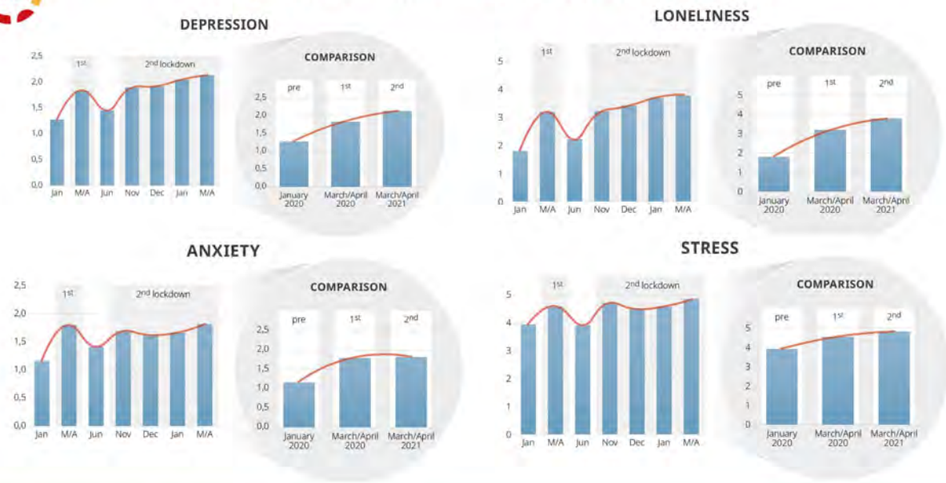
Epigenetic markers

- Genetics sample from saliva sample

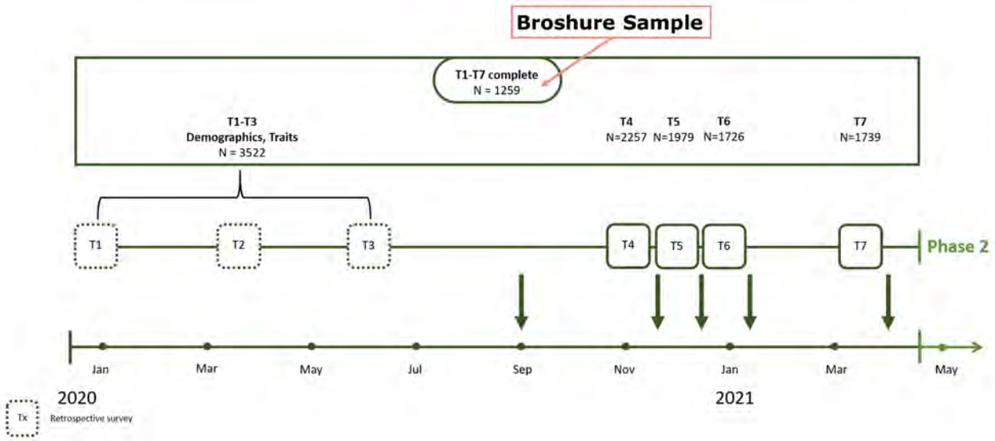
Biological markers

- Pre and Post Assessment of CAR (8 saliva samples over 2 days)
- Cross-sectional Assessment of cortisol as stress marker (7 saliva samples during a stress test)

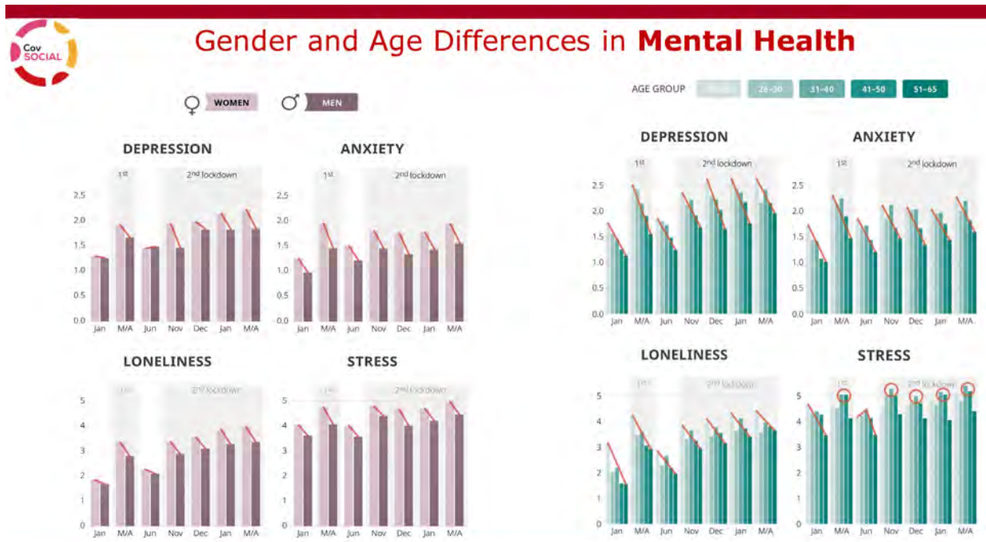
Longitudinal Timelines for **Mental Health**



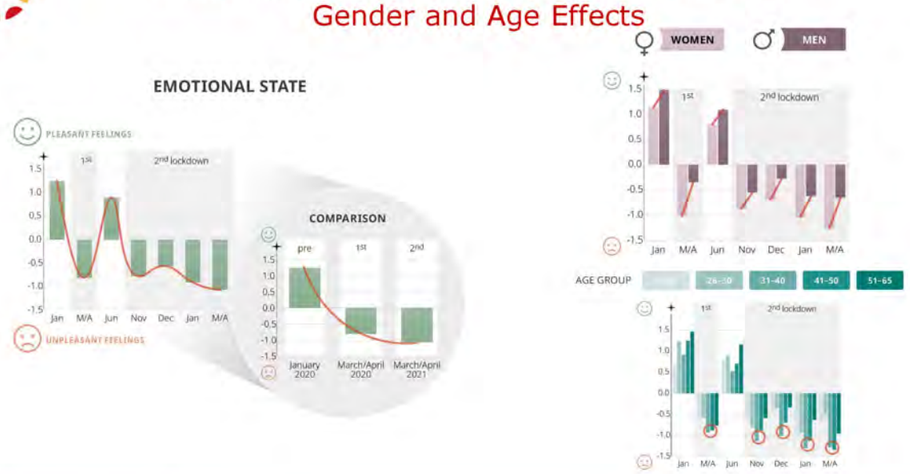
Timeline Phase 1



Gender and Age Differences in **Mental Health**



Emotional Well-being During the Pandemic: Gender and Age Effects



COVSOCIAL

Phase2: 10-weeks Mental Online Training for the Reduction of Stress, Loneliness and the increas in Mental Health and Social Skills

CovSocial Project

Webpage:
www.covsocial.de

Free downloadable report

Mental Health Crises

Can we help reverse the negative Pandemie effects?

Loneliness

Stress

Depression

Social Skills & Connectedness

Stress Reduction

Mental Health & Resilience

Translation into Society

Design of Phase2 of the CovSocial Project

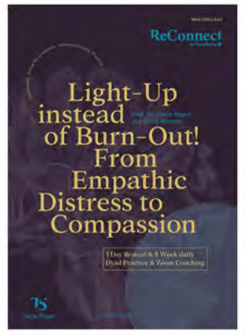
Total Dropout from Start	n	%
SE1 (n = 95)	25	26 %
MB2 (n = 97)	19	19,5 %
WRT3 (n = 90)	17	18,8 %
WSE3 (n = 65)	5	7 %
Total (N = 282)	67	23 %

Teachers

Daily Dyads Practice

Daily Mindfulness Practice

ReConnect – Masterclasses for HealthCare and Society




Humanize
Reconnecting people to
self, other, and humanity
www.humanize.com
Copyright Humanize S.à.r.l., 2021. All rights reserved.

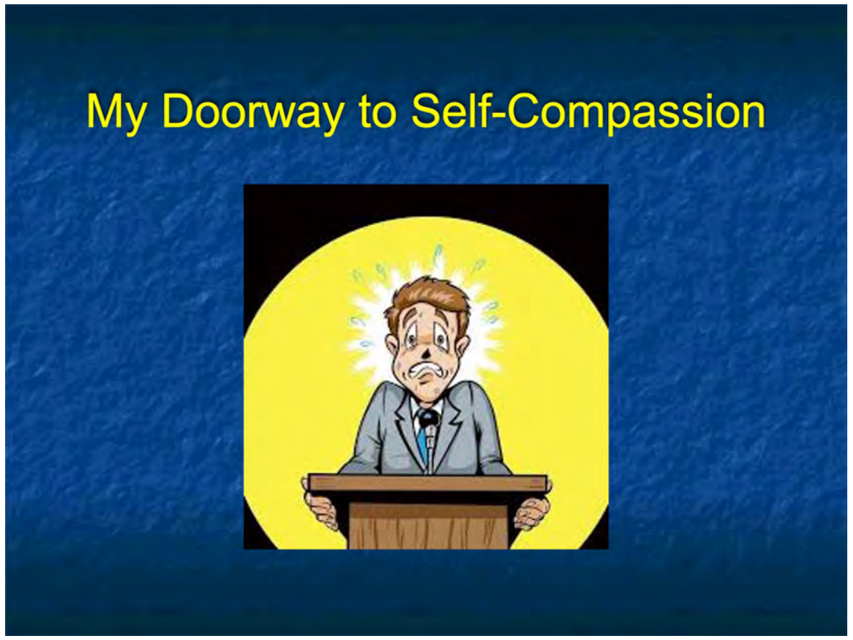

THANK YOU!
Seoul Meditation Conference, June 17 2022
Social Neuroscience Lab, Max Planck Society


Cov SOCIAL
Thank You!
www.social.mpg.de
www.taniasinger.de
www.covsocial.de
SOCIAL NEUROSCIENCE LAB
Seoul Meditation Conference, June 17 2022
Social Neuroscience Lab, Max Planck Society

MSC(Mindful Self-Compassion)

Christopher K. Germer
Co-creator of the MSC

MSC(Mindful Self-Compassion) is an 8-week workshop program designed to cultivate kindness and self-compassion skills while overcoming the feelings of alienation and self-blame that modern people are vulnerable to. The background of MSC is known for Buddhist meditation and the therapeutic experience in brain science and clinical psychology. The program content consists of theory and practice that enhances mindfulness, charity, and self-compassion.


My Doorway to Self-Compassion


WHAT'S *SELF*-COMPASSION?
Treating ourselves with the same kindness and understanding as we would treat a dear friend when things go wrong.


FORMAL DEFINITION
OF SELF-COMPASSION
Kindness
Common Humanity
Mindfulness
Kristin Neff, 2003

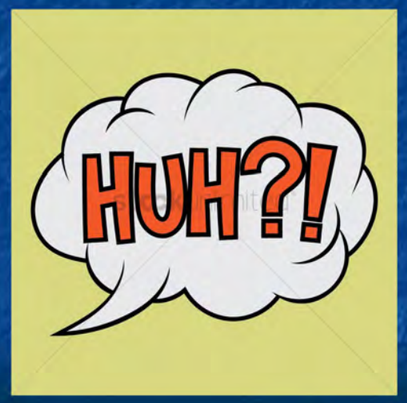
TWO APPROACHES TO SELF-COMPASSION

YIN: (“being with”) comfort, connect, validate
YANG: (“acting in the world”) protect, provide, motivate

CARE

RESEARCH ON SELF-COMPASSION

MISGIVINGS ABOUT SELF-COMPASSION



1. Selfish
2. Weak
3. Self-pity
4. Self-indulgent
5. Demotivating

WELL-BEING

INCREASES in:

- Life satisfaction, happiness, gratitude, self-confidence, optimism, wisdom, curiosity, conscientiousness, creativity, autonomy, competence, relatedness, hope, emotional intelligence, perspective-taking…

WELL-BEING

REDUCTIONS in:

Anxiety, depression, stress, maladaptive perfectionism, self-criticism, rumination, shame, suicidality…

EARLY INFLUENCES ON SELF-COMPASSION

Attachment security
Parental criticism
Conflict in home
History of neglect or abuse

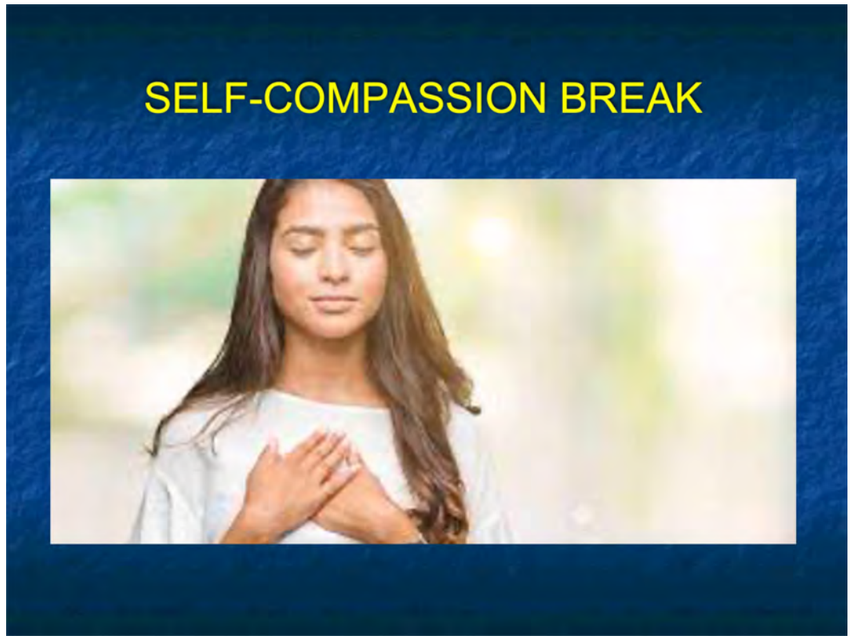
GOOD FOR PHYSICAL HEALTH

Fewer self-reported health symptoms
Eat balanced meals
Regular exercise
Drink less alcohol
Get enough sleep
Protected sex

THERE ARE MANY WAYS TO LEARN SELF-COMPASSION!

- Psychotherapy
- Self-compassion training (MSC), compassion training (CCT, CBCT, MBCL)
- Mindfulness training (MBSR, MBCT)
- Owning a dog, practicing yoga, walking in nature, compassion toward others.


MINDFULNESS & SELF-COMPASSION


SELF-COMPASSION BREAK


MINDFULNESS AND SELF-COMPASSION
Mindfulness is loving awareness of *moment-to-moment experience*.
Self-compassion loving awareness of the *experiencer*.
Mindfulness asks, "What do I *know*?"
Self-compassion asks, "What do I *need*?"
Mindfulness regulates emotion through attention and awareness
Self-compassion regulates emotion through care and connection
Mindfulness is calming
Self-compassion is warming
Best Friends


PIONEERS IN SELF-COMPASSION
Paul Gilbert
Kristin Neff

SELF-COMPASSION IN THERAPY: 3 LEVELS OF INTEGRATION

- Compassionate Presence:
  How therapists relate to their *own experience*
- Compassionate Alliance:
  How therapists *engage with their clients*, verbally and non-verbally
- Compassionate Interventions:
  How clients *relate to themselves*, esp. Home practice

19

COMPASSIONATE PRESENCE

- Presence is closely associated with *mindfulness* – spacious, non-judgmental awareness of moment-to-moment experience.
- Self-compassion training enhances mindfulness and mindfulness training enhances self-compassion.
- Self-compassion training is linked to presence (Bourgault & Dionne, 2019):
  - with *oneself* – reduces self-criticism and enhances self-kindness
  - with the *client* – increases other-compassion, reduces therapist burnout
  - in the *therapy relationship* – reduced reactivity and awareness of common humanity

LEVEL 1 COMPASSIONATE PRESENCE

how therapists relate to themselves embodying mindfulness and compassion

LEVEL 2 COMPASSIONATE ALLIANCE

how therapists relate to their clients

COMPASSIONATE ALLIANCE

- The alliance is a common factor in therapy –a robust predictor of treatment outcome across therapies.
- Empathy accounts for more treatment outcome than treatment interventions (meta-analysis by Bohart et al, 2002).
- Successful therapists tended to be warmer, more empathic, understanding and supportive of their clients, and are less likely to blame, ignore, neglect, or reject the clients (meta-analysis by Lambert & Ogles, 2004).
- Loving-kindness and compassion meditation increases altruism, positive regard, affective empathy and empathic accuracy (review by Bibeau et al., 2016)

COMPASSIONATE INTERVENTIONS

- An intervention is an action taken to bring about positive change in a client or patient.
- Self-compassion home practices can be found in literature on *Mindful Self-Compassion* and *Compassion Focused Therapy*, and numerous workbooks.
- SC can be learned from workbooks alone (Held et al, 2018).
- Traditional CBT practices can be integrated with SC – e.g., exposure therapy or behavioral activation with compassionate self-talk.

LEVEL 3 COMPASSIONATE INTERVENTIONS

how clients relate to themselves / home practice

KEY QUESTIONS FOR DESIGNING THERAPEUTIC INTERVENTIONS

- *"WHAT DOES THE CLIENT NEED?"*

  …to feel safe
  …to be comforted, soothed, validated
  …to protect, provide for, motivate yourself?

- *"HOW DOES THE CLIENT CARE FOR HIM OR HERSELF ALREADY?"*
- *"HOW WOULD THE CLIENT TREAT A FRIEND IN THIS SAME SITUATION?"*

SELF-COMPASSION AS AN UNDERLYING CHANGE PROCESS IN THERAPY

TRANSDIAGNOSTIC – improves mental health across diagnostic conditions.

TRANSTHEORETICAL – improves mental health in different kinds of therapy

1. EMOTION REGULATION

- Emotion regulation refers to the ability to “attend to, appraise, and modulate the intensity and duration of emotional states” (Gross & Muñoz, 1995).
- Emotion regulation is a key mechanism of change in therapy, and self-compassion is closely related to emotion regulation in the literature.
- Research showed improvements in self-regulation along with self-compassion in therapy for depression, anxiety, childhood maltreatment, substance abuse, bulimia, OCD, sexual pain and caregiver distress.

HOW DOES SELF-COMPASSION WORK?

SELF-COMPASSION FOR POST-TRAUMATIC STRESS DISORDER

- Most people do not develop PTSD from trauma; it depends on how we *relate* to trauma.
- How we *regulate* challenging emotions statistically predicts PTSD better than trauma exposure itself. (Barlow, Turow & Gerhart (2017).
- PTSD is maintained by experiential avoidance (Marx & Sloan, 2005).
- With self-compassion, feelings are acknowledged and accepted rather than avoided (Thompson & Waltz, 2008).
- SC calms the nervous system, reduces shame from trauma, and increases sense of safeness.
- Self-compassion helps emotion regulation among people with childhood abuse and neglect (Vettese, dyer, Li, & Wekerli, 2011) and also women with severe and repeated interpersonal trauma (Scoglio, et al, 2018)
- SC is consistently associated with reduced PTSD (Winders et al., 2020), and is also linked to post-traumatic growth and healing (Wong & Yeung, 2017)

2. NEUROPHYSIOLOGICAL CHANGE

- Lower *sympathetic* arousal (reduced salivary alpha-amylase and interleukin-6). Less fear.
- Increased *parasympathetic* activity - greater vagally-mediated heart-rate variability (self-soothing). More safety.
- vmPFC (active during information processing and decision-making) and dlPFC (active while switching attention and response inhibition) appear to be associated with self-compassionate responding. Better executive control of emotion.

3. INCREASES SECURE ATTACHMENT

- Since children internalize how they are treated, if they received comfort and support from primary caregivers when they were in distress, they will probably do the same for themselves later in life
- Parental rejection, criticism, overprotection and stressful family relationships are negatively correlated with SC. Early memories of warmth and safeness and SC are positively correlated with SC.
- SC mediates the relationship between insecure attachment and emotional distress (Mackintosh et al., 2018), subjective wellbeing (Wei et al., 2011) and mental health in general (Raque-Bogdan et al., 2011)

4. BACKDRAFT AND REPARENTING

- *Backdraft* – the actual distress that arises when people receive compassion from themselves or others.
  - *thoughts* and *beliefs*, e.g., "I'm unlovable"
  - *emotions*, e.g., grief or shame
  - *body memories* – e.g., aches and pains
  - *automatic behaviors* – *e.g.,* withdrawal or aggression.
- Compassion activates old memories and makes them available for reprocessing. As the resource of self-compassion develops, clients develop a "secure base" and feel safer within themselves.
- Cultivating self-compassion in therapy can be understood as a process of *reparenting*.

5. ALLEVIATES SHAME

- Shame is a "self-conscious" emotion characterized by negative self-evaluation.
- Patterns of rejection in childhood can make a person shame-prone (Claesson & Sohlberg, 2002).
- Shame and SC were inversely related in treatment outcomes for depression, PTSD, eating disorders, social anxiety disorder, narcissistic personality disorder, chronic pain, and stress due to intellectual disability.
- People who have been shamed in childhood find it difficult to activate feelings of warmth and kindness. The objective of compassion-focused therapy is to address fears of compassion and activate self-compassion (Gilbert, 2010).

SELF-COMPASSION FOR CAREGIVERS

Less compassion fatigue
More compassion satisfaction
Greater resilience
Less sleep disturbance

MEDITATION: GIVING AND RECEIVING COMPASSION

ADDITIONAL RESOURCES

Self-Compassion in Psychotherapy (SCIP) Program
https://scipprogram.com
Institute of Korean Meditation and Psychotherapy
http://ikmp.org
Center for Mindful Self-Compassion
www.centerformsc.org
Chris Germer
www.mindfulselfcompassion.org
Kristin Neff
www.self-compassion.org
Compassionate Mind Foundation
www.compassionatemind.co.uk

DAY 2

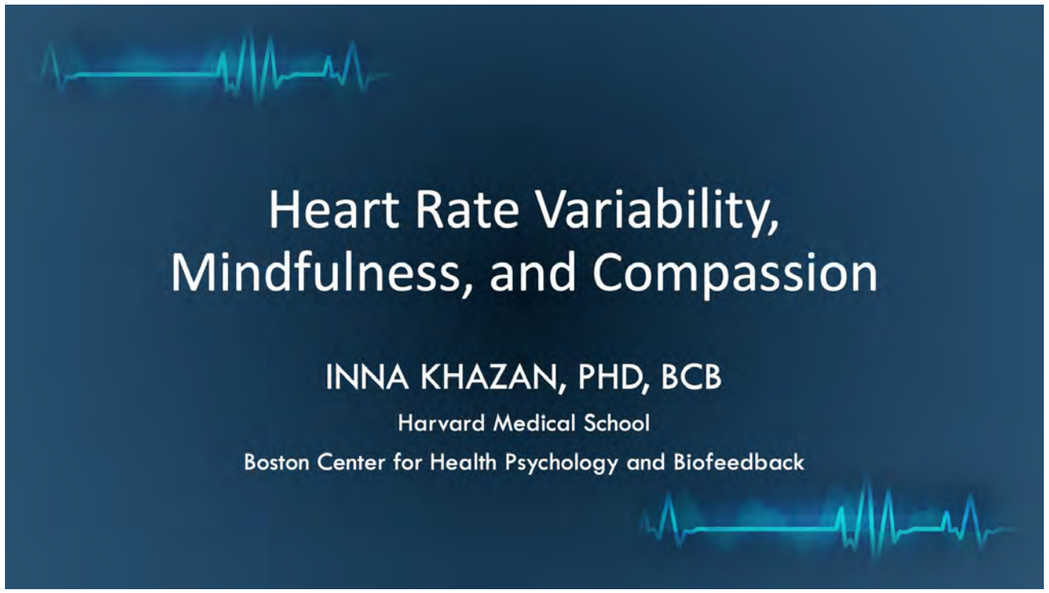
2022. 6. 18 Sat

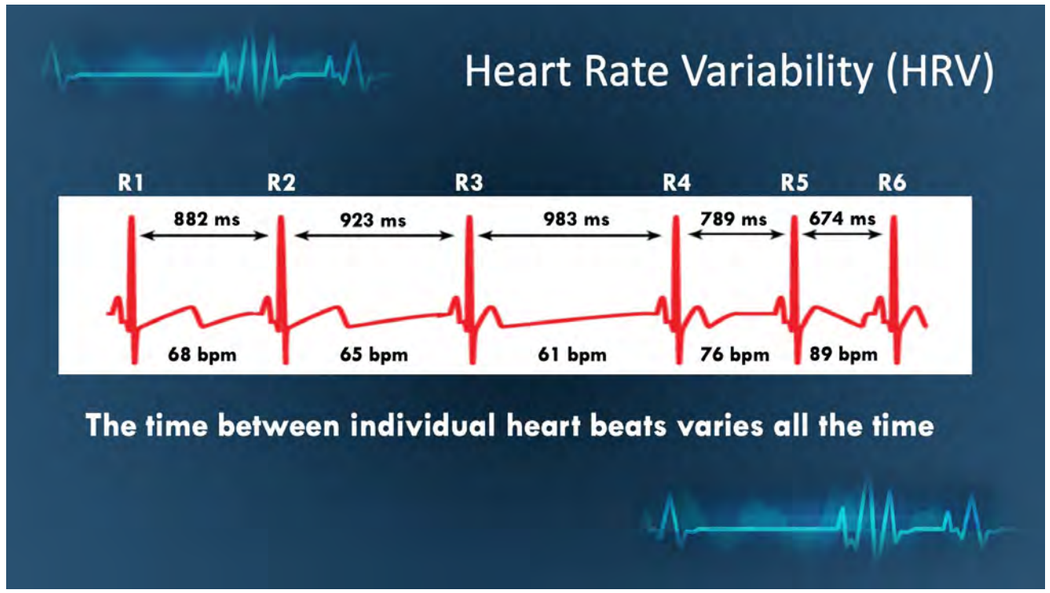
Meditation and Science

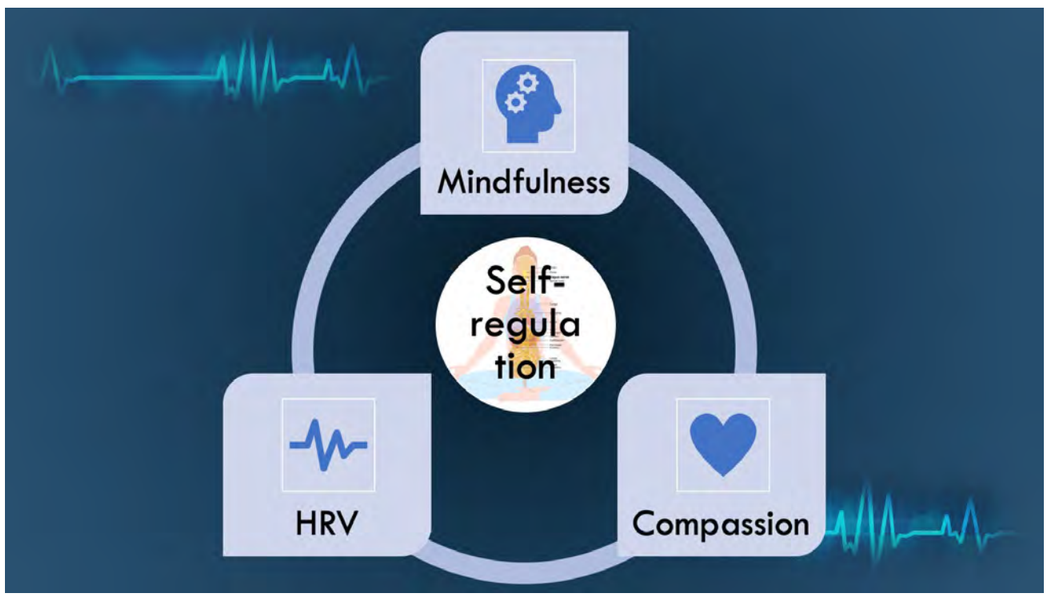
Heart Rate Variability, Mindfulness and Compassion

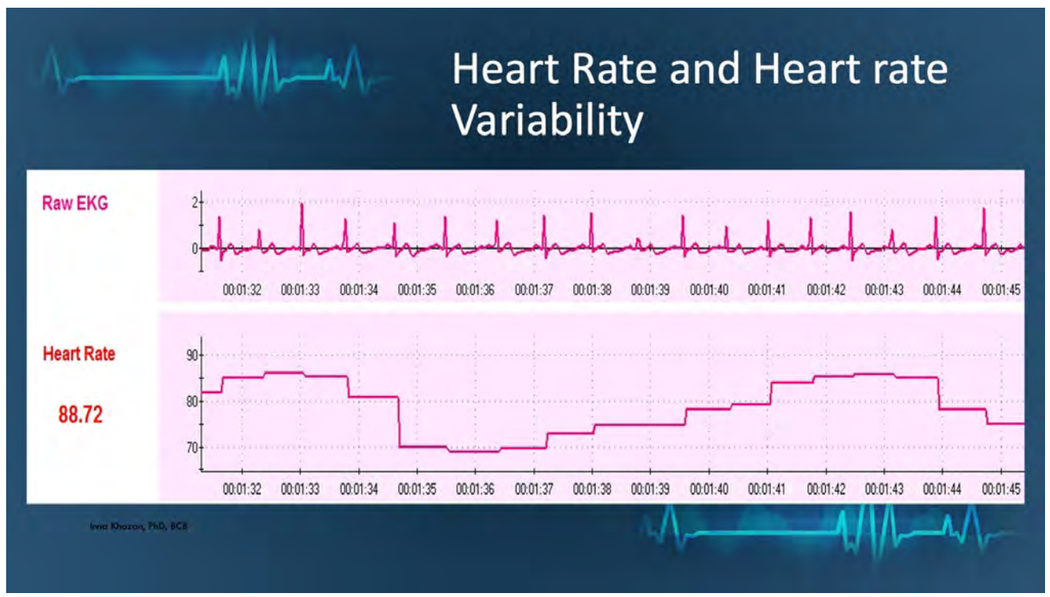
Inna Khazan
Harvard University

Inna Khazan serves as the President of the Board of Directors for the Institute for Meditation and Psychotherapy (IMP) and professor of psychiatry at Harvard Medical School. She conducts the study of stress and insomnia caused by fear and anxiety by combining mindfulness and biofeedback, a process that trains the body to control involuntary behaviors such as breathing and heart rate.


Heart Rate Variability,
Mindfulness, and Compassion
INNA KHAZAN, PHD, BCB
Harvard Medical School
Boston Center for Health Psychology and Biofeedback

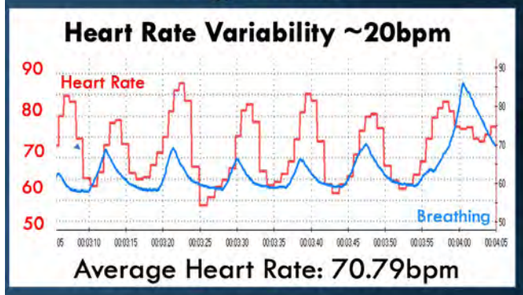

Heart Rate Variability (HRV)
R1
R2
R3
R4
R5
R6
882 ms
923 ms
983 ms
789 ms
674 ms
68 bpm
65 bpm
61 bpm
76 bpm
89 bpm
The time between individual heart beats varies all the time


Mindfulness
Self-regulation
HRV
Compassion


Heart Rate and Heart rate Variability
Raw EKG
Heart Rate
88.72
00:01:32
00:01:33
00:01:34
00:01:35
00:01:36
00:01:37
00:01:38
00:01:39
00:01:40
00:01:41
00:01:42
00:01:43
00:01:44
00:01:45

High HRV

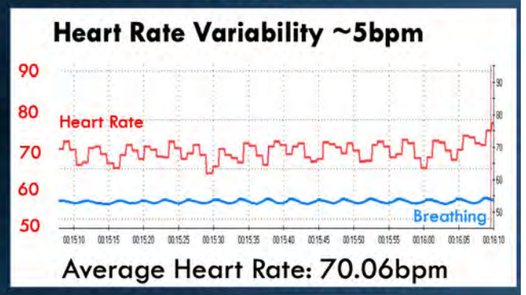
Heart Rate Variability ~20bpm



Average Heart Rate: 70.79bpm

Low HRV

Heart Rate Variability ~5bpm



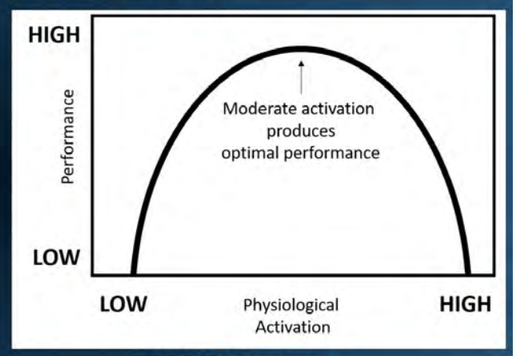
Average Heart Rate: 70.06bpm

Empirical basis for the Importance of HRV

- Cardiovascular health
  - Better predictor of long-term cardiovascular health than blood pressure, cholesterol levels, and resting heart rate (Framingham Heart study; Tsuji et al, 1996)
- Resilience (e.g., An et al, 2020; Perna et al, 2020; Minassian et al., 2015)
- Stress (e.g., Herbell & Zauszniewski, 2019; Kenned & Parker, 2019; Kim et al., 2018)
- Optimal performance (Forte et al., 2019; Lehrer, et al., 2020; Pagaduan et al., 2020; 2021; Tinello et al., 2021)
  - athletic
  - cognitive
- Psychophysiological health (e.g., Fournié et al., 2021, Lehrer et al., 2020)

Function of HRV

- Reflects ability of autonomic nervous system to regulate itself
- Strengthens ability of the parasympathetic nervous system to put on the brakes to sympathetic activation as needed
- Enables optimal physiological arousal



Yerkes-Dodson curve

HRV and Psychophysiological Health

- Anxiety (e.g., Cheng et al., 2022; Goessl et al., 2017; Lehrer et al., 2020)
- Chronic pain (Tracy et al., 2016; Reneau, 2020)
- Depression (Koch et al., 2019; Pizzoli et al., 2021)
- Diabetes Mellitus (Benichou, et al., 2018)
- Hypertension (Singh et al., 1998, Framingham heart study; Vital et al., 2021)
- Irritable bowel syndrome (IBS) and other functional GI disorders (e.g., Mazurak et al., 2012; Shah et al., 2020; Stern et al., 2014)
- PTSD (Ge et al., 2020, Lehrer et al., 2020; Schneider & Schwerdtfeger, 2020)
- Preeclampsia (Moors et al., 2020, Siepmann et al., 2014)
- Traumatic brain injury (TBI) (Lee et al., 2021, Wearne et al., 2021)
- Migraine (Fleischman and Khazan, 2022; Zhang et al., 2021)

Influences on HRV

- HRV is increased by
  - Exercise
  - Healthy lifestyle (sleep, nutrition, etc)
  - Biofeedback
  - Mindfulness and Self-compassion
- HRV is decreased by
  - Age
  - Poor sleep
  - Stress
  - Illness

Measuring HRV: spectral analysis

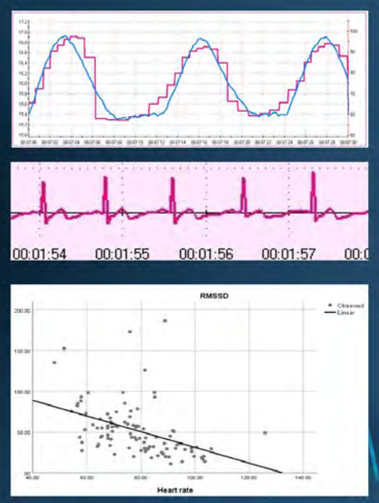
- Decomposes total variation of a data series into its frequency components (via Fast Fourier Transform)
- Total heart rate signal is broken down into component frequencies

image by steveunit4 /shutterstock

Measuring HRV: time domain measures

Graph HR over time

- Max-min
  - Peak to valley
- SDNN
  - Standard deviation of normal to normal interval
- RMSSD
  - Root mean square of successive intervals



HRV Frequency Components

- High Frequency (HF)
  - 0.15 - 0.4 Hz
  - parasympathetic NS (vagal nerve)
- Low Frequency (LF)
  - 0.05 – 0.11 Hz
  - Baroreflex and parasympathetic
- Very Low Frequency (VLF)
  - <0.04 Hz
  - primarily sympathetic NS

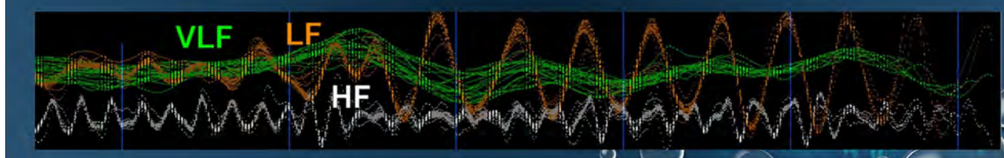
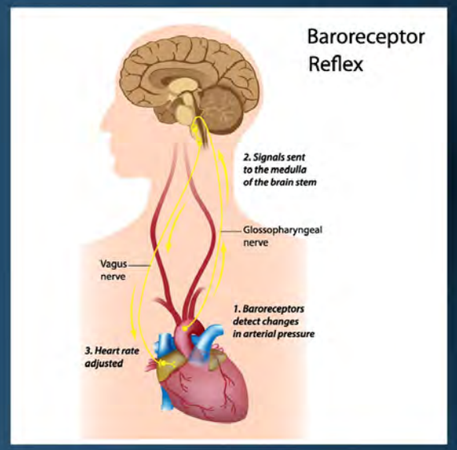


Image courtesy of Richard Gevirtz

Sources of HRV



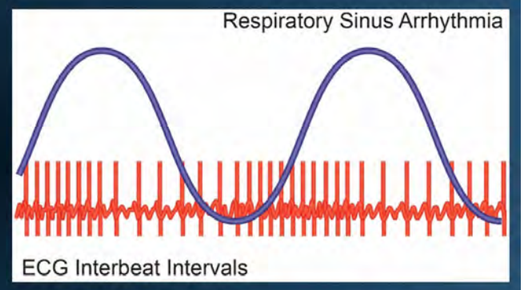


Image courtesy of Fred Schaffer

HRV and Mindfulness

HRV, Mindfulness, Compassion

- All responsible for self-regulation
- Parasympathetic nervous system functioning is a major source of HRV and underlies mindfulness and compassion
- HRV can be used as a biomarker for mindfulness and compassion
- HRV training can be used to complement mindfulness and compassion training

HRV and Mindfulness

- HRV and Mindfulness amplify each others' effect on wellbeing
  (Schmid & Thomas, 2021)
  - Separately, both state HRV and Mindfulness are related to lower emotional exhaustion and greater relaxation in healthcare workers
  - Interaction effect, such that emotional exhaustion was lowest and relaxation was highest when BOTH HRV and Mindfulness were high
- HRV may serve as a biomarker for treatment response to MBIs
  (Ferreira-Garcia et al., 2021)
  - Comparison of MBI and fluoxetine in treating Generalized Anxiety Disorder
  - Pre-treatment HRV measurement identified a subgroup of patients for whom MBI was less effective

HRV as Biomarker for Mindfulness

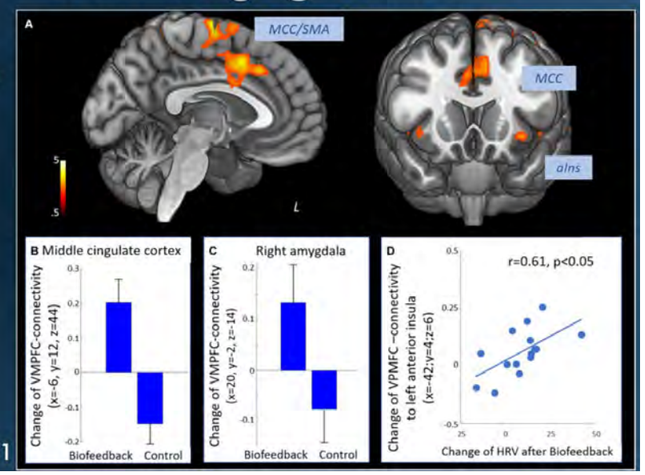
- HRV is an objective way to show effectiveness of MBIs
  - Numerous studies have used HRV to quantify effectiveness of MBIs
  - Review study (Christodoulou, Salami, & Black, 2020) determined HRV to be an objective biomarker to quantify effects of MBIs

HRV and Compassion

HRV and Compassion – Brain imaging studies

- Higher HRV associated with greater connectivity between vmPFC and areas of the brain also strongly connected with experience of compassion (e.g., Mulhahy et al, 2019; Schumann et al, 2021)
  - insula
  - anterior cingulate cortex
  - middle cingulate cortex
  - amygdala

Image from Schumann et al, 2021



HRV and Compassion: strong connection

- Meta analysis reveals strong association between HRV and compassion, with medium effect sizes (DiBello et al., 2020)
- Increased HRV associated with higher likelihood of compassionate action (e.g., Bornemann et al, 2016)
- Higher baseline HRV associated with both state (induced) and trait (dispositional) compassion (e.g., DiBello et al, 2020; Svendsen et al, 2016)
- Compassion-focused practices improve HRV (e.g., Arch et al., 2014; Matos et al., 2017; Petrocchi et al, 2017)

HRV and compassion – nuanced connection

- Self-compassion associated with higher HRV reactivity (Steffen et al, 2021)
  - Self criticism associated with lower HRV at the time, with higher HRV during recovery
  - Willingness to engage with the task!
  - Increase in HRV only for those who also increased self-compassion
- Compassionate action matters (DiBello, Ottaviani, Petrocchi, 2021)
  - Greater attention and sensitivity to other's suffering associated with lower HRV
  - Compassionate action associated with higher HRV

Integrating HRV into Mindfulness and Self-Compassion Practice

HRV and Self-Compassion in pain: interaction (Tian et al, 2020)

- Cold induced pain
- Measured trait self compassion and resting HRV
- Self compassion was associated with lower pain when HRV was high
- Self compassion was associated with higher pain when HRV was low

HRV as biomarker of compassion and mindfulness

- Daily HRV monitoring
  - Establish baseline
  - Monitor progress
  - Define physiological outcomes
- Assess and train capacity to engage in mindfulness and compassion-based interventions
- Data driven approach may increase appeal of mindfulness and compassion-based interventions

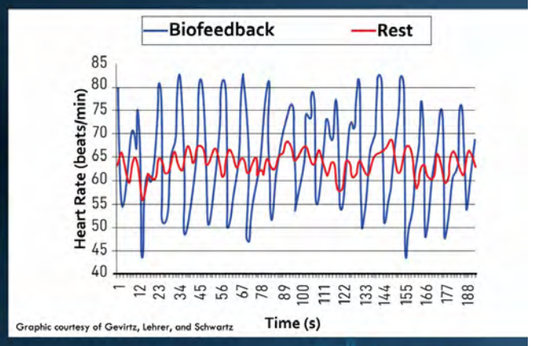
HRV Biofeedback

- Real time feedback on HRV
- Effective in increasing baseline HRV over time
  - To directly increase self-regulation
  - To facilitate mindfulness and self-compassion training
- Done through breath training

How HRV biofeedback enhances meditation

- Amplifies the effectiveness of mindfulness and self-compassion practices
- Decreases physiological arousal
- Improves self-regulation and reduces intensity of suffering without a struggle
- Makes it easier to accept experiences that may otherwise be fundamentally unacceptable (i.e., panic)
- Increases body awareness
- Facilitates connection between physiological and emotional states
- Provides real time feedback on the effects of meditation

HRV training through resonance frequency breathing

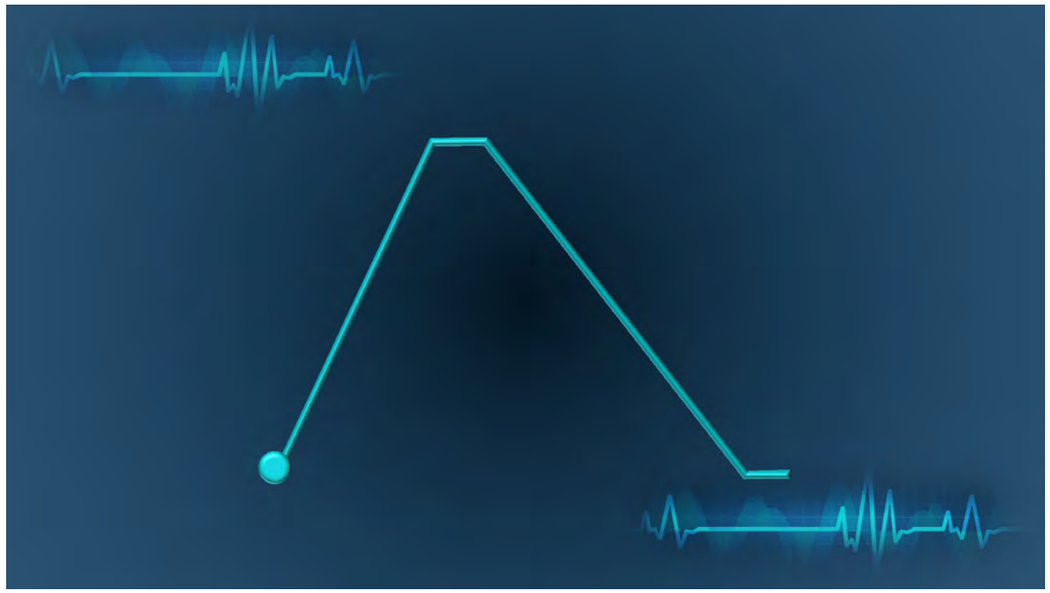


The middle way – Parable of the Lute

- We find the middle way between goal directed action and letting go
- Like tuning the strings of a lute, not too tight, not too loose

Integrating HRV training, mindfulness and self-compassion

- Begin each meditation practice with HRV breathing at resonance frequency rate
- During meditation, pacer may be available as an anchor for wondering attention only
- Compassionate attitude during HRV practice – we are all human, we make mistakes, no one is perfect
  - Content of self-talk
  - Tone of self-talk



Low and Slow Breathing

Inhale

- Shift the breath to the belly
- Slow down the rate of breathing
- Take a normal size inhalation

Exhale

- Exhale slowly, through nose or pursed lips

Compassion with Equanimity

(Chris Germer)

Everyone is on his or her own life journey

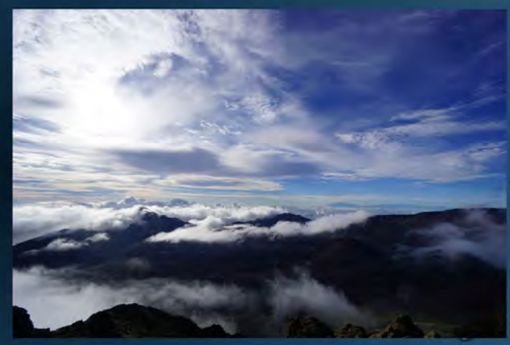
I am not the cause of this person's suffering

Nor is it entirely within my power to make it go away,

Even if I wish I could.

Moments like this are difficult to bear

Yet I may still try to help if I can.



The Neuroscience of Meditation

Sara W. Lazar
Harvard University

Sara W. Lazar graduated from Johns Hopkins University and earned a doctorate from Harvard University. She is an Associate Researcher in the Psychiatry Department at Massachusetts General Hospital and an Assistant Professor in Psychology at Harvard Medical School. She works at the Mind-body Medical Institute and conducts research to reveal structural changes in the brain through magnetic resonance imaging (MRI) before and after meditation.

Mindfulness

"Purposefully paying attention to experiences in the present moment in a non-judgmental way"

(Kabat-Zinn 1990)

Mind Full, or Mindful?

Scientifically Validated Benefits

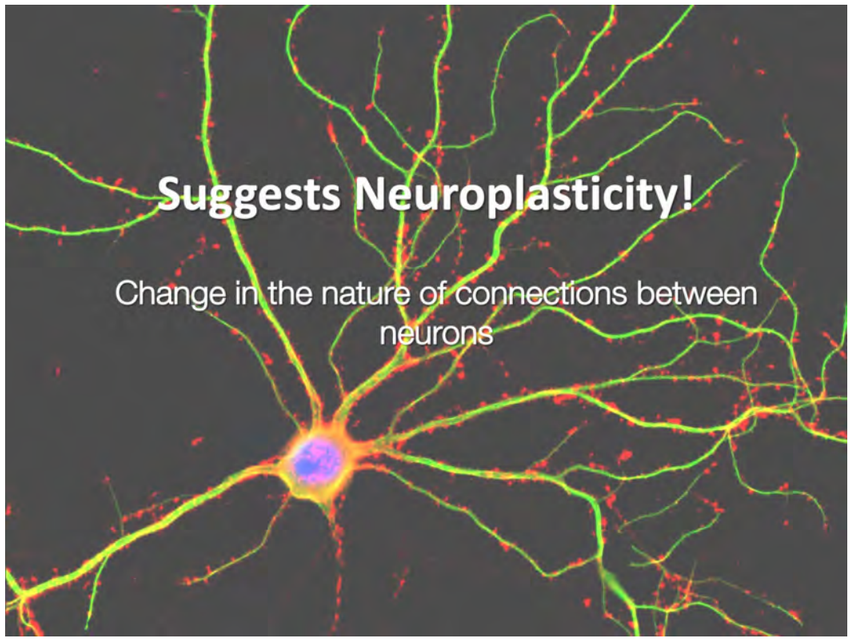
Decreased stress (self report, cortisol, etc.)

Reduced symptoms associated with:
- Depression
- Anxiety disorders
- Pain
- Insomnia

Increased self-reported quality of life (satisfaction with work, family, health, etc.)

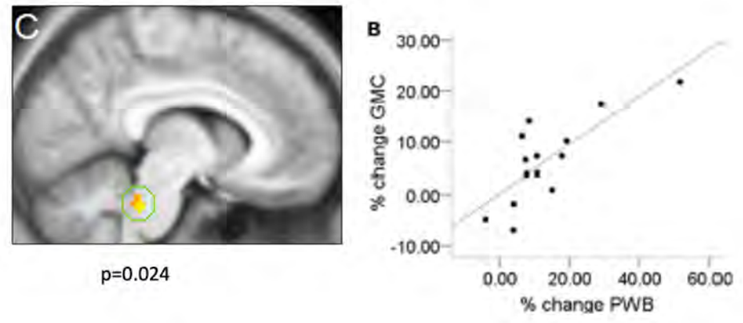
Non-judging = Equanimity

Caring and open yet non-reactive



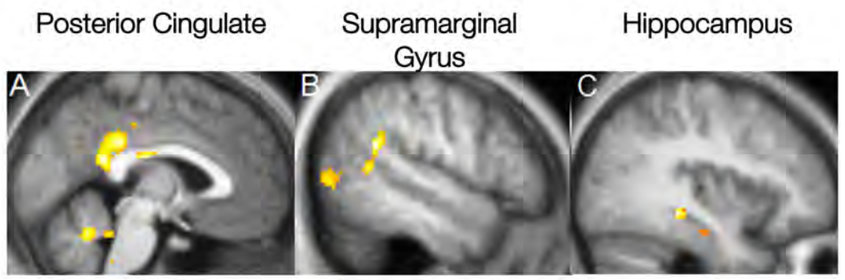
Gray matter changes with training

Correlation between changes in brain stem and well-being



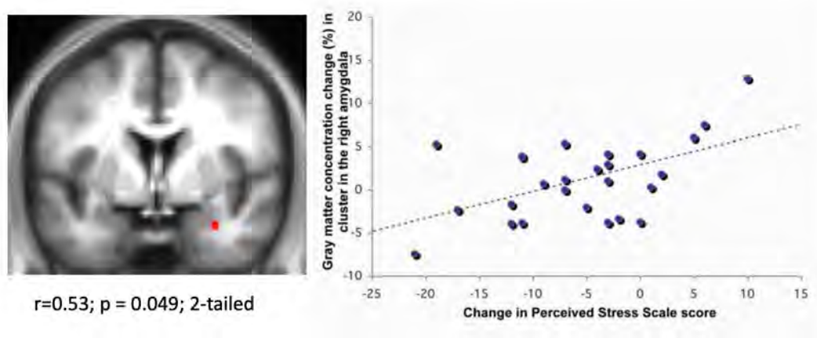
Singleton et al 2014

Increase in gray matter concentration



Hölzel, Lazar et al. (2011)

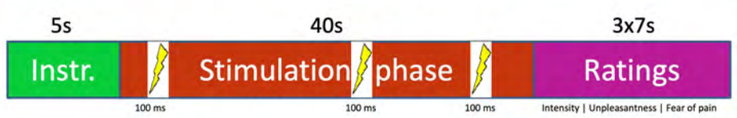
Change in perceived stress is correlated with change in amygdala gray matter



Hölzel et al., 2009

Pain coping

Repeated 12 times: 6 times while being mindful, 6 times normal attention.

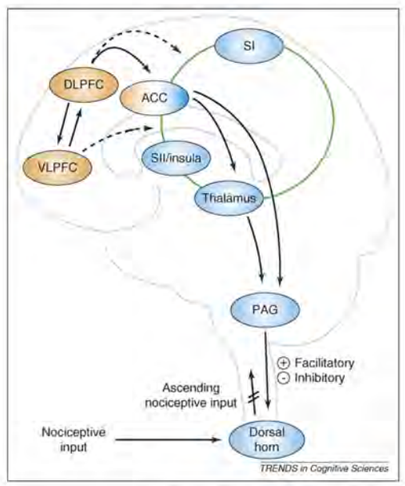


Cognitive strategies to modulate pain

Attention / distraction

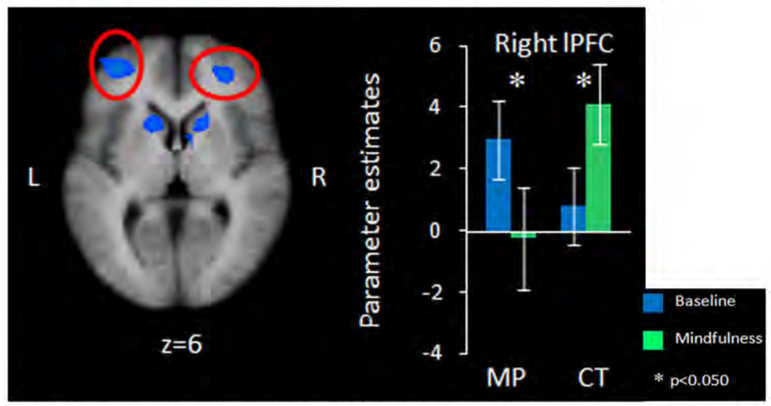
Expectation

Placebo



Wiech et al., Trends Cogn Sci., 2008

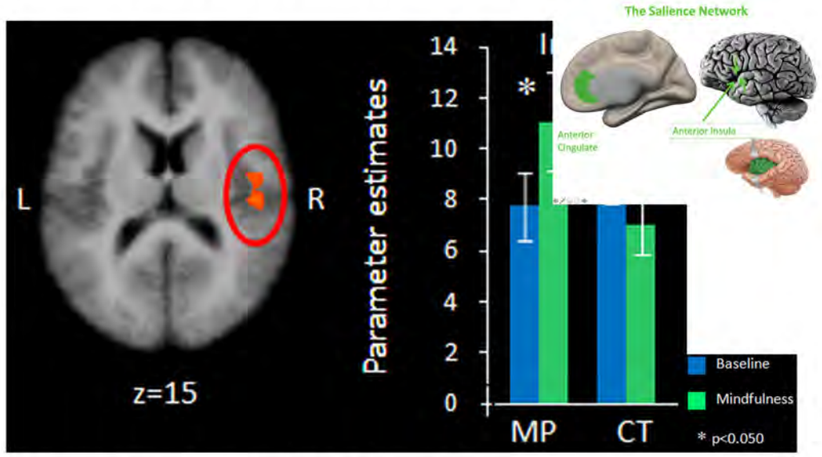
Decreased cognitive control



Meditators > Controls, Mindfulness > Baseline

Gard et al., Cereb. Cortex, 2012

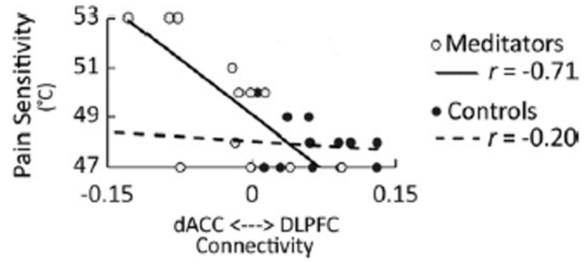
Increased sensory activation



Meditators > Controls, Mindfulness > Baseline

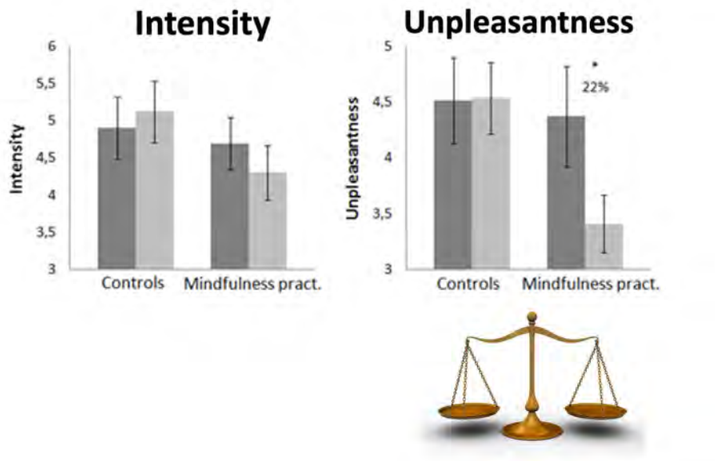
Gard et al., Cereb. Cortex, 2012

Decoupling of executive and sensory areas

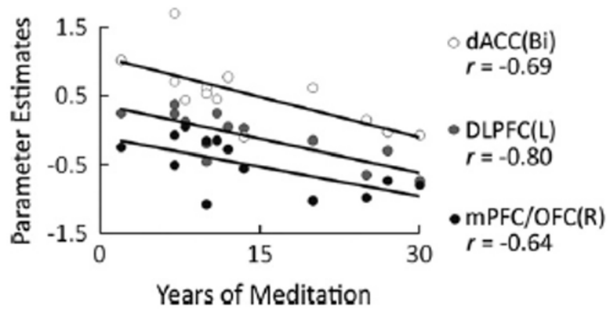


Grant et al. 2011

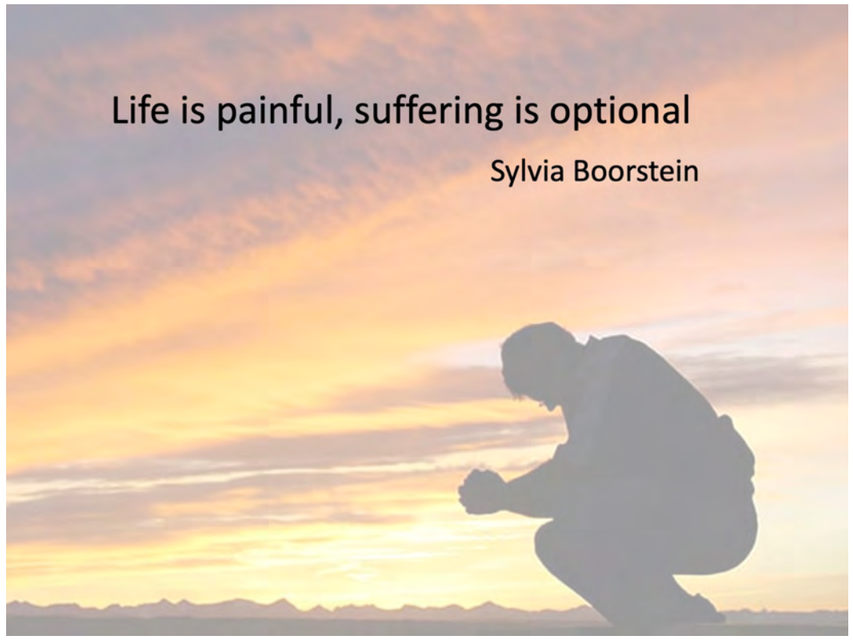
Impact on pain ratings



Correlation with amount of experience



Grant et al. 2011



Mindfulness and Anxiety

Mindfulness based interventions effective for reducing symptoms of anxiety (general, social, phobias, PTSD)

Exposure therapy – individual is exposed to fear-inducing stimuli until the fear response declines.

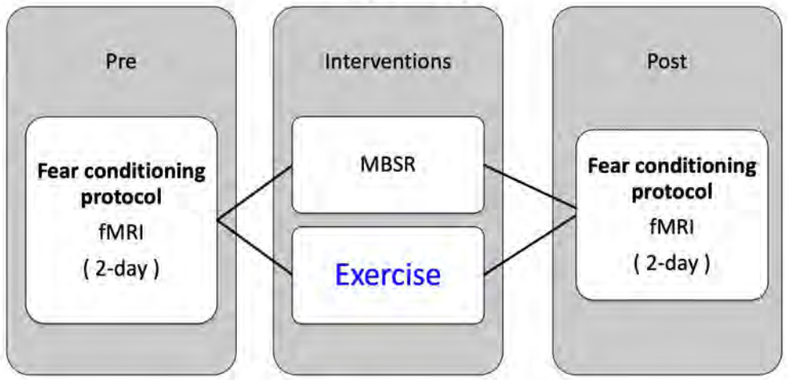
Mindfulness involves observing present moment experiences with open, inquisitive, non-judging attitude, while refraining from cognitive avoidance

Mindfulness may provide optimal conditions for "exposure" to aversive stimuli.

Learning not to fear

How does meditation help?

Study design

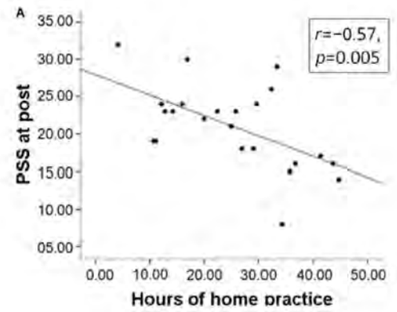


All subjects were told that there was no 'control' group, both interventions beneficial

Exercise group also got information about diet, sleep hygiene, positive attitude and humor

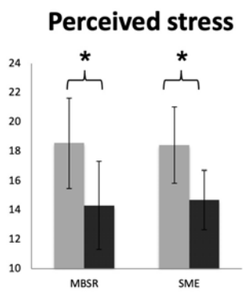
Both groups instructed to practice 40 min per day at home

Home practice relates to change in stress



Hölzel et al 2016

Both groups decrease stress



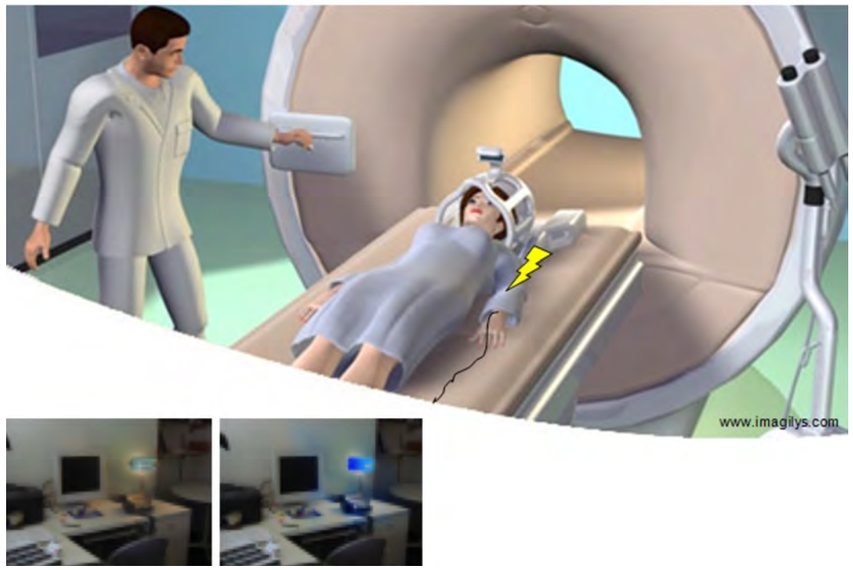
Sevinc Lazar et al 2019

Before conditioning

Salivate

No response

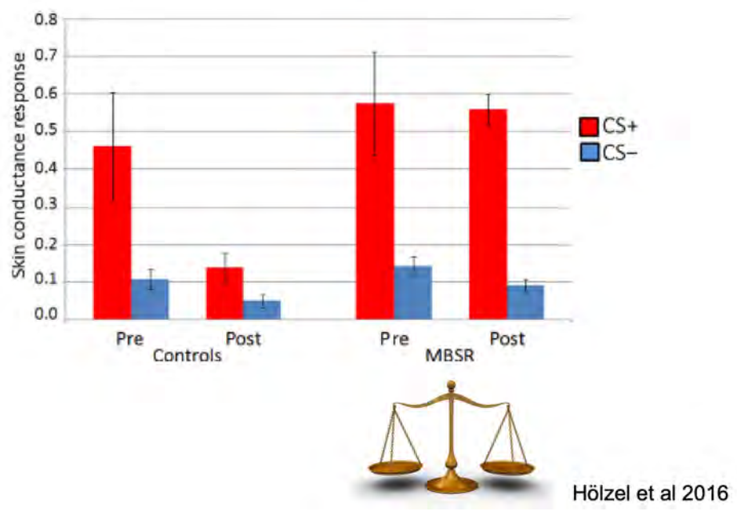
Fear conditioning in the MRI scanner



Day 1
Fear Learning

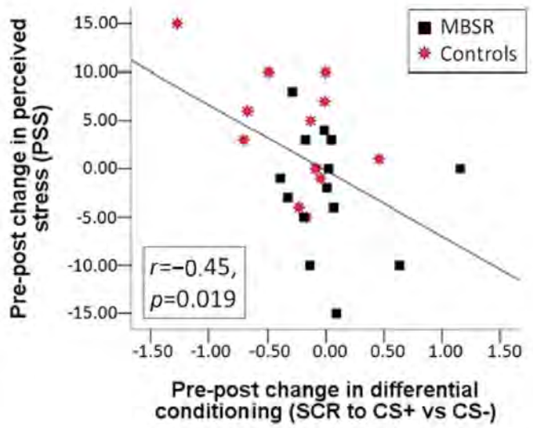
Fear Conditioning and Extinction Paradigm

Impact on fear learning



Hölzel et al 2016

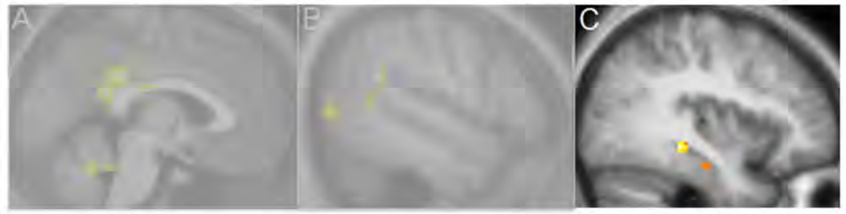
Relationship with stress



Hölzel et al 2016

Increase in gray matter concentration

Hippocampus



Hölzel, Lazar et al. (2011)

Day 2

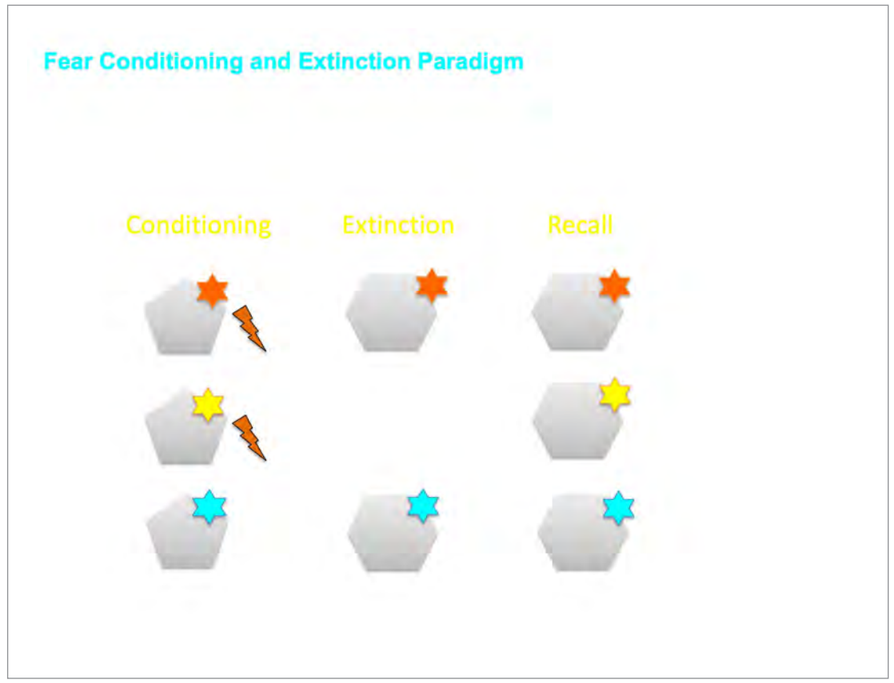
Recall of extinction learning

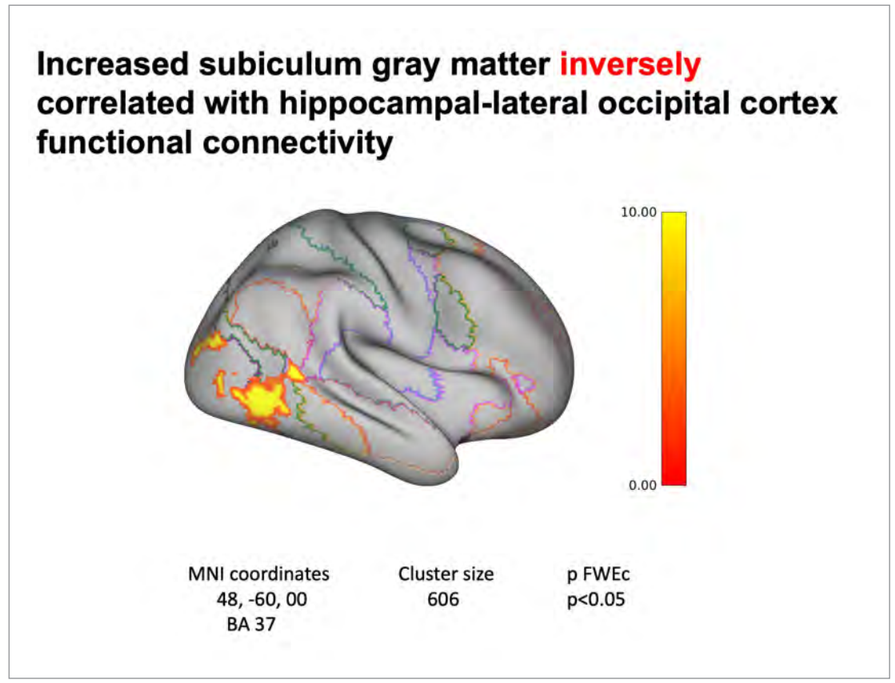
Role of memory & the hippocampus

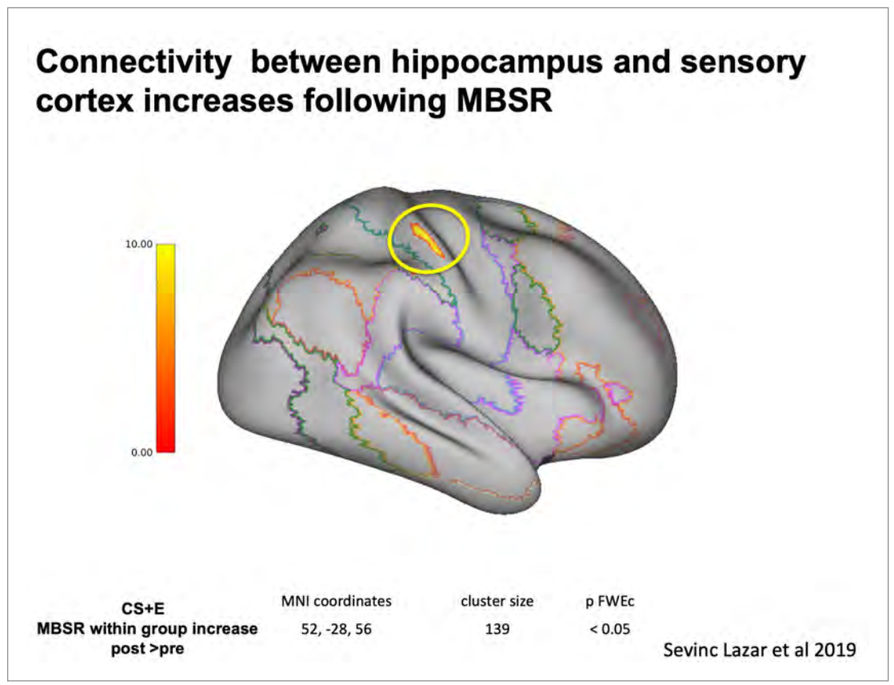
Extinguished memories must be remembered!

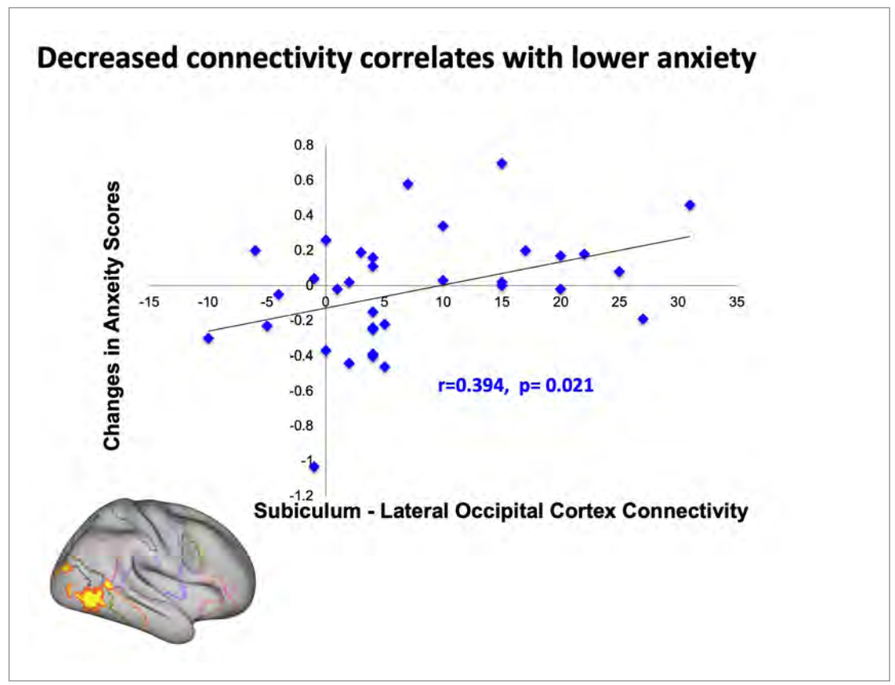
Individuals with anxiety disorders have difficulties updating stimulus-response associations and typically have poor retrieval of extinguished memories.

Hippocampus is crucial for episodic memory - retrieves the extinction memory.

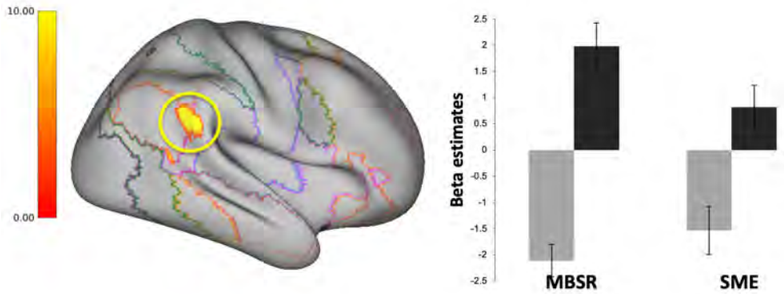

Fear Conditioning and Extinction Paradigm
Conditioning
Extinction
Recall


Increased subiculum gray matter inversely correlated with hippocampal-lateral occipital cortex functional connectivity
10.00
0.00
MNI coordinates
48, -60, 00
BA 37
Cluster size
606
p FWEc
p<0.05


Connectivity between hippocampus and sensory cortex increases following MBSR
10.00
0.00
CS+E
MBSR within group increase post >pre
MNI coordinates
52, -28, 56
cluster size
139
p FWEc
< 0.05
Sevinc Lazar et al 2019


Decreased connectivity correlates with lower anxiety
Changes in Anxeity Scores
Subiculum - Lateral Occipital Cortex Connectivity
r=0.394, p= 0.021

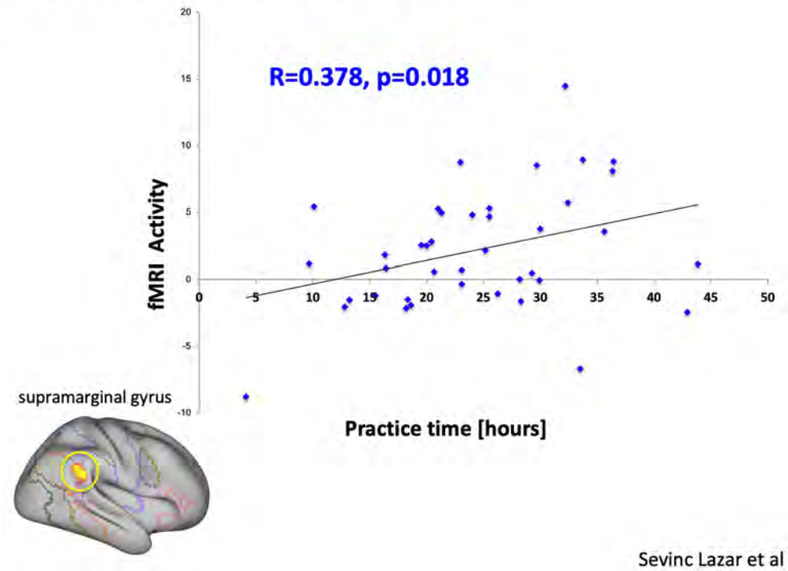
Enhanced activation in the supramarginal gyrus during recall of extinguished stimuli



	peak MNI coordinate	cluster size	p FWEc
CS+E MBSR > SME Whole brain post >pre	56, -40 24	60	< 0.05

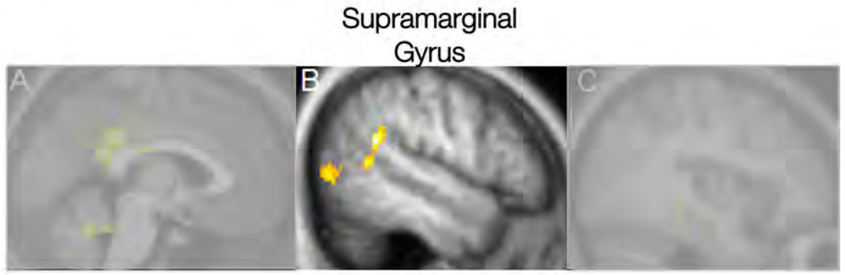
Sevinc Lazar et al 2019

Correlation with practice time



Sevinc Lazar et al 2019

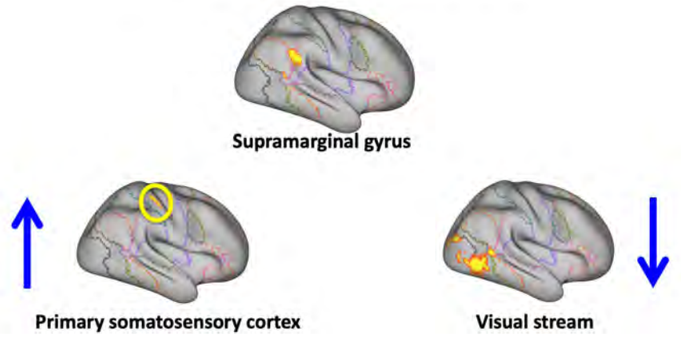
Increase in gray matter concentration



Hölzel, Lazar et al. (2011)

MODEL – Recall of safety memory

Active, sustained focus on primary somatosensory cortex and decreased focus on visual content



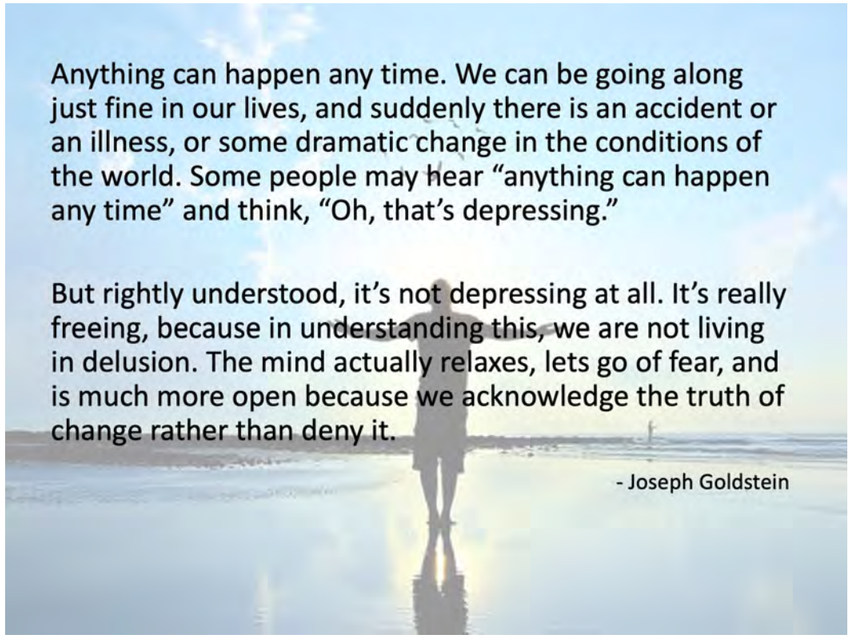
Conclusions

Mindfulness of the body is key both for pain and fear coping

Shift from thinking about/defending against threat to experiencing it openly with equanimity.

Do not misunderstand me - danger is very real, but fear is a choice

"General Cypher Raige" (Will Smith)
After Earth



Mechanisms of Meditation in Dialectical Behavior Therapy (DBT): Self-harm and Suicide Crisis

Christian Stiglmayr
Psychotherapist Germany

DBT (Dialectical Behavior Therapy) was initially created to effectively help clients with borderline personality disorder who show suicide and self-harm, but it has been expanded and applied for the purpose of strengthening motivation, coping skills, and strength. Based on a dialectical worldview that emphasizes balancing, integrating, and synthesizing opposing ideas, this program is composed of a combination of various cognitive-behavioral strategies and mindfulness meditation activities.

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Dialectical Behavior Therapy (DBT)

Marsha M. Linehan
Born in 1943, Tulsa, Oklahoma

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Development of DBT

- Emperically generated
- Procedure of the 3rd wave of Behavior Therapy
- Modular design
- Therapeutic focus in DBT: Treatment of an emotion regulation disorder.

=> DBT is a therapy that focuses on emotions

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

How DBT works

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Overarching Goal in DBT

To build functional strategies for emotion regulation with the goal of benevolent acceptance of oneself

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Procedure in DBT

Psychotherapy in DBT:

The journey to yourself through the eye of the needle of emotions

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Procedure in DBT

Blocking dysfunctional behavior patterns (e.g., SIB, inappropriate anger outbursts)

while simultaneously

promoting functional behavior patterns by teaching skills (e.g., stress tolerance skills, emotion regulation skills) based on an authentic and resilient relationship.

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Characteristics of DBT

D = Dialectics
- Balance between acceptance / change

B = Behavioral
- Behavioral therapy basis

Additionally:
- Integrative approach
- Clear structure / hierarchy
- Awareness of boundaries

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Characteristics of DBT
- Dialectics -

Marsha Linehan discusses

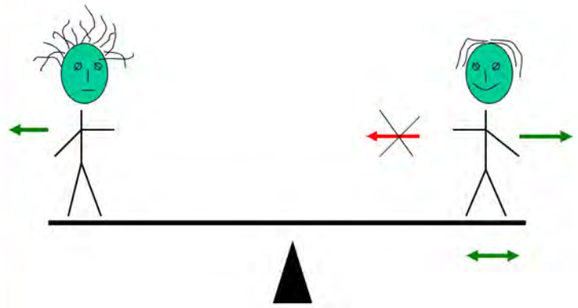
How She Came to Develop Dialectical Behavior Therapy (DBT)

Christian Stiglmayr

AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin

18.06.2022
Seoul International Meditation Expo

Characteristics of DBT
- Dialectics in Relationships -



Christian Stiglmayr

AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin

18.06.2022
Seoul International Meditation Expo

Characteristics of DBT

D = Dialectics
- Balance between acceptance / change

B = Behavioral
- Behavioral therapy basis

Additionally:
- Integrative approach
- Clear structure / hierarchy
- Awareness of boundaries

Christian Stiglmayr

AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin

18.06.2022
Seoul International Meditation Expo

Christian Stiglmayr

AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin

18.06.2022
Seoul International Meditation Expo

Characteristics of DBT
- Behavioral Therapy Basis -

- "Working tool":
  Behavior analysis
- Classic conditioning:
  What triggers the behavior?
- Operant conditioning:
  What maintains the behavior?
- Contingency management
  What modifies the behavior?

GUIDELINE

A DBT therapist always reinforces functional behavior through their relationship...

GUIDELINE

... and NEVER reinforces dysfunctional behavior through the relationship!

Characteristics of DBT

D = Dialectics
- Balance between acceptance / change

B = Behavioral
- Behavioral therapy basis

Additionally:
- Integrative approach
- Clear structure / hierarchy
- Awareness of boundaries

Characteristics of DBT
- Integrative Approach -

- Behavioral Therapy
- Cognitive Therapy
- Conversational Psychotherapy
- Gestalt Therapy
- Self-Compassion Techniques
- Zen/Mindfulness

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Characteristics of DBT

D = Dialectics
- Balance between acceptance / change

B = Behavioral
- Behavioral therapy basis

Additionally:
- Integrative approach
- Clear structure / hierarchy
- Awareness of boundaries

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Structuring Strategies
- Treatment Stages -

Dynamic Hierarchy
Danger to life
Termination of therapy
Severe crises
Jeopardize therapy progress

Stage 0	Stage I	Stage II	Stage III
Who am I?	I am borderline!	I am borderline - and so much more!	I´m strange but great!

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Structuring Strategies

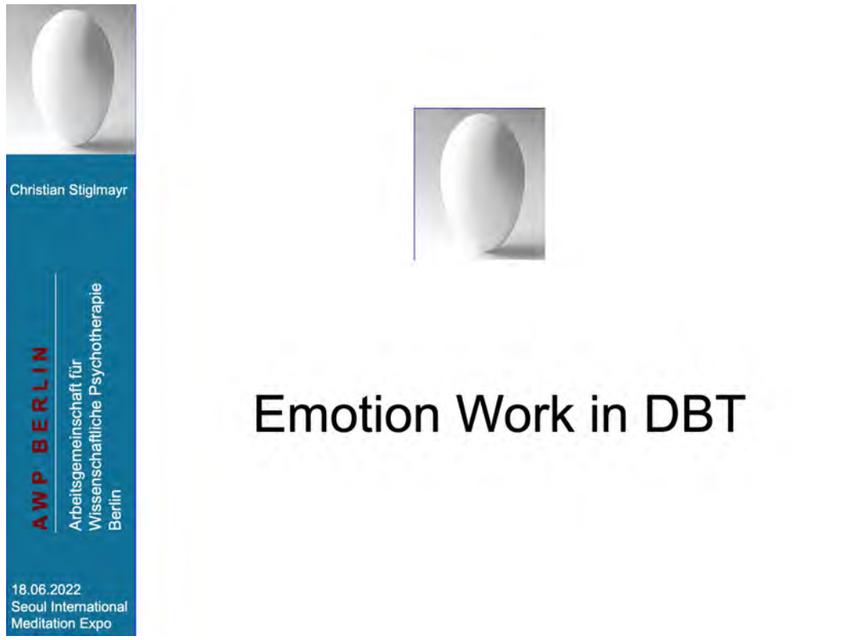
DBT focuses on emotions!

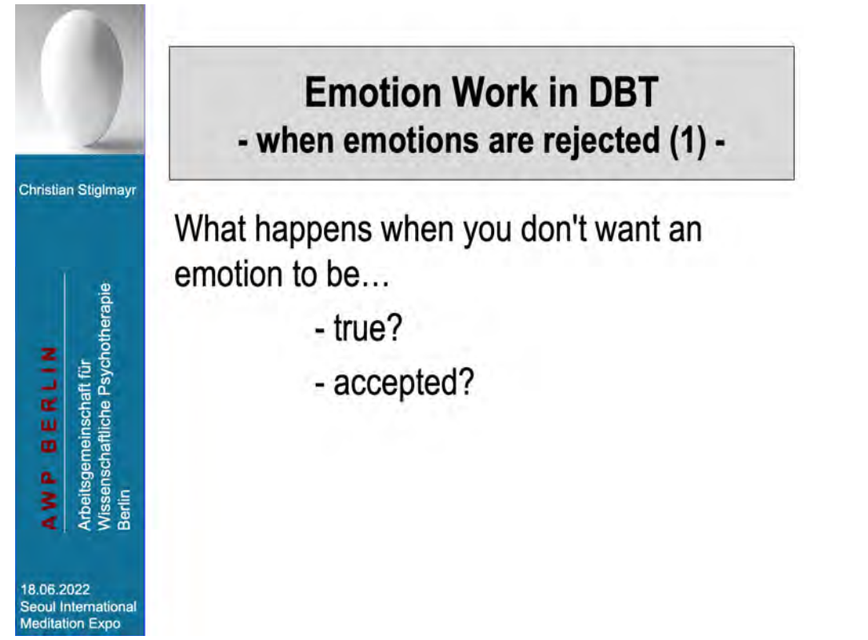
20

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

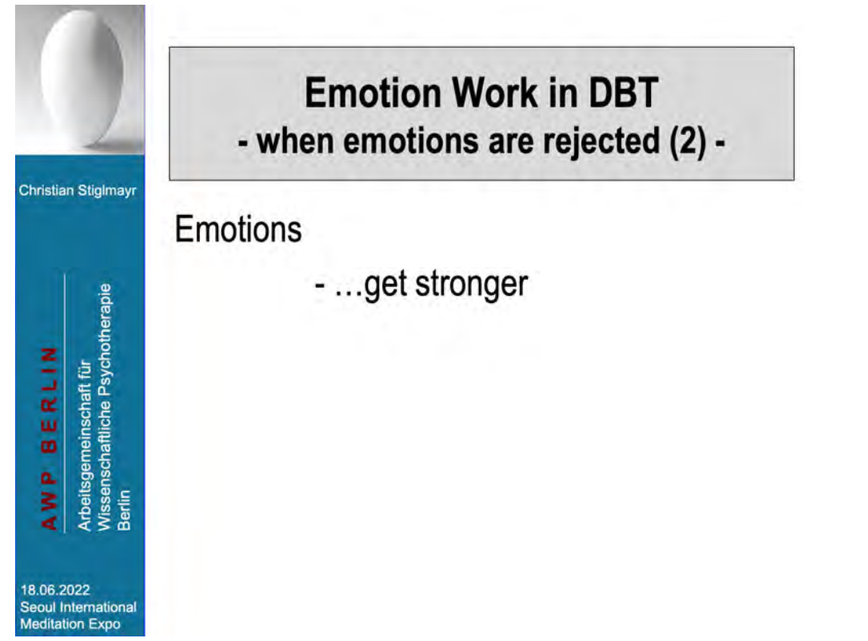
Structuring Strategies
- Aim of Stage III -

22


Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo
Emotion Work in DBT


Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo
Emotion Work in DBT
- when emotions are rejected (1) -
What happens when you don't want an emotion to be…
- true?
- accepted?


Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo
Emotion Work in DBT
- dealing with clients' own emotions -
Emotions are rejected because they are:
– perceived as uncontrollable
– not experienced as appropriate
– painful


Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo
Emotion Work in DBT
- when emotions are rejected (2) -
Emotions
- …get stronger

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- when emotions are rejected (3) -

e.g. when fear turns into panic

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- when emotions are rejected (4) -

Emotions

- …get stronger
- come to light in other, inappropriate places

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- if emotions are rejected (5) -

e.g. the anger towards the partner breaks out somewhere else.

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- when emotions are rejected (6) -

Emotions

- …get stronger,
- come to light in other, inappropriate places
- must be regulated in a different way

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- when emotions are rejected (7) -

Dysfunctional strategies to regulate emotions:

- Suicidal behavior
- Self-injurious behavior
- Alcohol, drugs
- High-risk behavior
- Binge eating, starving
- Etc.

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- when emotions are rejected (8) -

Conclusion:

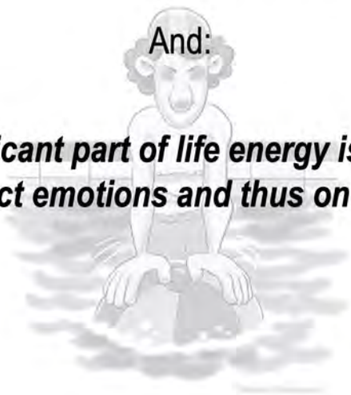
Rejecting one's own emotions
= a lot of problems and ...
... = Rejecting oneself

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- when emotions are rejected (9) -

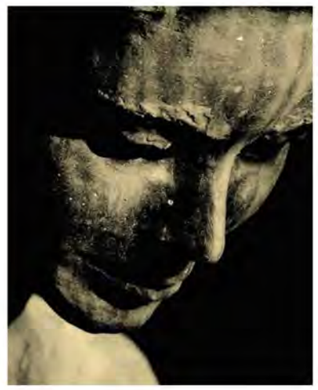
And:

A significant part of life energy is used to reject emotions and thus oneself



Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- when emotions are rejected (10) -



...SUFFERING!

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT

How are emotions dealt within DBT?

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- Blocking dysfunctional behavior (1) -

The first thing to do is to clear the way to the primary emotions (stage I)

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT

In general:

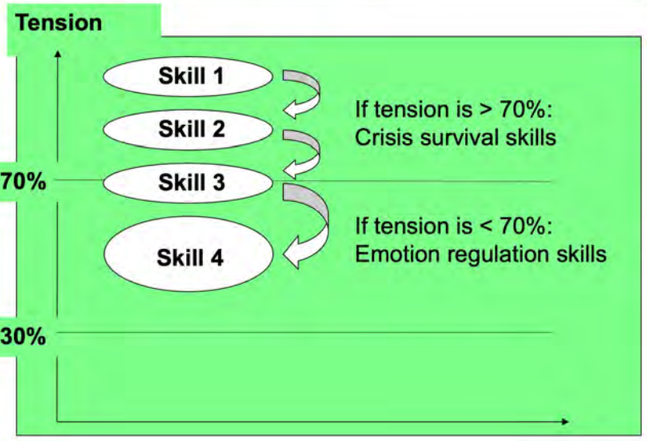
With increasing therapy duration, the proportion of emotion activation and thus emotion exposure becomes more extensive

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- Blocking dysfunctional behavior (2) -

- Using cold water
- Tightening and relaxing different muscles of the body
- Standing on a wobbly surface with one leg
- Eating chilli
- Drinking lemon juice
- Using an Ammonia inhalant
- Breathing, especially exhaling
- Distracting activities

Emotion Work in DBT
- Skills Chain -



Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- Message from the therapist -

- "I trust you to endure such emotions"
- The (primary) emotion is appropriate
- I am there for you and accompany you even in your most emotionally difficult hours
- "You are welcome with your emotions!"

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- The three focuses in emotion work -

1) Perceive and mark
   - Whenever an emotion is perceptible or noticeable, it is addressed
2) Describe
   - Perceiving and describing the emotion
   - "If you name it you tame it"
3) Participate
   - Experiencing the primary emotion
   - "If you feel it you heal it"

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- Target behavior of the client -

Be a polite host who opens the door wide when there is a knock: "Ah, it's you! Welcome! And crying and sobbing have you brought too? Come in and sit down by the fireplace and tell me all about it!"

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

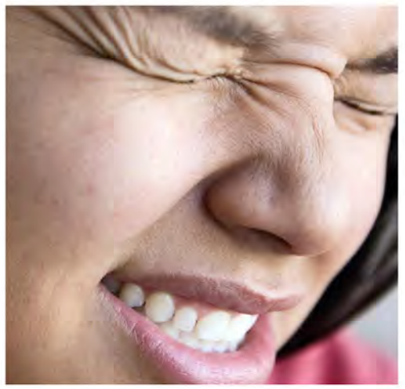
Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- Allowing emotions (1) -

What happens when you let in a previously avoided (unpleasant) emotion?

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- Allowing emotions (2) -



…pain!

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Emotion Work in DBT
- Allowing emotions (3) -

How can this pain be dealt with?

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Self-Compassion

Christian Stiglmayr

AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin

Self-Compassion
- Definition (1) -

The 3 main pillars of self-compassion (Neff, 2003):

- Mindfulness
  i.e. in order to respond to our need, we must know that we are suffering right now

18.06.2022
Seoul International Meditation Expo

Christian Stiglmayr

AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin

Self-Compassion
- Definition (2) -

The 3 main pillars of self-compassion (Neff, 2003):

- Self-friendliness
  i.e. treat oneself with kindness, care and understanding

18.06.2022
Seoul International Meditation Expo

Christian Stiglmayr

AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin

Self-Compassion
- Definition (3) -

The 3 main pillars of self-compassion (Neff, 2003):

- Common humanity
  i.e. everyone suffers or makes the experience of not being perfect

18.06.2022
Seoul International Meditation Expo

Christian Stiglmayr

AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin

Self-Compassion
- Definition (4) -

"Self-compassion is a state of loving, connected presence"

"We practice (self) compassion not so much with the goal of feeling better, but because we feel bad"

(Neff, 2003)

18.06.2022
Seoul International Meditation Expo

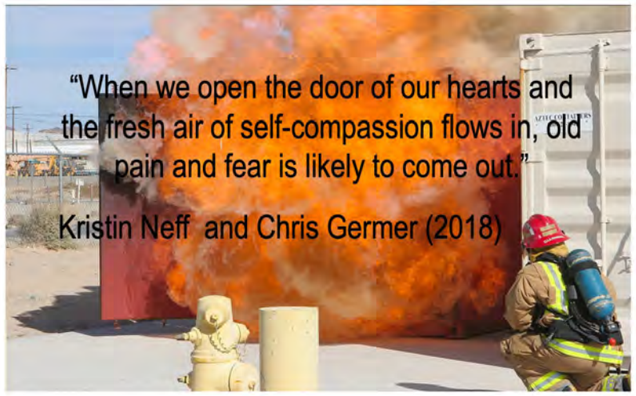
Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Self-Compassion
- Dangers -

But take care!

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Self-Compassion
- Backdraft -



Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Self-Compassion
- Requirements -

- No more severe dysfunctional behavior
- Distress tolerance skills
- Emotion regulation skills
- Mindfulness skills
- Stable social relationships

53

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Self-Compassion
- Self-compassion break -

1) Mindfulness: This is a moment of suffering
   - Localize emotional pain in the body
2) Common humanity: Suffering is part of life
   - I am not alone with my pain
   - Place hand on this area; thereby warmth and body contact
3) Self-friendliness: benevolent coaxing
   - E.g. "May I accept myself as I am"

54

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Self-Compassion
- Dealing with shame (1) -

- Basic needs: to be loved and to belong
- If I don't get as much love as I need: „I am wrong the way I am" (otherwise I would be loved)
- I am different from others
  ⇒ existential shame
- Permanent search for love and belonging in the outside world
- Acceptance that no one will be able to meet those needs the way parents normally should have done
- Building self-compassion in the face of the suffering it creates

55

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Self-Compassion
- Dealing with shame (2) -

⇒ **Self-compassion is the antidote to shame**

58

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Efficacy of DBT

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Efficacy Studies (1)

In a recent meta analysis including 24 randomized-controlled trials, there were moderate to strong effect sizes with respect to self-injurious behavior, suicidality, and mental health (Cochrane Review; Storebø et al., 2020).

⇒ By far the most efficacy studies are available for DBT, followed by MBT with 7 studies

Christian Stiglmayr

AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin

18.06.2022
Seoul International Meditation Expo

Efficacy Studies (2)

Based on current studies, only DBT and MBT are recommended as evidence-based methods for the treatment of BPD

Christian Stiglmayr

AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin

18.06.2022
Seoul International Meditation Expo

DBT-Effectiveness Study, Berlin

- 1 year outpatient DBT
- BPD (DSM-IV-TR)
- Under normal supply conditions
- 2007 - 2010
- Included:
  - 47 clients (43 females, 4 males)
  - > 15 years

60

Christian Stiglmayr

AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin

18.06.2022
Seoul International Meditation Expo

DBT-Effectiveness Study, Berlin
- Pre-Post-Results -

Table 2: Median, Range, Descriptive Means (M_d) and Standard Deviations (SD) for Pair-Wise Comparisons t0–t3

	t0		t3			Time effect			
	Median	Range	Median	Range	*n* (pairs)	Wilcoxon *U*		*p*	Effect size[a]
Number of suicide attempts	.00	0-2	.00	0-1	42			1.000[a]	
NSSI	5.17	0-901	1.00	0-174	42		-3.03	.002	0.33
	M_d	*SD*	M_d	*SD*	*n* (pairs)	*t*	*df*	*p*	Effect size[a]
Inpatient treatment									
Number of inpatient stays	1.13	1.41	0.32	0.89	47	3.85	46	<.001	0.56
Duration (days)	51.3	74.2	6.8	19.9	47	4.15	46	<.001	0.61
Number of DSM-IV TR BPD criteria met	6.4	1.2	3.2	1.9	31	8.85	30	<.001	1.59 *

Note. Effect sizes (Cohen's *d*) are based on pair-wise descriptive statistics t0-t3 (*p*-values pair-wise Wilcoxon- and *t*-tests).

Number of suicide attempts, non-suicidal self-injury, number and days of inpatient treatment stays 12 months prior t0 is compared to 12 months prior t3 NSSI

[a]McNemar-Test because of dichotomous variables (suicide attempt yes/no)

Stiglmayr et al. (2015)

* 77% no longer fulfilled the BPS diagnosis

Christian Stiglmayr

AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin

18.06.2022
Seoul International Meditation Expo

DBT-Effectiveness Study, Berlin
- Results costs-

	Costs for DBT M (SD) (in €)	Costs during DBT M (SD) (in €)	Costs savings (in €)
Medical costs	28.670 (33.443)	19.234 (19.534)	9.436
Total			
Direct costs	19.046 (25.210)	10.655 (9.154)	8.391
Indirect costs	9.624 (15.885)	8.579 (15.285)	1.045

Wagner et al., 2013

62

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Summary

- DBT is an empirically generated psychotherapeutic method of the third wave of behavior therapy
- DBT is an emotion focusing therapy
  - In order to be able to work with the client's emotions, the first thing to do is to put an end to previously dysfunctional behaviors for emotion regulation
- Mindfulness and self-compassion are necessary components for treating clients with BPD
- DBT is effective for treating clients with BPD

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Thank you for your attention!

Christian Stiglmayr
AWP BERLIN
Arbeitsgemeinschaft für Wissenschaftliche Psychotherapie Berlin
18.06.2022
Seoul International Meditation Expo

Self-Compassion
- Neurobiology -

Recourse to and expansion of the mammalian care system to compensate for the threat defense system, which may be overly active.

⇒ 3 important factors that develop and sustain the mammalian care system:
- warmth
- soothing touch
- gentle vocalisation

Mechanisms of Meditation in Oriental medicine

Jongwoo Kim
Kyung Hee University

Jong-woo Kim is a professor in Oriental Neuropsychiatry at the College of Oriental Medicine, Kyunghee University, Director of Oriental Medicine Mental Health Center, and the former President of the Korean Meditation Society. He is conducting research on using meditation in the clinical field of medicine and psychology, research on program development, comparative research with mental science based on the view of the human body of oriental medicine on various mental functions, clinical research on various psychiatric diseases including Hwabyeong, and development of new treatments, and so on.

In Oriental medicine, there is a qigong (Qi training) that is relatively similar to meditation. Qigong and meditation are methods of mind or health training that have been traditionally developed in Asia. Although they were originated from India or China, they have been practiced throughout Asia for a long time. There are many similarities in methods and purposes, so they are sometimes combined and used together.

For example, Dantian breathing is a representative training method of qigong. It takes an upright posture during training, focuses on breathing, and maintains calmness. It is very similar to the basic practice of meditation, the breathing method, posture, movement, and mindset.

There are differences between two methods:
Meditation, originated from Buddhism, sets the goal of enlightenment and focuses on training mind. Whereas Qigong, originated from Taoism, sets health as a goal and focuses on breathing.

However, as a way to practice mindfulness, it is necessary to take care of mind to stabilize breathing. Besides enlightenment and maintaining health are the ultimate goals in both methods. Therefore, there are more commonalities than differences.

CONTENTS

Meditation Mechanism in Oriental Medicine

1

Experience and training

Experience and training
Oriental Medicine Doctor

KMMH 한의학정신건강센터

[Medical Qigong]
Medical Qigong is the study of theories, methods and practical skills to cultivate self regulation ability. It is also a way to practice life-nurturing(養生) to live a long life without getting sick. Therefore it is a study to prevent diseases, extend lifespan, and improve physical and mental efficiency.

경희대학교 한의과대학
COLLEGE OF ORIENTAL MEDICINE
KYUNG HEE UNIVERSITY

[Shaolin'neijinyizhichan]
Shaolin'neijinyizhichan(少林內勁一指禪) is a unique training method that originated from the Buddhist teachings of Shaolin Temple in Fujian Province. It is a technique revered in the martial arts that has been handed down for hundreds of years.
It does not require calm down(入靜) or concentration, but emphasizes the precision of movements and postures. Therefore, ordinary people can gain Qi quickly and have high therapeutic effects immediately. In addition, it is a traditional technique of martial arts and a medical training method at the same time, which can make healthy physical condition and cure diseases.

Kim, J. W., Oh, J. K., & Whang, W. W. (1996). The Effects of Qigong training on the cardiopulmonary functions and catecholamine levels after physical training stress in untrained college students. *Journal of Oriental Neuropsychiatry, 7*(1), 39-48.

Life-nurturing, 2007

Shaolin'neijinyizhichan, 1994

Experience and training
Certified Professional in Meditational Teaching

KMMH 한의학정신건강센터

[Korean Society for Meditation]
Korean Society for Meditation is composed of experts in mental and physical healing fields and social welfare studies, such as psychology, medical science, Korean medicine, nursing, education, mental and physical therapy, and yoga.
Based on empirical research on the effect mechanism and training of meditation, they try to develop and distribute various programs to enhance members' expertise. In addition, they educate meditation instructors to cultivate personality and improve mental or physical health.

[Certified Professional in Meditational Teaching]
Those who have fulfilled basic education and training hours after joining association will obtain a T-grade meditation guidance expert through written tests and screening. They can acquire higher qualifications or strengthen meditational teaching abilities through additional training and education. Therefore they will be grown into experts with a deep understanding of meditation and leadership capabilities. (T Grade → R Grade → P Grade)

사단법인 한국명상학회
Korean Society for Meditation

Introduction to the Science of Meditation, 2021

Experience and training

Oriental Medicine neuropsychiatrist / Korean Medicine Mental Health center

KMMH 한의학정신건강센터

[15-minute meditation with Qi]

- Breathing
- Relaxation
- Feeling Qi

Eun-Young Hwang, Sun-Yong Chung, Jae-Heung Cho, Mi-Yeon Song, Sehyun Kim and Jong-Woo Kim : Effects of a Brief Qigong-based Stress Reduction Program (BQSRP) in a distressed Korean population: a randomized trial, BMC Complement Altern Med, 25;13:113. 2013

[Korean medicine counseling]

1st session : Holistic meeting experience
2nd session: Listen and interpret major problems
3rd session: Broaden understanding
4th session: Find strengths and psychological resources
5th session: Find one's own rhythm – **Breathing**
6th session: Recover energy through relaxation – **Relaxation**
7th session: Being in the present moment– **Mindfulness**
8th session: Interact for promoting spiritual health – **Feeling Qi**
9th session: What kind of mindset will you have in your daily life?
10th session: What will you do in your daily life?

KMMH 한의학정신건강센터 KOREAN MEDICINE MENTAL HEALTH CENTER

Optimal Mental Health Through Balance & Harmony

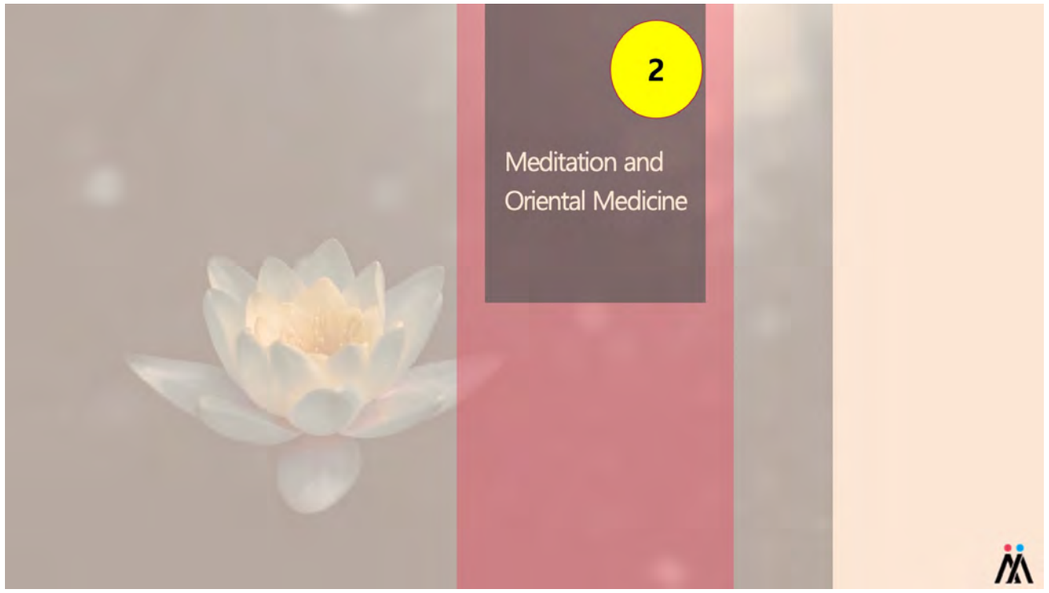
15-minute meditation with Qi, 2011

Korean medicine Counseling, 2016

Until the 1980s, Qigong was more socially well known than meditation in Korea. Qigong has been applied in clinical settings as a field of oriental medicine, but meditation has been mostly practiced in temples.

Qigong became distant from the clinical settings of Chinese medicine after Falun-Gong(法輪功) in 2000. Since Falun-Gong mainly focused on controlling mind, Qigong has been developed limited to breathing or movement. Therefore, the typical movements such as Liuzijue(六字訣), Baduanjin(八段錦), Taichi, and Dantian breathing were mainly carried out.

Meditation has been used in medical fields since MBSR introduced in the United States.
After that time, mindfulness has been explained as an important mechanism for psychological phenomena, and expanded its scope to clinical scenes. Nowadays it is conducted by merging with cognitive behavioral treatment or counseling in psychology, i.e. MBCT and ACT, and the research is actively underway.



Meditation and Oriental Medicine

The Goal of meditation

KMMH 한의학정신건강센터

The Goal of meditation

- **What is Meditation?**

✓ Meditation is a method of self-regulation training that emphasizes attention or awareness in order to control mental state. It aims to improve overall mental well-being and develop skills such as calmness, increased clarity and concentration. (Walsh & Shapiro, 2006)

✓ The essence of meditation is consistently trying to achieve the specific attentional set(calmness). (Goleman, 1976)

- **The Goal of Oriental Medicine**

✓ Oriental medicine aims to overcome, prevent and manage diseases, and also to maintain a healthy state and pursue a state of happiness.

✓ In oriental medicine, human being achieves healthy life by realizing optimal human state and having self-reliance / The goal of treatment is to change imbalance into balance, relieve stagnation and improve circulation.

Walsh R, Shapiro SL. The meeting of meditative disciplines and western psychology: A mutually enriching dialogue. American Psychologist. 2006;61(3):227–239.

Goleman D. Meditation and consciousness: An Asian approach to mental health. American Journal of psychotherapy. 1976;30(1):41-54.

Meditation and Oriental Medicine
Mechanism of Meditation

KMMH 한의학정신건강센터

Mechanism of Meditation(1)

- **Decentering(Shapiro et al., 2006; Teasdale et al., 2000)**

✓ Observe thoughts, feelings and sensations from a distance without identifying with oneself.

✓ It is a unique state of attention which is also called pure attention or non-judgmental awareness.

- **Relationship with Oriental Medicine Theory**

✓ In oriental medicine, for harmony and balance(ex: yin and yang), awareness must be preceded and decentering is a meditation mechanism which promotes awareness.

✓ Human cognitive process seen in oriental medicine : Sim-ui-ji-sa-ryeo-ji (心意志思慮智). Sim(心-paying attention) is a very important first step because it determines the subsequent cognitive processes. Therefore, 'how to pay attention?' is an important question, and a meditative state such as decentering can be the answer.

Shapiro SL, Carlson LE, Astin JA, et al. Mechanisms of mindfulness. Journal of clinical psychology. 2006;62(3):373-386.

Teasdale JD, Segal ZV, Williams JMG. Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. Journal of consulting and clinical psychology. 2000;68(4):615-623.

Meditation and Oriental Medicine
Mechanism of Meditation

KMMH 한의학정신건강센터

Mechanism of Meditation(2)

- **Self-regulation (Hölzel et al., 2011; Shapiro et al., 2006)**

✓ Increase intentional responsiveness as opposed to behaving automatically.

✓ Meditation is an attention regulation training that pays attention to inner experience, and is also an emotion regulation training that maintains calmness.

- **Relationship with Oriental Medicine Theory**

✓ As a mechanism of meditation, self-regulation and optimal state can be a way to achieve harmony and balance (ex: yin-yang) emphasized in oriental medicine.

- Realizing the Optimal State of Metal, "If Mind is Unintentional, people could follow the principle(道)" / Optimal State of Physical, "The upper side of the body is cool and lower side of the body is warm" by self-regulation.

✓

Hölzel BK, Lazar SW, Gard T (2011). How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. Perspectives on psychological science. 2011;6(6):537-559.

Shapiro SL, Carlson LE, Astin JA, et al. Mechanisms of mindfulness. Journal of clinical psychology. 2006;62(3):373-386

Meditation and Oriental Medicine
Mechanism of Meditation

KMMH 한의학정신건강센터

Mechanism of Meditation(3)

- **Mind-body Integration (Brown et al., 2007; Hölzel et al., 2011)**

✓ Meditation emphasizes being aware of the present moment as it is, and connects to the whole life that you were not aware of before.

✓ Being aware of the various sensations, accompanying emotions and thoughts, leads to understand the connection between body and mind.

- **Relationship with Oriental Medicine Theory**

✓ The relationship between Jeong(精)-Qi(氣)-Shin(神): There are several approaches to explain Qi. One of them is to take Qi as a way of connecting a body to mind. The mind-body integration in meditation happens in a similar way as Qi connects body and mind.

✓ Mind-body integration is related to the understanding of the five elements/organs in oriental medicine.

Hölzel BK, Lazar SW, Gard T (2011). How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. Perspectives on psychological science. 2011;6(6):537-559.

Brown KW, Ryan RM, Creswell JD. Mindfulness: Theoretical foundations and evidence for its salutary effects. Psychological inquiry. 2007;18(4):211-237.

Meditation and Oriental Medicine
Mechanism of Meditation

KMMH 한의학정신건강센터

Mechanism of Meditation(4)

- **Cognitive change and insights (Baer, 2003; Brown et al., 2007)**

✓ Meditation is an introspective method that continuously observes and reflects on one's inner mind.

✓ As meditation is based on non-judgmental awareness of the present moment, it induces cognitive change and facilitates insights consistent with reality principles.

- **Relationship with Oriental Medicine Theory**

✓ The ideal image of human(Gunja, saint, Arahan, Jinin, etc.), suggested by Eastern philosophy and oriental medicine, is being practiced in the process of observing, reflecting, and cultivating inner self. It is similar to the process of changing self-conception and attaining enlightenment through meditation.

✓ Four Constitution(仁義禮智: Benevolence, justice, courtesy, wisdom) can also be understood in a similar context.

Baer RA. Mindfulness training as a clinical intervention: a conceptual and empirical review. Clinical psychology: Science and practice. 2003;10(2):125-143.

Brown KW, Ryan RM, Creswell JD. Mindfulness: Theoretical foundations and evidence for its salutary effects. Psychological inquiry. 2007;18(4):211-237.

Meditation and Oriental Medicine
Oriental Medicine Keywords Related to Meditation

KMMH 한의학정신건강센터

Oriental Medicine Keywords Related to Meditation(1)

1. Harmony between Human & Nature(天人合一) – applying the law of nature to human : accepting and adapting to the will of nature: ex. daily life that changes with the seasons

2. Yin and Yang(陰陽) – maintaining harmony and balance : Considering the imbalance of yin and yang as unhealthy conditions, and trying to find a balance.

3. Jeong-Qi-Shin(精氣神) – Qi(氣) works as a mediator that connects the mind and body : Mind and body influence each other and Qi controls it / Circulation and regulation of Qi.

4. Four constitution(四象) – typology according to human nature : Four constitutions(仁義禮智: Benevolence, justice, courtesy, wisdom) are human nature. Pursuing life that suits oneself is the way to realize it.

5. Five elements(五行) – It is necessary to accept the change of natural circulation principles(生長化收藏)

Meditation and Oriental Medicine
Oriental Medicine Keywords Related to Meditation

KMMH 한의학정신건강센터

Oriental Medicine Keywords Related to Meditation(2)

6. Five organs(五臟) – There is a heart(心) in the middle of the five organs. The heart is recognized to manage all organs of human body. – The heart of controlling blood circulation & the heart of managing mind

7. Process of cognition – In the cognitive process of Sim-ui-ji-sa-ryeo-ji (心意志思慮智), Sim(心) is regarded as the beginning of cognition(paying attention), and Ji(智) is regarded as the final step(becoming wise).

8. Seven Emotions(七情) - Divide human emotions into seven emotional patterns and connect with body and qi(氣).

9. Four examination(四診) - Seeing, hearing, asking, and palpating for diagnosis. Regard the precise observation is most important in examination.

10. Four-qi five-flavors(四氣五味) – In oriental medicine, medical herbs are selected by their properties or flavor and qi(氣)

Meditation mechanisms in Oriental Medicine
Meditation mechanism in oriental medicine - Qi

KMMH 한의학정신건강센터

- Huang ti nei ching(黃帝內經) : define Qi as intangible energy information that sustains life / control Qi by breathing
- Dong-eui-bo-gam(東醫寶鑑) : apply Taoist life-nurturing method(養生法) to Oriental Medicine / control Qi by breathing, emphasize vitality as an origin
- Various studies on Qi : use Qi as a therapeutic method based on Chinese philosophy, apply quantum mechanics as a concept of energy, Qigong studies in China, developed into energy medicine

Definition of "Qi"
- Jeong(精), qi(氣), and shin(神) is essential composition factors in human being : Qi(氣) act as a bridge between jeong(精) and shin(神)
- Mind and emotion have a close relationship. Changes in emotions cause changes of qi and affect the five organs.
- Consider the phenomena of Qi in describing diseases. : qi stagnation(氣滯), qi fall(氣陷), qi collapse(氣脫), qi movement stagnation(氣鬱), qi deficiency(氣虛), qi block(氣閉) etc.
- Feeling Qi (感氣) : It is difficult to measure Qi, but it is possible to feel it.
- Try to change Qi through treatment : to achieve harmony and balance.
- Qi can be described as energy, which is now expanding into energy medicine or energy psychology.

Hwang-je-nae-gyeong(黃帝內經)

Dong-eui-bo-gam (東醫寶鑑), 1610

Meditation mechanisms in Oriental Medicine
Meditation mechanism in oriental medicine - Qigong

KMMH 한의학정신건강센터

Three coordination of Qigong(氣功三調) : The keyword of Training Qi
- coordinate body(調身) : An elementary stage of Qigong, adjusting the body's posture consciously and performing certain movements.
- coordinate breath(調息) : Create important environment of training by consciously breathing, controlling yin and yang, harmonizing the organs and relieving meridian system.
- coordinate mind(調心) : Control psychological activities consciously, aiming at self-discipline and spiritual growth by relaxing(放鬆) and concentrating(意守).

Three coordination of Qigong (氣功三調)	coordinate body(調身)	coordinate breath(調息)	coordinate mind(調心)
MBSR	-Sitting meditation -Hatha Yoga -Walking meditation	Breathing meditation	- Eating meditation -Body scan -Staying present
Interpretation	Relaxation based on right posture	Breathing exercises based on right breathing	Mental training based on right mind

Application of Qi
- Feeling Qi(感氣) : Feel qi through relaxation / Feel qi through mindfulness
- Accumulating Qi(蓄氣) : Accumulate qi through Dantian breathing
- Circulating Qi(行氣) : Circulate Qi through movement form such as Baduanjin(八段錦), Taichi


Introduction of medical qigong, 2012

Meditation mechanisms in Oriental Medicine

Meditation mechanism in oriental medicine
- Dantian Breathing and Taichi

KMMH 한의학정신건강센터

Training Qi (1) – Dantian Breathing
- Circulating Qi(蓄氣), Revolving Qi(運氣) - Xiaozhoutian(小周天), Dazhoutian(大周天)
- Characteristics
: Dan(丹) : The energy as the source of life, Dantian(丹田) - where unknown energy is synthesized in the human body / Based on the Qi(元氣) which is inherited from parents, oxygen and nutrients received through life activities are changed from dantian to intangible energy, the spirit.
: Acupuncture points – CV4(關元), CV5(石門), CV6(氣海), CV7(陰交)
/ Three parts of Dantian – Inferior Dantian, Intermediate Dantian and Superior Dantian are related to jeong(精), qi(氣) and shin(神)
/ External-Dantian(外丹田) – CV6(氣海穴), CV17(膻中穴), EX-HN3(印堂穴), PC8(勞宮穴), KI1(涌泉穴)

Training Qi (2) - Taichi
- Practice the movement by relaxing(放鬆) and breathing
- Characteristics of Posture
: Relaxation(鬆) - A relaxed and comfortable posture that is natural and calm, without straining or uncomfortable postures / Calmness(靜) - Unity of mind and movement
: Flexible movement, continuity of movement, circular movement, unity of mind, harmonious movement, artistic movement
: Characteristics of posture for each part - head (face and head), upper extremities (relaxation, hand shape), torso (spine, short leg), lower extremities (foot posture, movement posture, principle of landing)

Dantian Breathing, 2010

Taichi, 2005

Meditation and Qigong

Meditation mechanism in oriental medicine – research

KMMH 한의학정신건강센터

Relaxation or Regulation: The Acute Effect of Mind-Body Exercise on Heart Rate Variability and Subjective State in Experienced Qi Gong Practitioners (2021)

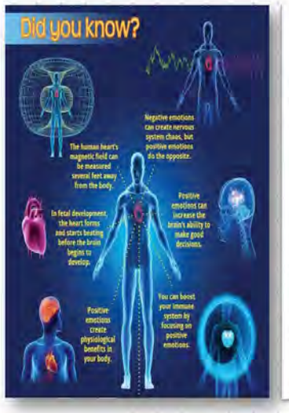
Goldbeck F, et al. Relaxation or Regulation: The Acute Effect of Mind-Body Exercise on Heart Rate Variability and Subjective State in Experienced Qi Gong Practitioners. Evidence-Based Complementary and Alternative Medicine, 2021;2021:6673190

Meditation mechanisms in Oriental Medicine

Meditation mechanism in oriental medicine - Heart(心)

KMMH 한의학정신건강센터

Understanding Body and Mind in Oriental Medicine : Mind-centered perspective



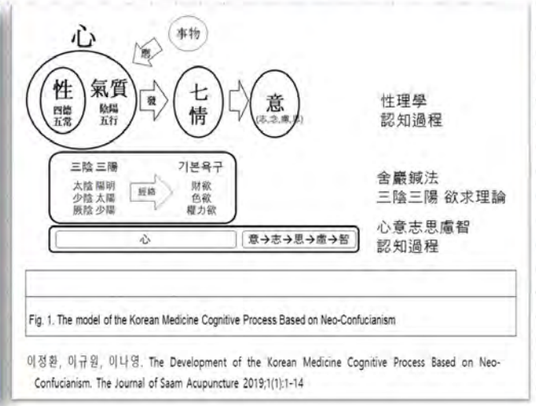
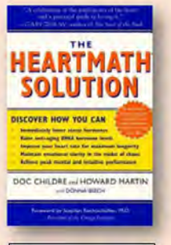


Fig. 1. The model of the Korean Medicine Cognitive Process Based on Neo-Confucianism

이정환, 이규원, 이나영. The Development of the Korean Medicine Cognitive Process Based on Neo-Confucianism. The Journal of Saam Acupuncture 2019;1(1):1-14



HEARTMATH SOLUTION, 2000

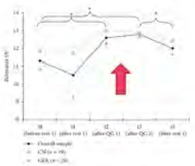
Jung-hwan Lee, Gyu-won Lee, Na-young Lee. The Development of the Korean Medicine Cognitive Process Based on Neo-Confucianism. J Saam Acupuncture. 2019;1(1):1-14.

Meditation and Qigong

Meditation mechanism in oriental medicine – research

KMMH 한의학정신건강센터

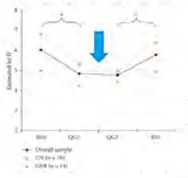
Calmness & vitality



- Study design: Single-arm study
- Country: China and Germany
- Participants: Healthy volunteers (Chinese, n=21; German, n=21)
- Intervention: Ba Duan Jin

- **Results: Subjective vitality was increased during qigong practice**

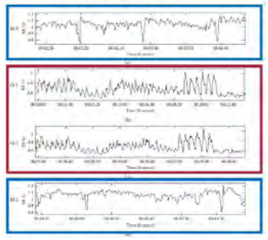
Body activation



- **Results: Parameters of parasympathetic modulation significantly decreased during qigong practice**

→ More than just a state of relaxation

Body activation



- **Results: Rhythmic changes of RR intervals were observed according to activation and relaxation during qigong practice**

Meditation and Qigong

Meditation mechanism in oriental medicine – Meditation with Qi

KMMH 한의학정신건강센터

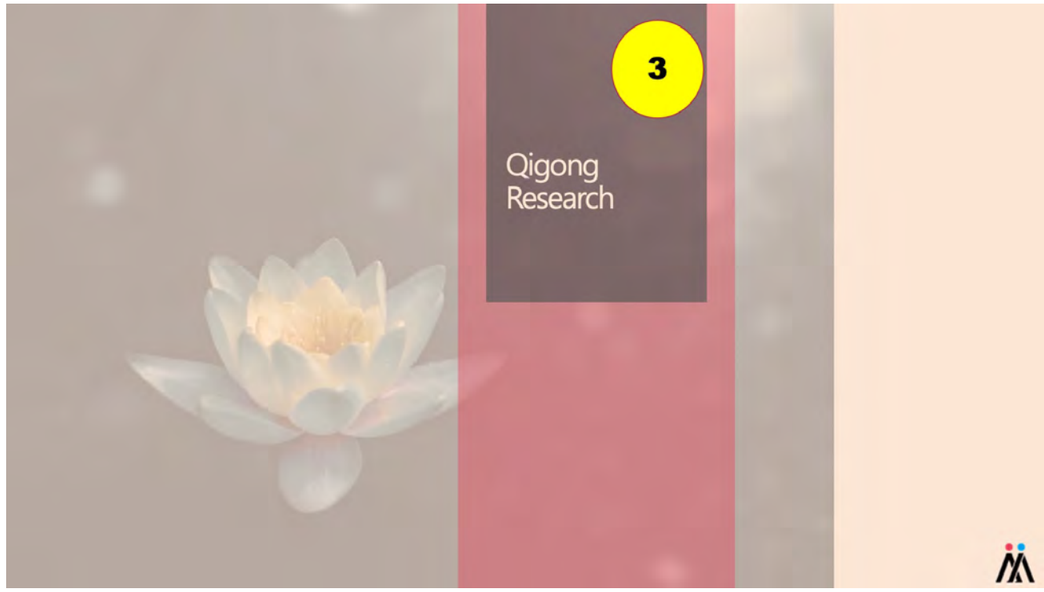
Eun-Young Hwang, Sun-Yong Chung, Jae-Heung Cho, Mi-Yeon Song, Sehyun Kim and Jong-Woo Kim : Effects of a Brief Qigong-based Stress Reduction Program (BQSRP) in a distressed Korean population: a randomized trial, BMC Complement Altern Med, 25;13:113. 2013

Background: Distressed individuals in Korea may benefit from the practice of mind-body exercises such as Qigong. However, the effectiveness of such techniques needs to be investigated.

Methods: Fifty participants who were eligible to this study were randomized into a group receiving a 4-week intervention of a brief Qigong-based stress reduction program (BQSRP) or a wait-list control group. Before and after the intervention period, saliva samples were collected and questionnaires were completed on perceived stress, anxiety, "Hwa-Byung" (anger syndrome), and quality of life. Salivary cortisol has emerged in mind-body therapy research as an easy-to-collect, relatively inexpensive, biologic marker of stress. Salivary cortisol were collected to evaluate physiological effect of BQSRP. Between-group comparisons of change from baseline to study completion were analyzed by analysis of covariance for the Perceived Stress Scale and independent two sample t-tests for other measures.

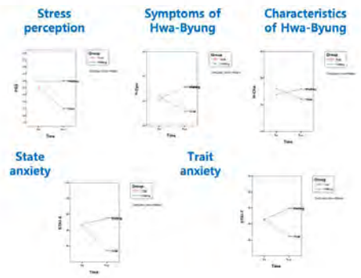
Results: Compared with the control group, the BQSRP intervention group displayed significantly larger decreases in Perceived Stress Scale scores ($p = 0.0006$), State Anxiety scores ($p = 0.0028$), Trait Anxiety scores ($p < 0.0001$), personality subscale scores of the Hwa-Byung Scale ($p = 0.0321$), symptoms scores of the Hwa-Byung Scale ($p = 0.0196$), and a significantly larger increase in World Health Organization Quality of Life Abbreviated version scores (ps < .05). Salivary cortisol levels were not changed.

Conclusions: The BQSRP appears to be effective in reducing stress perception, anxiety, anger, and improving quality of life



Brief Qigong-based Meditation Program	Breathing meditation	Abdominal breathing
	Autogenic Training	Training to feel heaviness and warmth in both hands
	Feeling Qi	Find your own qi between your hands. Healing Meditation Using Imagination Method

Brief Meditation : 15-minute brief meditation combining Breathing Meditation, Autogenic Training and Feeling Qi



② Has it reduced the level of stress, hwabyung, and anxiety?

- After 4 weeks, there was a difference in physical and psychological symptoms due to stress. Compared to the control group, the experimental group decreased the degree of stress perception, characteristics of Hwa-Byung, symptoms of Hwa-Byung, state anxiety, and trait anxiety

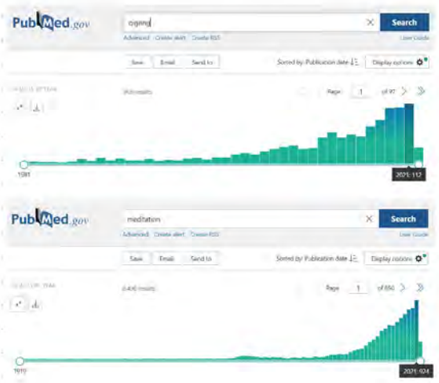
Changes in PSS, H_Cha, H_Sym, and STAI scores From Baseline

	QBMP(19)		Waiting(19)		t	Sig. (2-tailed)
	Mean	±Std.	Mean	±Std.		
PSS	-4.26	±4.724	0.84	±3.270	-3.873	0.000***
H-Cha	-2.37	±4.374	1.16	±5.326	-2.230	0.032*
H-Sym	-2.84	±7.073	2.37	±6.148	-2.446	0.020*
STAI-S	-7.63	±9.221	1.79	±8.619	-3.254	0.002**
STAI-T	-5.16	±8.255	3.47	±4.376	-4.027	0.000***

Compared to the meditation, 'Qigong' has been practiced in similar way for same purpose in Oriental medicine. There have been many studies on the medical effect of Qigong. However, in order to be recognized as scientific research, it is necessary to clarify the concept of Qi and explain the mechanism of Qi. As the 'Qigong' is widely applicable for now, the program of qigong must be established priorly in research. Currently, the research of 'Qigong' is mainly focused on "Taichi" and "Dantian Breathing. It is possible because a clear movement or method can be presented.

When conducting research in Qigong, we should refer to the method used in meditation research. It is to follow the footsteps of psychology that has been developed into science. 'Operational definition' should be done in establishing the concept of Oriental medicine, and the program that fully contains the concept can be developed and applied

A Comparison of Trends in the Research of "Qigong" and "Meditation"



- Comparing the quantitative aspects of papers by searching for "qigong" and "meditation" in Pubmed,
- The number of papers published in 2021 is about 8.25 times different
  - Qigong - published 112 papers
  - Meditation – published 924 papers
- The number of papers has been changed in different patterns.
  - Qigong- did not increase significantly
  - Meditaiton- increased exponentially

Trends in research
Qigong

KMMH 한의학정신건강센터

Types of Qigong in research

Movement form (Dong-gong)	Static form (Jeong-gong)	Standing form (Jang-gong)
• Taichi(太極拳) • Badaunjin(八段錦) • Liuzijue(六字訣) • Wuqinxi(五禽戲) • Daoyin(導引) • Yijinjing(易筋經) • Health Qigong(健康气功) • Medical Qigong(醫療气功)	• Meditation(冥想)	• standing qigong(站桩功)

Zhang YP, et al. Evidence base of clinical studies on qi gong: a bibliometric analysis. *Complementary Therapies in Medicine.* 2020;50:102392.

Trends in research
Meditation

KMMH 한의학정신건강센터

Is Meditation Scientific?

Meditation has evolved from the traditional areas, and developed into the current study.

The research methodology of psychology was applied to the study of the mechanism of meditation. Then meditation could be clearly defined and explained. As a result, the operational definition and evaluation was proceeded.

Meditation has been explained by neuroscience. The mechanism of meditation has been explained through neuroscience by anatomical physiology and neurofunctional phenomena.

Since the MBSR program was developed, it was possible to demonstrate the medical effect of meditation. It also became available to predict the effect of meditation on people who actually needed it.

1. What is meditation
2. Neuroscience of meditation
3. Meditation and disease management
4. Meditation and Psychotherapy
5. Meditation, mind and body
6. Meditation and self-regulation
7. Meditation for relaxation and healing
8. Meditation for Growth
9. Meditation for Love
10. Meditation for Balanced Life

Scientific meditation, 2016

Trends in research
Qigong

KMMH 한의학정신건강센터

Qigong and Science 1. Operational definition and Measurement scale

- **The idealist and pragmatist view of qi in tai chi and qigong: A narrative commentary and review (2020)**

1) Is qi real?
2) Is qi useful conceptually

Table 1
Epistemological *vs.* ontological idealism.

Category	Description	Position on qi's existence
Epistemological	Objective reality may exist but is not completely accessible to us. Our notions of reality are subjective	We should remain agnostic about qi's existence
Ontological	All reality is subjective mental phenomena	Qi is real as a mental phenomenon

1) Qi from the epistemological perspective
: An agnostic view should be taken on the existence of qi.

2) Qi from ontological perspective
: Qi exists as a mental phenomenon.

Bao GC. The idealist and pragmatist view of qi in tai chi and qigong: A narrative commentary and review. J Integr Med. 2020 Sep;18(5):363-368. doi: 10.1016/j.joim.2020.06.004. Epub 2020

Trends in research
Qigong

KMMH 한의학정신건강센터

Qigong and Science 2. **Development of programs (1)**

Medical Qigong for Mobility and Balance Self-Confidence in Older Adults

Stahl JE, Belisle SS, Zhao W. Medical Qigong for Mobility and Balance Self-Confidence in Older Adults. Front Med (Lausanne). 2020 Aug 14;7:422.

Design	Randomized prospective cohort pre-post study with wait time control
Participants and method	95 adults age ≥ 50 were randomly assigned to an immediate start group or 4-week delayed start group
Intervention	A 10 form qigong protocol taught over 12 weekly classes.
Measurements	- Community Balance and Mobility Scale(CBMS) - Activities-Specific Balance Confidence (ABC) - Data was collected at baseline, 1-month and 4-months.
Results	Both groups at both sites demonstrated improved balance and gait (CBMS + 11.9 points, $p < 0.001$). Balance self-confidence showed a tendency of improvement in several subscales.

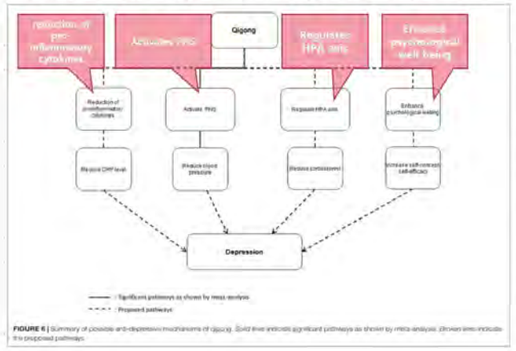
Trends in research
Qigong

KMMH 한의학정신건강센터

Qigong and Science 3. Research in effectiveness and mechanism(1)

- **The Neurophysiological and Psychological Mechanisms of Qigong as a Treatment for Depression: A Systematic Review and Meta-Analysis**

So WWY, Cai S, Yau SY, Tsang HWH. The Neurophysiological and Psychological Mechanisms of Qigong as a Treatment for Depression: A Systematic Review and Meta-Analysis. Front Psychiatry. 2019 Nov 18;10:820



- Included 9 RCT papers that studied the neurophysiological and psychological mechanisms of Qigong for depression.
- Qigong is effective in alleviating depression by activating the parasympathetic nervous system
- Depression can be improved through reduction pro-inflammatory cytokines, regulation of the HPA axis, and psychological positive reinforcement.

Trends in research
Qigong

KMMH 한의학정신건강센터

Qigong and Science 2. **Development of programs (2)**

The effect of Imaginary Working Qigong on the psychological well-being of college students: Study protocol for a randomized controlled trial

Guo Y, Xu M, Ji M, Wei Z, Zhang J, Hu Q, Yan J, Chen Y, Lyu J, Shao X, Wang Y, Guo J, Wei Y. The effect of Imaginary Working Qigong on the psychological well-being of college students: Study protocol for a randomized controlled trial . Medicine (Baltimore). 2018 Nov;97(44):e13043

Imaginary Working Qigong(IWQ)
IWQ is an extension of Concrete Thinking theory and through active processing of the consciousness, the benign thought subject translation into the artistic conception, and then makes the body and mind fuse in benign state of psychological harmony, so as to adjust the bad psychological emotions.

Design	Randomized Controlled Trials(RCT)
Participants and method	80 college students were randomly allocated into Imaginary Working Qigong(IWQ) group or unaltered lifestyle control group.
Intervention	IWQ participated a 4-week supervised training and 4-week independence training
Measurements	- Measurement was taken place at baseline, 5 weeks(at the end of supervised training), 9 weeks (at the end of independence training), and 13 weeks (after the 4-week follow-up period) - Bioelectrical activity of cortical neurons, changes in the gene phenotype of plasma leukocytes, depression, anxiety, personality, sleep quality, and self-assessment of Qigong training

Trends in research
Qigong

KMMH 한의학정신건강센터

Qigong and Science 3. Research in effectiveness and mechanism(2)

Qigong and Tai-Chi for Mood Regulation (2018)

Albert Yeung, Jessie S. M. Chan, Joey C. Cheung, Liye Zou : Qigong and Tai-Chi for Mood Regulation, Focus 2018; 16:40–47

POSSIBLE MECHANISMS
The exact mechanisms of Tai-Chi and Qigong are unknown. Recent research studies have provided preliminary evidence on the physiological outcomes of meditation. On the basis of these findings, many researchers have proposed possible mechanisms on how meditation and meditative movements affect health outcomes. Admittedly speculative, we use these hypothesized mechanisms to formulate possible explanations on how Qigong and Tai-Chi produce their health effects.

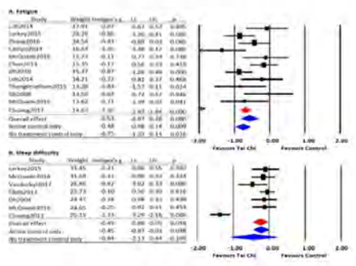
1. Psychological Model of the Mechanisms of Mindfulness
2. Attenuation of Stress Response
3. Meditative Effects on the Brain
4. Revitalizing Interoception
5. The Effects of Breathing Exercises
6. Effects on Epigenetics

Trends in research
Qigong

KMMH 한의학정신건강센터

Qigong and Science 4. Medical effects of Qigong(1)

- **Tai Chi and Qigong for cancer-related symptoms and quality of life: a systematic review and meta-analysis (2018)**



(1) fatigue
- Evaluated through various fatigue related questionnaires including FACT-F
- Given the overall effect size based on the random effect model, Taichi and Qigong improved fatigue of cancer patients(Hedges' g=−0.53, 95% **CI −0.97 to −0.28, p<.001**)

(2) sleep difficulty
- Evaluated through various sleep disorders related questionnaires including PSQI.
- Given the overall effect size based on the random effect model, Taichi and Qigong improved sleep disorders of cancer patients(Hedges' g=−0.49, 95% **CI −0.89 to −0.09, p=.018**).

Wayne PM, Lee MS, Novakowski J, Osypiuk K, Ligibel J, Carlson LE, Song R. Tai Chi and Qigong for cancer-related symptoms and quality of life: a systematic review and meta-analysis. J Cancer Surviv. 2018 Apr;12(2):256-267. doi: 10.1007/s11764-017-0665-5. Epub 2017 Dec 8. PMID: 29222705; PMCID: PMC5958892.

Trends in research
Qigong

KMMH 한의학정신건강센터

Qigong and Science 4. Medical effects of Qigong(2)

Intervention on Telomerase Activity and Mental Health in Women Survivors of Intimate Partner Violence(IPV) : A Randomized Clinical Trial(2019)

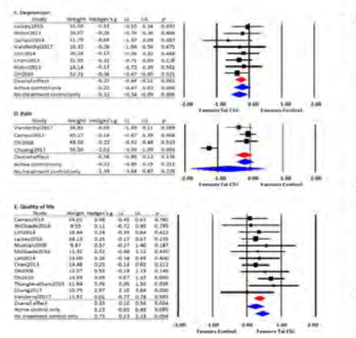
Design	Randomized Controlled Trials(RCT)
Participants and method	271 women who survived intimate partner violence(IPV) in the past 2 years were 1:1 randomly assigned to baduanjian qigong intervention group and wait-list control group
Intervention	Baduanjin qigong group training : 1-6 weeks: 2-hour sessions biweekly; 7-22 weeks: 1-hour follow-up sessions weekly and self-practice 30 minutes per day for 22 weeks
Measurements	- primary outcome: telomerase activity in peripheral blood mononuclear cells - secondary: levels of proinflammatory cytokines, BDI-II, PSS, PCS 점수
Results	- not significant in telomerase activity between two groups - telomerase activity from baseline was marginally significant in the intervention group(effect size [d], 0.13; 95% CI, 0.001-0.27) - Perceived stress and depressive symptoms were significantly lower in the intervention group than in the wait-list control group after 6 weeks(between-group differences: perceived stress: d, −1.81; 95% CI, −3.27 to −0.34; depressive symptoms: d, −3.57; 95% CI, −6.25 to −0.90)

Cheung DST, Deng W, Tsao SW, Ho RTH, Chan CLW, Fong DYT, Chau PH, Hong AWL, Fung HYKY, Ma JLC, Tiwari AFY. Effect of a Qigong Intervention on Telomerase Activity and Mental Health in Chinese Women Survivors of Intimate Partner Violence: A Randomized Clinical Trial, JAMA Netw Open. 2019 Jan 4;2(1):e186967.

Trends in research
Qigong

KMMH 한의학정신건강센터

Qigong and Science 4. Medical effects of Qigong(1)



(3) Depression
- Evaluated through depression-related questionnaires including BDI
- Given the overall effect size based on the random effect model, Taichi and Qigong improved depression of cancer patients(Hedges' g=−0.27, **95% CI −0.44 to −0.11, p=.001**)

(4) Pain
- Evaluated through pain related questionnaires
- No significant results(Hedges' g=−0.38, 95% CI −0.89 to 0.12, p=.136)

(5) Quality of Life
- Evaluated through Quality of Life related questionnaires
- Taichi and Qigong improved Quality of life of cancer patients(Hedges' g=0.33, 95% CI 0.10 to 0.56, p=.004).

Trends in research
Qigong

KMMH 한의학정신건강센터

Qigong and Science 5. Diseases treated with Qigong(1)

- **Evidence Base of Clinical Studies on Qi Gong: A Bibliometric Analysis (2020)**

Table 3
Top 15 diseases/conditions included in clinical studies on Qigong. (n = 886)

Disease/condition	Study design (number of studies)					
	SR	RCT	CCS	CS	CR	Total (%)
Diabetes	6	84	4	0	0	94(10.6)
COPD	6	70	8	0	0	84(9.5)
Hypertension	9	40	8	0	1	58(6.5)
Stroke	2	44	2	0	1	49(5.5)
Cervical spondylosis	0	34	3	0	0	37(4.2)
Lumbar disc herniation	0	34	2	1	0	37(4.2)
Insomnia disorders	0	19	7	0	0	26(2.9)
Osteoarthritis	0	20	3	1	0	24(2.7)
Low back pain	0	22	0	0	0	22(2.5)
Osteoporosis or osteopenia	1	17	0	0	0	18(2.0)
Coronary heart disease	2	14	2	0	0	18(2.0)
Breast cancer	1	9	2	1	0	13(1.5)
Periarthritis of shoulder	0	10	3	0	0	13(1.5)
Depression	2	5	3	1	0	11(1.2)
Metabolic syndrome	0	10	0	0	0	10(1.1)

Abbreviation: SR, systematic review; RCT, randomized clinical trial; CCS, non-randomized controlled clinical studies (quasi-randomized clinical trial or observational studies such as cohort or case-control studies); CS, case series; CR, case report; COPD, chronic obstructive pulmonary disease.

- Only include movement form of qigong (~2018)
  - Tai Chi and yoga were excluded
- Top 15 diseases/conditions
  - Metabolic syndrome
  - COPD
  - Cardiovascular disease (CVD)
  - Musculoskeletal disorders
  - Cancer, etc.

Zhang YP, et al. Evidence base of clinical studies on qi gong: a bibliometric analysis. *Complementary Therapies in Medicine.* 2020;50:102392.

Trends in research
Qigong

KMMH 한의학정신건강센터

Choi, W., Suh, H. W., & Kim, J. W. (2021). Analysis of Clinical Study Trends on'Qigong': A Preliminary Scoping Review. Journal of Oriental Neuropsychiatry, 32(3), 207-217.

Qigong and Science 5. Diseases treated with Qigong(2)

- Analysis of Clinical Study Trends on 'Qigong': A Preliminary Scoping Review(2021)

Table 4. Disease Categories Based on ICD-10 Classifications

ICD-10 codes*	No. of study (%)
Mental and behavioural disorders (F00-F99)	25 (19.8%)
Neoplasms (C00-D48)	24 (19.0%)
Studies on healthy population and others	19 (15.1%)
Diseases of the nervous system (G00-G99)	12 (9.5%)
Diseases of the circulatory system (I00-I99)	11 (8.7%)
Diseases of the musculoskeletal system and connective tissue (M00-M99)	11 (8.7%)
Diseases of the respiratory system (J00-J99)	9 (7.1%)
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	4 (3.2%)
Endocrine, nutritional and metabolic diseases (E00-E90)	3 (2.4%)
Diseases of the digestive system (K00-K93)	3 (2.4%)
Factors influencing health status and contact with health services (Z00-Z99)	3 (2.4%)
Certain infectious and parasitic diseases (A00-B99)	1 (0.8%)
Codes for special purposes (U00-U85)	1 (0.8%)
Total	126 (100.0%)

*ICD-10: International Classification of Diseases

- Include all types of qigong (2019~2021)
  - Include movement form, static form, standing form, etc.
  - However, most of the studies investigated movement form of qigong
- Major diseases/conditions
  - Mental health
  - Cancer
  - Neurological disorder
  - Cardiovascular disease (CVD)
  - Musculoskeletal disorder

Qigong Research
Defining concept and development of measurement tools

KMMH 한의학정신건강센터

Mental Health Program Development Project.
- Qi questionnaire

Seok-in Yoon(KMMH)

- **Understanding of Qi**

✓ It is difficult to reveal the reality of Qi and measure it objectively. But, it is possible to share common experiences of qi in everyday/training contexts.(ex: A feeling of heat rising in your chest when you are angry, A feeling of warmth and firmness in the palm and dantian during qigong practice, etc.)

- **Definition of Qi**

1. Feeling qi(感氣) : The ability to recognize the feeling of Qi
2. Accumulating Qi (蓄氣) : The ability to store the energy of Qi
3. Circulating Qi (行氣) : The ability to use the energy of Qi

- **The measurement scale of Qi**

✓ Feeling Qi questionnaire : "I can feel the warmth in my palm." etc. Develop observable phenomena of Qi into the form of self-report questionnaires.

➢ In the future, it is necessary to increase the reproducibility of the research through the development of a standardized qigong programs, and to reveal its effectiveness and neurological mechanisms.

Qigong Research
Korean Medicine Mental Health Center

KMMH 한의학정신건강센터

KMMH
KOREAN MEDICINE MENTAL HEALTH CENTER

Mission — Optimal Mental Health Through Balance and Harmony

Vision
- Korean Medicine-based Mental Health Care
- HQ for Continuous Research
- National Mental Health Hub

Goals
- Establishing patients' registry and conducting large-scale observational studies on Hwa-byung and depressive disorders
- Development of Korean Medicine Diagnosis, Evaluation and Treatment Technology for mental disorders
- Developing Korean Medicine Mental Health Program that combines IT technology
- New Health Technology Registration and Insurance Entry for the public interest
- Ultimately, contributing to the promotion of Korean mental health

KMMH
- Clinic: Application of Clinical Pathway, Clinical Practice Guideline at Nationwide Korean Medicine Neuropsychiatry of Korean Medicine Hospital
- Research: Construction of Registry & Multi-center clinical research
- Education: Training for Korean Medicine Neuropsychiatrist & Manual Education(Trauma, COVID-19 Mental Health)

Qigong Research
Taichi based program development

KMMH 한의학정신건강센터

Taichi based program development.

Jackie Shin (Indiana State Univ.)

- **Distinctiveness of Taichi & Movement analysis based on meridian system**

✓ There are two explanations for the health effects of Taichi. The first explanation notes that it relieves inflammatory responses in the immune system(Ho, Wang, Ng, Ho, Ziea, Wong,...Chan, 2013). It has the effect of enhancing harmony with sympathetic nerves by strengthening the parasympathetic nervous system of the autonomic nervous system (Audette et al., 2006; Chang et al., 2008; Figueroa, DeMeersman, & Manning, 2012; Väänänen, Xusheng, Wang, Laitinen, & Pekkarinen, 2002). Taichi's slow movements and meditative mental state are advantageous for operating these mechanisms.

✓ The second explanation notes that Taichi improves blood circultaion(Rogers et al 1990). Through active blood circulation, it not only reduces inflammation but also enhances cardiorespiratory function. It is advantageous for Taichi to have this effect because Taichi is a moderate-intensity aerobic exercise similar to fast walking or stretching (Lan et al 2008; Lan et al 2001) and can be trained for a relatively long time without straining joints or muscles.

➢ Special health effects of Taichi are explored in oriental traditions especially in Oriental Medicine and Taoism. Taichi's movements were developed and passed down for hundreds of years under the influence of martial arts, Oriental medicine and Taoism. Above all, movement and training methods can be analyzed based on the meridian theory of Oriental Medicine and Taoist life-nurturing(養生).

Qigong Research
Life-nurturing(養生)

KMMH 한의학정신건강센터

- **Study of Life-nurturing(養生)**

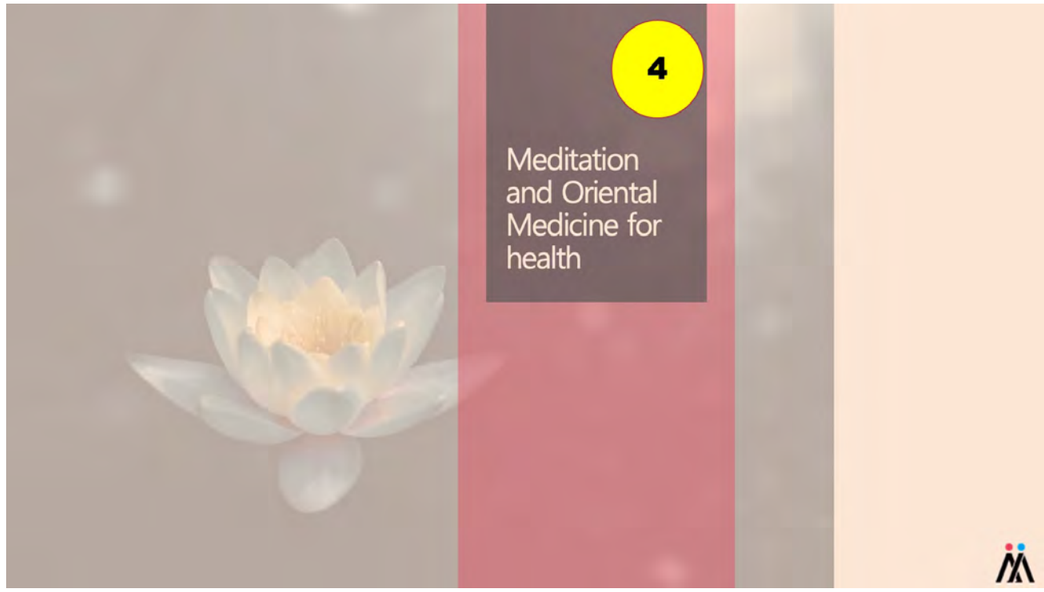
Among the characteristics of Oriental Medicine, they have strengths against prevention and management, and sub-health (未病) before diseases. Taking advantages of these strengths is called 'Life-nurturing(養生)'. Life-nurturing(養生) means nurturing vitality. To boost vitality, herbal medicine or acupuncture is used, but training mind and behavior is important as well.

Qigong(气功) is a specific practice of life-nurturing(養生). Qigong consists of breathing, posture, and mind control. Oriental Medicine mainly explains breathing and posture by using the circulation pathway called meridian system. Dantian breating is used for breathing meditation and Taichi is used for practicing postures. Above all, the essential part here is mind control, or mental training.

Mind control and mental training are dealt with more in the field of philosophy and religion than in Oriental Medicine. In China, various methods of Taoism, Confucianism, and Buddhism are presented according to the characteristics of each field. As Chinese philosophy and religion flowed into Korea, it developed in a distinctive way in Korea.

Life-nurturing, 2020

Way of Life-nurturing & Dream of Doctor , 2020



Meditation and Qigong
Development of Qigong program

KMMH 한의학정신건강센터

Development of Qigong program

1. Stabilization : As a basic move to restore physical stability and confidence, it uses the posture of standing qigong(站桩功), the first movement "Ki-se(起勢)" and the last movement "Su-se(收勢)" of Taichi.
2. The process of accumulating Qi : In the posture of the standing qigong(站桩功) and the sedentary position, feel Qi in the Dantian through Dantian breathing and experience the accumulation of Qi.
3. The process of Feeling Qi : Among the movements of Taichi, use the movement of palms crossing each other such as "Unsu(雲手)".
4. The process of using Qi : Among the movements of Taichi, learn the movement of transmitting Qi to the fingertips and confirm that Qi is transmitted to the end.
5. Adapting Qi to your own situation : By identifying uncomfortable body parts and delivering Qi there, a healing mechanism arises.
6. Becoming one's optimal state : Through meditation with Qi, be the optimal state of mind and body with your own rhythm, and train yourself to return to this state any time.

Mental Health Program Development Project.
- Qigong program

Jongwoo Kim, Hyoweon Suh(KMMH)

There are many ideas when organizing meditation and Oriental Medicine. It's about the goals you want to achieve, what you want to do, what you can do, and what you're doing right now. In the past, humanities and natural sciences were not separated but integrated. As times change, the field of study has become specialized, and the medicine has already been included in the domain of science. While the field that are not explained by scientific research are being denigrated as "non-science."

Oriental Medicine has been requested to develop into a "science" from "non-science. Such demand is strong not only in basic theory but also in clinical settings. For that reason "Yin-Yang and Five-Elements", "Qi(氣)", "principle(道)", "life-nurturing(養生)", and "Qigong(氣功)" are moving away from the subject of research, and only remain in individual practice.

Nowadays, it is impossible to escape from "science". Therefore with the difficulty of identifying through scientific methods, sometimes it takes a step forward, but it repeats a step backward. However if you leave the field of science for a while and enter the world of training, there are still paths and dreams to practice consistently. Also the methods that can be applied to patients are being sought, not remaining in the individual performer. Moreover, there is wisdom to choose an appropriate scientific research methodology, and the convergence of science and humanities is also possible, so the research should not be given up.

Meditation and Oriental Medicine for health
Korean meditation

KMMH 한의학정신건강센터

Q. What is meditation?

- ✓ Just being calm and living well
- ✓ Being free from thoughts
- ✓ Awaken and examine the body-mind-thought, restore one's presence as the way it is
- ✓ The way of approaching truth
- ✓ The way to look at 'life' in a rich and warm way
- ✓ The inner gesture of compassion and kindness towards oneself and others.
- ✓ one's own way of life
- ✓ The process of enlightening the mind
- ✓ Putting down thoughts(judgments) about a certain object and fully concentrating.
- ✓ Gaining wisdom in the process of observing mind and body
- ✓ The process of creating the optimal state

Speak of Korean meditation, 2020

Meditation and Oriental Medicine for health
Korean Medicine Mental Health Center

KMMH 한의학정신건강센터

Thank You

KMMH
KOREAN MEDICINE MENTAL HEALTH CENTER

Mental Health Program Development Project.
- Qi questionnaire

Seok-in Yoon (KMMH / Doctor of Psychology)

Taichi based program development.

Jackie Shin (Dept. Psychology, Indiana State Univ. / Taichi Instructor)

Mental Health Program Development Project.
- Qigong program

Hyoweon Suh (KMMH / Doctor of Oriental Medicine)

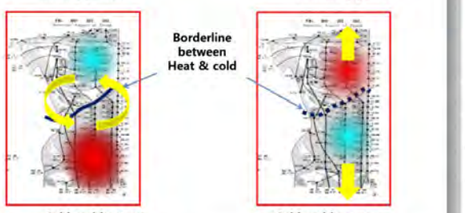
Meditation and Oriental Medicine for health
Optimal state of Mind and Body

KMMH 한의학정신건강센터

Optimal state of the body

【頭寒足熱】 The upper side of the body is cool and lower side of the body is warm

- healthy person
- unhealthy person



Cold and heat are circulated and harmonized

Cold and heat are biased towards one side

Optimal state of the mind

【虛心合道】 If Mind is Unintentional, people could follow the principle(理)

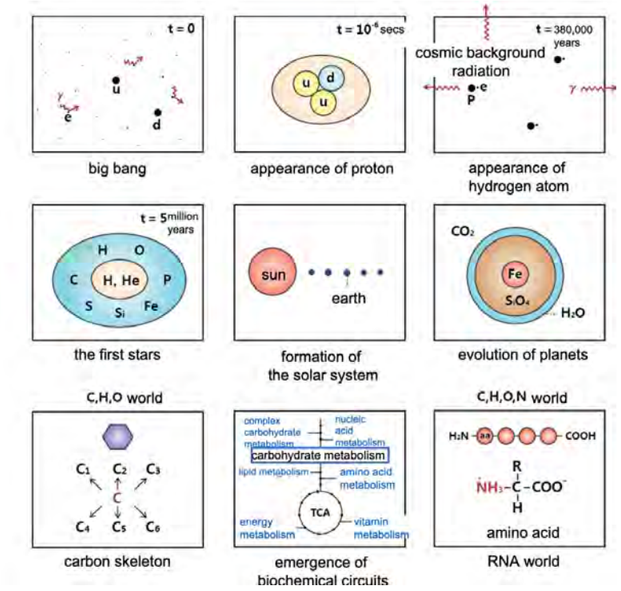
- ✓ Empty your mind without being obsessed
- ✓ don't be distracted and be free from agony
- ✓ The mind becomes calm and peaceful
- ✓ Be in the right mind and follow the principle
- ✓ Be in a healthy state of mind

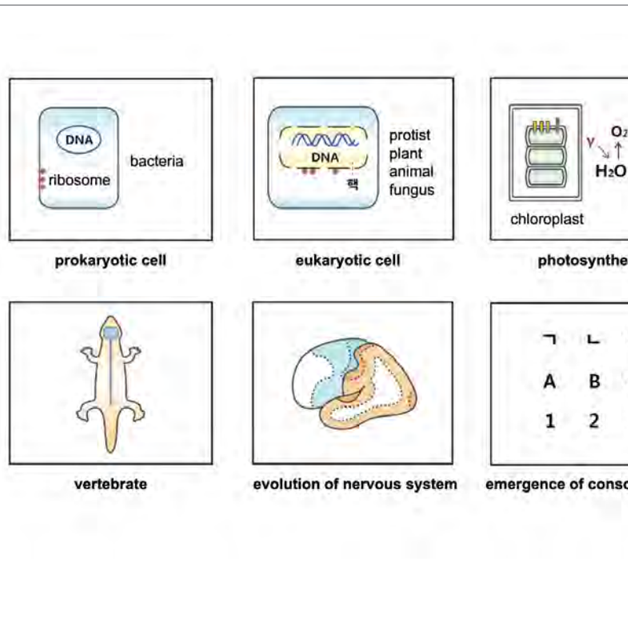

삼단전의 위치

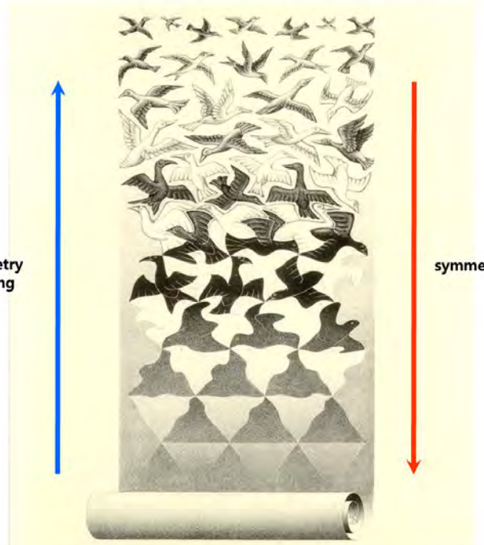
Mechanisms of Meditation in physics

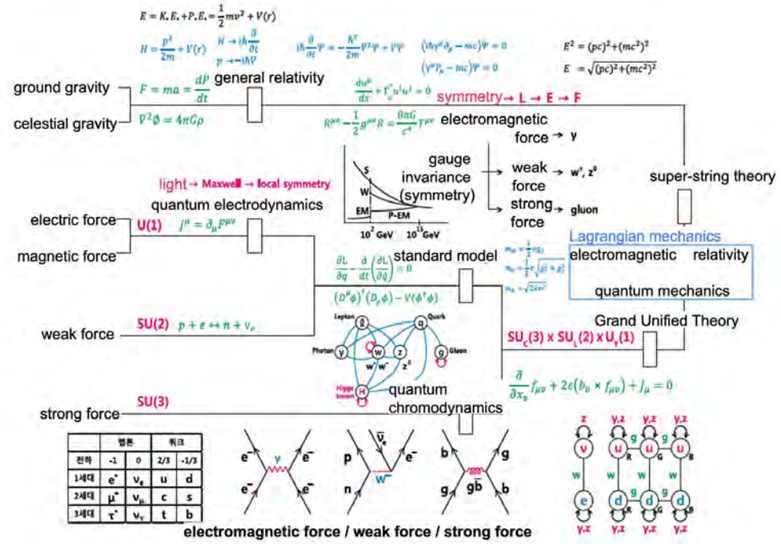
Moonho Park
Brain science expert

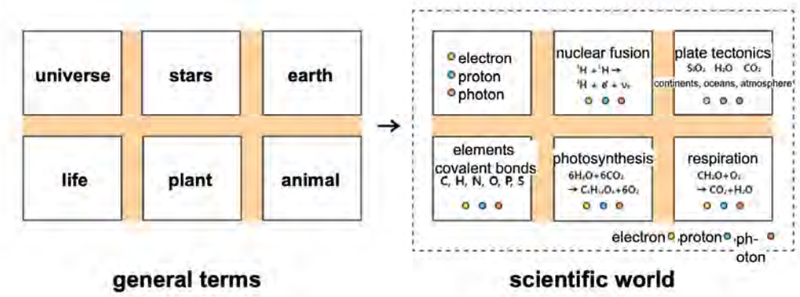
Moon-ho Park graduated from the Department of Electronic Engineering at Kyungpook National University, studied at Texas A&M University, USA, and received his master's and doctorate degrees in electronic engineering. He served as a senior researcher at ETRI (Electronics and Telecommunications Research) and studied natural science for over 30 years devoting himself to studying the source of life. He is an acknowledged expert in astronomy, physics, and brain science. His lectures on space, nature and the brain at 'Research Space Suyu + Beyond', Samsung Economic Research Institute, Seoul National University, KAIST, Buddhist TV, and YTN Science were a public sensation.











$$\ell = \ell_0 \sqrt{1 - \left(\frac{v}{c}\right)^2}$$

$$t = \frac{t_0}{\sqrt{1 - \left(\frac{v}{c}\right)^2}}$$

$$m = \frac{m_0}{\sqrt{1 - \left(\frac{v}{c}\right)^2}}$$

$$m = \frac{m_0}{\sqrt{1-\left(\frac{v}{c}\right)^2}} \qquad m^2\left[1-\left(\frac{v}{c}\right)^2\right] = m_0^2$$

$$dE = (dm)c^2$$

$$m^2c^2 + m_0^2c^2 = m^2v^2$$

$$(2mdm)c^2 + 0 = (2mdm)v^2 + (2vdv)m^2$$

$$\int dE = E = \int (dm)\,c^2 = mc^2$$

$$(dm)c^2 = (dm)v^2 + (vdv)m$$

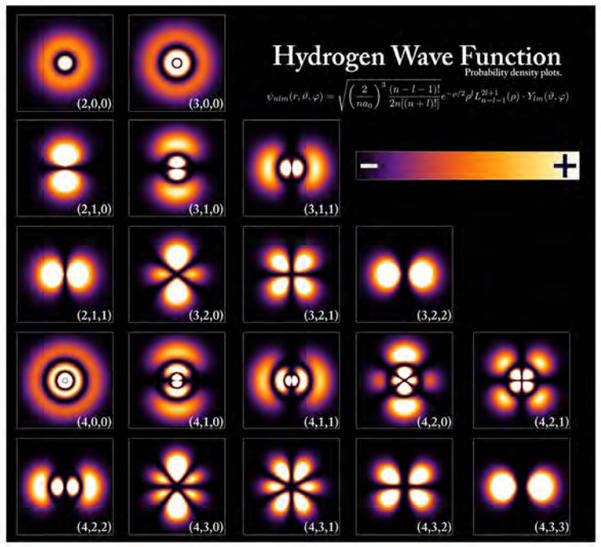
$$E = mc^2$$

$$dE = Fdx = \left(\frac{dp}{dt}\right)dx = \left(\frac{dx}{dt}\right)dp = vd(mv)$$
$$= v(mdv + vdm) = (dm)v^2 + (vdv)m$$

$$t = \frac{2}{3H_0\sqrt{\Omega_{\Lambda 0}}}\ln\left[\sqrt{1+\frac{\Omega_{\Lambda 0}}{\Omega_{m0}}R^3} + \sqrt{\frac{\Omega_{\Lambda 0}}{\Omega_{m0}}R^3}\right]$$

2002년 WMAP 인공위성의 측정값인 우주구성 성분에서 물질값 기여분 $\Omega_{m0} = 0.27$ 과 암흑에너지 기여분 $\Omega_{\Lambda 0} = 0.73$ 현재의 크기인자 $R = 1$, 현재의 허블상수 $H_0 = 71\frac{Km}{sec \cdot Mpc} = 2.3x10^{-8} sec$ 을 대입하면 $t = 4.32x10^{17}$ 초 = 137 억년 이 구해진다. 출처 : 현대전체물리학, 청범출판사, B. W. Carroll

$$R_{\mu\nu} - \frac{1}{2}g_{\mu\nu}R = \frac{8\pi G}{c^4}$$



Symmetry	Things as they are	**Higgs field**
Symmetry breaking	ignorance	**Boson, Fermion**

Vacuum □ Higgs field □ weak charge ocean
□ Mass generation

particle=(mass, spin, charge)

mass→ Higgs field

spin→ Boson, Fermion

Charge→ electrical charge
weak charge
Color charge

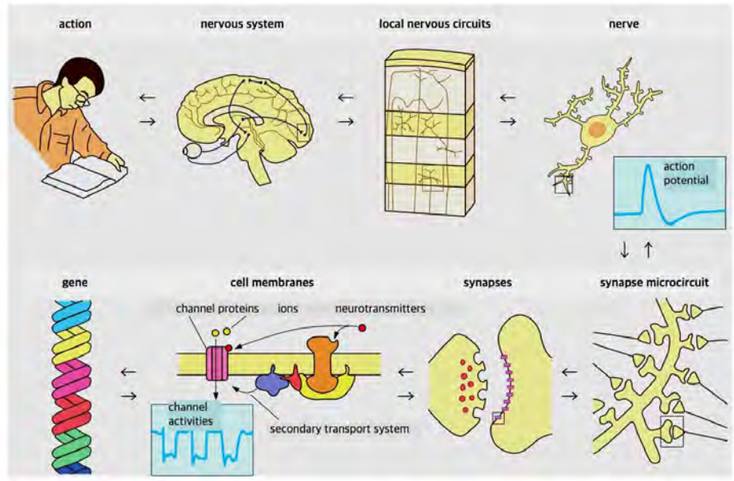
Vacuum □ weak chargre □ Higgs field

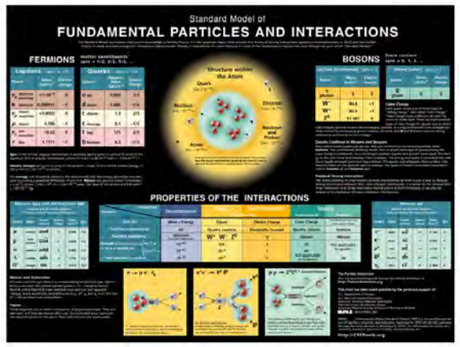
All particles swim in a vacuum ocean.

The resistance value of water becomes particle mass.

Vacuum is filled with weak chargre.

Symmetry □ Weak charge should be conserved.



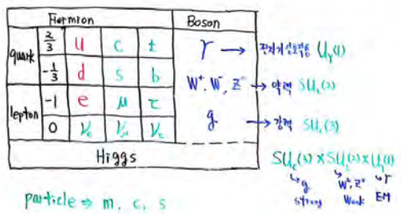


particle=(mass, spin, charge)

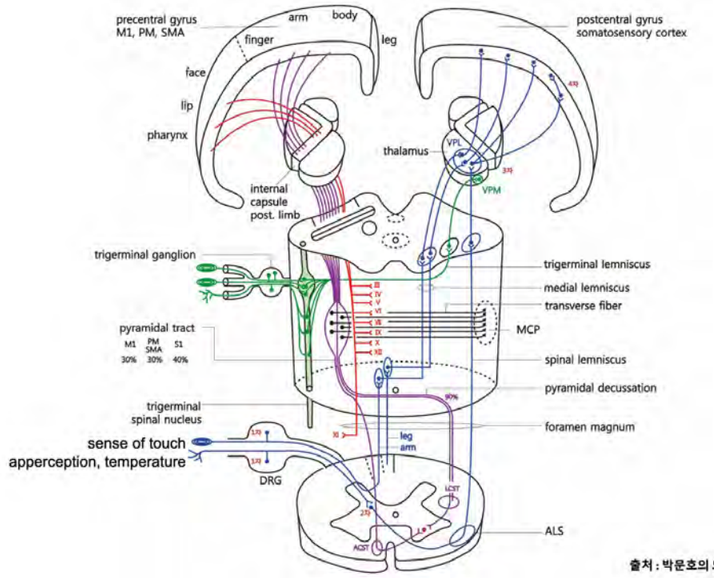
mass→ Higgs field

spin→ Boson, Fermion

Charge→ electrical charge
weak charge
Color charge



진공은 weak chargre로 가득차 있다



출처 : 박문호의 뇌과학 공부-김영사

Things and processes cannot be said to exist: only faster processes and slower processes do.

Static image is an illusion. We seem to be fascinated by our ability to stop change for an extended period. That is why we cherish paintings or sculptures which give us a stationary illusion.

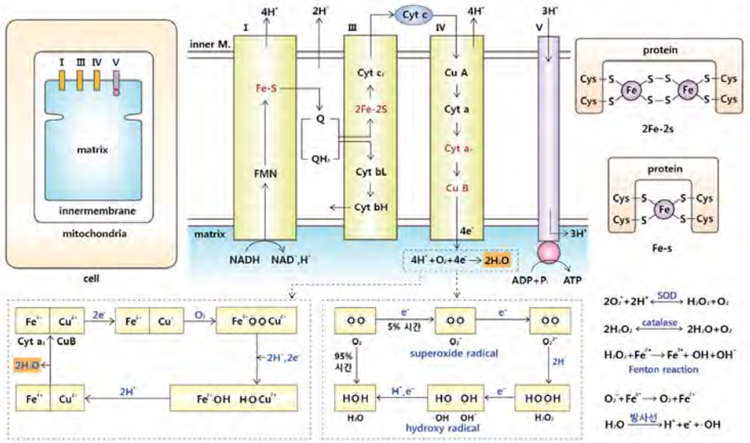
What happens when a movie is shown? The real universe, which moves and changes, is reproduced from sequences of illusory images, not vice versa.

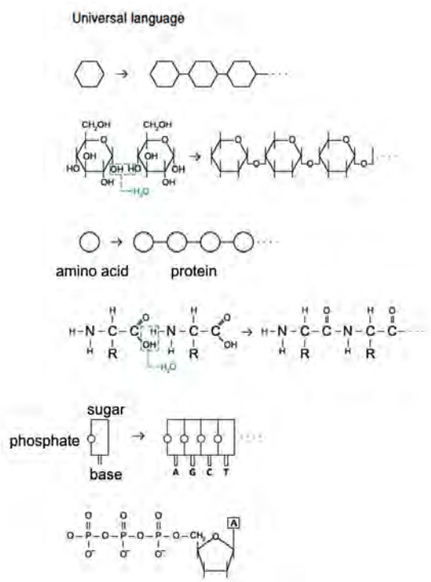
Existence is an illusion by itself.

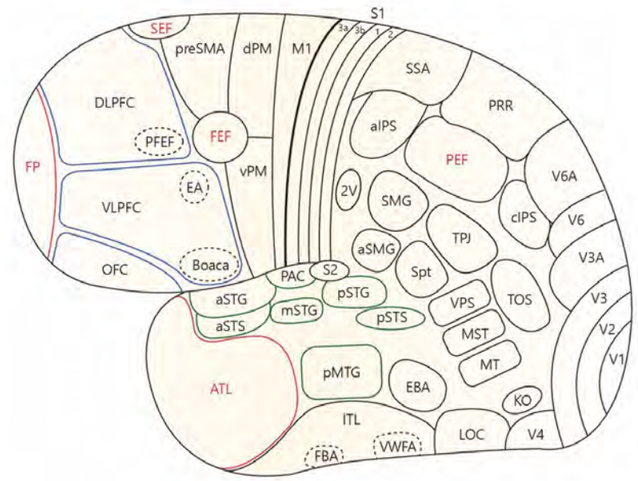
A series of measurement is similar to the still images of each static moment of a movie. Based on the illusion of these static moments, one creates a misconception that the universe consists of things.

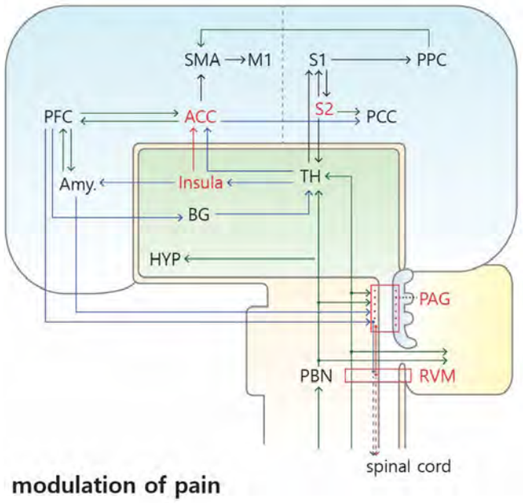
The past is a collection of emerged events, and the future is a collection of events that will give influence to the future. In the causal universe, there is time but not a moment. In case the universe consists of processes, time is synonymous with the law of cause and effect.

출처 : 카를로 로벨리

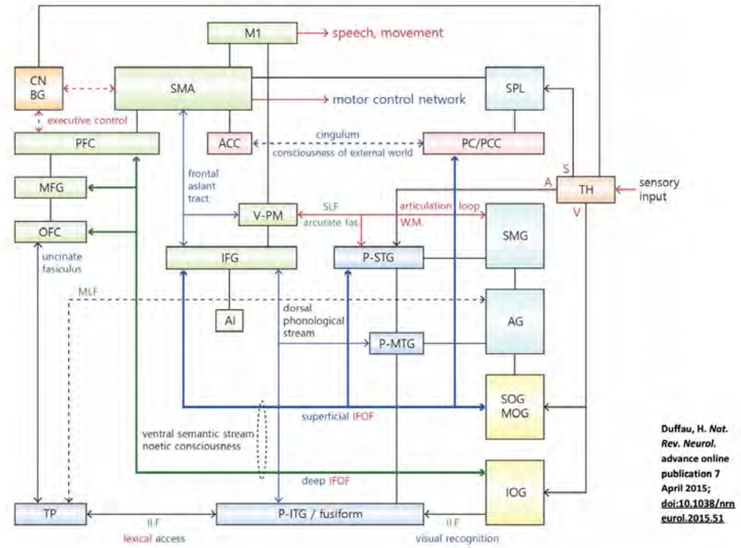




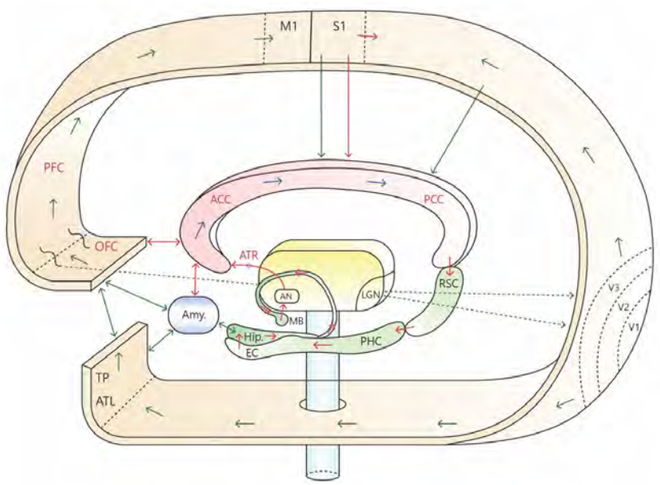


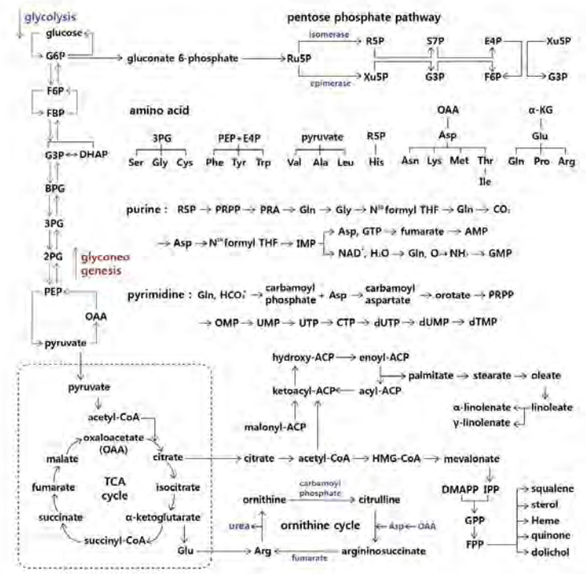


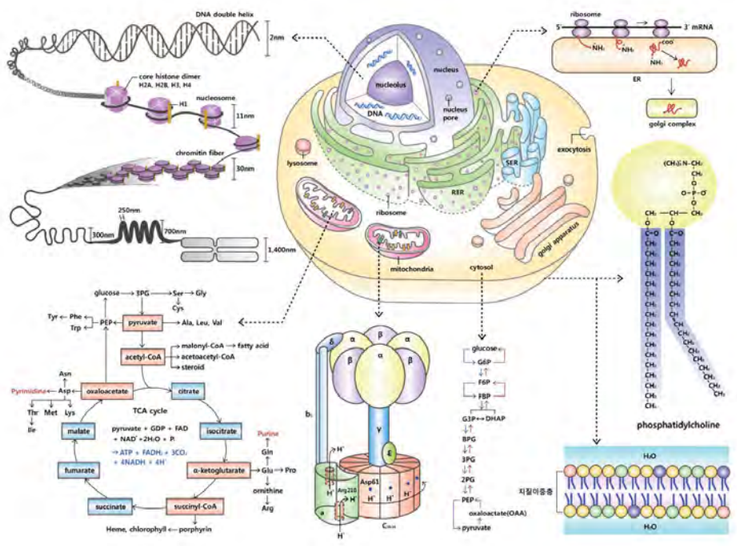
modulation of pain

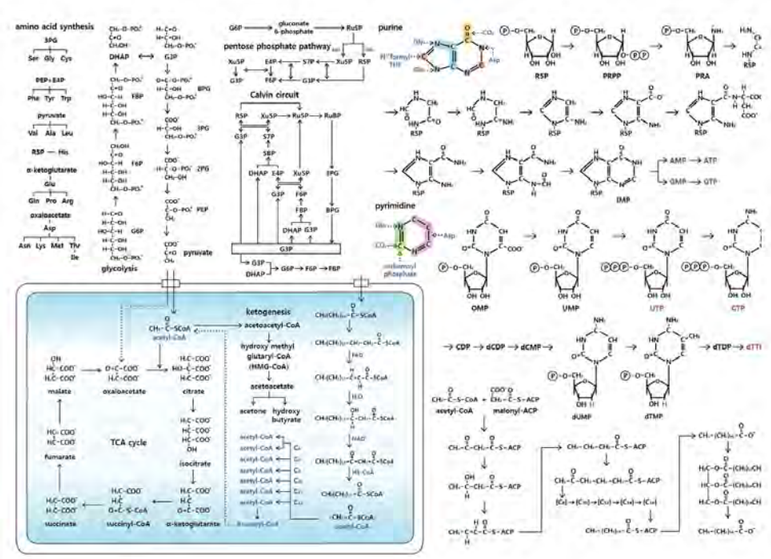


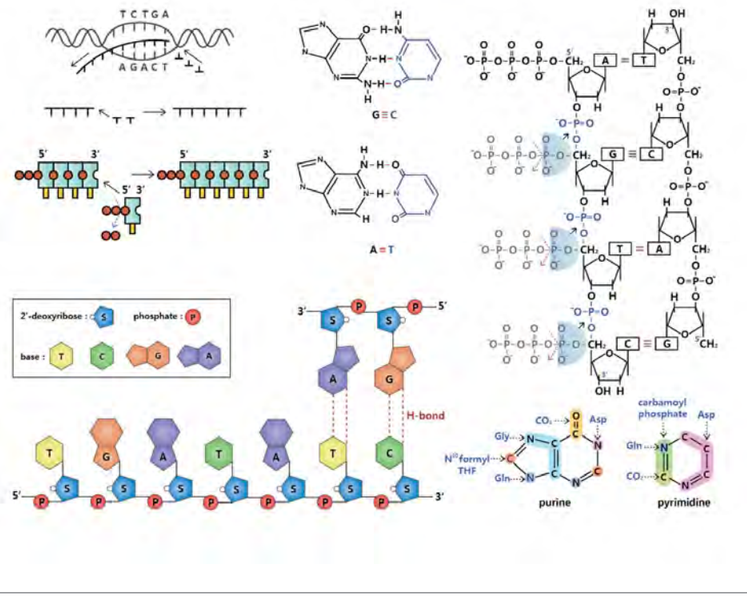
Duffau, H. *Nat. Rev. Neurol.* advance online publication 7 April 2015; doi:10.1038/nrneurol.2015.51











Object ≠ a way of setting direction in the midst of complexity

Object ≠ a way of sharing the world

Special system interacting with external world ≠ life phenomena

A piece of sculpture exists in the interrelated array pattern of atoms in one's brain.

Purpose ≠ result of choosing forms effective for survival

We are not atoms but arrays of atoms.

World comprised exclusively of interacting quantum fields

출처 : 카를로 로벨리

A series of measurement is similar to the still images of each static moment of a movie.

Based on the illusion of these static moments, one creates a misconception that the universe consists of things.

The past is collection of emerged events, and the future is collection of events that will give influence to the future.

In the causal universe, there is time but not a moment.

In case the universe consists of processes, time is synonymous with the law of cause and effect.

출처 : 카를로 로벨리

The structure of spin networks, in response to the transit of gravity wave, evolves with time.

Spin networks in change are very similar to time and space, but discontinuous.

The world of existing objects is a world of possible interactions, and reality comes down to relations.

All attributes of an object exist only in its relations with other objects.

Relations are not established by existence of an object; rather, relations establish the concept of object.

출처 : 카를로 로벨리

The structure of causal relations concerning an event can be depicted by past light cone and future light cone.

The world comprises of causal relations.

This means that the universe consists not of matter, but of processes that make matter arise.

Each object you see is a result of the processes in which the information reaches you in the form of a heap of photons. The farther away an object is, the longer it will take for the photons to reach you.

Therefore, when you look around, you are not seeing a space but going back to this history of the universe.

출처 : 카를로 로벨리

Because space is a gravitational field, the quanta of the gravitational field are the quanta of the space, in other words, particle composition of the space.

A spin networks is quantum state of a gravitational field.

Two nodes connected by a link are quanta of adjacent spaces, and two particles of inter-contacting spaces.

This contact produces the structure of a space.

A space is not a specific spin network, but probability clouds encompassing the whole domains of all possible spin networks.

Quanta in a gravitational field do not change in time; rather as a result of interaction of these quanta, time arises.

According to Wheeler-deWitt equation, time emerges from the quantum gravity field along with space.

As is common to all reality, time has characteristics of probabilistic indeterminacy, particle and relations.

출처 : 카를로 로벨리

The passage of time is embedded in the world; it is the world; and it is born from the world based on the relations between quantum events which create their own time.

The direction of time passage only appears when heat exists.

Only in the existence of heat, the past is distinguished from the future.

Specific or special situations gradually disappear.

출처 : 카를로 로벨리

Spacetime can be overlapped in diverse forms.

Concreteness manifests only in relations of physical system.

gravitational field: the basis determining the time intervals and physical distances

Time is a loose network of relations.

출처 : 카를로 로벨리

There is no special moment corresponding to what is regarded as the present or now.

Expansion of the present, inappropriate extrapolation of experiences

The present of the universe had no meaning.

Time is a trace of movements.

출처 : 카를로 로벨리

Time intervals are an aspect of dynamic field, and a dynamic field takes concrete form only from interactions.

It is not grammar of existence, but grammar of becoming.

The world equates not to things, but to network of events.

An object is an event which won't change temporarily.

What we can speak of is the present seen from the perspective of a moving observer.

출처 : 카를로 로벨리

The world cannot be regarded as a series of the presents.

Nature exists in its own way.

A timeless world is a web of events.

The spatiality of the world is interacting networks of particles.

Particles do not live in time.

출처 : 카를로 로벨리

Our well-defined, local, and unique identity exists only in our inner reality. In the fundamental dimension it is an illusion.

Mathematical structure is permanent and unchanging. Mathematical universe hypothesis suggests that time passage is an illusion like changes.

출처: 맥스태그마크의 유니버스

The world is the summation of perspectives which exist in mutual relations.

The interaction between basic quantum fields determines spatial expansion and temporal length.

In small scale, quanta just appear and disappear.

Time and space only exist in relations of events.

출처 : 카를로 로벨리

Because spacetime contains all times and all places, there is no specific time as there is no specific place.

In spacetime, the future is as real as the past; because spacetime is stationary and unchanging, all parts are equally real.

Time is not an illusion, but passage of time is an illusion.

In spacetime, the future exists, and the past does not disappear.

출처: 맥스태그마크의 유니버스

-Each point in spacetime has numbers, which informs of the reality itself.

-A field is something represented by numbers at each point in spacetime.

-In an electromagnetic field, each point of spacetime is defined by 6 numbers.

-In the quantum field theory, wave function represents realistic degree of electric field and magnetic field. This wave function is an abstract point in the Hilbert space.

-The magnitude of an electromagnetic field corresponds to the number of photons at each time and place.

출처: 맥스태그마크의 유니버스

The knots of spacetime are undone from both ends.

A series of observer moments makes one feel that time passes.

From a single observer moment, one looks at the reality model in their brain.

Passage of time is relations between memories.

Matter is given symmetry by the inherent symmetry of spacetime.

출처: 맥스태그마크의 유니버스

External physical reality is mathematical structure.

You are a mathematical pattern of spacetime, and a knot of intricate spacetime.

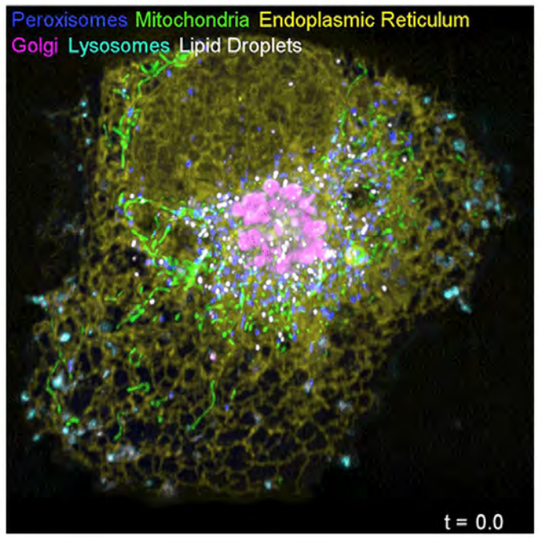
The knot of spacetime, which corresponds to the mind, is one of the most beautiful and complex patterns we have ever seen in the universe.

A thought is a spacetime pattern consisting of 10^{29} atoms.

The mind is an array of atoms that perceives itself.

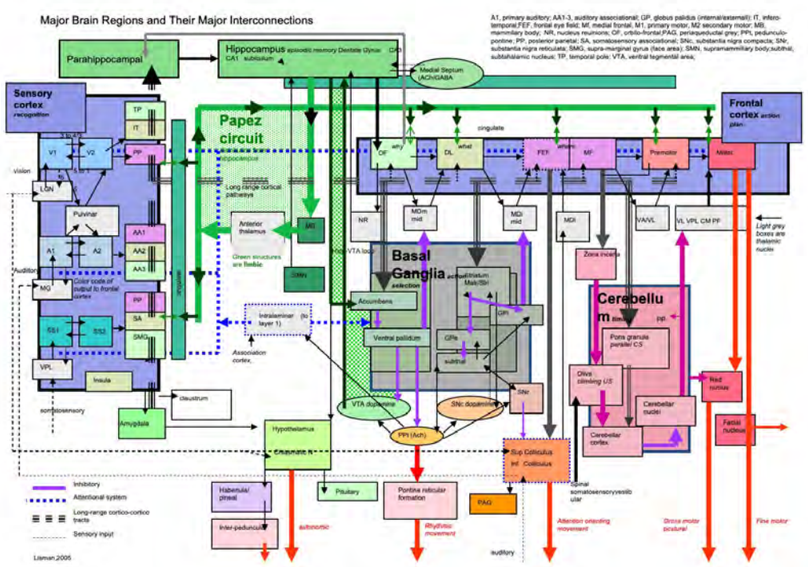
All particles gather, interact, and eventually go their own ways.

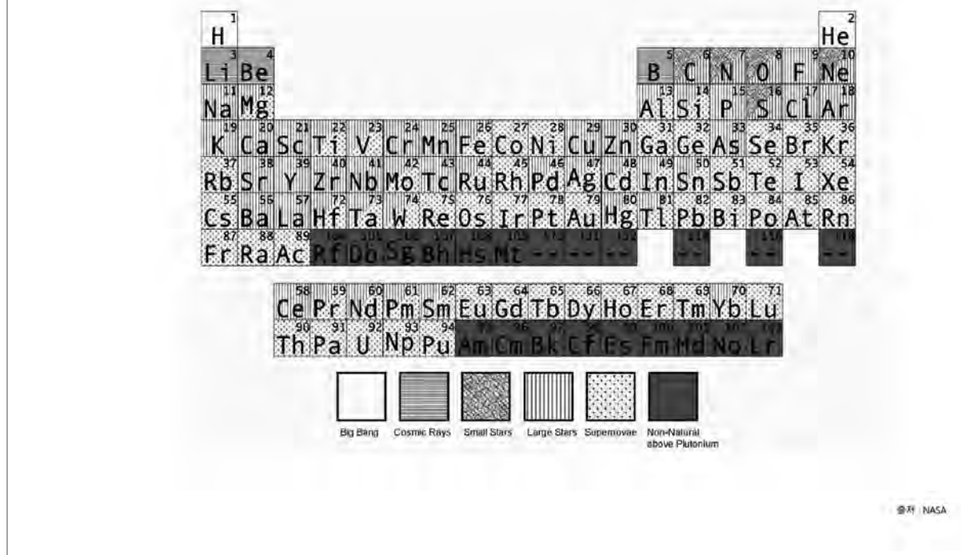
출처: 맥스태그마크의 유니버스

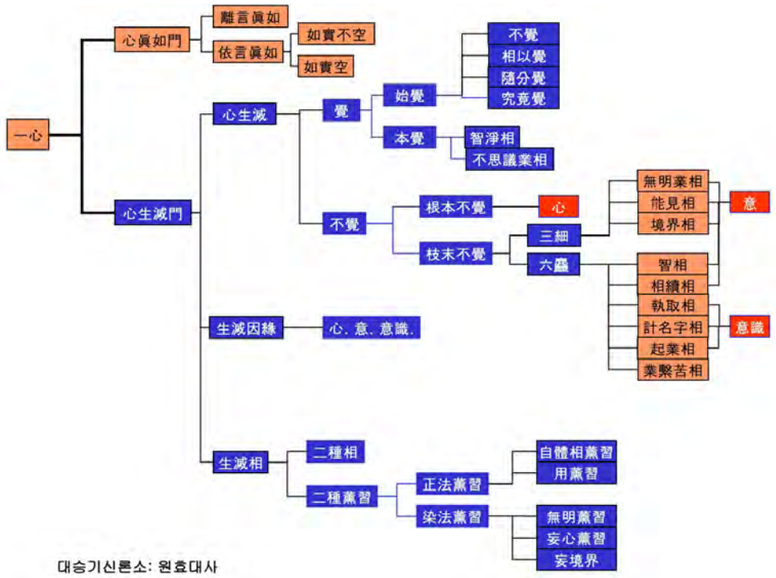


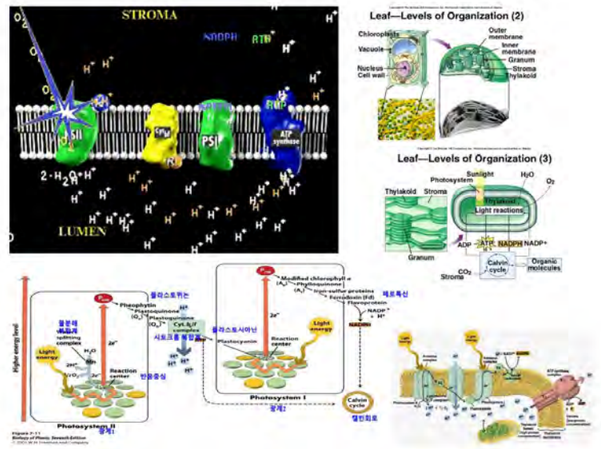
Various organelles inside this cell are labeled with different colored fluorescent probes, allowing Lippincott-Schwartz to observe them simultaneously.

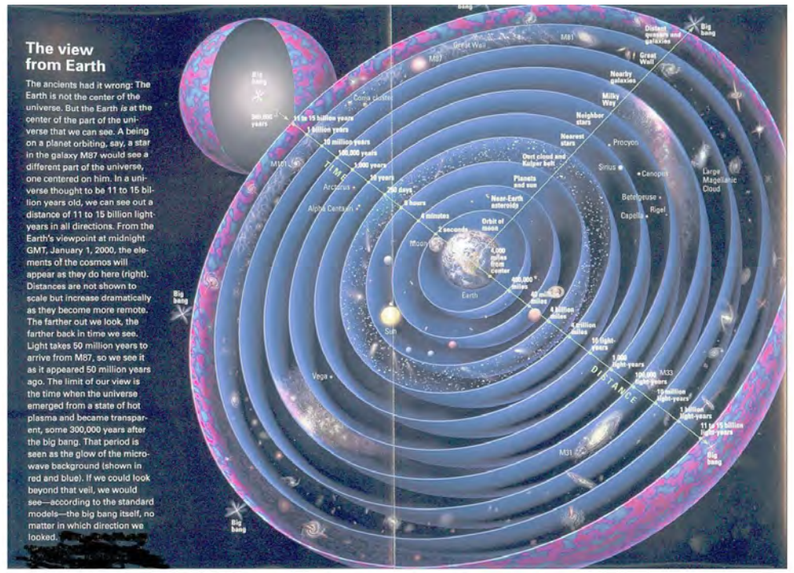
Credit: Sarah Cohen and Alex Valm


Major Brain Regions and Their Major Interconnections
Parahippocampal
Hippocampus
Sensory cortex
Papez circuit
Frontal cortex
Basal Ganglia
Cerebellum
Pulvinar
Amygdala
Hypothalamus
Habenula/ pineal
Pituitary
Pontine reticular formation
PAG
Sup Colliculus
Inf Colliculus
Inhibitory
Attentional system
Long-range cortico-cortico tracts
Sensory input
Llinas 2005


H
He
Li Be
B C N O F Ne
Na Mg
Al Si P S Cl Ar
K Ca Sc Ti V Cr Mn Fe Co Ni Cu Zn Ga Ge As Se Br Kr
Rb Sr Y Zr Nb Mo Tc Ru Rh Pd Ag Cd In Sn Sb Te I Xe
Cs Ba La Hf Ta W Re Os Ir Pt Au Hg Tl Pb Bi Po At Rn
Fr Ra Ac Rf Db Sg Bh Hs Mt
Ce Pr Nd Pm Sm Eu Gd Tb Dy Ho Er Tm Yb Lu
Th Pa U Np Pu Am Cm Bk Cf Es Fm Md No Lr
Big Bang
Cosmic Rays
Small Stars
Large Stars
Supernovae
Non-Natural above Plutonium
NASA


一心
心眞如門
離言眞如
如實不空
依言眞如
如實空
心生滅門
覺
始覺
不思議業相
本覺
智淨相
不覺
根本不覺
心
三細
枝末不覺
六麤
無明業相
能見相
境界相
意
智相
相續相
執取相
計名字相
起業相
業繫苦相
意識
心生滅因緣
心. 意. 意識.
生滅相
二種相
二種薰習
正法薰習
染法薰習
自體相薰習
用薰習
無明薰習
妄心薰習
妄境界
대승기신론소: 원효대사


STROMA
NADPH
ATP
LUMEN
Leaf—Levels of Organization (2)
Chloroplasts
Vacuole
Nucleus
Cell wall
Outer membrane
Inner membrane
Granum
Stroma
Thylakoid
Leaf—Levels of Organization (3)
Photosystem
Sunlight
Thylakoid
Stroma
Light reactions
Granum
Calvin cycle
Organic molecules
Photosystem II
Photosystem I
Reaction center
Light energy



Mechanisms of Meditation in psychiatry

Ganguk Lee
Gang-won University

Gang-uk Lee graduated from the College of Medicine at Seoul National University and the same graduate school and is currently a professor of Graduate School of Medicine, Kangwon National University. He served as a Research Professor at the Psychiatry Neuroimage Lab at Harvard Medical School & Brigham and Women's Hospital. He focuses his research on the structure and function of the brain, such as QEEG, ERP, fMRI, DTI, and PET, and the flexibility of human psychology. He served as president of the Korean Society of Emotional Cognitive-Behavioral Medicine and is currently Vice-President of the Korean Society of Meditation, Vice-President of the Korean Society for Clinical Arts, and a full member of the Context Science Research Society.

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

Meditation & Medicine

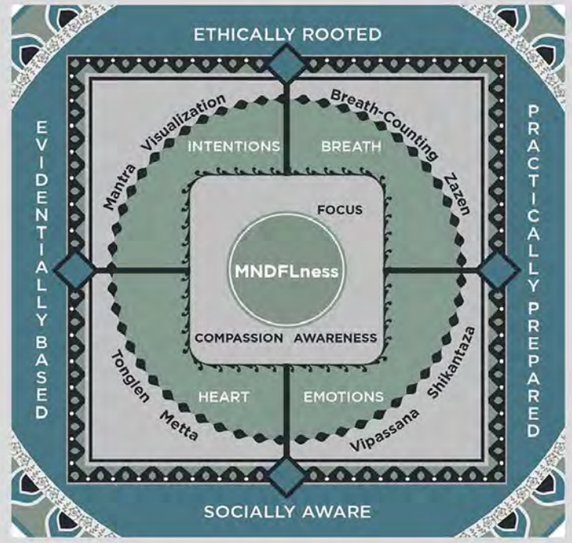
Kangwon National University School of Medicine
Kang-uk Lee

- Focus
- Compassion
- Awareness

- Intention
- Breath
- Heart
- Emotions

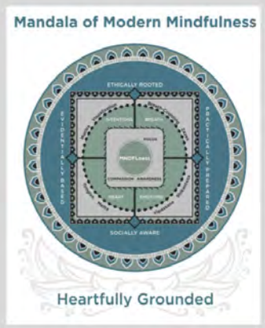
- Mantra Visualization
- Breath-counting Zazen
- Tonglen Metta
- Vipassana Shikantaza

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



3

TIME How Meditation Went Mainstream



MNDFL

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

"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

2

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

– Rev. angel Kyodo williams

4

TIME

U.S. POLITICS WORLD TECH TIME HEALTH ENTERTAINMENT SUBSCRIBE

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.

5

Outstanding medical effect was easily demonstrated.

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

6

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

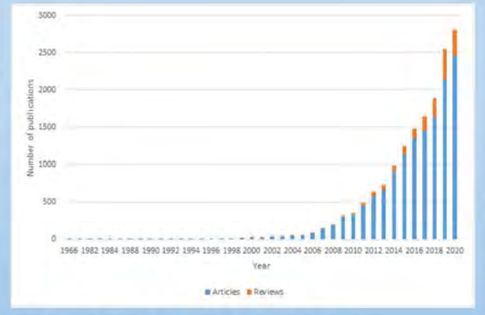
REVIEW

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

8



- 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

9

Most prolific authors in mindfulness research

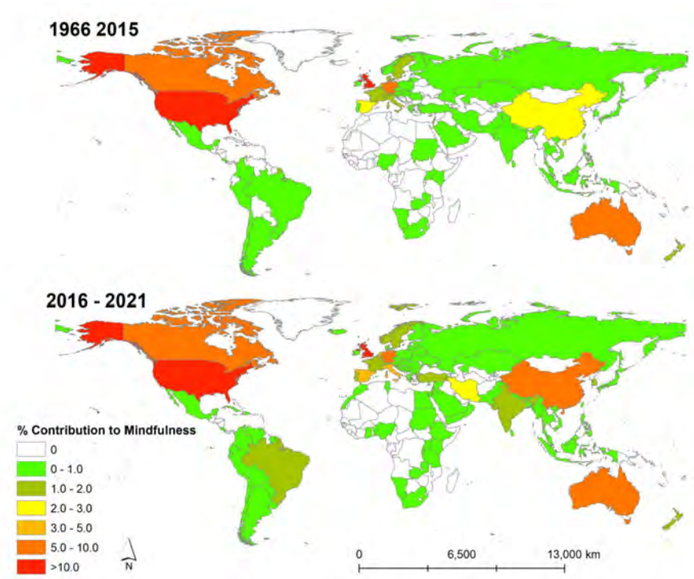
		No. of publications	No. of citations
Zindel	**Segal**	44	9469
Mark	**Williams**	40	5901
Linda	**Carlson**	54	5707
Steven	**Hayes**	38	5544
Kirk	**Warren Brown**	51	5476
Richard	**Davidson**	53	3632
Eric	**Garland**	98	3591
Willem	**Kuyken**	58	3469
Katie	**Witkiewitz**	41	2323

10

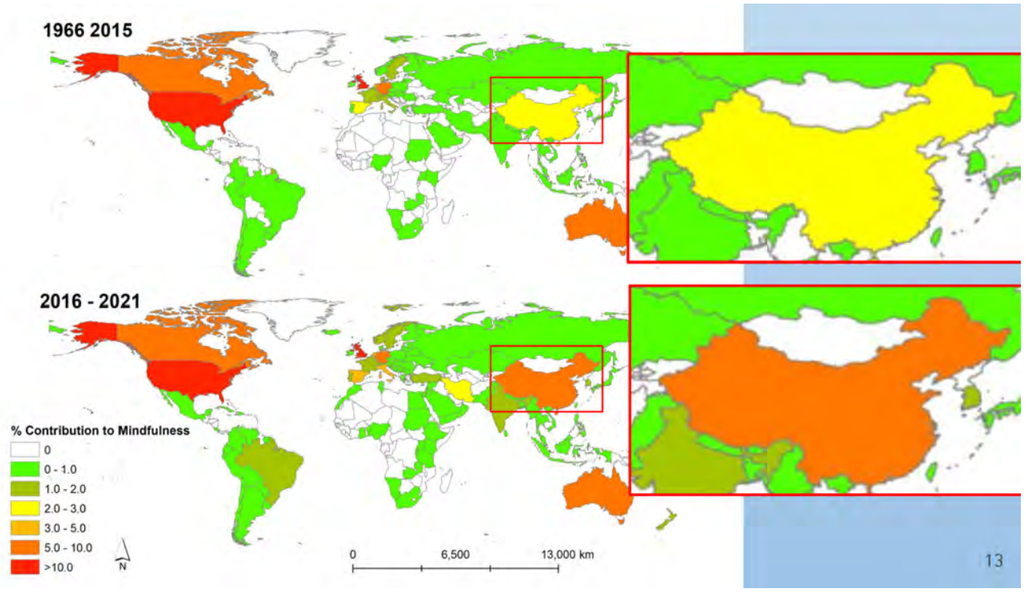
most cited empirical articles on mindfulness

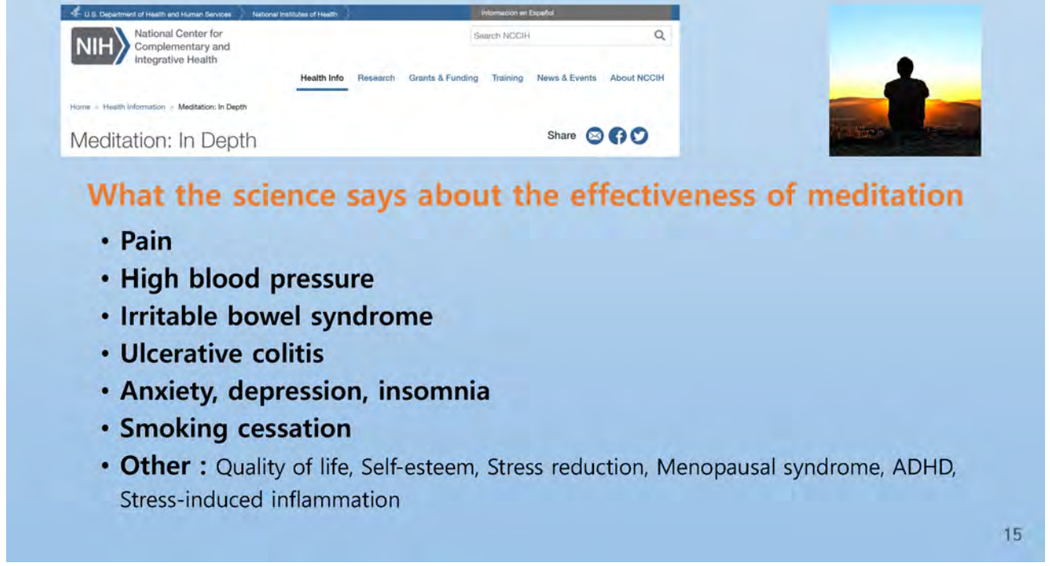
1. The benefits of being present: Mindfulness and its role in **psychological well-being**. Brown and Ryan (2003)
2. Using self-report **assessment methods** to explore facets of mindfulness. Baer et al. (2006)
3. An outpatient program in behavioral medicine for **chronic pain** patients based on the 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)

11

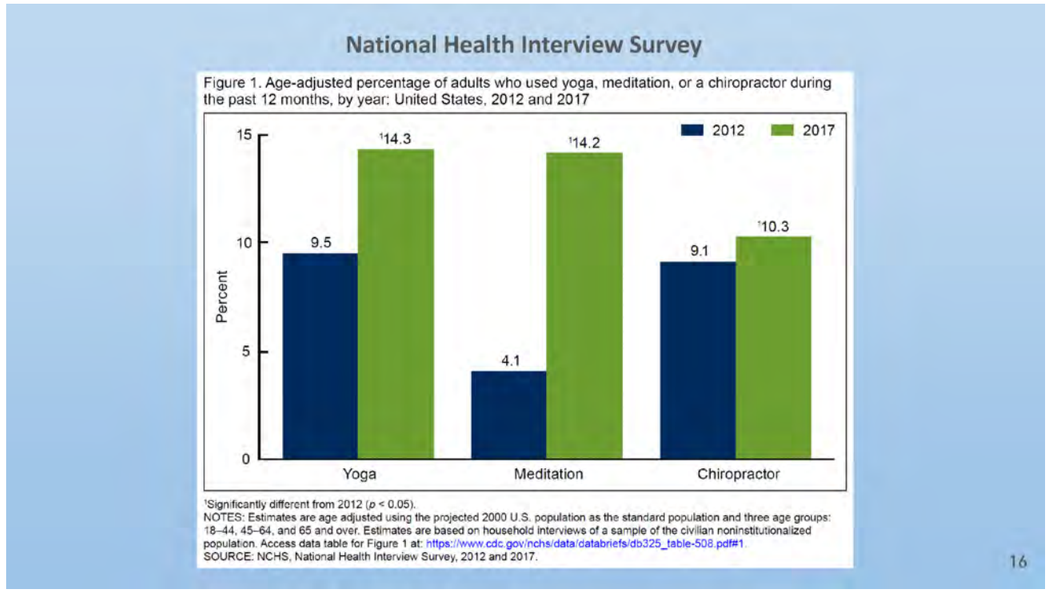


12


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
13

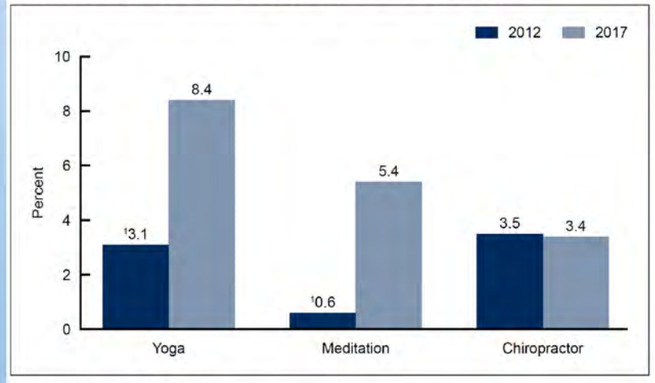

U.S. Department of Health and Human Services
National Institutes of Health
Información en Español
NIH
National Center for Complementary and Integrative Health
Search NCCIH
Health Info
Research
Grants & Funding
Training
News & Events
About NCCIH
Home > Health Information > Meditation: In Depth
Meditation: In Depth
Share
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
15


NCCIH
National Center for Complementary and Integrative Health
14


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
2012
2017
Percent
15
10
5
0
9.5
14.3
4.1
14.2
9.1
10.3
Yoga
Meditation
Chiropractor
1Significantly 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.
16

National Health Interview Survey

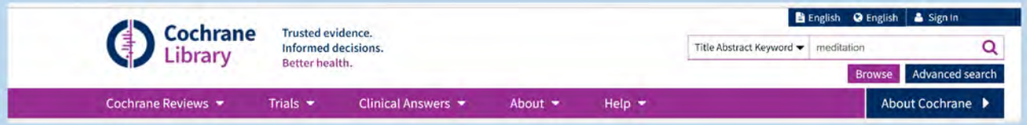
Figure 1. Age-adjusted percentage of children aged 4–17 years who used yoga, meditation, or a chiropractor during the past 12 months, by year: United States, 2012 and 2017



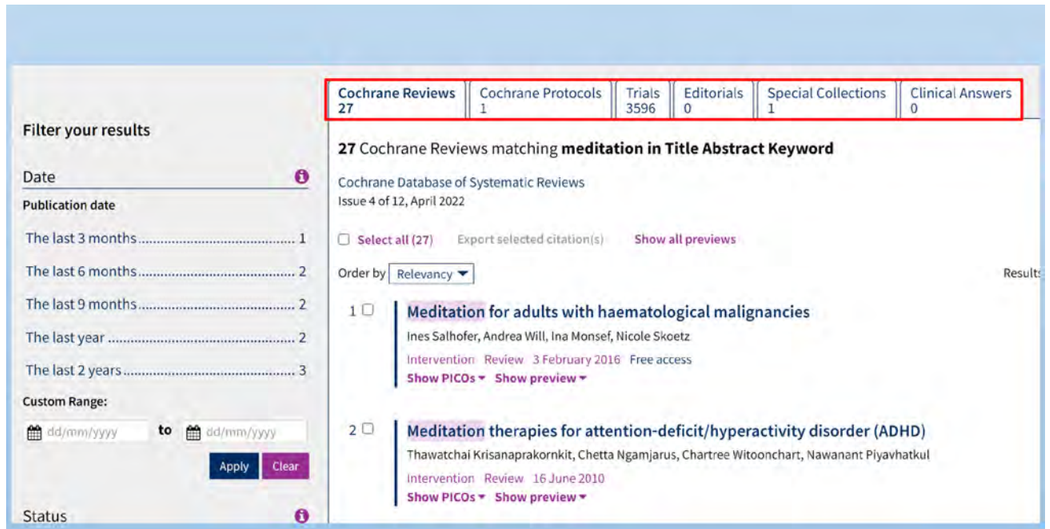
†Significantly different from 2017 ($p < 0.05$).
NOTES: Estimates are age adjusted using the projected 2000 U.S. population as the standard population and two age groups: 4–11 and 12–17 years. Estimates are based on household interviews of a sample of the U.S. civilian noninstitutionalized population. 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.

17

Cochrane Library



18



19

- 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

20

Available online at www.sciencedirect.com
SCIENCE DIRECT®

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

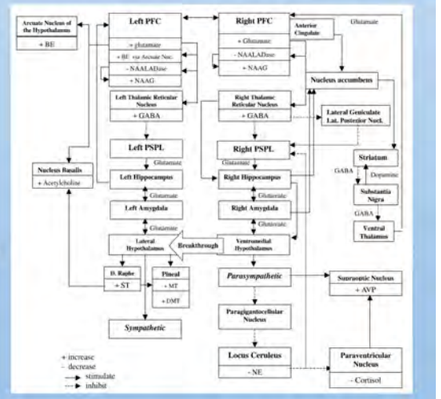
A. B. Newberg,[1] J. Iversen[2]

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

21

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



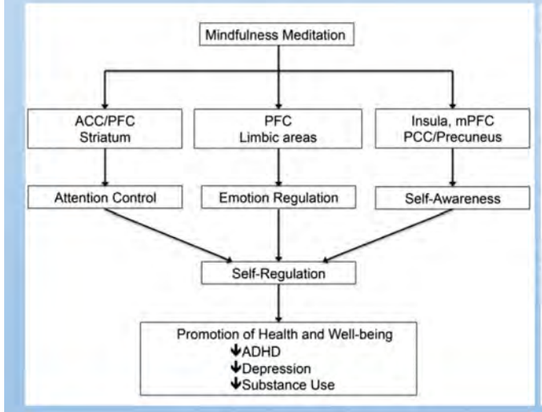
22

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**

23



24

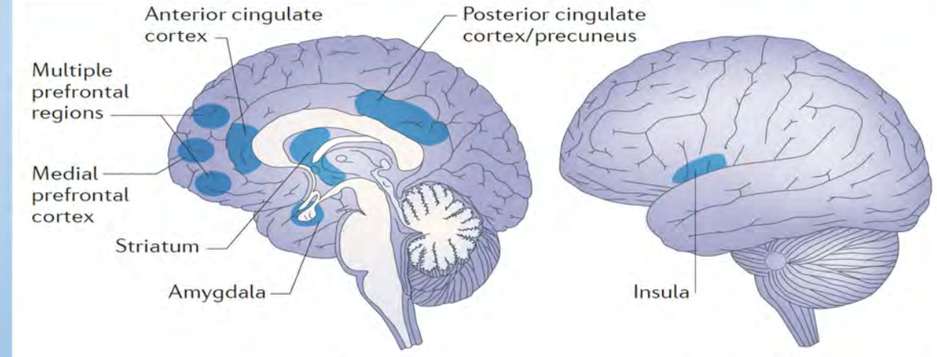
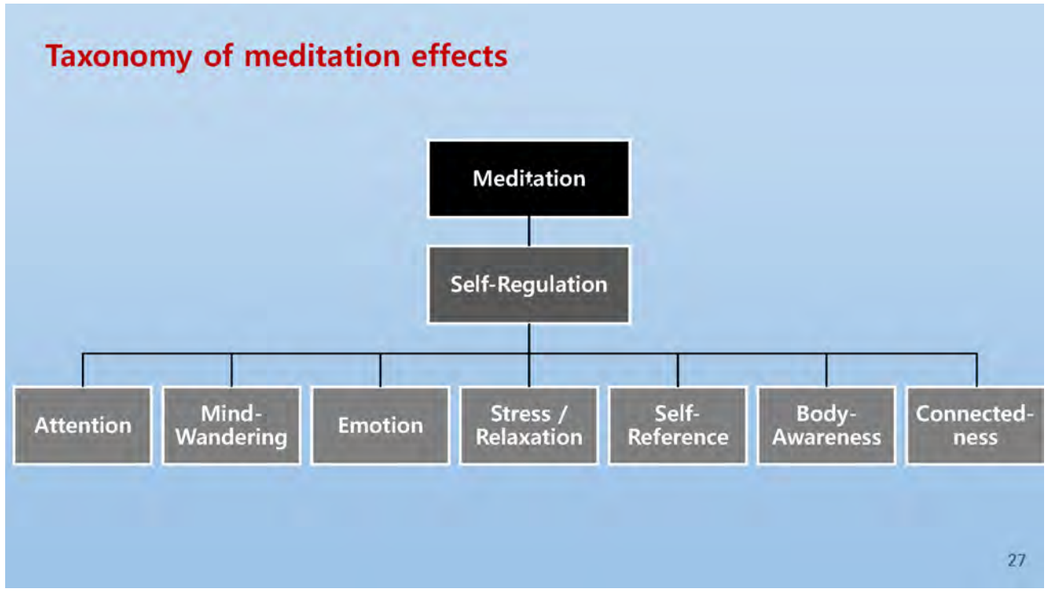


Figure 1 | **Brain regions involved in the components of mindfulness meditation.** Schematic view of some of the brain regions involved in attention control (the anterior cingulate cortex and the striatum), emotion regulation (multiple prefrontal regions, limbic regions and the striatum) and self-awareness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

25



27

Complementary Medicine Research

Editorial

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

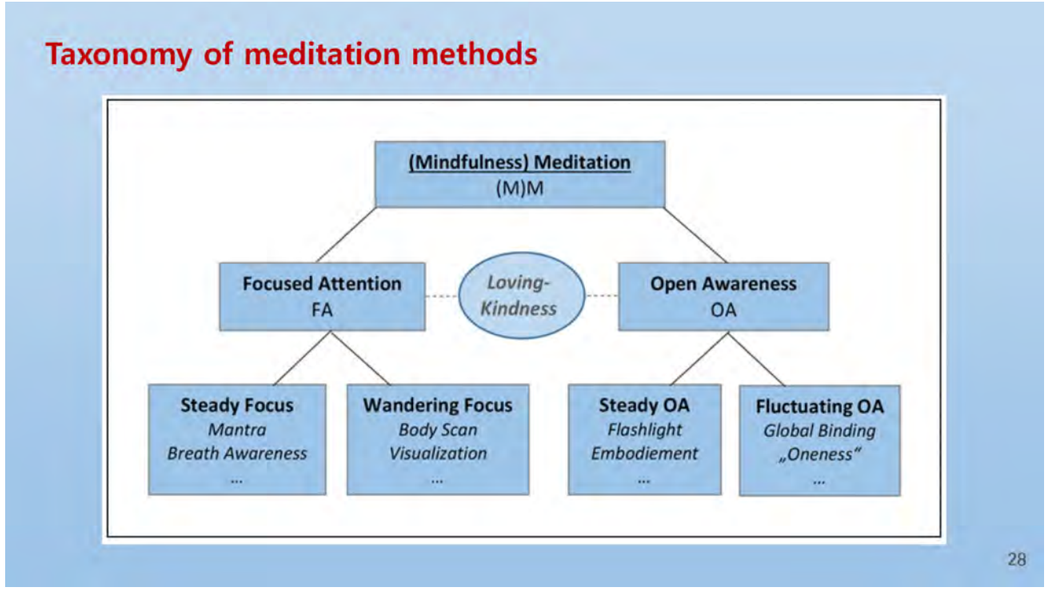
Received: April 13, 2021
Accepted: April 22, 2021
Published online: May 28, 2021

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

26



28

Are the efforts to secure safe meditation practice appropriate?

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

- **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!

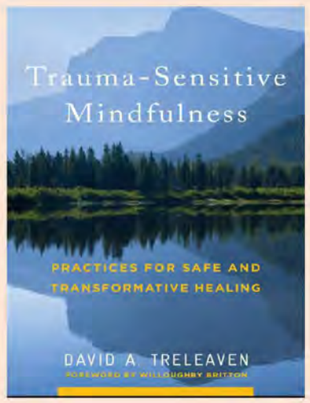


Table 3 Baer et al 2019
Sources of harm in related approaches to health and wellbeing.

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%)			

Is this good enough?

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.

Natural Science

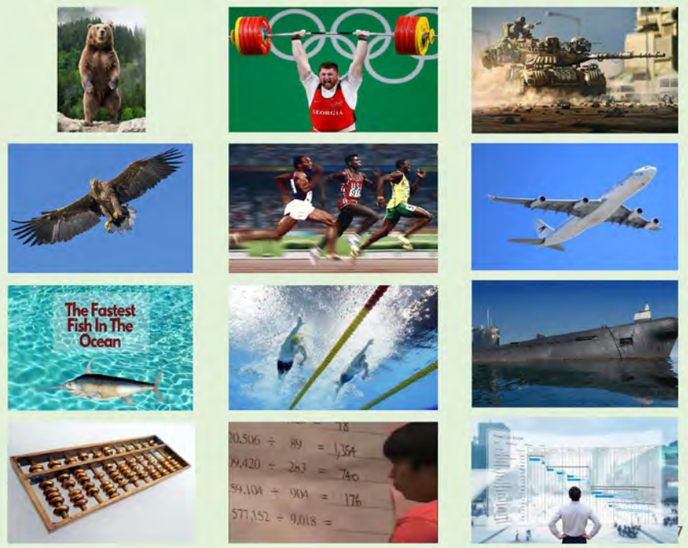
- Events like tides, oxidation, cell division, and evolution, are *not done* - involve no agency - but just happen.
- Events like tides, oxidation, cell division, and evolution are to be explained by other natural events.

Presence awareness or Consciousness?
Choice of life or Liberated mind?

36

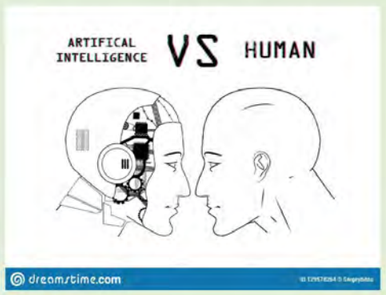
Technology

reconstructed face
lived 70,000 years ago



39

The Fourth Industrial Revolution (world of intellectualization)

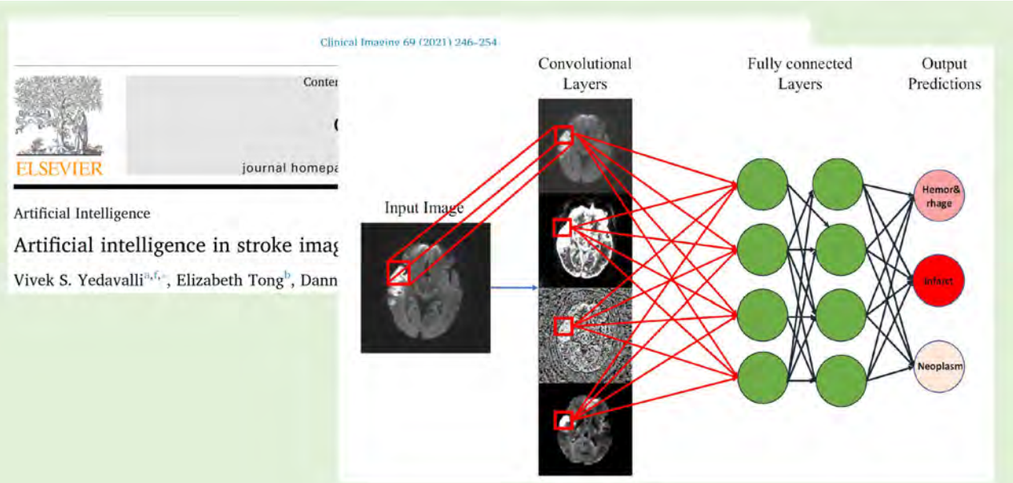


At last humanity put human intelligence as the object they want to overcome.

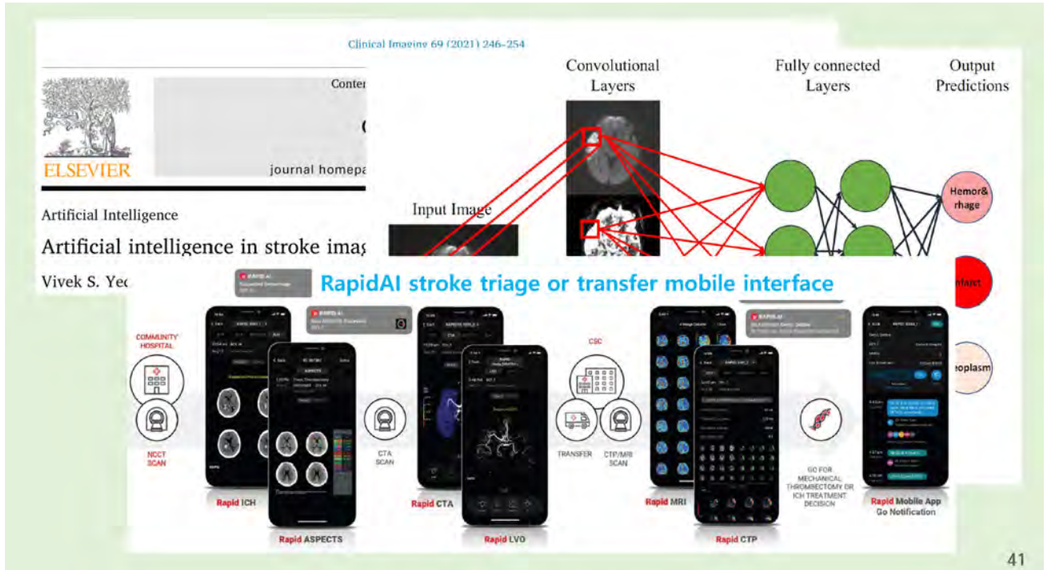
Does humanity make use of technology?
vs
Is humanity controlled by technology?

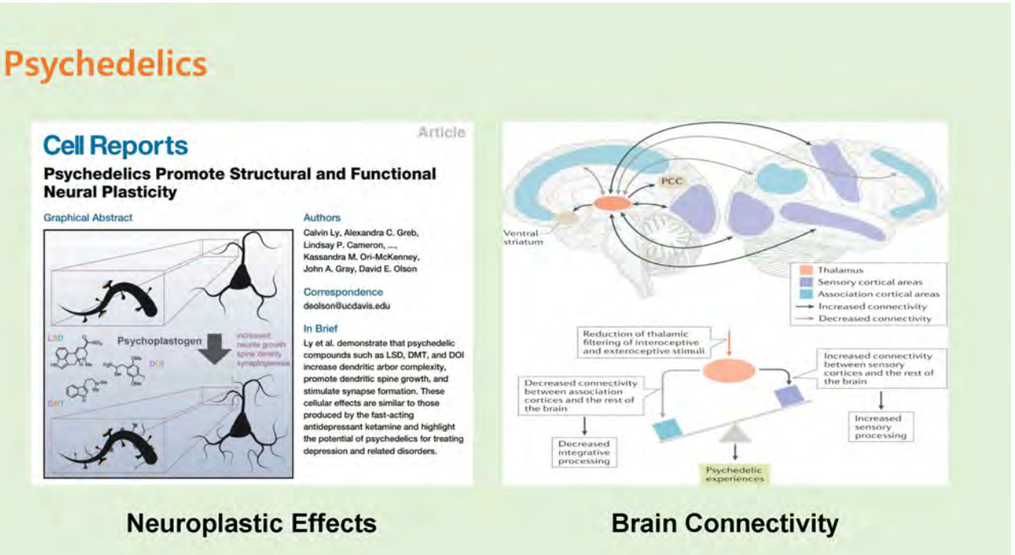
Can humanity think beyond artificial intelligence?

38



40





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

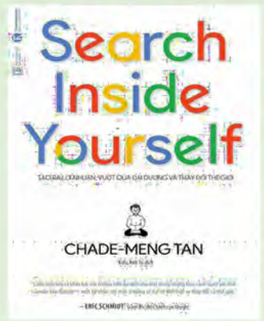
Trial of Psilocybin versus Escitalopram for Depression

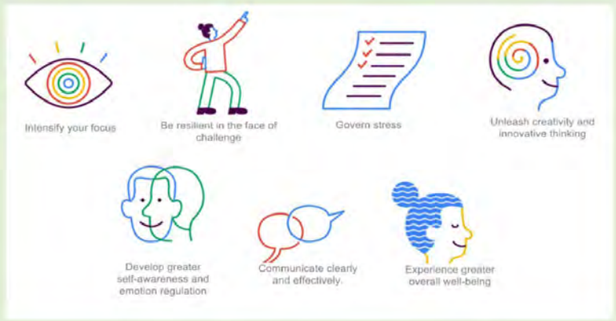
Robin Carhart-Harris, Ph.D., Bruna Giribaldi, B.Sc., Rosalind Watts, D.Clin.Psy., Michelle Baker-Jones, B.A., Ashleigh Murphy-Beiner, M.Sc., Roberta Murphy, M.D., Jonny Martell, M.D., Allan Blemings, M.Sc., David Erritzoe, M.D., and David J. Nutt, M.D.

42

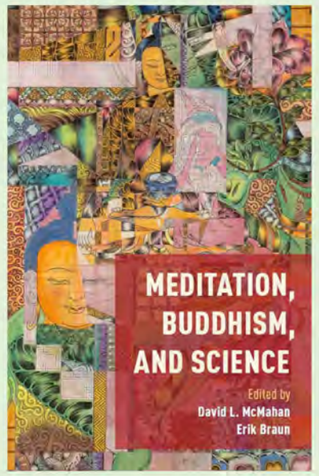
"Time and space ceased to exist for me."

44





45



- **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.**

47

Curious points of differences:

Buddhist Wisdom

Birth, aging, sickness, death

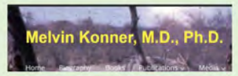
The Four Noble Truths
When clinging ceases, suffering also ceases.

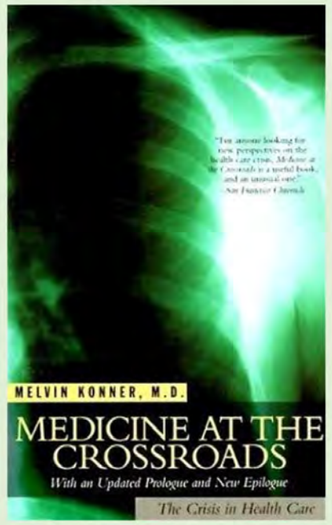
The ultimate goal of modern medicine

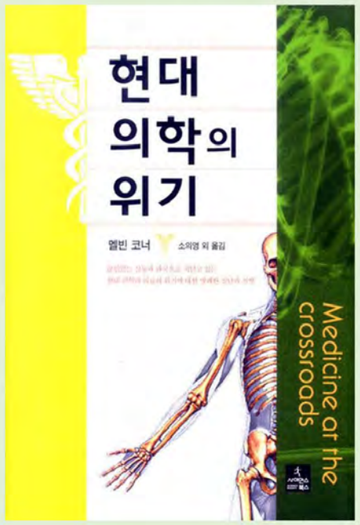
Health & longevity

To attain health and longevity by applying elements of meditation aided by technology.

46







48

- 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.**

49

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.

50

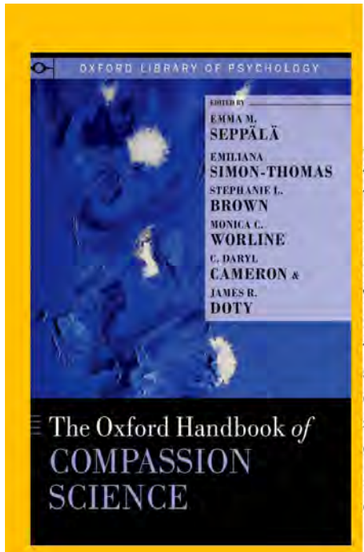
Declaration of Physicians' Ethics (Korean Medical Association, Amended on Apr. 23, 2017)

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.

51

Then, what is the direction we should take?



CHAPTER 32

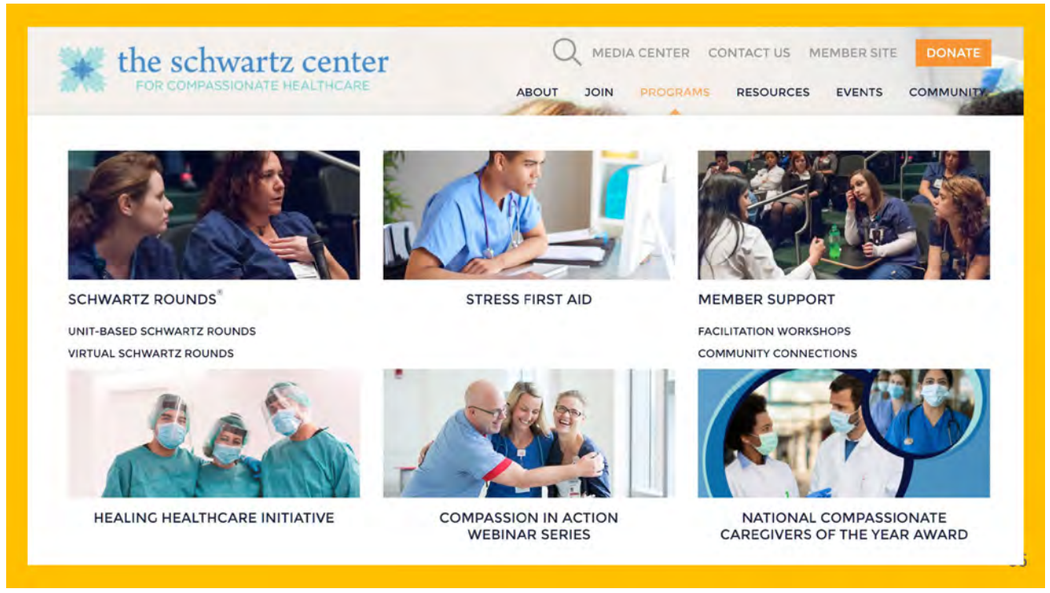
The Call for Compassion in Health Care

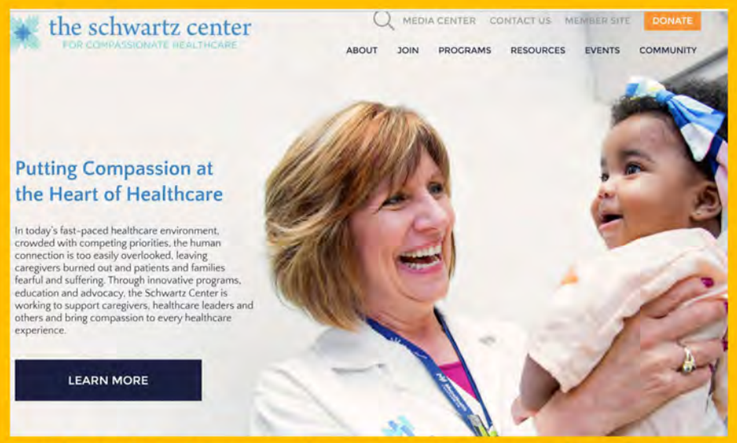
Sue Shea and Christos Lionis

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





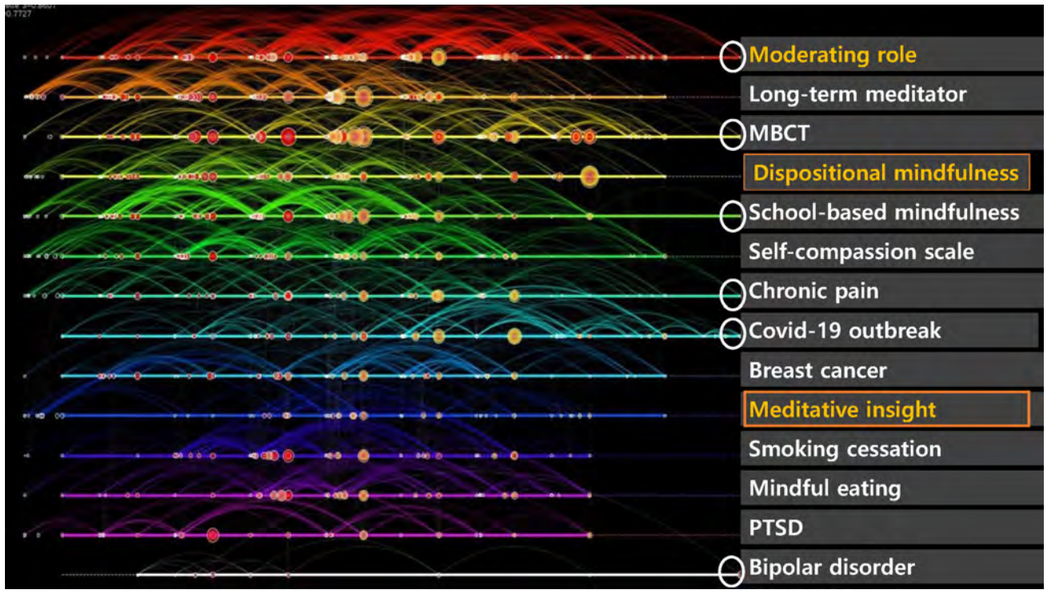
"These acts of kindness – the simple human touch from my caregivers – have made the unbearable bearable" **– Ken Schwartz**


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]

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



Qualities of Inner Strength, Stability and Resilience

True Self/Wise Heart by Internal Family Systems, Richard Schwartz

59

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.

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.

60

Seoul International Meditation Expo

Thank you!

DAY 3

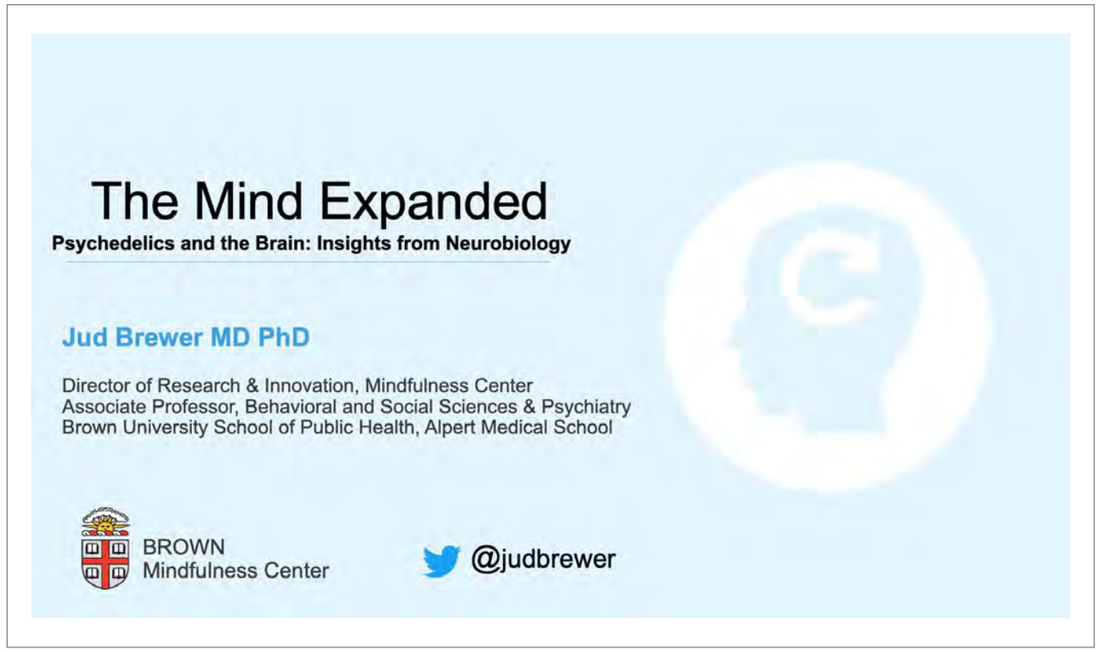
2022. 6. 19. Sun

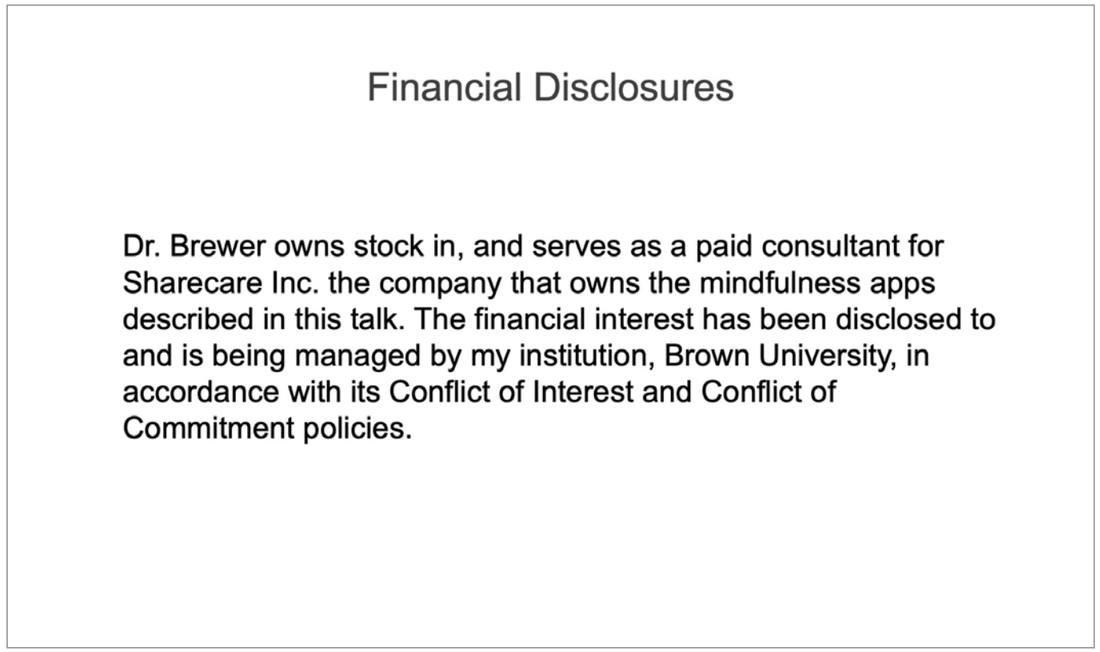
Meditation and Future Society

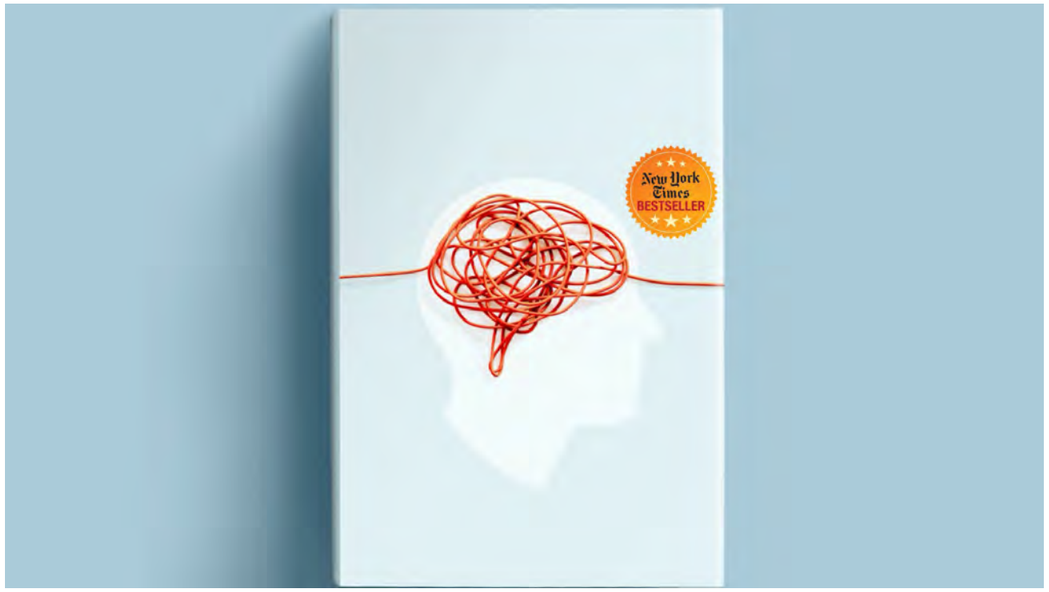
Meditation and Psychotherapy: Learning from Nondaily Conditions

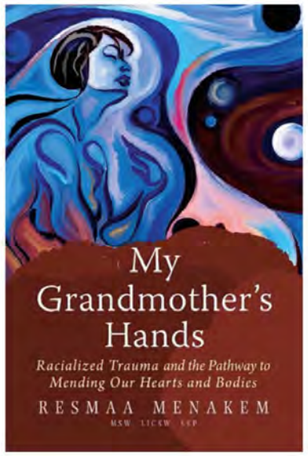
Judson Brewer
Brown University

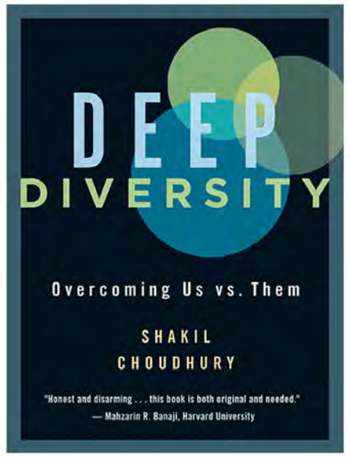
Judson Brewer is the Director of Research and Innovation at the Mindfulness Center and Associate Professor of Behavior and Social Sciences in the School of Public Health and Psychiatry, Brown University School of Medicine, and a psychiatrist and international expert in mindfulness training for addiction. He is developing and testing new mindfulness programs for behavioral change, including face-to-face and app-based treatments for smoking, emotional eating, and anxiety.
He has used standard and real-time fMRI and source-estimating EEG to study the underlying neural mechanisms of mindfulness and is currently translating these results into clinical use. He founded MindSciences, Inc. (now known as DrJud), an app-based digital treatment program for anxiety, overeating, and smoking.





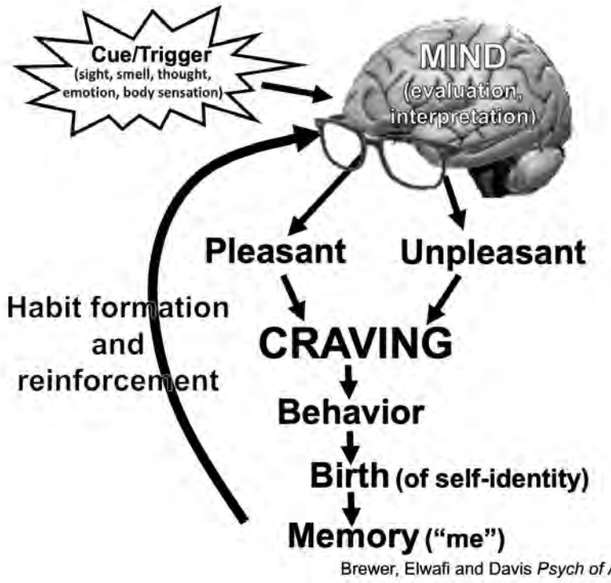






Podcast series: "Seeing White"

(E.g. Hoffman *PNAS* 2016)



Brewer, Elwafi and Davis *Psych of Addictive Behavior* (2012)

"Whatever a [person] frequently thinks and ponders upon, that will become the inclination of his mind"

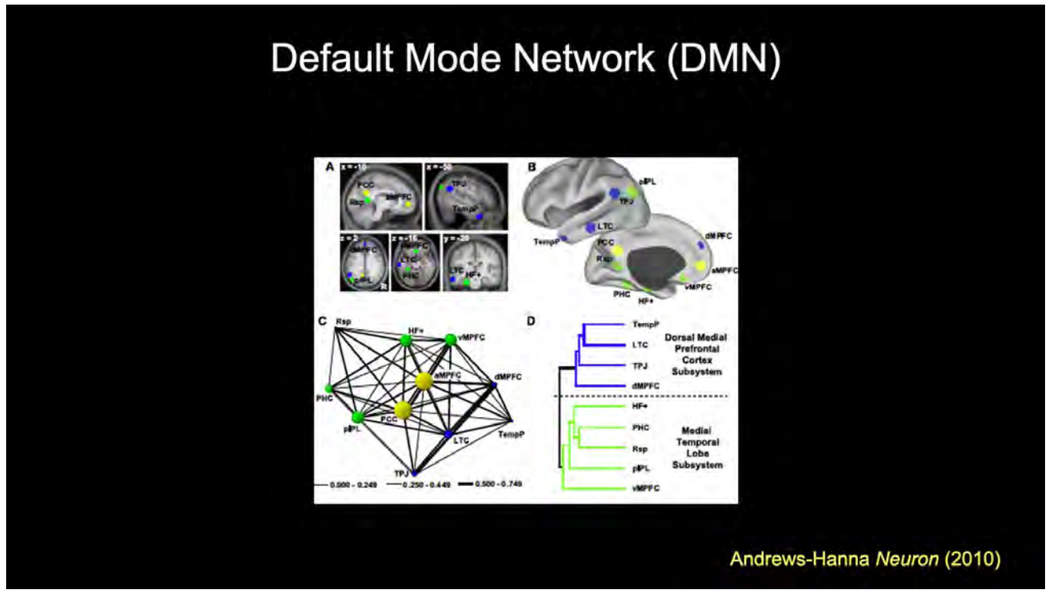
MN 19 "Two kinds of Thought"
(Bodhi trans)

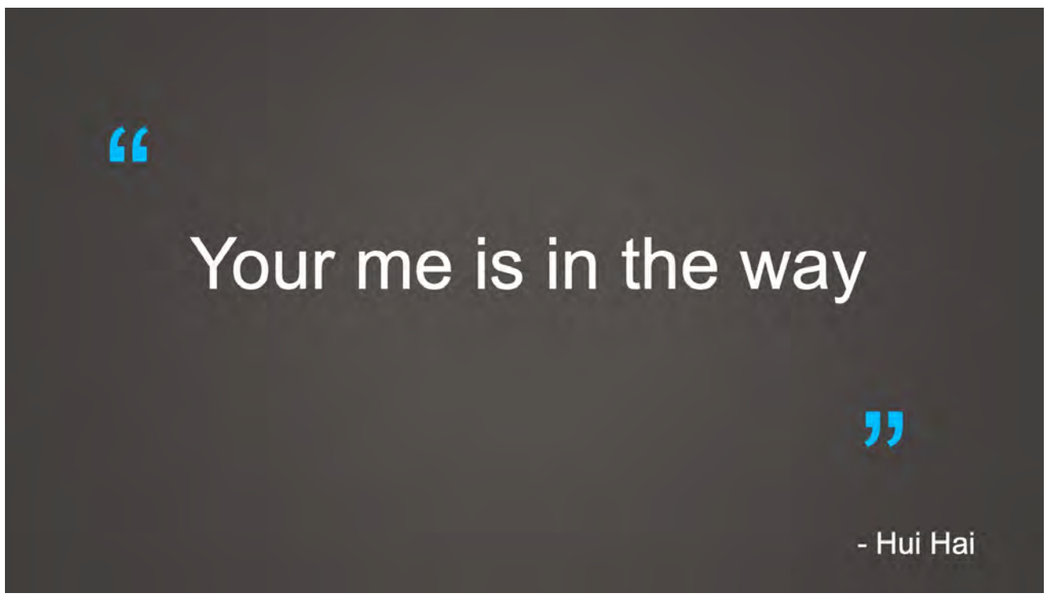
"Self-centered psychological functioning includes characteristics such as biased self-interest, egoism, egocentrism, and egotism."

Dambrun & Richard 2011

"Ego, the self which he has believed himself to be, is nothing but a pattern of habits"

Alan Watts

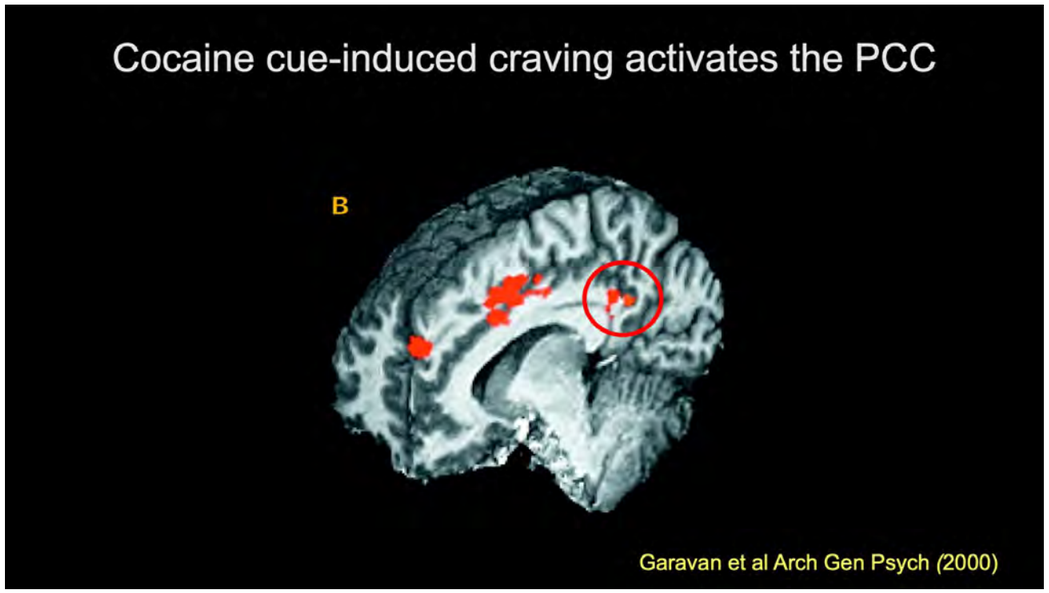




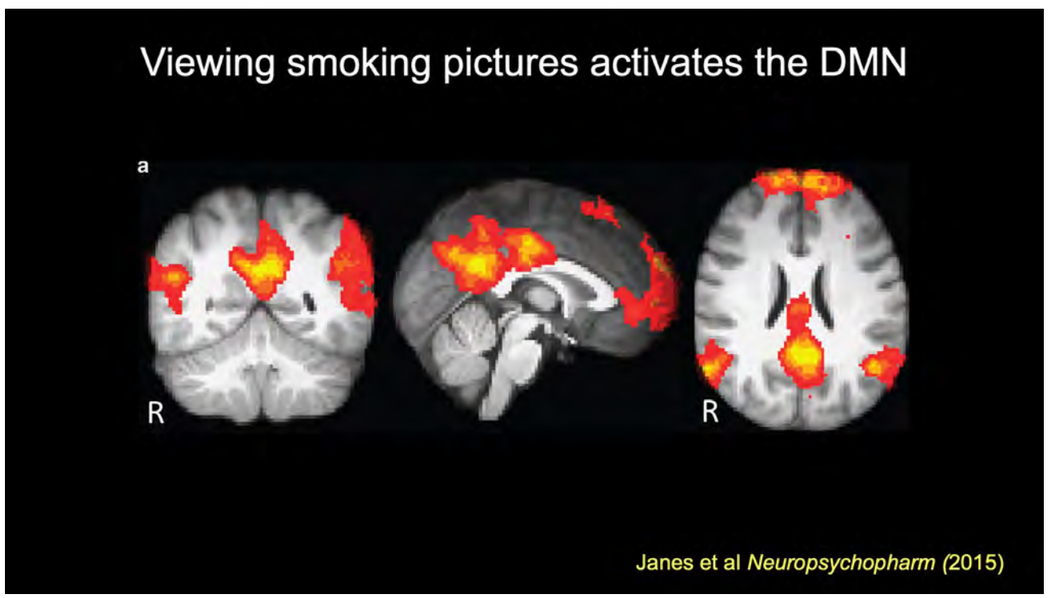
Adolescents' Own Images
Many Likes > Few Likes

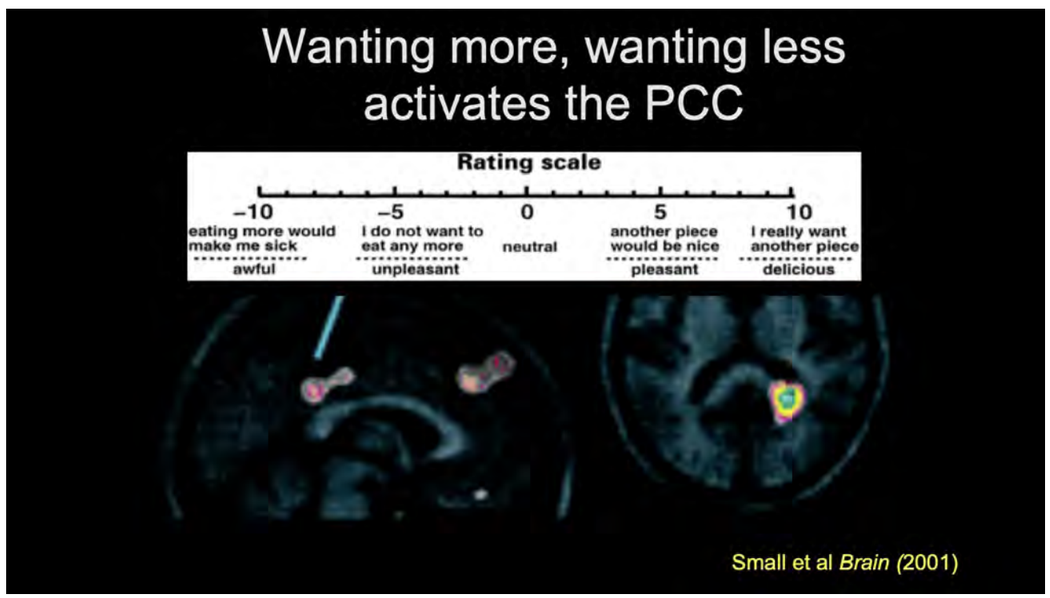
- Viewed simulated "Instagram" feed
- Brain activation was compared during viewing own images with many > few likes:
  - NAcc
  - PCC/precuneus

Sherman *et al* (2016)

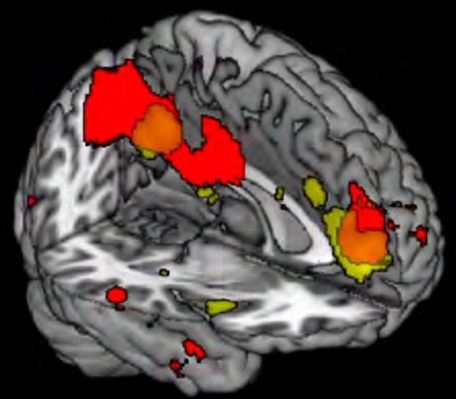

Cocaine cue-induced craving activates the PCC
B
Garavan et al Arch Gen Psych (2000)


Viewing gambling pictures activates the PCC
Goudriaan et al Addiction Biology (2010)


Viewing smoking pictures activates the DMN
a
R
R
Janes et al Neuropsychopharm (2015)


Wanting more, wanting less activates the PCC
Rating scale
−10
eating more would make me sick
awful
−5
I do not want to eat any more
unpleasant
0
neutral
5
another piece would be nice
pleasant
10
I really want another piece
delicious
Small et al Brain (2001)

Worry activates the PCC



Servaas et al *HBM* (2014)

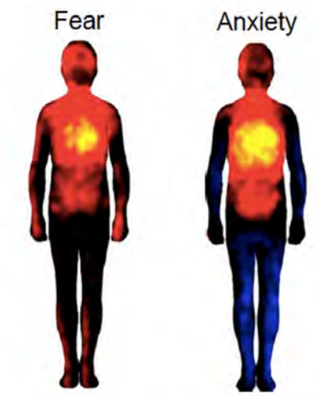
How do studies of the PCC converge?

- What about the self is processed in the PCC? (Brewer, Garrison and Whitfield-Gabrieli, 2013)
  - "getting caught up" in experience? (Garrison et al 2013)
    - Experiential self?
- mPFC –conceptual self? (Qin 2011)

The curious case of the PCC

- "Resting state" (Raichle 2001)
- Mind-wandering/Disruption of attention (Greicius 2003, Weissman 2006, Mason 2007, Li 2007, Eichele 2008, Wen 2013)
- Autobiographical memory, Past and future "self" (Schacter 2007, Andrews-Hanna 2010, others)
- Judgment about trait adjectives (Kelley 2002, Whitfield-Gabrieli 2011, others)
- Self-attribution in social situations (Cabanis 2013)
- Liking a choice you made (Jarcho 2011, Kitayama 2012)
- Prevention goals (Strauman 2013)
- Induced immoral behavior (van Veen 2009)
- Care and justice issues (Caceda 2011)
- Guilt (Morey 2012)
- Emotional processing (Peyron 2000, Maddock 2002, *Zhao 2007*, Gentili 2009, Bluhm 2012)
- Craving (Garavan 2007, Brody 2007, Jarraya 2010)

The "Caught Up" Continuum



Nummenmaa et al (2014)

Task of mindfulness training?

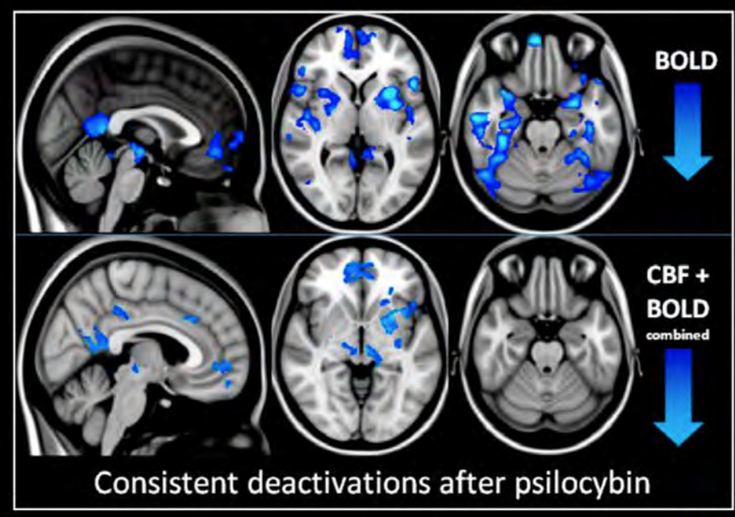
Get out of your own way

(Don't get caught up in yourself!)

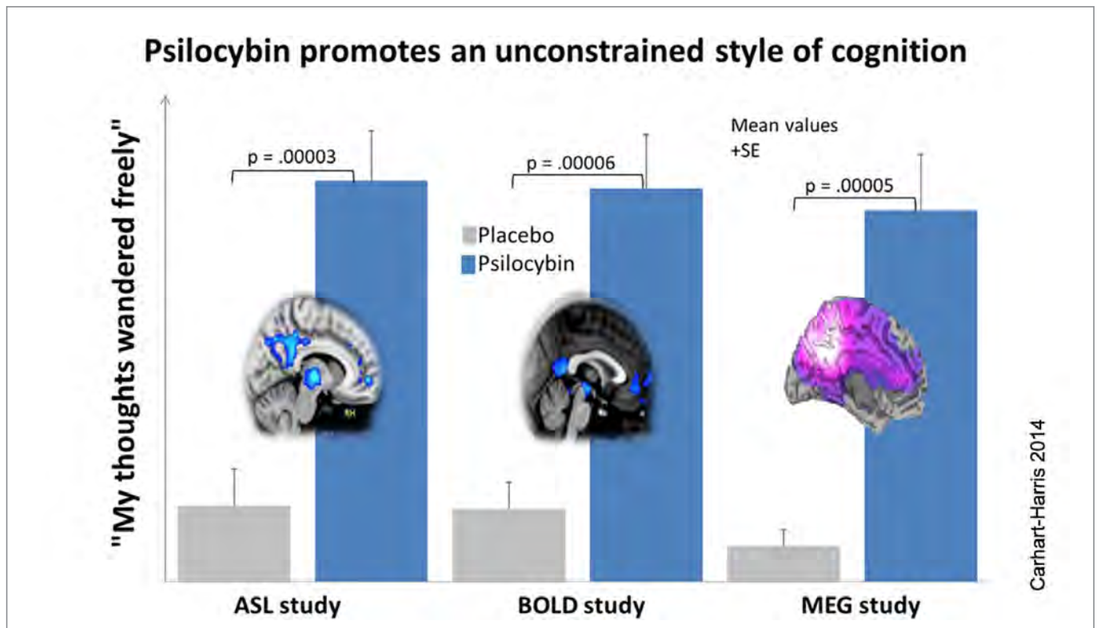
"Self-centered psychological functioning includes characteristics such as biased self-interest, egoism, egocentrism, and egotism.

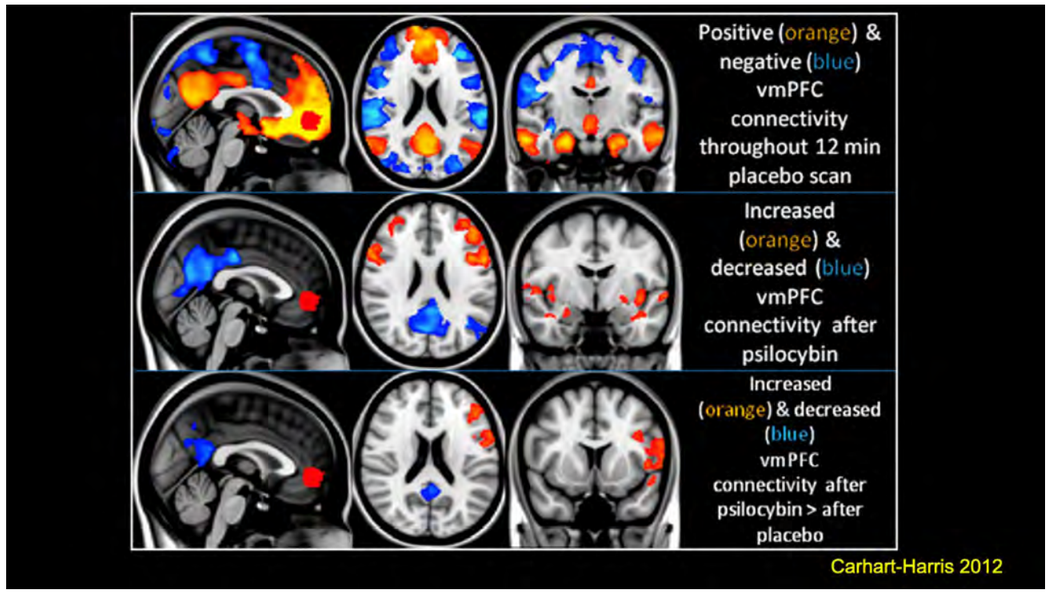
In contrast, we use the term "selflessness" to qualify the self's alternative psychological functioning. It is characterized by low levels of self-centeredness and a low degree of importance given to the self (i.e., not exaggerated). This style of psychological functioning is closely related to characteristics such as altruism, kindness, respect, empathy, compassion"

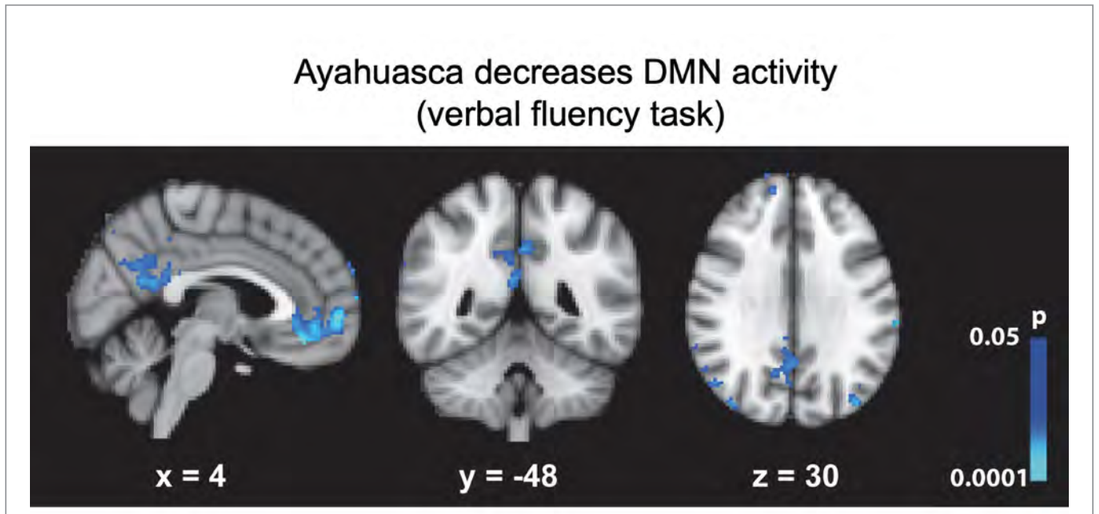
Dambrun & Richard 2011

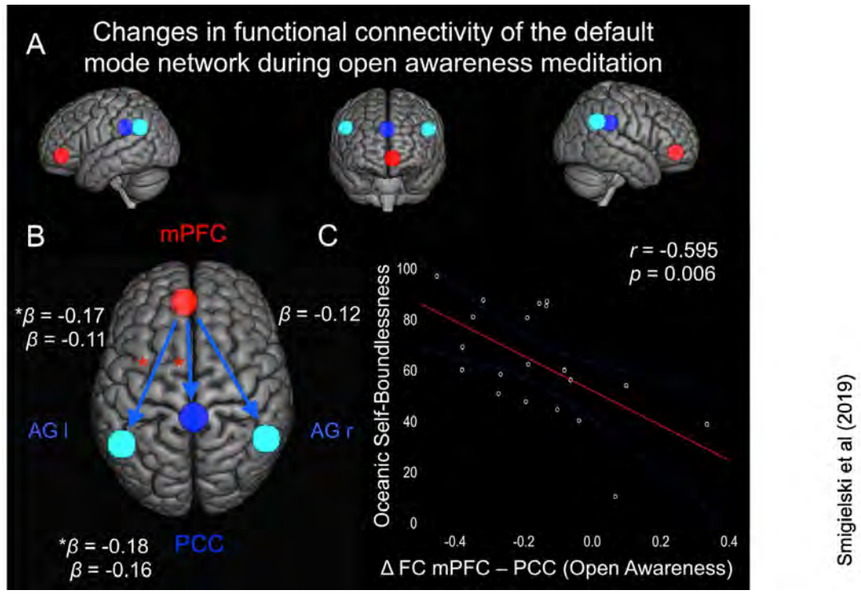


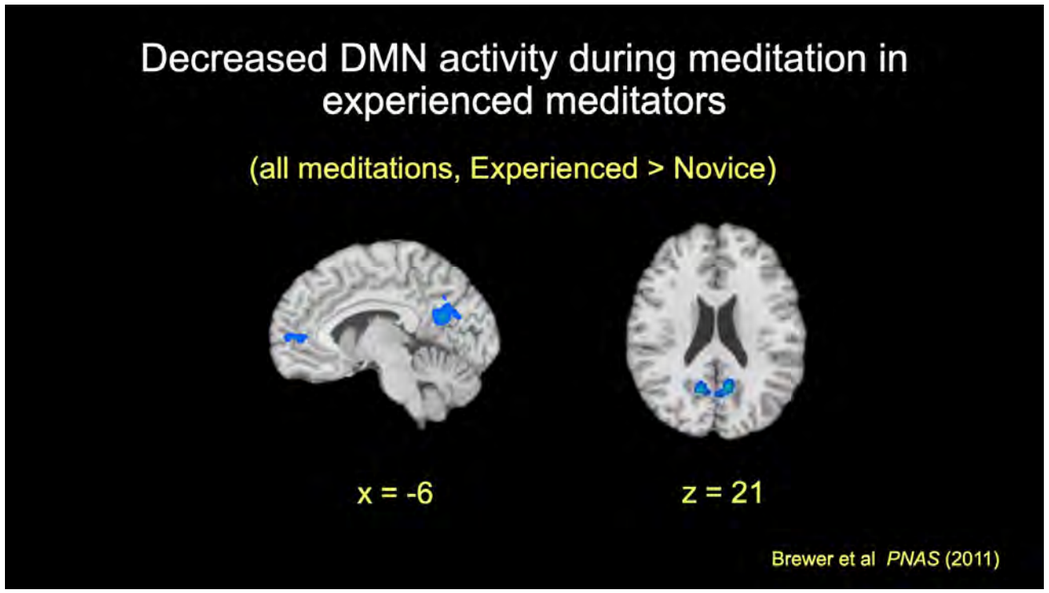
Carhart-Harris 2012

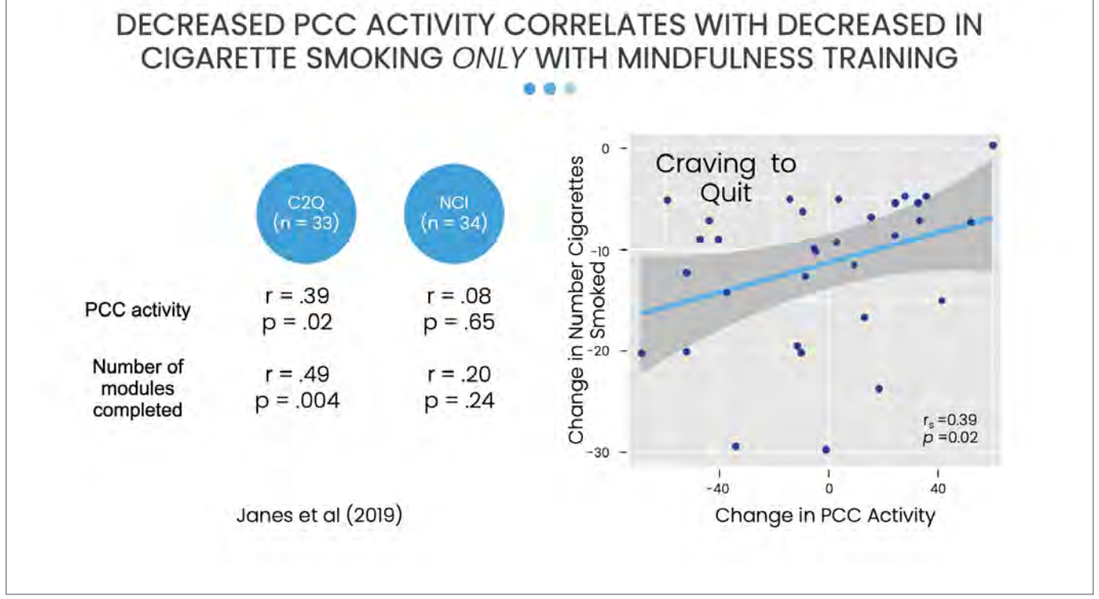

Psilocybin promotes an unconstrained style of cognition
"My thoughts wandered freely"
p = .00003
p = .00006
p = .00005
Mean values
+SE
Placebo
Psilocybin
ASL study
BOLD study
MEG study
Carhart-Harris 2014


Positive (orange) & negative (blue) vmPFC connectivity throughout 12 min placebo scan
Increased (orange) & decreased (blue) vmPFC connectivity after psilocybin
Increased (orange) & decreased (blue) vmPFC connectivity after psilocybin > after placebo
Carhart-Harris 2012

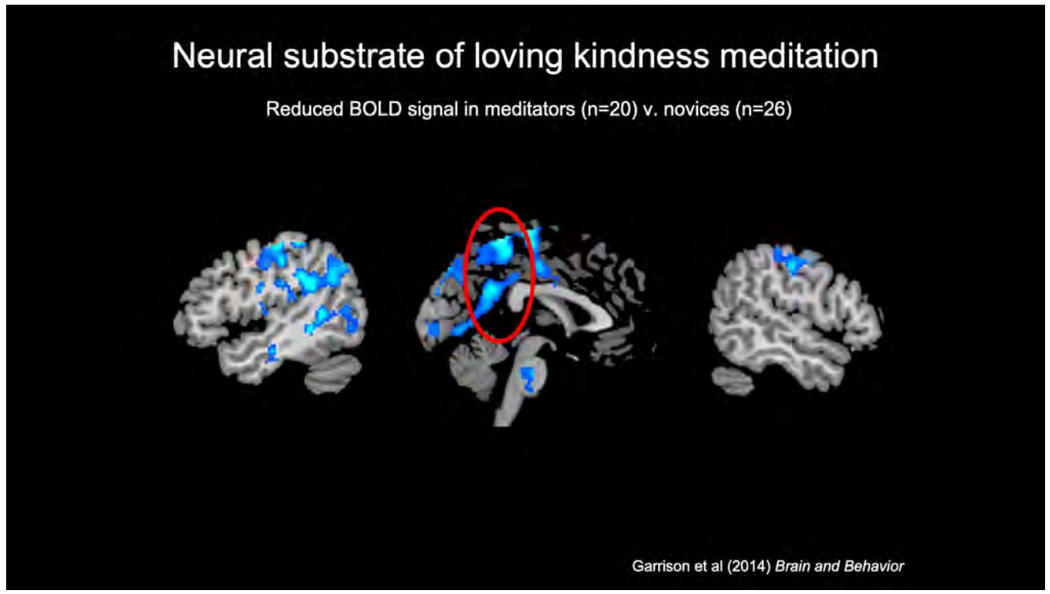

Ayahuasca decreases DMN activity
(verbal fluency task)
x = 4
y = -48
z = 30
0.05
p
0.0001
Palhano-Fontes 2015

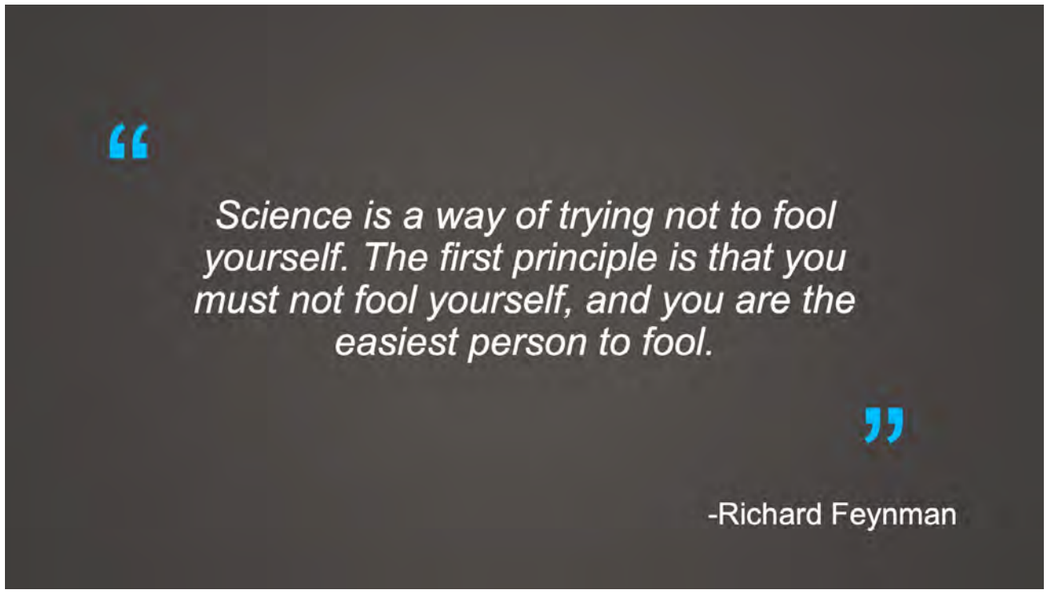

A
Changes in functional connectivity of the default mode network during open awareness meditation
B
mPFC
*β = -0.17
β = -0.11
β = -0.12
AG l
AG r
*β = -0.18
β = -0.16
PCC
C
r = -0.595
p = 0.006
Oceanic Self-Boundlessness
Δ FC mPFC – PCC (Open Awareness)
Smigielski et al (2019)

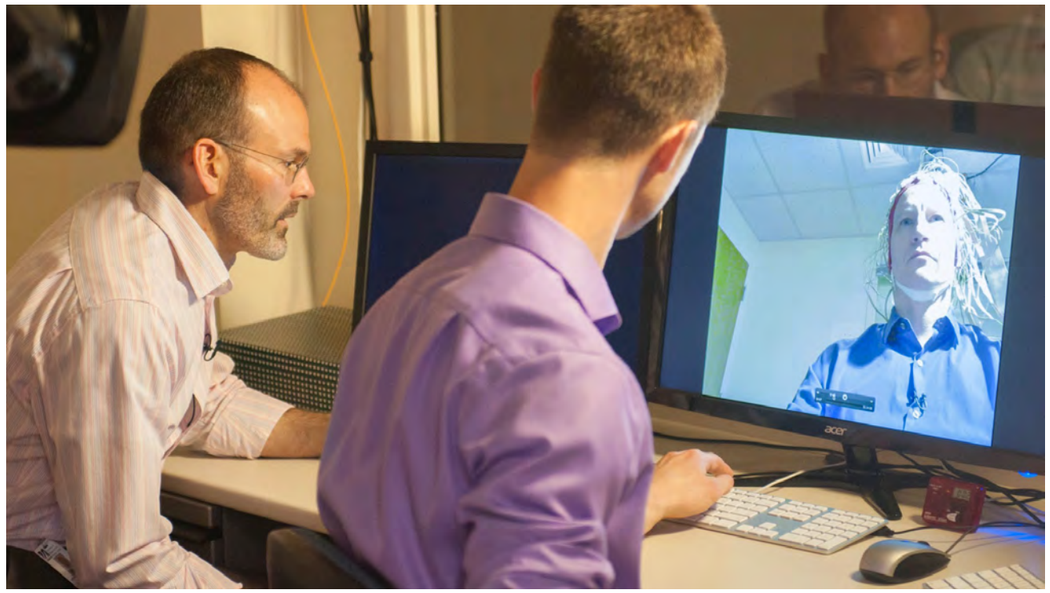

Decreased DMN activity during meditation in experienced meditators
(all meditations, Experienced > Novice)
x = -6
z = 21
Brewer et al PNAS (2011)

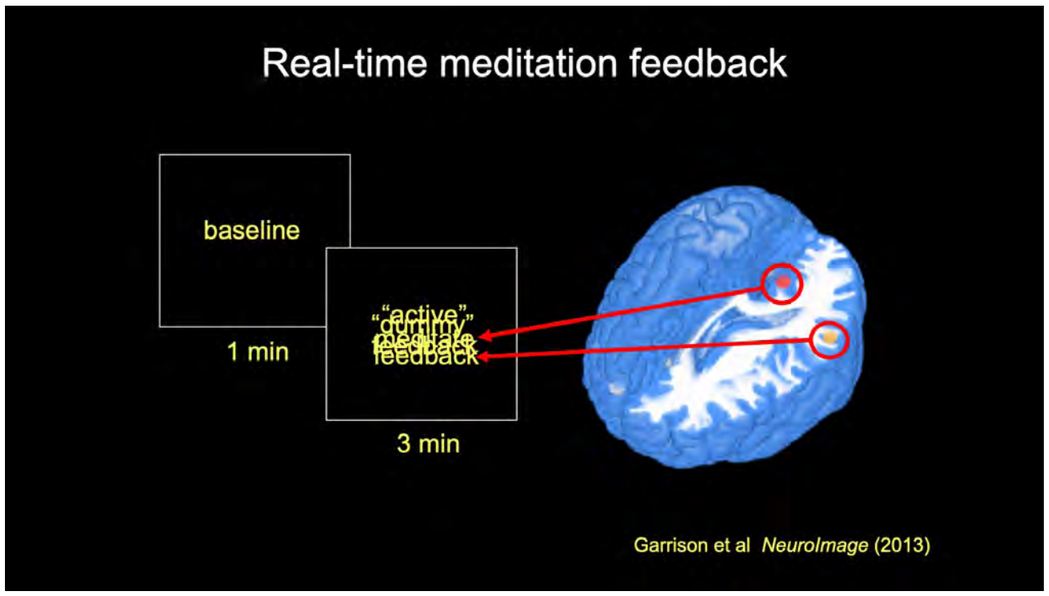

DECREASED PCC ACTIVITY CORRELATES WITH DECREASED IN CIGARETTE SMOKING ONLY WITH MINDFULNESS TRAINING
C2Q (n = 33)
NCI (n = 34)
PCC activity
r = .39
p = .02
r = .08
p = .65
Number of modules completed
r = .49
p = .004
r = .20
p = .24
Craving to Quit
Change in Number Cigarettes Smoked
0
-10
-20
-30
-40
0
40
r_s =0.39
p =0.02
Janes et al (2019)
Change in PCC Activity

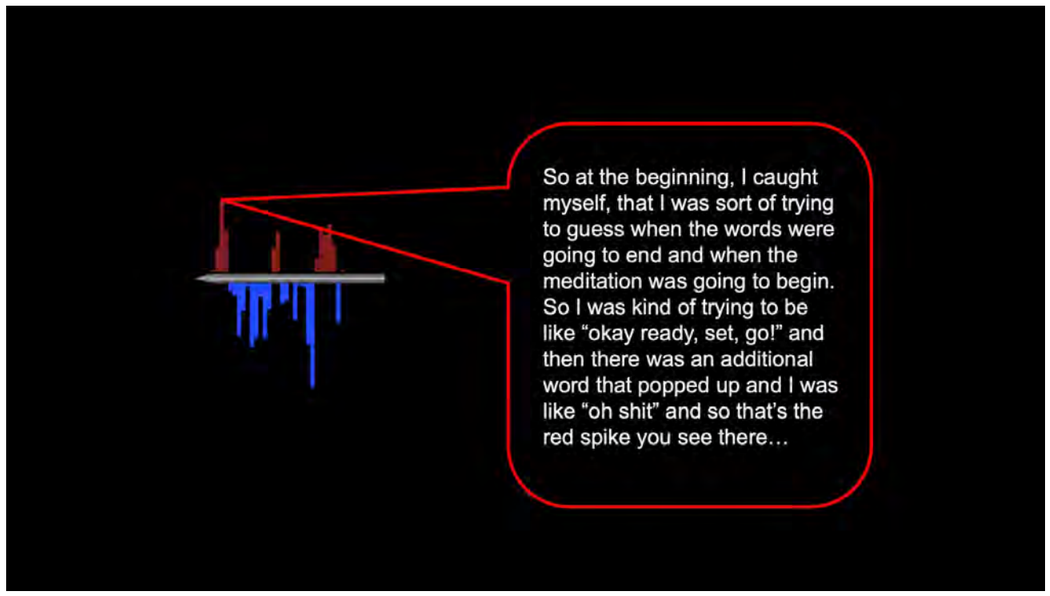

CAN APP-BASED MINDFULNESS TRAINING CHANGE BRAIN ACTIVITY?
Smoking Stimulus
vs.
Neutral Stimulus
Using
Brain activity measured using fMRI
Gives us
Baseline PCC reactivity
Randomized
Craving to Quit
NCI QuitGuide
One month later rescan their brains with the same paradigm
Smoking Stimulus
vs.
Neutral Stimulus
Using
Brain activity measured using fMRI
Gives us
Change in PCC reactivity

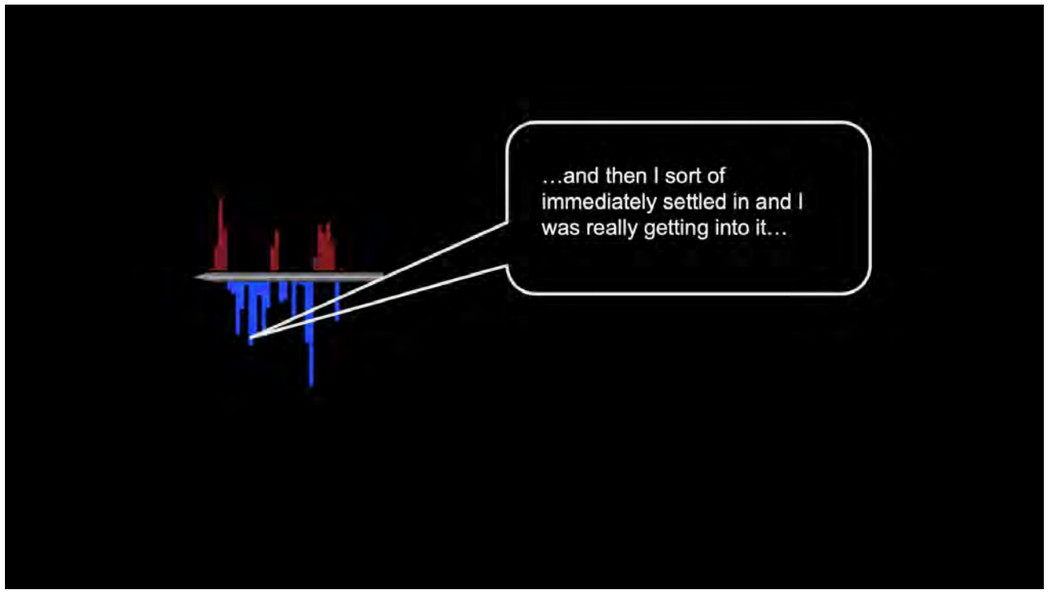

Neural substrate of loving kindness meditation
Reduced BOLD signal in meditators (n=20) v. novices (n=26)
Garrison et al (2014) Brain and Behavior

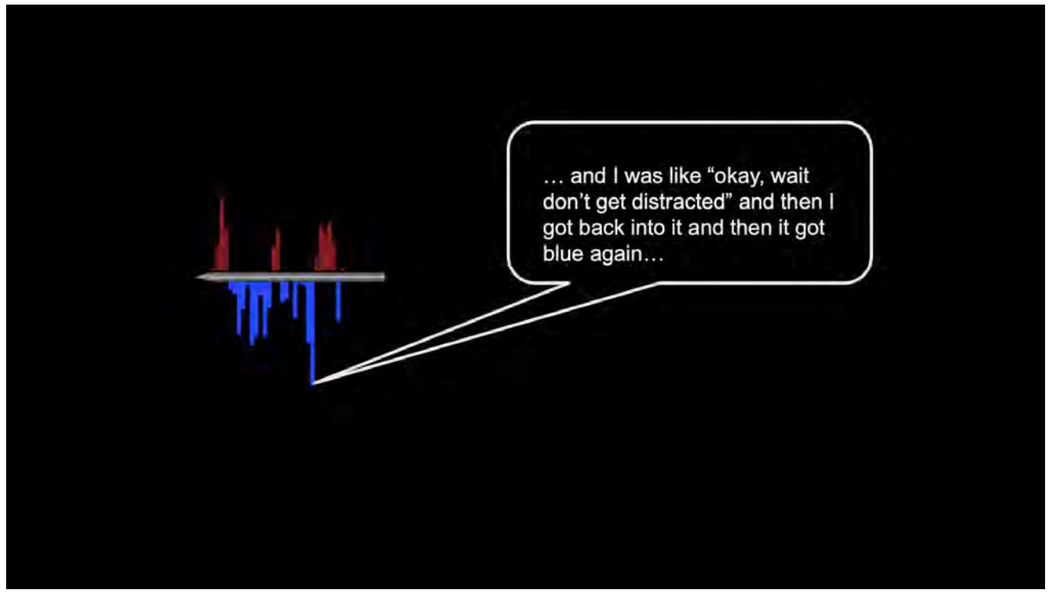

Science is a way of trying not to fool yourself. The first principle is that you must not fool yourself, and you are the easiest person to fool.
-Richard Feynman

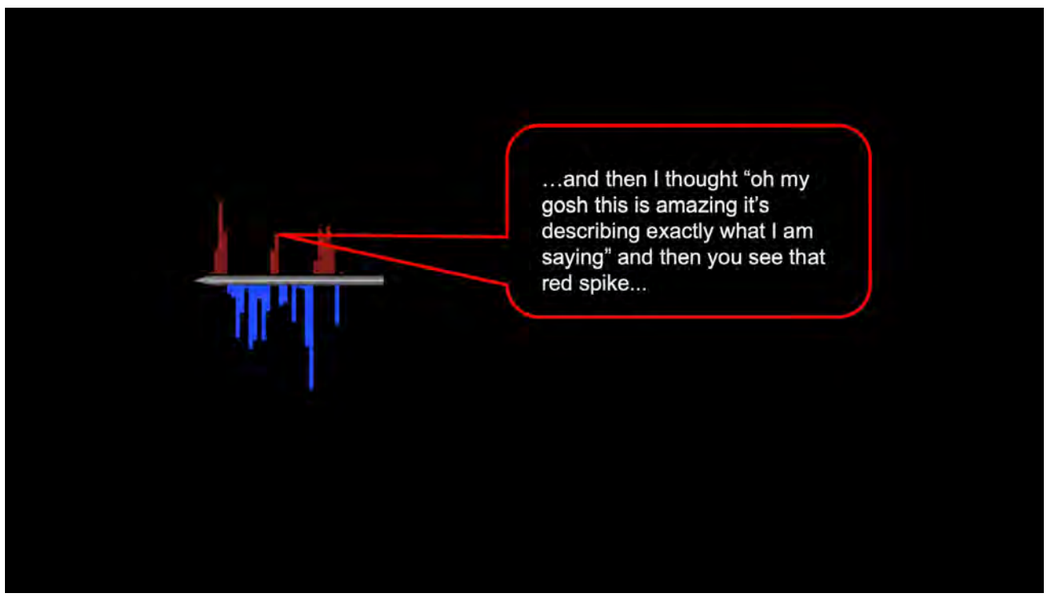



Real-time meditation feedback
baseline
1 min
"active"
during
meditation
feedback
3 min
Garrison et al NeuroImage (2013)

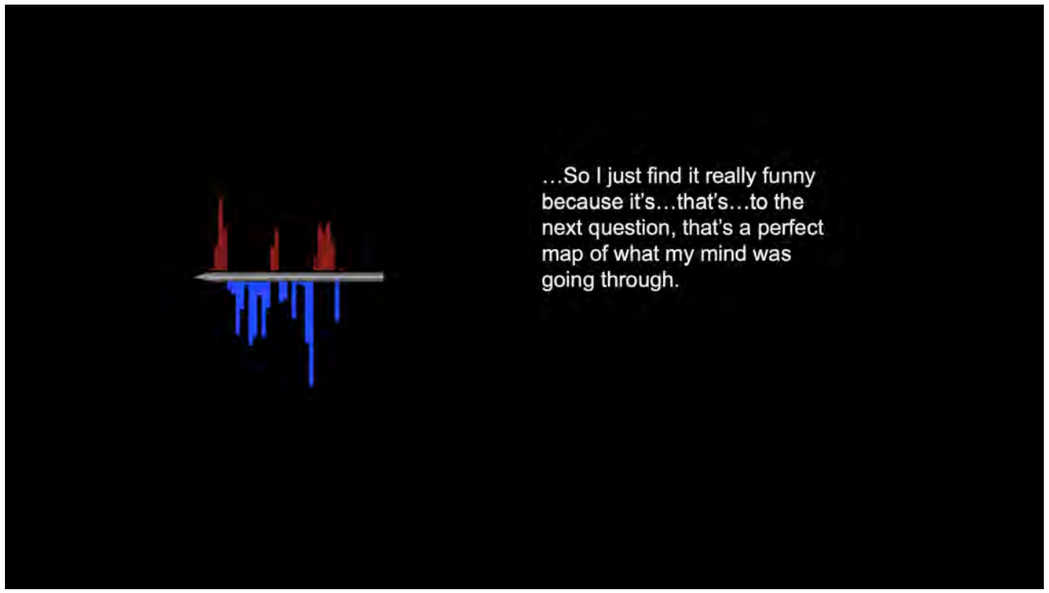

So at the beginning, I caught myself, that I was sort of trying to guess when the words were going to end and when the meditation was going to begin. So I was kind of trying to be like "okay ready, set, go!" and then there was an additional word that popped up and I was like "oh shit" and so that's the red spike you see there…

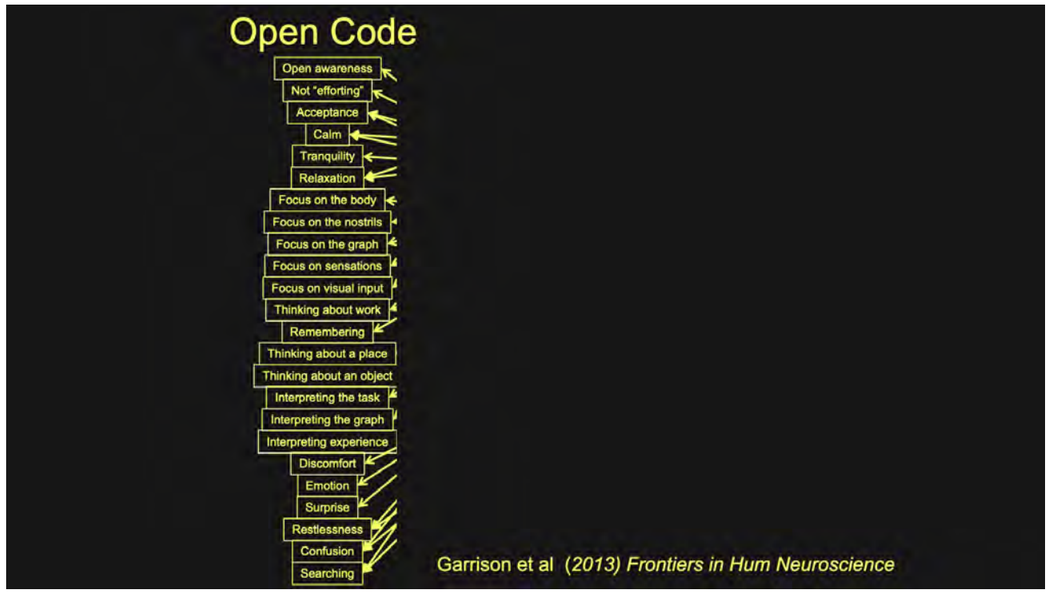

…and then I sort of immediately settled in and I was really getting into it…


… and I was like “okay, wait don’t get distracted” and then I got back into it and then it got blue again…


…and then I thought “oh my gosh this is amazing it’s describing exactly what I am saying” and then you see that red spike...

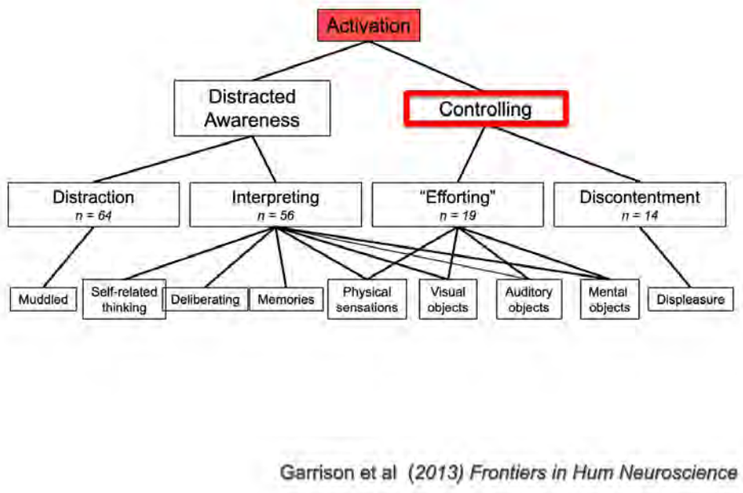

…and I was like “oh my gosh this is unbelievable, it’s doing exactly what my mind is doing” and so [chuckles] then it got red again…



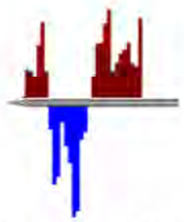


Neurophenomenology
(Lutz and Thompson 2003)

- Use first-person self-report to better understand cognitive processes related to third-person physiological (e.g., brain imaging) data
- Grounded Theory Method (GTM)
  - Qualitative analysis of self-report data
  - Derive theory from empirical data

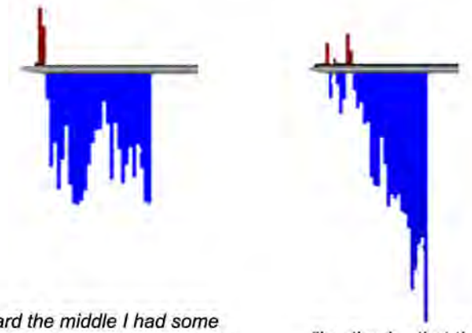


PCC Activation



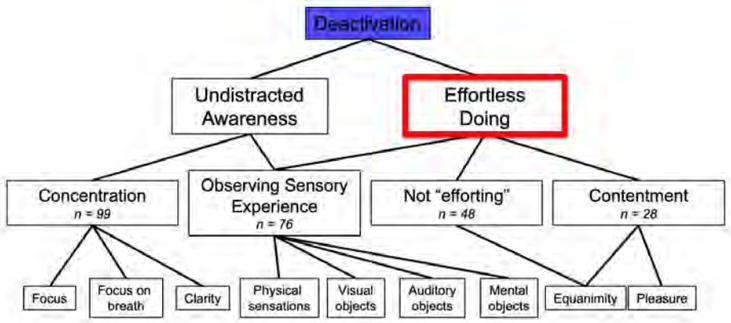
"I worried that I wasn't using the graph as an object of meditation, so I tried, like, to look at it harder or somehow pay attention more to it"

PCC Deactivation

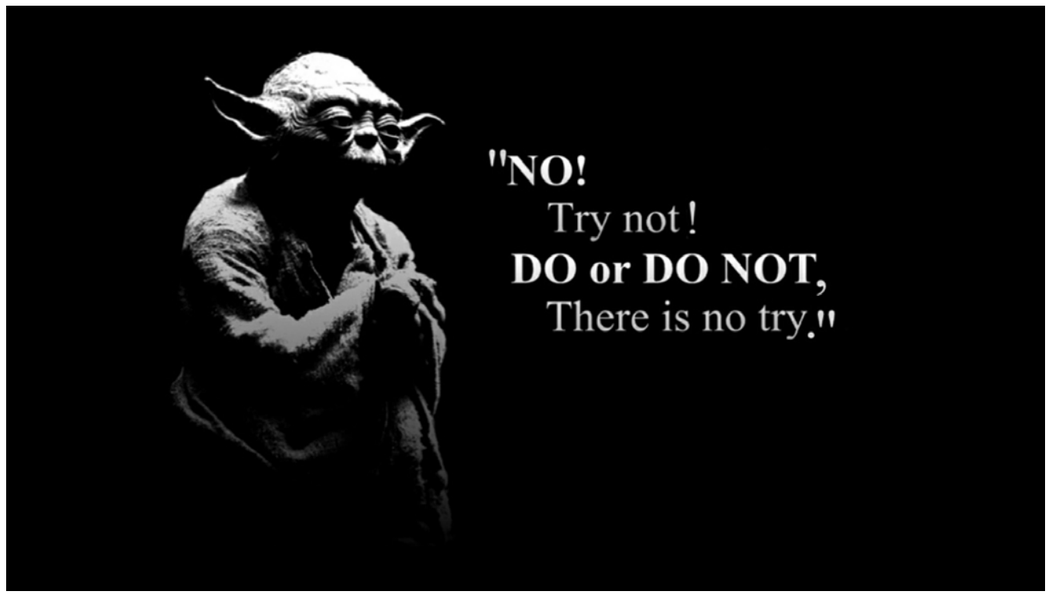


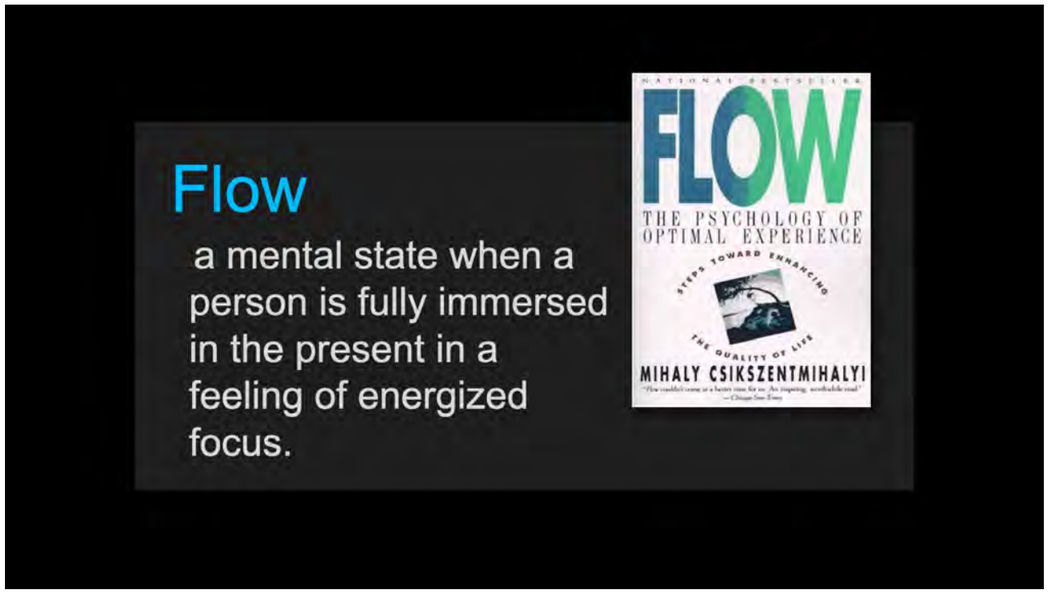
"Toward the middle I had some thoughts which I don't see on the graph maybe because I let them kind of flow by"

"I noticed …that the more I relaxed and stopped trying to do anything, the bluer it went"

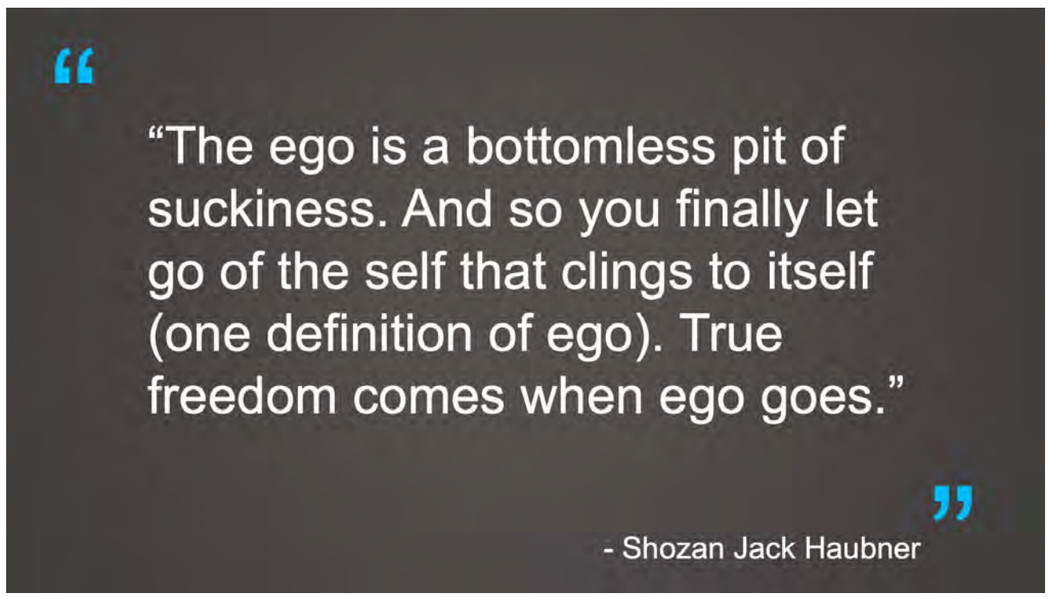


Garrison et al *(2013) Frontiers in Hum Neuroscience*




Flow
a mental state when a person is fully immersed in the present in a feeling of energized focus.
FLOW
THE PSYCHOLOGY OF OPTIMAL EXPERIENCE
STEPS TOWARD ENHANCING THE QUALITY OF LIFE
MIHALY CSIKSZENTMIHALYI


Expert
“There was a sense of flow, being with the breath…flow deepened in the middle.”
Experienced Meditator


“The ego is a bottomless pit of suckiness. And so you finally let go of the self that clings to itself (one definition of ego). True freedom comes when ego goes.”
- Shozan Jack Haubner

"Be empty of worrying.
Think of who created thought.
Why do you stay in prison
when the door is so wide open?
Move outside the tangle of fear-thinking.
Live in silence.
Flow down and down
in always widening rings of being."

- Rumi, "A community of spirit"

MORE INFORMATION:

- www.drjud.com
  - Free CME courses
- @judbrewer
- Mindfulness Center @Brown
  - www.brown.edu/mindfulnesscenter

BROWN
Mindfulness Center

INSTRUCTIONS FOR LIVING:

1. PAY ATTENTION
2. BE ASTONISHED
3. TELL ABOUT IT

- Mary Oliver

Gratitude!
Subjects

Pablo Abrante	Hedy Kober (Yale)	Bruce Rounsaville (Yale)
Bruce Barton (UMass)	Vera Ludwig	Juan Santoyo (Brown)
Sarah Bowen (UW)	Sarah Mallik	Cliff Saron (UC Davis)
Willoughby Britton (Brown)	G. Alan Marlatt (UW)	Dustin Scheinost (Yale)
Kathy Carroll (Yale)	Ashley Mason (UCSF)	Ryan Smith (Laureate Inst.)
Neha Chawla (UW)	Linda Mayes (Yale)	Veronique Taylor
Todd Constable (Yale)	Bill Nardi	Danny Theisen
Jake Davis (CUNY)	Alex Ossadtchi (SSI)	Evan Thompson (Toronto)
Gaëlle Desbordes (MGH)	Prasanta Pal	Tommy Thornhill
Susan Druker (UMass)	Xenios Papademetris (Yale)	Nicholas Van Dam (NYU)
Hani Elwafi	Lori Pbert (UMass)	Remko van Lutterveld
Kathleen Garrison (Yale)	Mark Pflieger (SSI)	Andrea Ruf
Jeremy Gray (Yale)	Marc Potenza (Yale)	Katie Witkiewitz (UNM)
Elizabeth Hoge (Georgetown)	Maolin Qiu (Yale)	Jochen Weber (Columbia)
Sean (Dae) Houlihan	Rahil Rojiani	Sue Whitfield-Gabrieli (MIT)
Catherine Kerr (Brown)	Alex Roy	Patrick Worhunsky (Yale)

FUNDING: NCCIH (R01 AT007922, R61AT009337, UH2 AT008145, R34 AT008948), NIMH (R41MH118130), NCI (R21CA184254), NIDA (R34 DA037886, R03 DA029163, K12 DA00167, P50 DA09241), NIA (R21AG062004), Yale Center for Clinical Investigation (UL1 RR024139), VAMC MIRECC, Fetzer Trust, Mind and Life

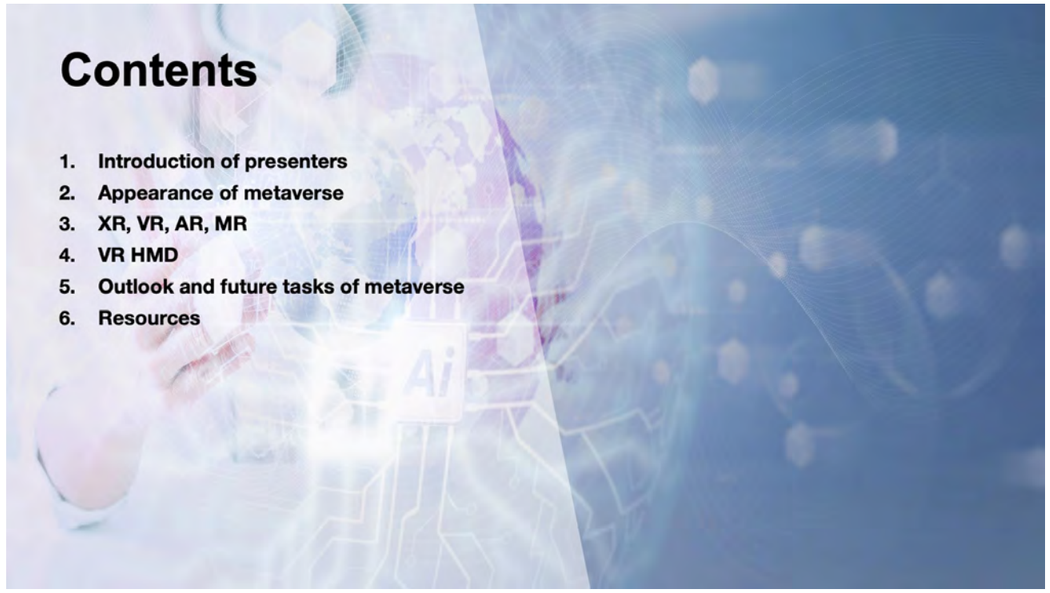
Meditation in Education and Experiential Learning Using Metaverse

Yuseop Lee
Dongguk University New media Design Lab

Lee Yoo-seop earned her master's and Ph.D. in the Department of Multimedia, Graduate School of Digital Image and Contents, Dongguk University, and currently serves as an Adjunct Professor, a 3d Manager for Cam Island, T3 Entertainment, etc., and an Adjunct Professor of Software Design Convergence School at Kyunghee Cyber University.

Ven. Eunsan
Dongguk University

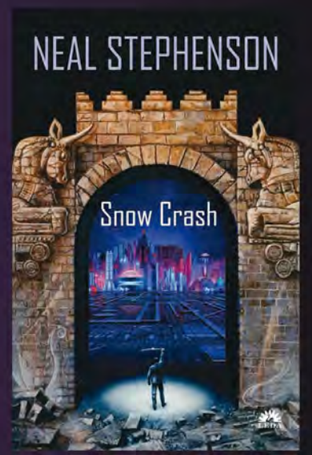
Ven. Eunsan graduated from the College of Oriental Medicine, Kyunghee University, and is a researcher at 'Healing and Happiness Convergence Institute.



The metaverse is coming.

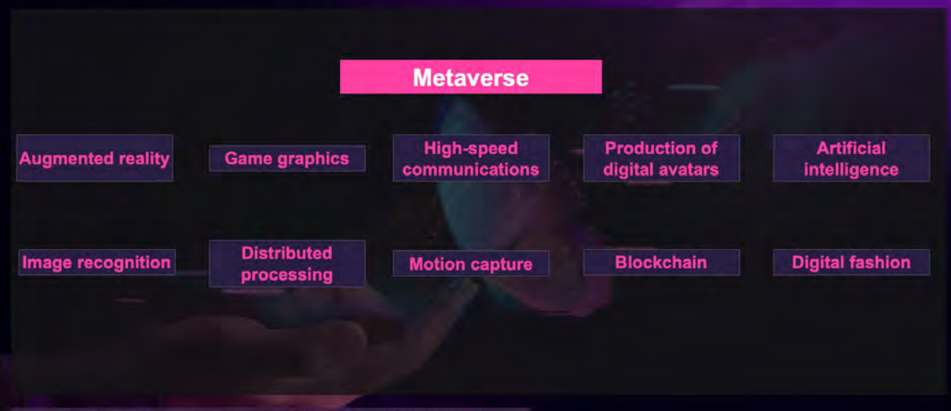
The term metaverse is a compound word of "meta" and "universe."
Meaning transcendental or virtual world

"A 3D virtual world where users can engage in social/economic activities as in real world"



A science fiction published in 1992

Metaverse is an umbrella term



모질라허브, 로블록스, 게더타운, 젭을 활용한 메타버스 사용설명서 재구성

Shift of Metaverse References by Media

자료: KDI 경제정보리뷰, https://eiec.kdi.re.kr/publish/reviewView.do?idx=81&fcode=000020003600005&ridx=7, (접속일: 2022.06.09.)

XR, VR, AR, MR

Extended reality, virtual reality, augmented reality, mixed reality

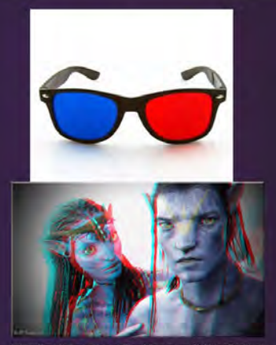
Visual expressions on diverse digital realities
출처 : Magic Leap 재구성

VR HMD (1)

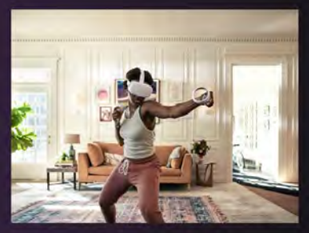
3D effect based on stereoscopic imaging

By presenting slightly different images to the left and right lenses of a VR device, one has an illusion of seeing 3D images.

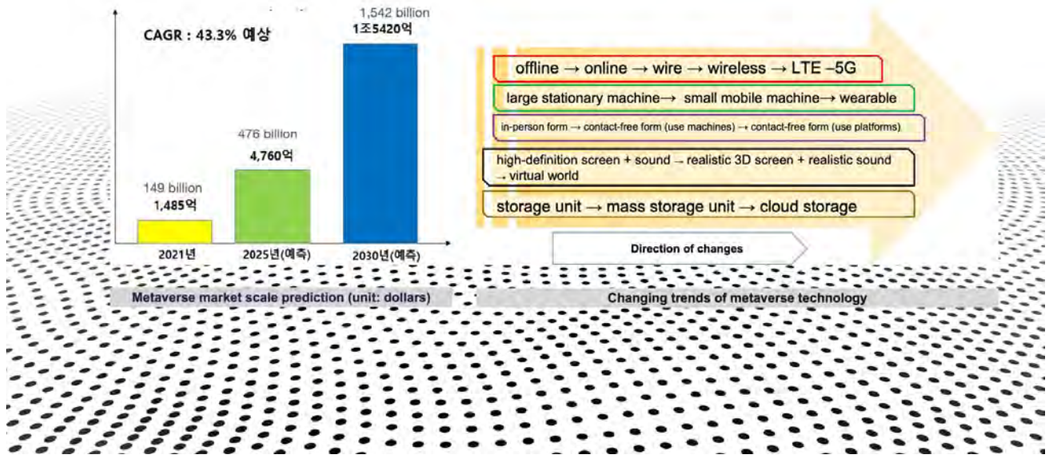
민족문제연구소, https://www.minjok.or.kr/archives/87966



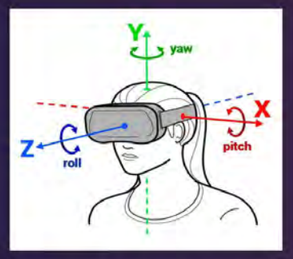
https://m.blog.naver.com/PostView.naver?isHttpsRedirect=true&blogId=jexim&logNo=221143569824



Metaverse Outlook



VR HMD (2)



Principles of image shifting, oculus

Motion sensor

Technology used to change images according to the direction a person is looking.
Consisting of gyro sensor and acceleration sensor,
it changes the direction of images and regulates speed according to the user's movements.

References

김진열, 최정애, 최은지, 新문화컨텐츠 메타버스의 현황 분석 및 전망, Journal of Culture Industry, Vol.22, No.1, 183~190, 2022.03.

한상열, 메타버스 플랫폼 현황과 전망, 소프트웨어정책연구소, 2021

이덕우, 메타버스 기술 및 산업 동향, 정보통신기획평가원, 2022

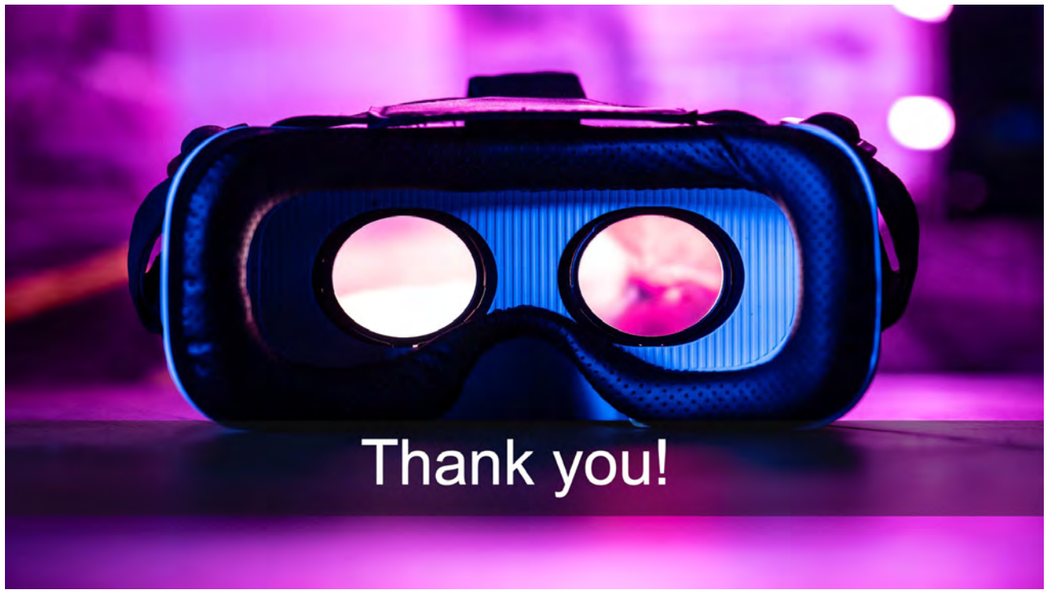
이승환,「로그인(Log In) 메타버스: 인간x공간x시간의 혁명」,「SPRi 이슈리포트」, 2021.

민족문제연구소, https://www.minjok.or.kr/archives/87966

Acceleration Studies Foundation(2006), "Metaverse Road map, Pathway to the 3D Web".

Road to VR Zuckerberg: Quest 2 'on track to be first mainstream VR headset', Next Headset Confirmed, 2021.1.27.

KDI 경제정보리뷰, https://eiec.kdi.re.kr/publish/reviewView.do?idx=81&fcode=000020003600005&ridx=7


Thank you!


Meditation Conference
Meditation Training and Practice Based on Metaverse
Recovering Human Spirit (RHS) Program
2022 서울 국제명상 엑스포
6월 19일 오전 11시~12시
동국대학교
치유와 행복 융합연구원
Under the academic guidance of Ven. Professor Seogwang
Presented by Ven. Eunsan and Prof. Lee Yu-seop


RHS program
1. What is RHS program?
"Recovering Human Spirit" or RHS is a meditation program devised by Ven. Seogwang, a professor at Dongguk University.
The program divides the ever-changing state of human mind into six patterns, and has created meditation practices suitable for these patterns. In this way it promotes recovery of human spirit, which is most needed both for living daily life and attaining enlightenment, and helps each individual to pursue the happiness they want.
송영숙, 심리치유적 관점에서 간화선의 응용모델 : 육도의 핵심감정 치유기제로서의 "화두"의 응용, 한국선학회, 선학36, 2013.417p - 453p

The Six Patterns of RHS Program

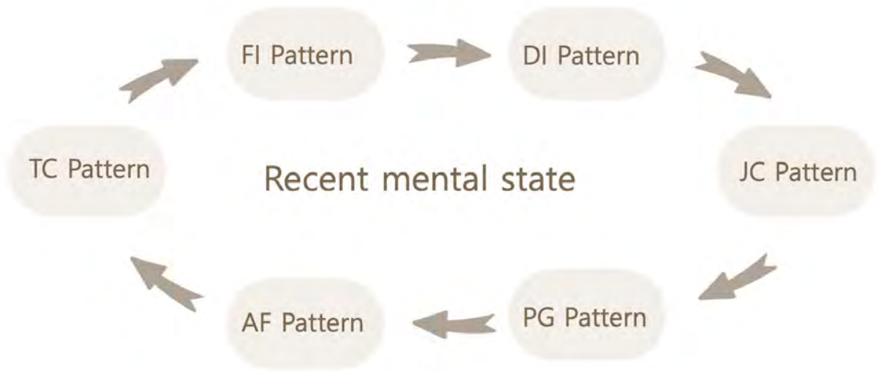
AF Pattern	TC Pattern	FI Pattern	JC Pattern	PG Pattern	DI Pattern
hell	hungry ghost	animal	asura (demi-god)	heaven	human
					
anger, fear, aggression	endless craving	ignorance, desires, foolishness	jealousy, competition	rapture, pleasure, euphria	self-exploration, questions

RHS program Components

1. Latest VR Device Adopted

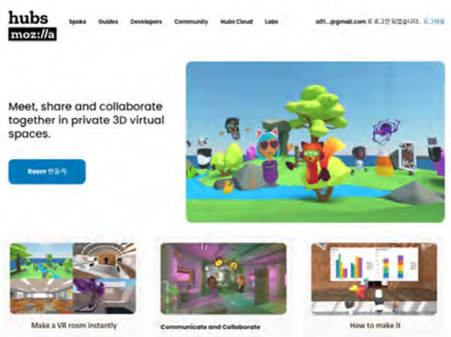
Released in October 2020
A standalone model working with compatible cell phones
Cord-free design and easier connection
One can be transported to another world based on excellent space implementation and interaction

Continued Changes of the Six Patterns



RHS program Components

2. Use of 3D Metaverse



Open-source free 3D metaverse
Connectable to PC, mobile and VR devices
Easier map composition
Freer space change
Diverse interaction and activities enabled
Utilization potential for many organizations and groups

RHS program Components

3. Participant-Led Meditation Programs

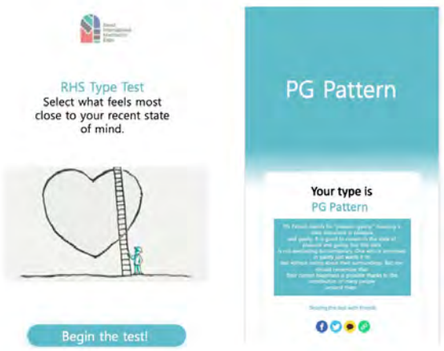
Instead of teacher-centered, passive program one can meditate without the aid of teacher or with minimal guide.

Future-oriented educational philosophy is applied where one can play a leading role to select and practice a suitable meditation for themselves.

One can meditate according to one's needs without the restrictions of time and space

RHS program Components

4. Programs Tailored for Participants



Examination and Evaluation of the Present State of Mind
According to the test result, you can practice meditation programs most suitable for your RHS type, more than one simultaneously if you want.

You can repeat the meditation practice alone when feel inadequate.

You may choose different meditation programs depending on your mental state.

Details of RHS Program

5. Program Tailored to the Future-MZ Generation

Increased accessibility to and daily life-oriented for many people
Based on short meditations lasting 2-5 minutes
One can go deeper into meditation step by step.
Interest points are embedded for MZ generation or younger people.

Similar to role playing games, one can move between virtual spaces and tasks are assigned.
Diverse interactive activities are given.

While you are watching the following meditation program you may find many aspects different from existing meditation programs.
I make a vow that this presentation can give a moment of reflection for us so that we can come up with diverse developmental directions for future meditation programs that may keep pace with the development of various media.

Meditation Training and Practice Based on Metaverse

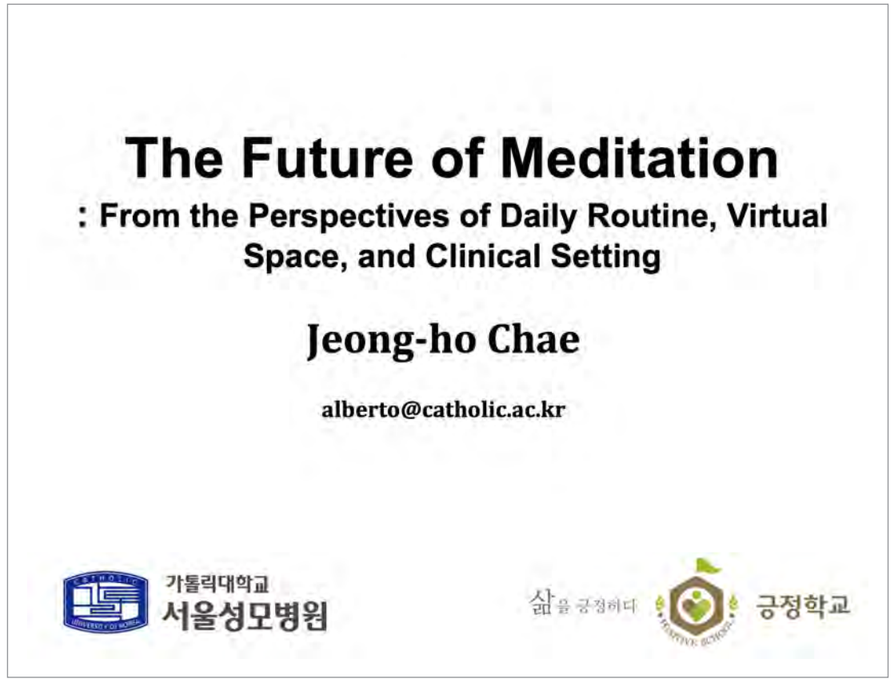
Recovering Human Spirit (RHS) Program

Seoul International Meditation Expo

The Future of Meditation; Aspects of everyday life, virtual, and clinic

Jungho Chae
The Catholic University of Korea

Jung-ho Chae graduated from the School of Medicine, Catholic University of Korea, and the same graduate school. He is currently a professor at the Department of Psychiatry, Seoul St. Mary's Hospital, Catholic University of Korea. His main interest is to develop treatment techniques to satisfy the unmet needs of psychiatric treatment. He introduced Transcranial Magnetic Stimulation (TMS) for the first time in Korea and has conducted regular mindfulness group programs for the past 15 years for the first time in a large university hospital in Korea. He served as the President of the Korean Institute of Education & Research for Meditation in Medicine, the Founding President of the Korean Academy of Meditation in Medicine, the Founding President of the Korean Society of Traumatic Stress Studies (KSTSS), and the Founding President of the Korean Academy of Medicine for Emotion, Cognition, and Behavior. Currently, he is the Director of the Korean Institute of Education & Research for Meditation in Medicine and the President of the Korean Academy of Anxiety and Mood. He has developed and applied the <"Bamaum" (Movement for the Right Mind)>, focused on a movement meditation and body awareness program.



Definitions, too many…

To discover the one who is meditating (Adyashanti)

Training to restore inherent harmony by inner reflection (KAIST)

Techniques of deliberate attempts to focus nonanalytical attention (Shapiro)

To concentrate on what is arising at the moment in our mind and body to discover our essence (Hyeon-su Jeon)

Bare attention (Jeong-ho Kim)

To bring one's thoughts, emotions, and physical sensations to the venue of observation called awareness, and take a good look at them.

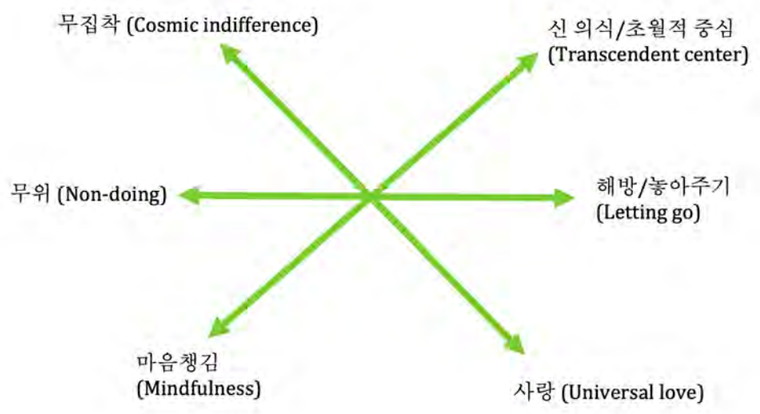
Definition of Meditation

- Secular:
  - Deep reflection, contemplation, mental/physical training, quiet sitting, submersion into thoughts, jhana, visualization,
  - The practice to return to the state of undistorted, pure mind by liberating humans from mental suffering, which is called **transcendence** (Hyeon-gap Jang)
- Religious/spiritual: **Practice to cultivate spirituality**
- Philosophical: To access the **activities of deeper layers of human mind** which won't discriminate subject and object (Ja-gyeong Han)
- Scientific: A set of techniques to **regulate emotion and attention** for the sake of diverse objectives including happiness and emotional balance (Davidson)
  - Self-regulation training based on sustained attention
  - Self-regulation training based on sustained attention and awareness (Walsh)
  - Mental training for wellbeing, composure, concentration, and fortified spirituality

Even in dictionaries…

- A discourse intended to express its author's reflections or to guide others in contemplation (Merriam Webster)
- To focus attention on a single object (Cambridge)
- The practice of focusing your mind in silence for a set period (Oxford)

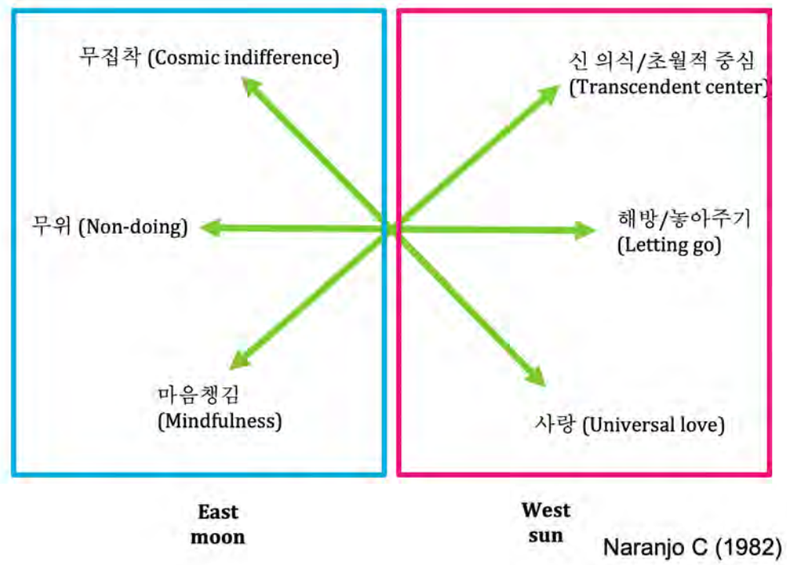
- Meditation: etymology in deep reflection
- Contemplation:
  - Con (with) + templum (altar)
  - To observe the self from the perspective of the flight of birds



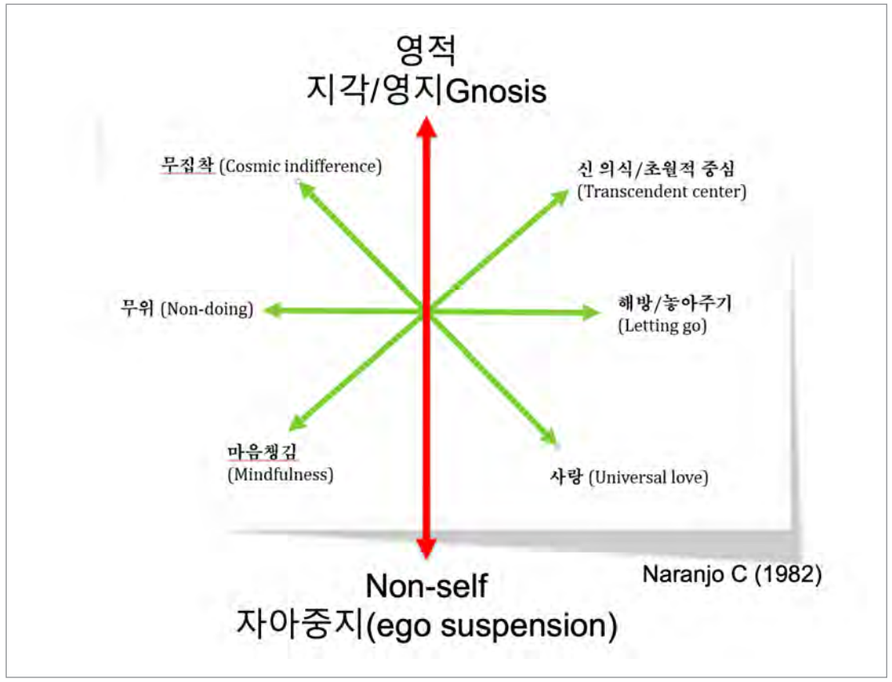
Naranjo C (1982)

History

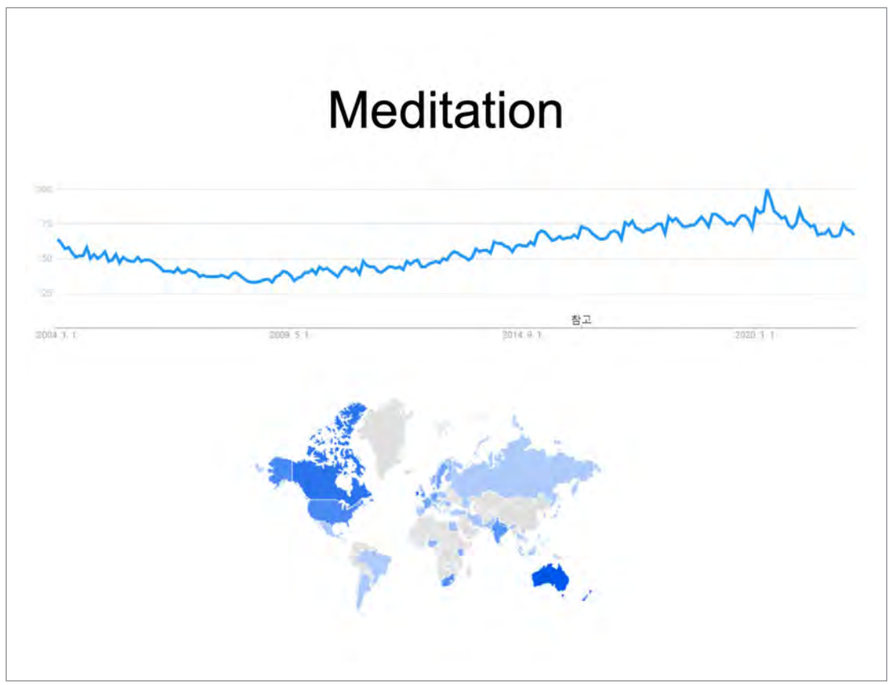
- Connection with the origins of all religions

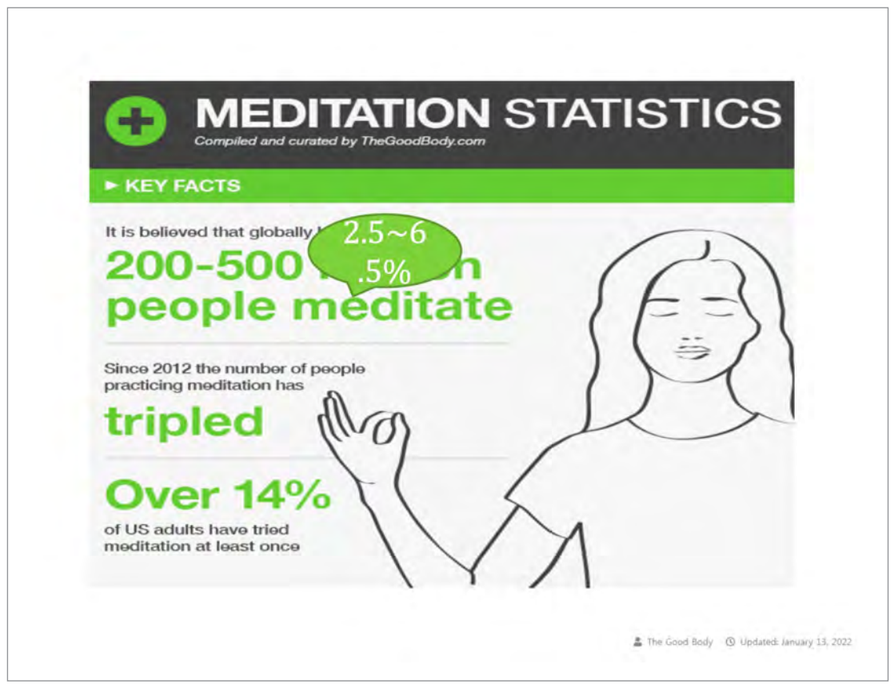


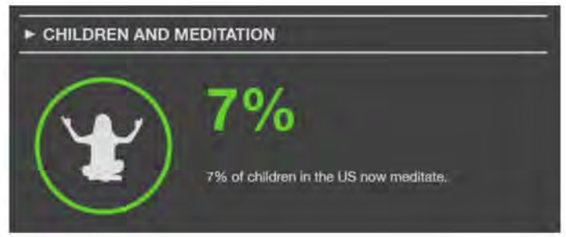
Naranjo C (1982)


영적
지각/영지Gnosis
무집착 (Cosmic indifference)
신 의식/초월적 중심
(Transcendent center)
무위 (Non-doing)
해방/놓아주기
(Letting go)
마음챙김
(Mindfulness)
사랑 (Universal love)
Non-self
자아중지(ego suspension)
Naranjo C (1982)


Mindfulness
참고
2004. 1. 1
2009. 5. 1
2014. 9. 1
2020. 1. 1


Meditation
참고
2004. 1. 1
2009. 5. 1
2014. 9. 1
2020. 1. 1

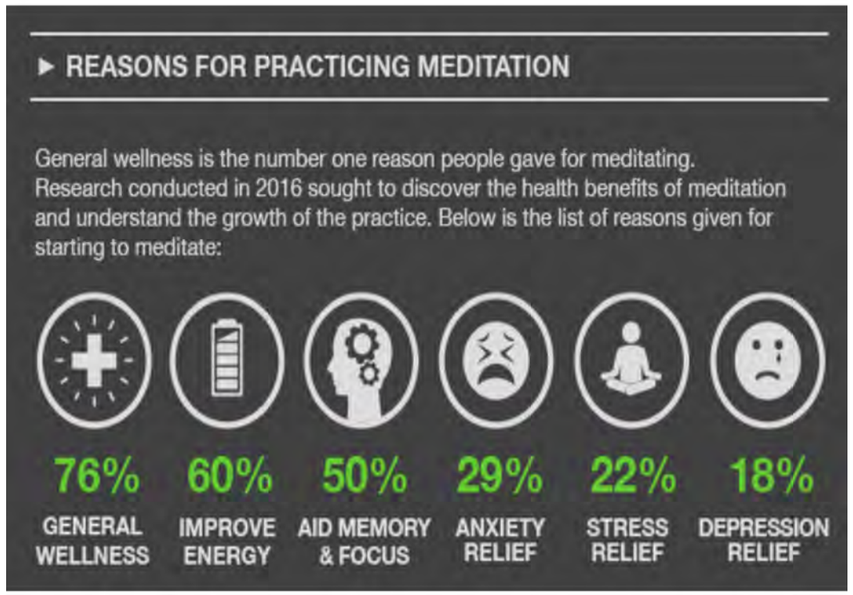

MEDITATION STATISTICS
Compiled and curated by TheGoodBody.com
► KEY FACTS
It is believed that globally
2.5~6
.5%
200-500
people meditate
Since 2012 the number of people practicing meditation has
tripled
Over 14%
of US adults have tried meditation at least once
The Good Body
Updated: January 13, 2022

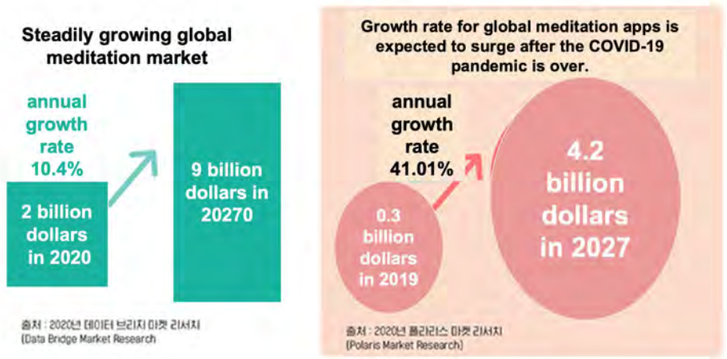


- 10% ?
  - Regular/irregular meditation practice (Gyeong-seon Lee, 2013)
- 3%?
  - Sitting meditation (Seong-su Kim, 2022)

Mungyeong Global Meditation Village, a spiritual cultural attraction to save humanity

We will introduce transcendental meditation to 1% of Korean population (510,000 people).

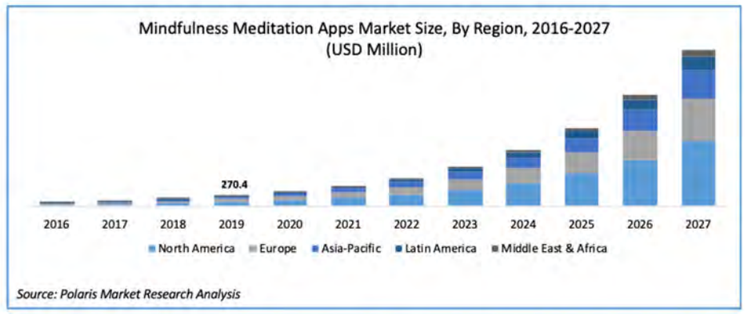




▲ 마보의 명상백서. (제공= 마보)

건강다이제스트

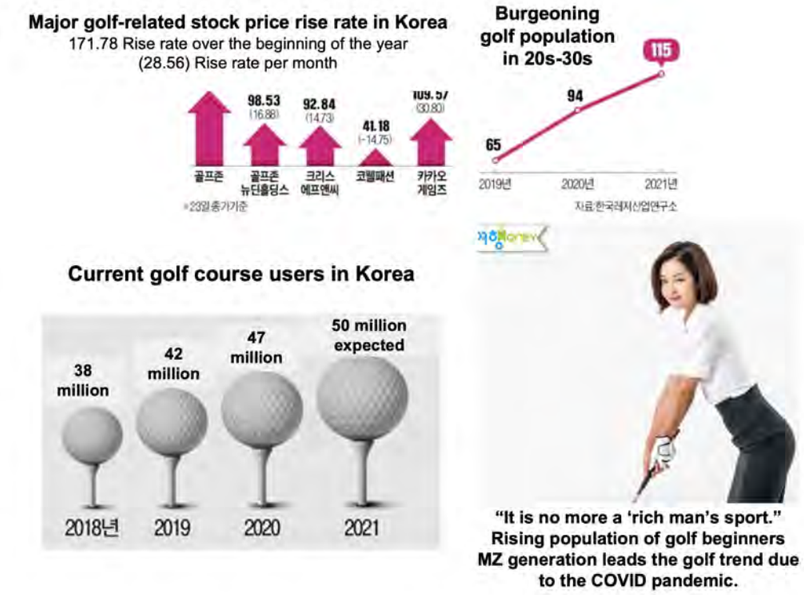
The global Mindfulness Meditation Apps Market was valued at USD 270.39 million in 2019 and is expected to reach USD 4,206.12 million by 2027, growing at a CAGR of 41.01% during 2020-2027. Rising cases mood disorders among all age groups, burgeoning disposable income with awareness about the apps are the prime factors responsible for the market growth.



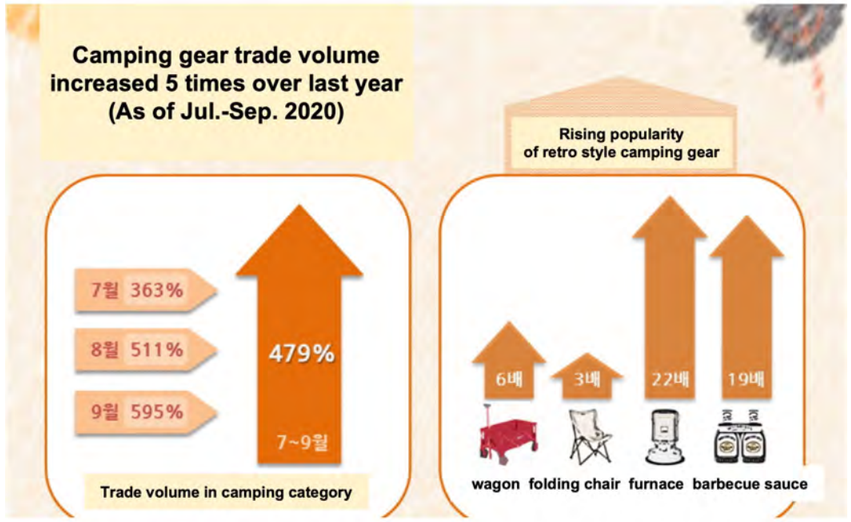
Source: Polaris Market Research Analysis

Mindfulness Meditation Apps Market Share, Size, Trends, Industry Analysis Report, By Operating System (Android, iOS, Others); By Service Type (Paid-in App Purchases, Free); By Age Group (6–12 Years Old, 13–18 Years Old, and 19 Above); By Regions; Segment Forecast, 2020 –2027

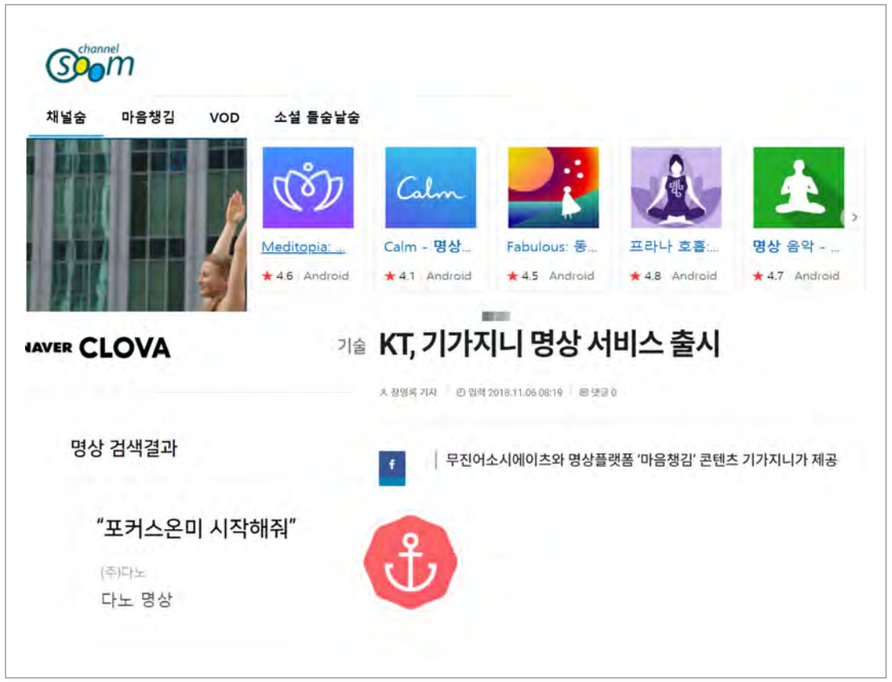
POLARIS MARKET RESEARCH



"It is no more a 'rich man's sport." Rising population of golf beginners MZ generation leads the golf trend due to the COVID pandemic.


Camping gear trade volume increased 5 times over last year (As of Jul.-Sep. 2020)
7월 363%
8월 511%
9월 595%
479%
7~9월
Trade volume in camping category
Rising popularity of retro style camping gear
6배
3배
22배
19배
wagon
folding chair
furnace
barbecue sauce


전국유랑집들이
바퀴달린집
나는 차였어
성동일
성동일


channel soom
채널숨
마음챙김
VOD
소셜 플숨날숨
Meditopia: ...
Calm - 명상...
Fabulous: 동...
프라나 호흡:...
명상 음악 - ...
★4.6 Android
★4.1 Android
★4.5 Android
★4.8 Android
★4.7 Android
NAVER CLOVA
기술 KT, 기가지니 명상 서비스 출시
명상 검색결과
무진어소시에이츠와 명상플랫폼 '마음챙김' 콘텐츠 기가지니가 제공
"포커스온미 시작해줘"
(주)다노
다노 명상

The 7 Best Meditation Apps of 2022

Best Overall: Calm

Best Budget: Insight Timer

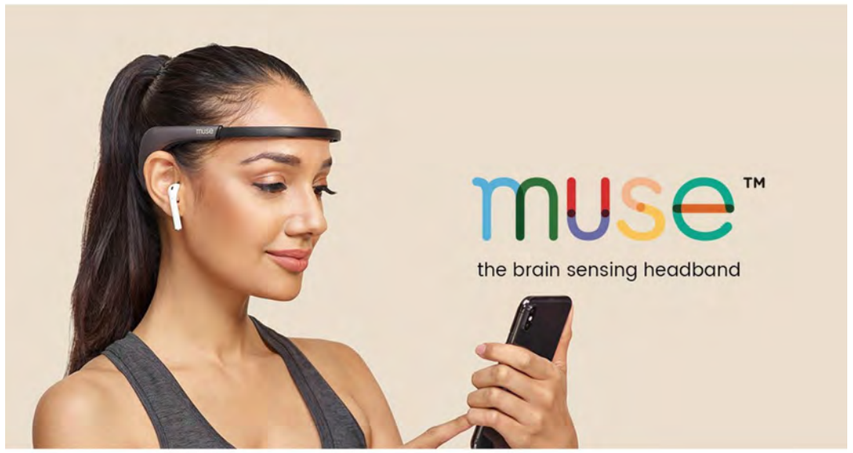
Best for Sleep: Headspace: Meditation & Sleep

Best for Beginners: Ten Percent Happier Meditation

Best Guided: Buddhify

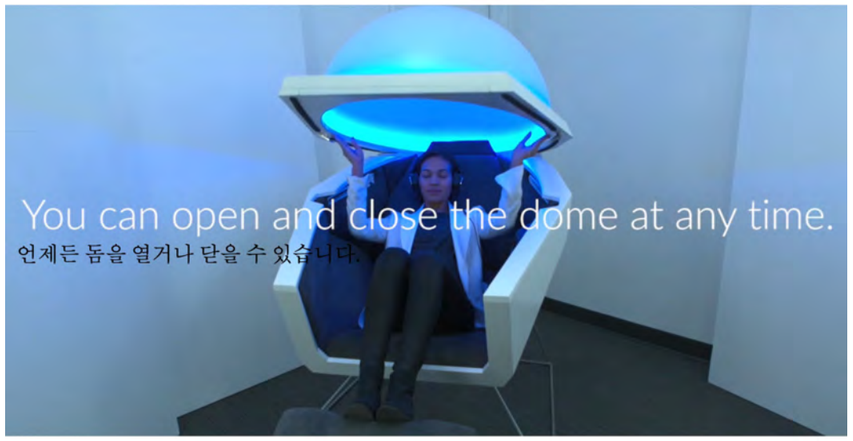
Best For Focus: Unplug

Best Selection: Simple Habit



Designed in Miami, Made in Japan

Russell Mindfulness Entertainment



somadome

SUPERIOR FLOAT TANKS

Breathing & Meditation

멘탈닥터 Mental Doctor

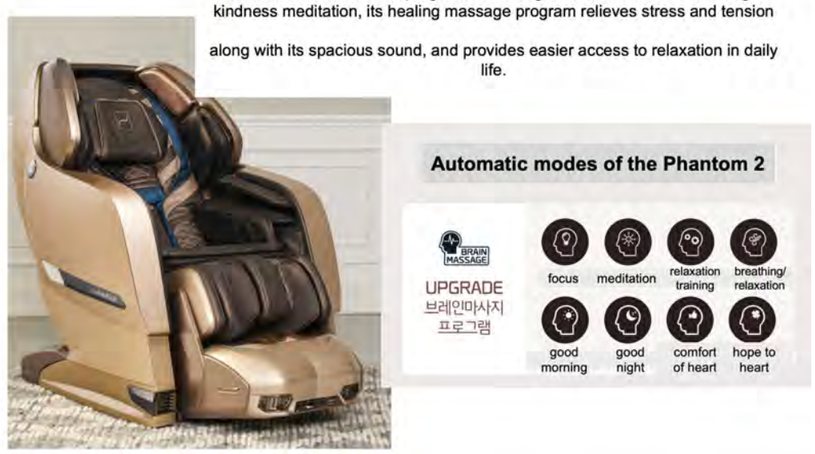
01. Relaxation through breathing 30 min.
02. Escape from fear 20 min.
03. Meditation for myself 20 min.
04. Breathing for myself 21 min.
05. Breathing for better health 21 min.

BODYFRIEND Massage Chair, individual customized “meditation massage” device patented

Jointly developed by the BODYFRIEND and the Korean Academy of Meditation in Medicine, the “meditation massage program” is loaded with the body scan

and focused meditation program. Providing both mindfulness and loving-kindness meditation, its healing massage program relieves stress and tension

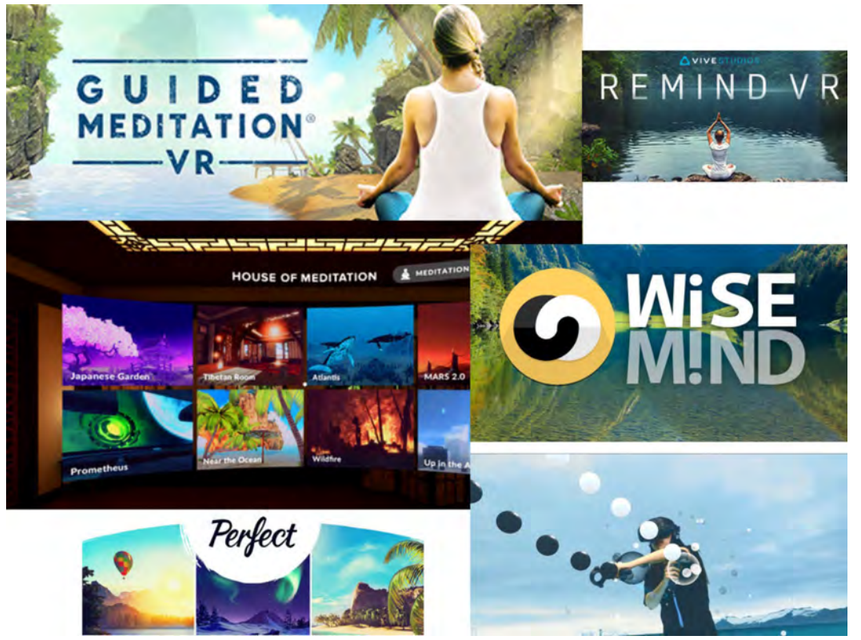
along with its spacious sound, and provides easier access to relaxation in daily life.



Automatic modes of the Phantom 2

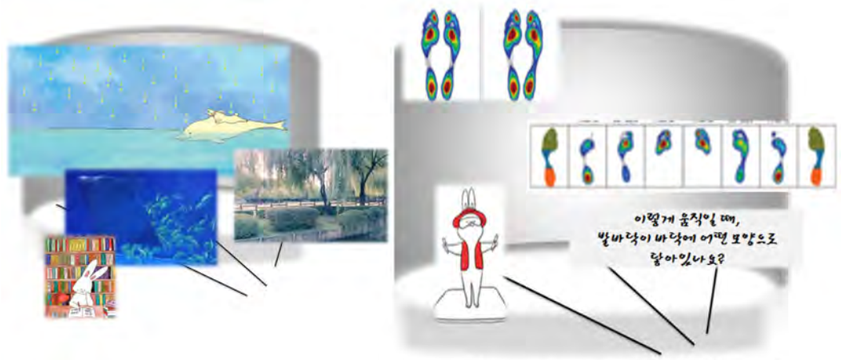
BRAIN MASSAGE
UPGRADE
브레인마사지
프로그램

focus · meditation · relaxation training · breathing/relaxation
good morning · good night · comfort of heart · hope to heart



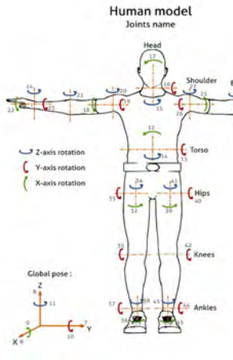
oculus

Virtual space / friendly avatar / movement

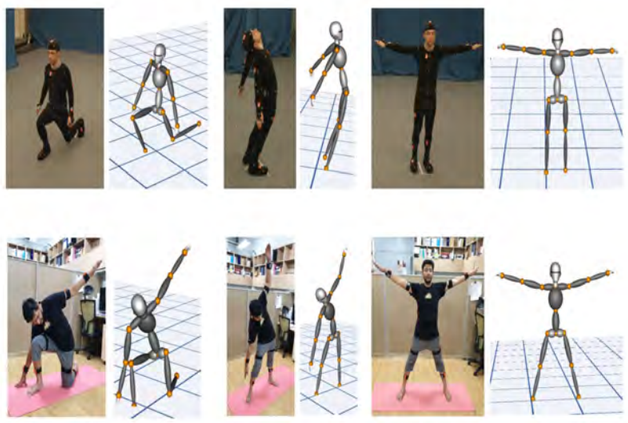


In your diverse movements what shapes do your footprints take?

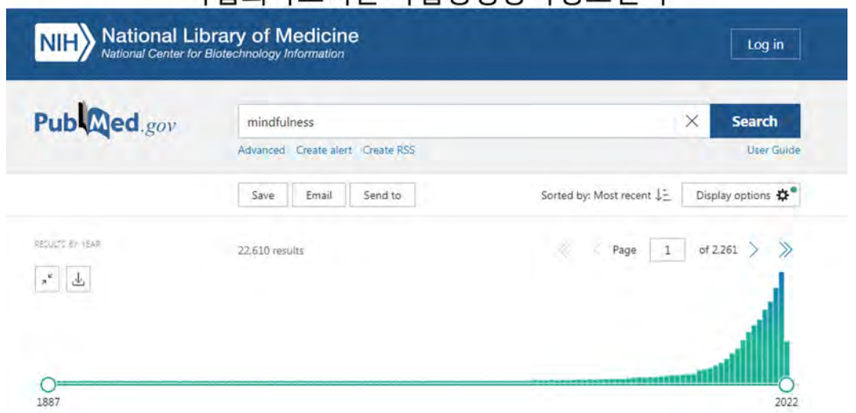
Avatar manifestation for friendly therapist/patient (teacher/practitioner)



Metaverse-movement manifestation in the space of virtual reality



국립보건원
국립의학도서관 국립생명공학정보센터



in its high-school phases; (*b*) that he should consider his subject in its rise and development as a factor in education; (*c*) that he should present an historical view of his subject in regard to methods as the best safeguard against a mechanical and slavish copying of educational devices; (*d*) that he should consider the educational function and value of his subject; (*e*) that he should treat his subject in its co-ordinate relation to the other subjects of the curriculum.

4. That, finally, since a large part of normal-school work is to fit teachers for the district and country school, it is advisable to have a type of this kind of school in the training department.

CHAS. DEGARMO.

THE CONTENTS OF CHILDREN'S MINDS.

It will be remembered that several sets of interesting investigations have been carried on in Germany and France with a view to determine what the actual content and capacity of the child's mind are. In 1882 Prof. G. Stanley Hall tried experiments with Boston school-children, similar to those made abroad, and published his results in the *Princeton Review*. The December issue of the London *Journal of Education* contains the record of a similar investigation undertaken by an English teacher. The following abridged report of it is not only of interest in itself, but especially for the purpose of comparison with the results of the attempts elsewhere made for the same purpose. The answers were given by six children. Unfortunately, the results obtained under the heads of 'Observation' and 'Information'—the most valuable of all—are very briefly given in the original. The following are some of them:—

What is bread made of? What is the use of sleep? How would you get a garden full of flowers? What is the color of railway-signals? How do chickens come into the world? In respect to all these questions, the children failed to differentiate to any great extent. To the question 'How many legs has a spider?' A answered, "Six;" and E, "I almost think six. I killed all the spiders in aunt's garden yesterday."—"Why?"—"Oh, just for sport." To the question 'Mark the length of a foot on this bit of paper,' A marked 1 foot 3 inches; B had never heard of a foot; C, 8 inches, remarking, "Some people's feet are as long as this, aren't they?" D drew a correct foot, having toes and heel; E marked 2 inches; F, a foot and a half. To the question 'Who rules over England?' A and E answered, "Queen Victoria;" B, "The King, I don't know who the King is;" C and F did not know;

F. Because children are younger, and they must get more sleep, and that they don't get so tired as grown-up people.

2. If your porridge is hot, why do you eat the outside edge first?

A [had never heard of porridge, so took soup]. Because it would be cooler. I don't know why.

B [pea-soup taken]. Because it is colder; because the edge of the plate goes round it.

C [porridge]. The edge, because it is cooler, because the plate is cold.

D. I should eat the edge first because it is cooler; because it touches the mug, and the mug is cold.

E. Round the edge because it is coolest, because it is against a cold basin.

F [had heard of, but never seen, porridge; soup taken]. Because it is cooler. I don't know why it is cooler.

3. Do crossing-sweepers like fine or wet weather better? Why?

A. Wet, because they have more crossings to sweep, and will get more money.

B. Fine, because it does not rain.

C. Wet weather, because they get more money.

D. Fine, because he can be outter more, and can sweep the roads more. Do they get money for it? I should not do it unless I had money given to me.

E. Fine weather. Well, perhaps they do like wet weather for more sweeping. They like it wet, and then to leave off raining while they sweep.

F. Wet, because they get more money, because people don't want to walk in the mud.

4. What is the good of going to school?

A. To learn your lessons; to learn every thing. ["Will you have learnt every thing when you leave school?"] No. ["Then why don't grown-up people go to school?" A looked puzzled, then said] Because they know what little people don't, but they don't know every thing.

B. To learn to write and to play.

C. To get you clever. I think every one gets clever who goes to school.

D. Because it teaches you to know things when you grow up. ["What things?"] Oh! about trains and how the lines are made and laid down, and all that—and—Oh! [he looked quite awe-struck] is it not a wonderful thing how an engine is made?

E. To learn things; reading and writing, sums, and the

THE EDITOR'S LETTER-BOX.

[Correspondence on all subjects is invited, but we cannot in any way be responsible for the opinions expressed by our correspondents, who must give their name and address as a guarantee of good faith, but not necessarily for publication. Correspondents are reminded that brevity of style and conciseness of statement greatly facilitate early insertion.]

FURTHER MEDITATIONS ON GOUT.

To the Editor of The Hospital.

Sir,—I have on previous occasions sent you some meditations written during an attack of this disease, and since that occasion I have had no opportunity till now of meditating on it in similarly favourable circumstances.

During the hot weather that has prevailed here for the last ten days, my usual habit of abstemiousness in food and drink has been pushed almost to the point of abstinence, and in spite of this, or perhaps in consequence of this, I have once more received a visit from my hereditary enemy.

The visitation is the more remarkable since I have given him twice recently invitations of which he has not cared to avail himself. Circumstances prevented me, much to my sorrow, from witnessing in person the presentation of a memorial to my excellent friend Professor Osler; but as I could not be present except in spirit, I did what I could to honour the revered Regius Professor by drinking his and Lady Osler's healths in as much port as seemed appropriate for such an important occasion.

On Peace night I issued a still more defiant challenge. After washing down an excellent dinner with a sufficiency of champagne, I drank in port to the separate and individual healths of Marshal Foch, the inward fiery glow of the carbuncle. Talk not to me of the washy insipid diamond, or the pigeon-blooded ruby! Like champagne and claret, they are very suitable for women, but for men your only wear is the glowing carbuncle—pity that he is always cut *en cabochon*, and never has a chance to display his full magnificence and splendour! The port, if not all that port can be, was all that can reasonably be expected outside of a City Company's Hall or the Common Room of a College, and yet, or perhaps consequently, I woke next morning like the Assyrian, my hallux unswollen, my slumbers unspoilt, ready to forgive even teetotallers, since by their abstinence they do at least refrain from forcing still higher the present unreasonable price of port. So we see that there is some sort of goodness in things evil if men would diligently search it out; and even a teetotaller has a certain negative merit. The eye of Goodness, shrewdly observes Mr. Sterne, discerneth all things.

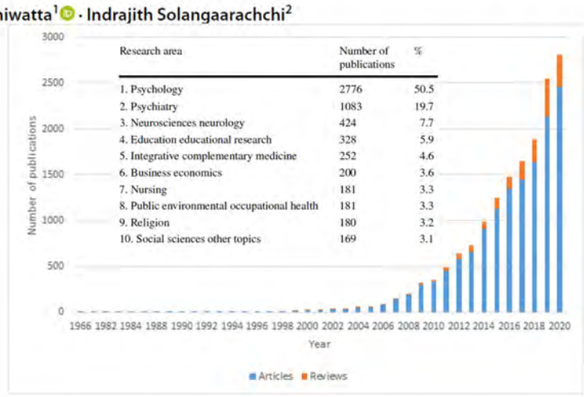
Your more robust readers may perhaps consider that in bestowing even this meed of praise upon the teetotaller, I am verging upon the maudlin. It may be so; but it is at least a refutation of the foul libel that attributes irritability and ill-temper to the sufferer from gout. A man who can see even negative merit in a teetotaller may be maudlin, but so far from being irritable or ill-tempered, he must

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]



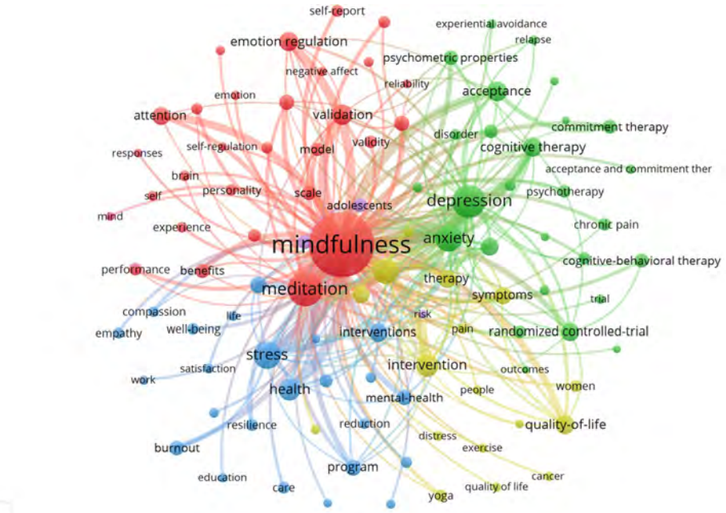


Fig. 9 Keywords co-occurrence clusters in mindfulness literature. Five clusters are shown in different colors. The size of circles indicates the total link strength of each keyword

Mood Emot 2017;15:67-72

■원 저■

정신건강의학과 외래에서 시행한 마음챙김 명상 프로그램이 우울 및 불안장애 환자들의 긍정자원과 긍정정서에 미치는 영향

가톨릭대학교 의생명산업연구원 정서연구실[1], 가톨릭대학교 의과대학 정신과학교실[2]
박 예 나[1]·채 정 호[2]

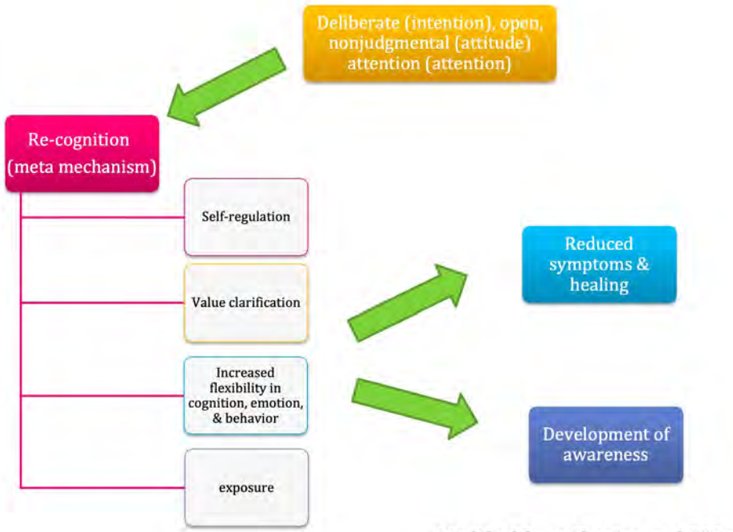
The Effect of Mindfulness Meditation on Positive Resources and Positive Affects in Outpatients with Depressive Disorder and Anxiety Disorder

Yena Park, MA[1] and Jeong-Ho Chae, MD, PhD[2]
[1]Emotion Research Lab, Institute of Biomedical Industry, The Catholic University of Korea, Seoul, Korea
[2]Department of Psychiatry, Seoul St. Mary's Hospital, The Catholic University of Korea, College of Medicine, Seoul, Korea

Table 3. Differences of scores between pre- and post the mindfulness meditation program

		Pre	Post	t	df	sig
Positive resources test	M (SD)	70.58 (16.64)	79.32 (16.31)	−5.847*	54	.000
Acceptance and action questionnaire	M (SD)	56.60 (14.33)	63.56 (14.66)	−4.090*	54	.000
Life satisfaction expectancy scale	M (SD)	22.58 (7.11)	25.52 (6.38)	−3.892*	54	.000
Subjective happiness scale	M (SD)	16.98 (6.77)	18.30 (4.64)	−1.898	54	.063

* : p<.001



Modified from Shapiro et al 2006

Research Subjects

	변인	MPPT집단 (n=44)	TAU집단 (n=40)	x^2	p
성별	남	13(29.5%)	11(27.5%)	0.04[a]	1.000
	여	31(70.5%)	29(72.5%)		
연령	M(SD)	40.11(13.60)	35.63(11.08)	24.06[a]	.872
결혼여부	미혼	25(56.8%)	26(65.0%)	0.59[a]	.506
	기혼	19(43.2%)	14(35.0%)		
학력	고졸	17(38.6%)	16(40.0%)	1.60[a]	.659
	대졸	23(52.3%)	22(55.0%)		
	대학원졸	4(9.1%)	2(5.0%)		
진단명 구분	수줄장애 군	7(15.9%)	6(15.0%)	0.03[a]	.987
	불안장애 군	19(43.2%)	173(42.5%)		
	두 질환 공병	18(40.9%)	17(42.5%)		
주진단명 구분	수줄장애 군	18(40.9%)	15(37.5%)	0.10[a]	.825
	불안장애 군	26(59.14%)	25(62.5%)		

변인	MPPT집단 (n=44) M(SD)	TAU집단 (n=40) M(SD)	t	p
PHQ	13.07(8.57)	13.75(7.45)	-0.39	.699
SAI	56.55(14.08)	55.10(11.30)	0.52	.608
TAI	57.64(11.62)	56.68(10.40)	0.40	.692
SWLS	15.86(7.49)	15.55(7.13)	0.20	.845
LSES	19.48(8.07)	20.05(7.32)	-0.34	.735
적응적CERQ	53.77(13.42)	54.65(12.95)	-0.30	.762
부적응적CERQ	46.41(11.59)	46.90(12.03)	-0.19	.849
AAQ	29.98(9.60)	29.90(9.52)	0.04	.971
FFMQ	56.93(9.91)	55.40(11.80)	0.65	.520
SCS	66.91(18.15)	65.18(16.66)	0.46	.650

주. PHQ: 우울, SAI: 상태불안, TAI: 특성불안, SWLS: 삶의 만족, LSES: 삶의 만족 예상, 적응적CERQ: 적응적 인지적 정서조절, 부적응적CERQ: 부적응적 인지적 정서조절, FFMQ: 마음챙김 AAQ: 수용, SCS: 자기자비

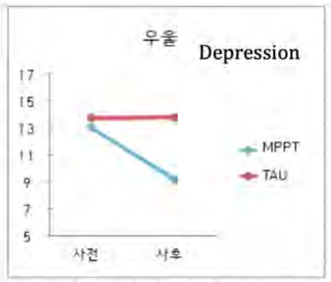


그림3. 측정시기에 따른 처치조건별 우울(PHQ) 점수변화

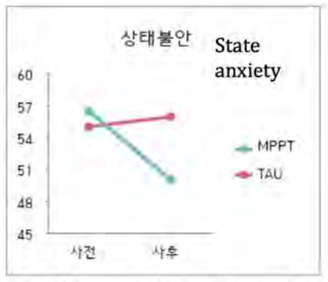


그림4. 측정시기에 따른 처치조건별 상태불안(SAI) 점수변화

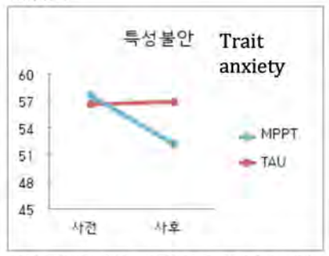


그림5. 측정시기에 따른 처치조건별 특성불안(TAI) 점수변화

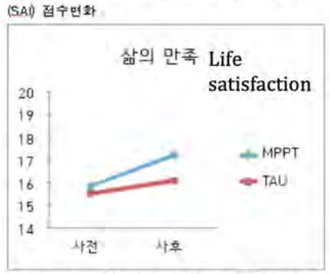


그림6. 측정시기에 따른 처치조건별 삶의 만족(SWLS) 점수변화

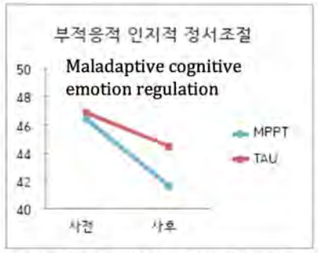


그림9. 측정시기에 따른 처치조건별 부적응적 인지적 정서조절(부적응적CERQ) 점수변화

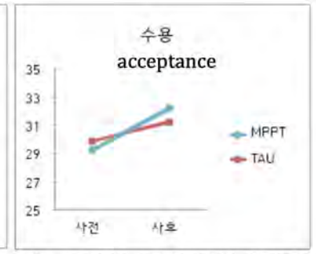


그림10. 측정시기에 따른 처치조건별 수용(AAQ) 점수변화

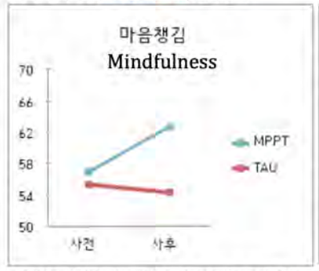


그림11. 측정시기에 따른 처치조건별 마음챙김(FFMQ) 점수변화

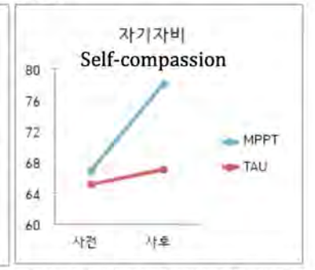
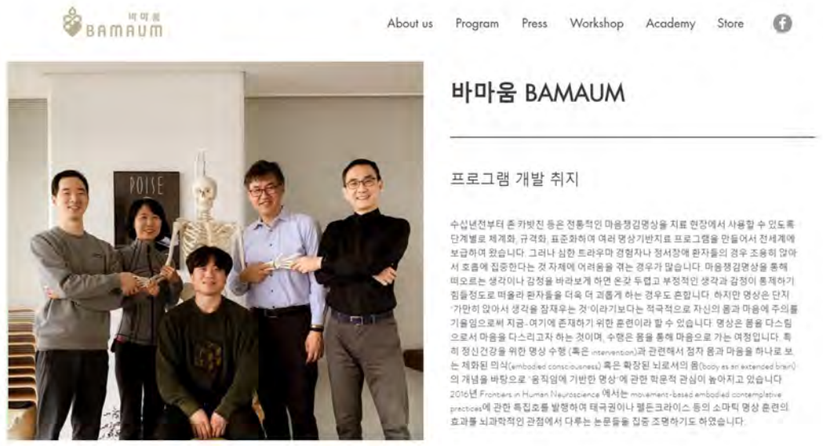


그림12. 측정시기에 따른 처치조건별 자기자비(SCS) 점수변화

https://www.bamaum.com/

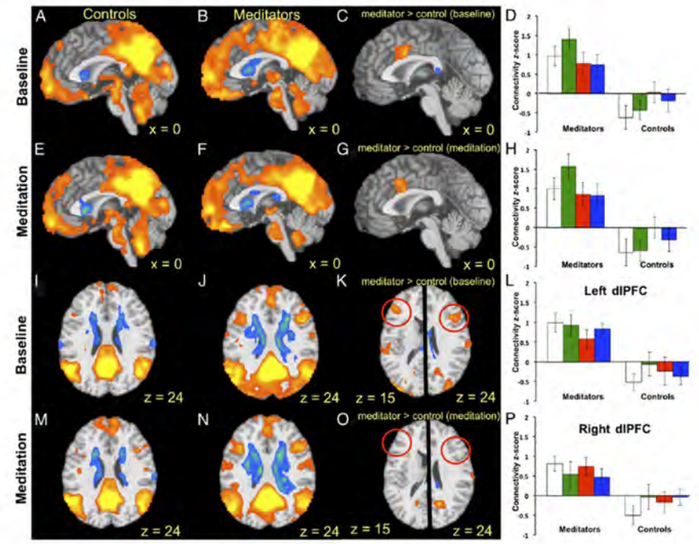


Somatic Integrated Movement Meditation

BAMAUM Movement Meditation Basic Online Classes (6 weeks)

1주차	day1 :: 누워서 움직임 명상, 패턴 A day2 :: 펜듈러 움직임 명상, 베이직	4주차	day1 :: 누워서 움직임 명상, 패턴 D day2 :: 펜듈러 움직임 명상, 베이직(반복)
2주차	day1 :: 누워서 움직임 명상, 패턴 B day2 :: 펜듈러 움직임 명상, 베이직(반복)	5주차	day1 :: 누워서 움직임 명상, 패턴 E day2 :: 펜듈러 움직임 명상, 베이직(반복)
3주차	day1 :: 누워서 움직임 명상, 패턴 C day2 :: 펜듈러 움직임 명상, 베이직(반복)	6주차	day1 :: 누워서 움직임 명상, 패턴 F day2 :: 펜듈러 움직임 명상, 베이직(반복)

BAMAUM



Brewer et al. PNAS | December 13, 2011 | vol. 108 | no. 50 | 20255

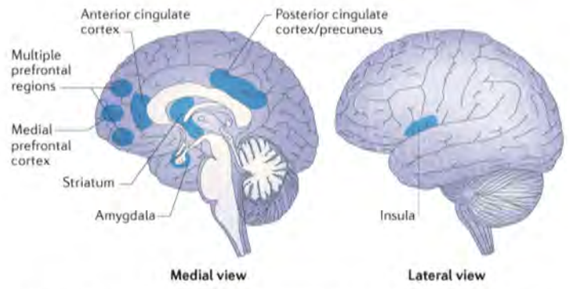


Figure 1 | **Brain regions involved in the components of mindfulness meditation.** Schematic view of some of the brain regions involved in attention control (the anterior cingulate cortex and the striatum), emotion regulation (multiple prefrontal regions, limbic regions and the striatum) and self-awareness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

The neuroscience of mindfulness meditation

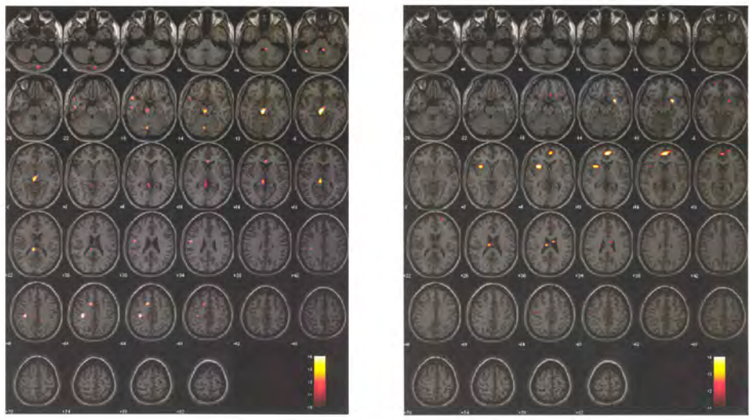
Nature Reviews Neuroscience | AOP, published online 18 March 2015; doi:10.1038/nrn3916

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

Table 2 | **Evidence for changes in the core brain regions after mindfulness meditation**

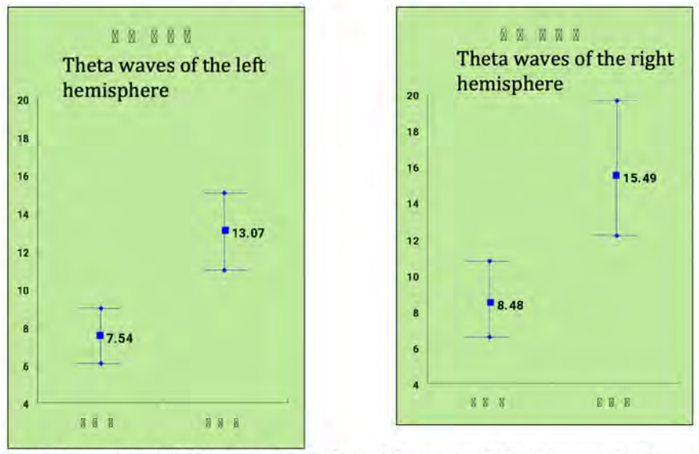
Brain region	Study design	Findings*	Refs
ACC (self-regulation of attention and emotion)	Cross-sectional, Vipassana meditators (N = 15) versus controls (N = 15)	Enhanced ACC activation during breath awareness (focused attention) meditation	76
	Longitudinal, IBMT versus active control (relaxation training) (N = 23 each group)	Enhanced ACC activity in resting state	23
PFC (attention and emotion)	Longitudinal, mindfulness training (N = 30) versus active control (N = 31)	Greater dorsolateral PFC activation during emotional Stroop executive processing	82
	Longitudinal, patients with generalized anxiety disorder, MBSR (N = 15) versus active control (N = 11)	Enhanced activation of ventrolateral PFC, enhanced connectivity of several PFC regions with amygdala	97
	Longitudinal, uncontrolled, before and after mindfulness training (N = 15)	Anxiety relief following mindfulness training was related to ventromedial PFC and ACC activation (along with insula)	157
PCC (self-awareness)	Cross-sectional, expert meditators (N = 12) versus controls (N = 13)	PCC deactivation during different types of meditation, increased coupling with ACC and dorsolateral PFC	117
	Cross-sectional, expert meditators (N = 14) divided into high and low practice groups	Reduced connectivity between left PCC and medial PFC and ACC at rest in high practice group	118
	Longitudinal, IBMT, active control (relaxation training) (N = 23 each group)	Enhanced right PCC activity at resting state	23
Insula (awareness and emotional processing)	Cross-sectional, MBSR (N = 20) and waiting list control (N = 16)	Greater anterior insula activation and altered coupling between dorsomedial PFC and posterior insula during interoceptive attention to respiratory sensations	52
	Cross-sectional, expert Tibetan Buddhist meditators (N = 15) and novices (N = 15)	Enhanced insula activation when presented with emotional sounds during compassion meditation	128
	Longitudinal, IBMT, active control (relaxation training) (N = 23 each group)	Enhanced left insula activity at resting state	23
Striatum (regulation of attention and emotion)	Longitudinal, IBMT, active control (relaxation training) (N = 23 each group)	Enhanced caudate and putamen activity at resting state	23
	Cross-sectional, expert meditators (N = 34) and controls (N = 44)	Lower activation in the caudate nucleus during reward anticipation	106
Amygdala (emotional processing)	Longitudinal, mindful attention training (N = 12), compassion training (N = 12) and active control (N = 12)	Decreased activation in right amygdala in response to emotional pictures in a non-meditative state	95
	Longitudinal, uncontrolled, patients with social anxiety disorder before and after MBSR (N = 14)	Diminished right dorsal amygdala activity during reacting to negative self-belief statements	83
	Cross-sectional, beginner (N = 10) and expert Zen meditators (N = 12)	Downregulation of the left amygdala when viewing emotional pictures in a mindful state in beginner but not expert meditators	95

Shamanic Initiation

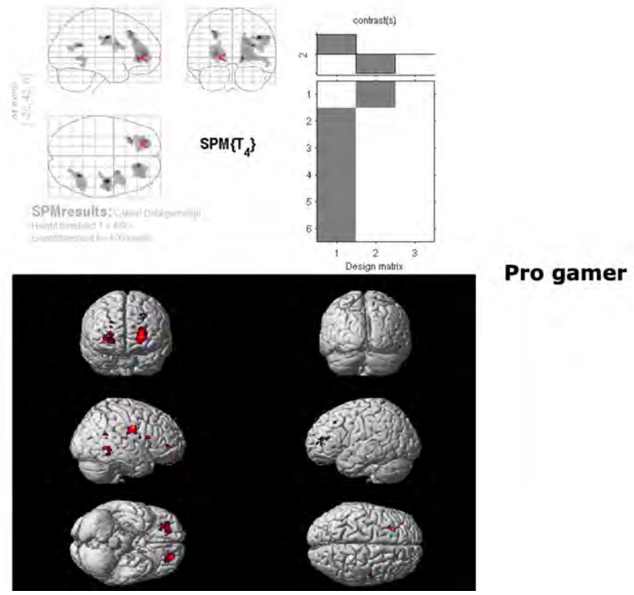


Jeong-ho Chae et al. (2002). The Brain Mechanism of Shamans' "Possession" phenome Korean Neuropsychiatric Association.

Pro Gamer

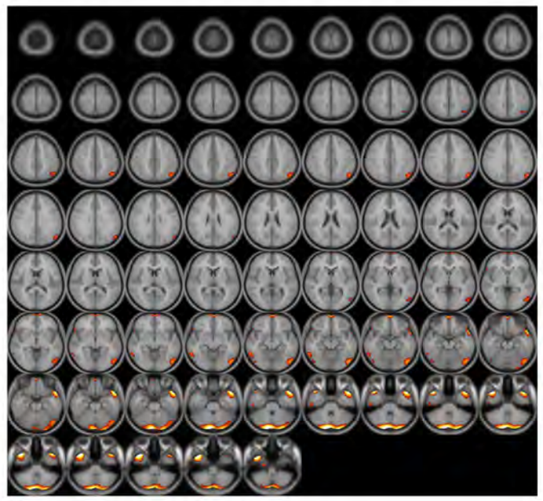


Jeong-ho Chae et al. (2004). The Brain Wave Changes of Pro Gamers in Game Immersion, Korean Neuropsychiatric Association

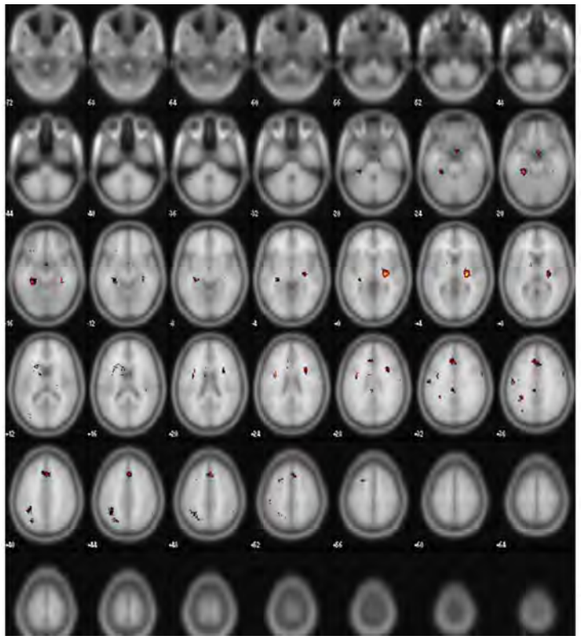


Pro gamer

Pro gamer increase than Amateur gamer



The first introduction of TMS in Korean psychiatry (2002)



- Tc-99m ECD SPECT
- 15 rTMS post TMS – pre TMS
- significantly increasing activities by 3 weeks rTMS treatment($P<0.05$); cingulate gyrus, fusiform gyrus of right temporal lobe, precuneus, left lateral globus pallidus

Chae et al (2005)

Quantitative EEG data over 30 msec
(Ilmoniemi et al, 1997)

frontiers in Psychology

ORIGINAL RESEARCH

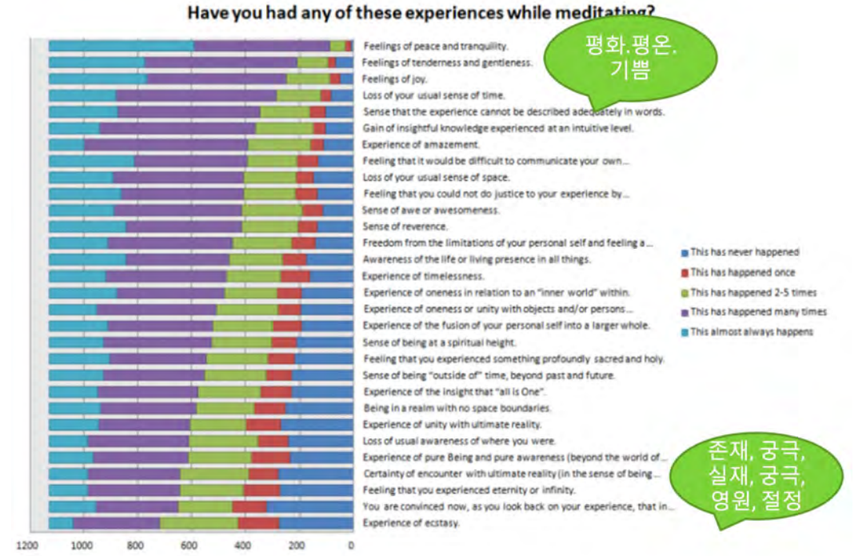
Audio-Guided Mindfulness Meditation During Transcranial Magnetic Stimulation Sessions for the Treatment of Major Depressive Disorder: A Pilot Feasibility Study

*Fiamma Cavallero[1,2], Michael C. Gold[1], Eric Tirrell[1], Fatih Kokdere[1,2], Nancy Donachie[1], Dan Steinfink[2], Joseph Kriske[1] and Linda L. Carpenter[1,2]**

TABLE 2 | Change in clinical measures ($n = 17$)[a].

Measure	Baseline	Endpoint	*P*
Depression severity (IDS-SR)	42.42 ± 11.76	17.42 ± 11.46	<0.000001
Depression severity (PHQ-9)	17.19 ± 5.84	5.93 ± 5.22	<0.000001
Quality of life/enjoyment	37.67 ± 8.31	46.65 ± 7.87	<0.001
Perceived stress	39.78 ± 7.03	28.61 ± 8.23	<0.000005
Mindfulness—observing	24.62 ± 6.6	26.90 ± 4.68	0.021
Mindfulness—describing	24.36 ± 6.6	27 ± 6.4	0.012
Mindfulness—awareness	20.00 ± 6.7	23.14 ± 4.5	0.033
Mindfulness—nonjudgmental Inner Experience	19.14 ± 5.9	24.77 ± 6.7	0.000066
Mindfulness—nonreactivity	16.50 ± 4.4	20.05 ± 4.4	0.003
MAIA attention regulation	1.73 ± 0.83	2.45 ± −0.85	0.0007 (corrected)
MAIA self-regulation	1.70 ± 1.0	2.50 ± 1.1	0.002 (corrected)
MAIA body listening	1.36 ± 0.97	2.23 ± 1.0	0.0026 (corrected)

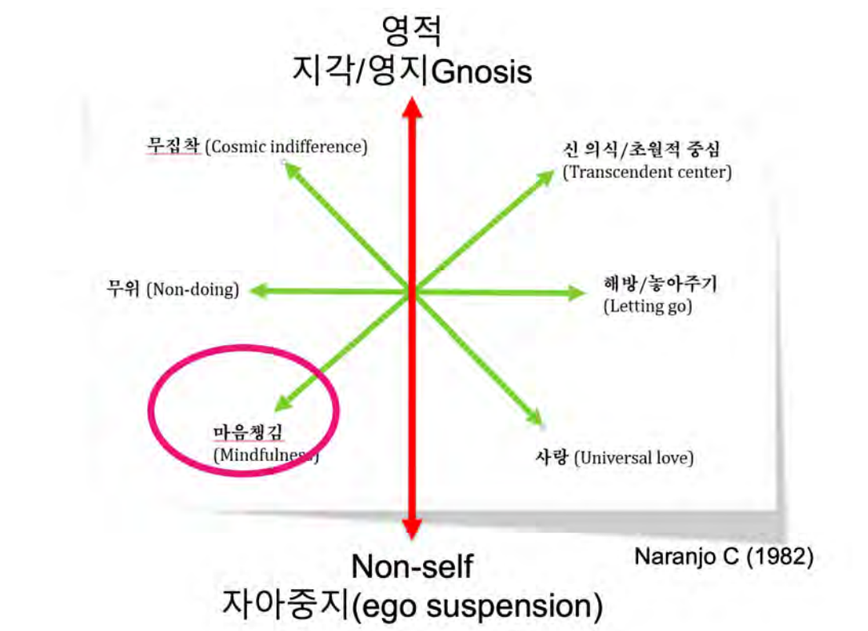
[a]Baseline data recorded prior to beginning the first TMS session. Endpoint data recorded as individual last observation carried forward (LOCF).

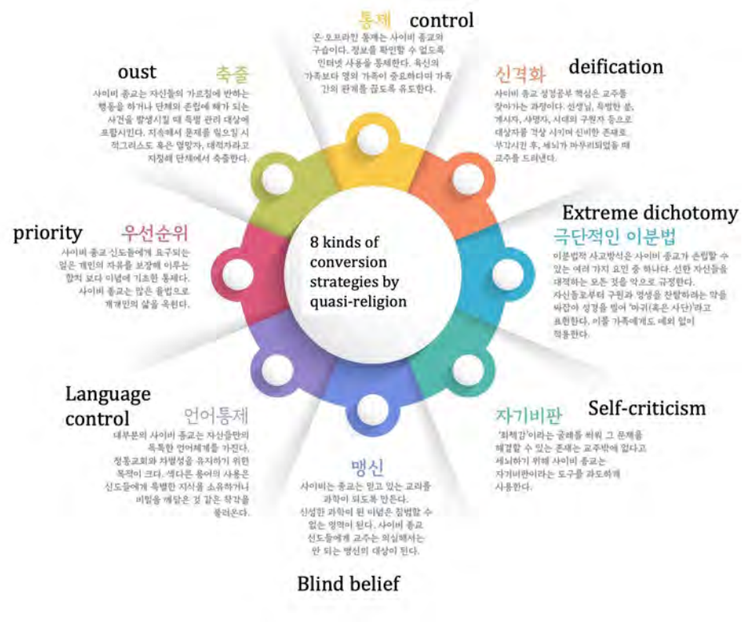


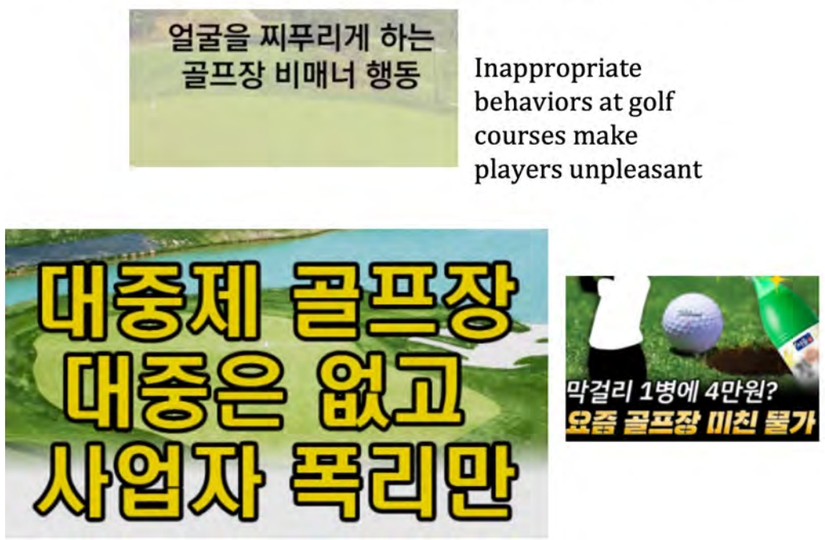
"True meditation appears in consciousness spontaneously when awareness is not being manipulated or controlled."

- True meditation has no direction or goal, or method.
- All methods aiming at achieving a certain state of mind are limited, impermanent, and conditioned. Fascination with states leads only to bondage and dependency.
- True meditation is abidance as primordial awareness.

Adyashanti (2020)







Dangers of Meditation

- Flood of thought and emotion: overwhelming content, psychogenic physical symptoms
- Relief from suppression, breakdown of defense mechanism, extreme conditions
- Alienation from reality, depersonalization, sense of being unreal
- *Dark Night of the Soul*
  - Loss in the meaning of life, deep agony and desperation, depression
  - Spiritual addiction, abandonment of self-responsibility
- Problematic spiritual practice
  - Exclusion of others
  - Regarding the self as someone special
  - Spiritual practice based on guilt consciousness or fear
- Paraesthesia
- Quasi nirvana
- Meditation sickness
- Spiritual crises
- Possessed by a spirit

안도 오사무 (1993). 김재성 역 (2009) 명상의 정신의학

- If practice goes well without major issues, one experiences heightened mental clarity and resilience.

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

ORIGINAL PAPER

마음챙김의 위험: 또 하나의 낭설? (비구 아날라요)

The Dangers of Mindfulness: Another Myth?

Bhikkhu Anālayo[1]

Guru principle

- Great beings have prepared themselves to enter the supreme realm called the state of the Self based on relentless inner training and meditation.
- Great beings can be found anywhere as our models of life. In the presence of these beings transformation occurs. Even an unwilling encounter with them exerts profound influence. A simple handshake with them can make one burst into tears. One may find a great energy explosion happening in their body.
- Great beings do nothing, but many things can happen because of them. They make us radiate light from our feeble state of existence.
- A Guru comes from the abstract down to the concrete realm, and helps us acquire how to stay permanently in the upper level.

Joseph C. Pearce (1982) : Meet with Swami Muktananda

Seoul International Meditation Expo

2022 서울국제명상엑스포

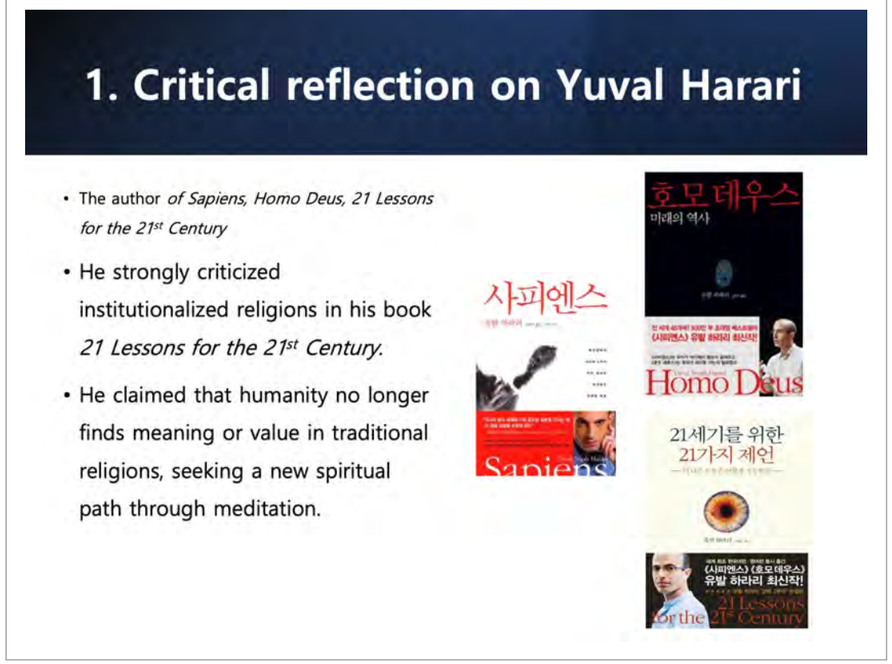
명상 엑스포 컨퍼런스 일정

Day-1	Day-2	Day-3
6. 17 (금) "명상과 치유"	6. 18 (토) "명상과 과학"	6. 19 (일) "명상과 미래사회"

The Role of Korean Meditation in the Era of 4th Industrial Revolution

Sister. Hyunmin Choi
Seton Inter-religious Center

연세대학교 이학석사와 서강대학교 문학석사(종교학), 문학박사(종교학), 일본 난잔대학 종교문화연구소 연구원, 벨기에 루뱅대학교 연구원. 영성생활 편집인과 서강대학교강사로 현재 종교대화 씨튼연구원 원장. 종교대화 씨튼연구원은 김승혜 수녀님과 종범스님(전 중앙승가대학 총장), 최근덕 성균관장, 개신교 신자인 길희성 명예교수(서강대학교 종교학과)등으로 결성된 영성의 토착화와 종교 간의 학문적 대화를 위한 연구원이다.



Why does Harari believes that humanity must urgently take on meditation?

- **Harari predicts in his book that all future religions will be replaced by Big Data, whose algorithms will make all the decisions.**
- **According to Harari, Humans in modern society live in virtual reality manipulated by Big data algorithms. They must wake up to the essentially fictional nature of the consciousness to be the masters of their own destiny, and this requires meditation to gain deep insight into their minds.**
- **In other words, humanity must learn how to look deeply into themselves before the Big data algorithms erode the freedom of mind, making it impossible to observe their consciousness.**

Harari, who learned Buddhist views through Goenka meditation, believes that all human stories from the secular point of view are ultimately fictional .

Indeed, he claims *Homo Sapiens* conquered this planet thanks above all to the unique human ability to create and spread fictions.

Furthermore, according to Harari, religious myths are the most dangerous of all the fictional stories.

Meditation is a gateway through which we can observe our own mind-stream.

The number of meditation techniques is as numerous as that of religions.

Harari attributes all the sufferings of humankind, including those of modern society, to ignorance.
To be free from suffering, we need meditation to look into our inner reality.

All religious experiences humanity have had so far are just fiction?

The prophets in the Old Testament proclaimed the destruction of their own people who turned their backs on God's will and be complacent with false peace.

Their prophecies are not imagined fictions, but part of inner awakening earned by facing the realities of their time. It is the contemplative tradition that Jesus himself succeeded and forms an important aspect of the history of Christianity.

2. Christian meditation

1) The Jesus Prayer

Christianity, praising God's love, is based on the life and teachings of Jesus of Nazareth, and eventually the memory of his death 2,000 years ago.

Being a Christian means following the Jesus' footsteps.

Just as Jesus achieved the union with God through prayers, Christians can live in the communion with God through prayers.

The core of Christian prayer is ruminating on Jesus' teaching (the Bible), chewing over the words from scripture into their mouth and kept chewing until one lives in a constant communion with Jesus.

"He must become greater; I must become less." (John 3:30)

2) Desert Fathers'Prayer

After the last great persecution of Christians in the 3rd century, those who deplored the secularization of the church following the rapid expansion of Christianity forsook material goods and went to the deserts.

They ceaselessly recited mantras engaging both mind and mouth, without resorting to their analytic or imaginative faculties.

* Examples of the mantra prayer

Maranatha "Come, O Lord!"

"Hasten, O God, to save me; O Lord, come quickly to help me."(Psalm 70:1)

John Cassian learned the mantra prayer from Abba Issac. Fr. John Main rediscovered and widely spread it to the world.

"They have simply to cling totally to a short verse. Keep a firm hold of this little verse, having got rid of all kinds of other thoughts."(John Cassian, *the Conferences* 10, late 4th century)

* Mantra prayer, by repeating a syllable, aspires to absolute simplicity.

*To modern people, simplicity is a challenge. But it is such simplicity that leads us to the poverty of spirit and the purity of heart.

Desert Fathers' mantra prayers

Through meditation, we come to realize
the original poverty of our spirit.
"Blessed are the poor in spirit,
for theirs is the kingdom of heaven."
"Blessed are the pure in heart,
for they will see God."

11

3) The Jesus Prayer of the Eastern Orthodox Church

- Ancient monks recited short verses unceasingly until they were internalized and firmly rooted in the heart.
- 'The consent of the mind transforms into the consent of the heart.
- It is unknown who created the Jesus Prayer, but similar practices have been in existence since ancient times.

12

The Eastern Orthodox Church's Jesus Prayer

Candid Narratives of a Pilgrim to His Spiritual Father, also called *A Way of a Pilgrim*, a 19th-century Russian classic recording a nameless pilgrim's travels, introduced the Jesus Prayer practice of the Eastern Orthodox Church.

- "Lord Jesus Christ, son of God, have mercy on us"
- "O Lord, have mercy."
- "Lord Jesus Christ, have mercy on me. "

The Jesus Prayer recited to the beat of the heart.

Lord.- Jesus.- Christ.- have.- Mercy.-on.- me.

13

The Eastern Orthodox Church's Jesus Prayer

The Jesus Prayer recited to the rhythm of the breath

In-breath- Lord Jesus Christ,

Out-breath- have mercy on me.

The Jesus Prayer leads the practitioner to the state of *hesychia* (ἡσυχ), meaning "stillness, rest, quiet, silence," where one ceases to register senses.

The Jesus Prayer is comparable to the chanting in Pure Land Buddhism and the recitation of the *Lotus Sutra* in Nichiren Buddhism.

14

4) *Lectio Divina*

- *Lectio Divina* ("Divine Reading") is a practice of scriptural reading, meditation and prayer dating back to the 3rd century.

- It was formalized by the Carthusian monk Guigo II (1100~1188) during the 12th century in the early days of Scholasticism.

*4 steps: ***lectio* (reading), *meditatio* (reflecting), *oratio* (responding through prayer), and *contemplatio* (resting in God's presence)**

**Letio originally means reading aloud so that the ears can listen to the words from the Bible, which will deepen your faith and cultivate meditative understanding of Jesus Christ's life and words.

"Today, if only you would hear his voice, do not harden your hearts." (Psalm 95)

Then Jesus said, "Whoever has ears to hear, let them hear."(Mark 4:9)

"Read and respond with whole of your existence. Reading the scripture doesn't just engage eyes. It involves listening with ears and bringing it into your heart."

- *Meditatio* (meditation) step is sometimes described as *rumination*.
- First, take one word or one text from the scripture you read into the mouth and keep repeating it. Then, savor it internally until it is assimilated, to make the word of God pass into the heart and be one with it.

Reading (*lectio*) and meditating (*meditatio*) on God's words from the scripture turns into interior savoring and then the word becomes flesh in the heart, which naturally leads to respond in prayer (*oratio*).

Oratio, in turn, deepens into *comtemplatio*, resting in God's presence.

Meditatio and *ruminatio* were used interchangeably until the late Medieval Age, when with the influences of Scholasticism logical or analytic elements are added to *meditatio*.

Oratio is a form of affective prayer that engages the "heart," the irrational and appetitive aspects of the soul, rather than the "mind", the rational or logical aspects.

Responding to the Word of God:

One rests in the presence of God by responding in willful action and performing acts of love, and this stage is called *contemplatio,* or contemplation.

19

Resting in God:

Remain in God's presence. Contemplating love toward God. Knowing beyond knowing. Merging with God.

The mantra prayer, the Jesus Prayer, and *Lectio Divina* are simple monastic prayer practices of ancient times, focusing on resting in the quiet stillness rather than the logical and analytic aspects of the mind.

20

5) Centering Prayer

- Contemplation was known to be the practice of enclosed monastic orders, rather than the prayer method for lay Christians.
- Interests in Christian contemplative traditions grew after the Second Vatican Council. Many young people turned to Eastern practices such as Buddhism or Hinduism for contemplative work.
- The Christian monastic community set out to find ways to present those practices in a more accessible and organized way. The Centering Prayer is the result of such efforts.

Centering Prayer draws on the tradition of apophatic theology.

The term 'apophatic theology' appears in *Mystical Theology* written by Pseudo-Dionysius the Areopagite.

• Kataphatic (positive) theology:

Approach God or the Divine by affirmations or positive statements or images about what God is.

• Apophatic (negative) theology:

Approach God by negation, by emptying the mind of all statements or images and seeking to directly experience the Divine reality in a passive state.

"The way to know God is to surrender to the realm

(1) Origin of the Centering Prayer

The Centering Prayer movement can be traced to Abbot Thomas Keating (1923~2018), a Trappist monk of St. Joseph's Abbey in Massachusetts.

Three Trappist monks Fr. William Meninger, Fr. M. Basil Pennington and Abbot Thomas Keating interacted with Buddhist monks and in 1975, they formulated a contemplation practice based on *The Cloud of Unknowing*..

(2) Method of the Centering Prayer

- In the Centering Prayer, one stays with one's sincere intention to be in the Lord's presence and open to His divine actions present within oneself.

① Choose a sacred word that best supports your sincere intention to be in the Lord's presence and open to His divine action within you.(Ex. Christ, Jesus, Lord, Jesus Christ, peace, love, compassion)

② Sit comfortably with your eyes closed. Let that word be gently present as the symbol of your sincere intention to be in the Lord's presence and open to His divine action within you.

* Unlike mindfulness meditation, the key to the Centering Prayer is intention, not attention.

25

Origin of the Centering Prayer

-God's presence cannot be known through a human endeavor or will. We must empty ourselves of ego and just remain in the cloud of unknowing, quietly surrendering ourselves to it.

"Pray with a short, single-syllable word, not a phrase of several words.."

"Through this word, be stripped of all thoughts."
From the *Cloud of Unknowing*

24

The Method of the Centering Prayer

③ Whenever you become aware of any thoughts, simply return to your sacred word.

-The sacred word is used as an anchor to return to God's presence.

- The Holy Spirit works to purify the unconsciousness (passive).

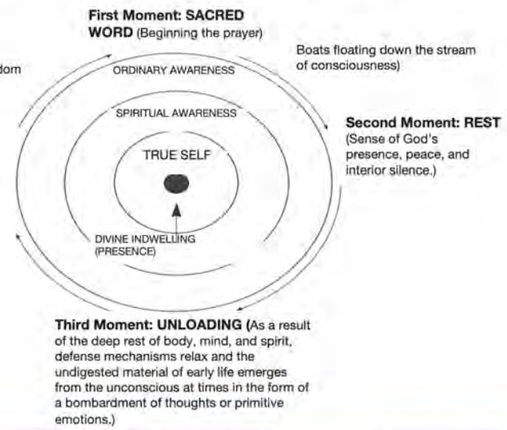
(*The Holy Spirit: the energy from God, mindfulness)

④ Close your eyes and stay in silence for 2~3 minutes when the prayer is over.

26

<Picture 5> Four moments of the Centering Prayer

(They represent the psychological experiences of many years of practice, yet, these cycles may be present in one prayer.")



Night of the Senses and Night of the Spirit

Night of the Spirit frees us from the remnants of the false self and restores our True Self.

"I no longer live, but Christ lives in me." (Galatians 2:20)

St. John of the Cross likened (1542-1592) the contemplation to the fire that penetrates a log of wood.

(3) Night of the Senses and Night of the Spirit

***Night of the Senses is a purgative process of purifying the sensory appetites hidden in the unconscious, such as the desire for survival/safety, attachment/respect, or power/control.**

- Night of the Spirit is the process in which the transformation of the soul continues following the Night of the Senses.
- The intellect, memory, and will are completely transformed, letting go of every aspect of the selfish ego.

The final purgation during the Night of the Spirit is the action by the Holy Spirit in which all remnant of appetites or desires for sin is vanquished.

28

Night of the Senses and Night of the Spirit

We are like a log of wood in fire, which exposes and uproots its unsightly desires until it is transformed into what it meant to be.

Todo = all
Nada= nothing

- Todo means God is everything, the origin of all beings.

- Nada means that which is not God is nothing.

30

Night of the Senses and Night of the Spirit

St. John of Cross emphasized how faith can lead to a union of the soul with God.

When we keep consenting/surrendering to God's presence, we are granted the light of faith.

Only when our minds are not disturbed by the passions, thus attaining the state of apatheia, one can enter the life of contemplation.

Contemplative prayer and the world

- *"In the center of the shopping district, I was suddenly overwhelmed with the realization that I loved all those people, that they were mine and I theirs."*
- *"...we could not be alien to one another even though we were total strangers. It was like waking from a dream of separateness, of spurious self-isolation in a special world, the world of renunciation and supposed holiness... To think that for sixteen or seventeen years I have been taking seriously this pure illusion that is implicit in so much of our monastic thinking..."*
- *"It is a glorious destiny to be a member of the human race. I have the immense joy of being man, a member of a race in which God Himself became incarnate..."*
- Merton had a sudden epiphany of the oneness with all people, which fundamentally changed his worldview..

6) Contemplative prayer and the world

People became interested in contemplative prayer amid the spiritual deprivation in the aftermath of WWII.

Thomas Merton (1915-1968), an American Trappist monk of the Abbey of Our Lady of Gethsemani was the most influential figure in the Christian contemplative practice of the 20th century.

Merton had believed that contemplation belonged only to the enclosed monasteries until March 18, 1958, when he had an experience that united contemplation with the world while running errands in downtown Louisville.

Contemplative prayer and the world

When we realize and have true faith in "one God and Father of all, who is over all and through all and in all (Ephesians 4:6)," our relationship with the world transforms.

Once we wake up to the mysteries of God who is in all and working through all, we can help but join and respond with responsibility.

The union with God cultivated through prayer completes with the action of love.

The deeper our spiritual practice becomes, the stronger our devotion to the world grows.

Conclusion

1. Christian prayer meets Buddhist meditation

Christian prayers have much in common with Mahayana Buddhism, whose final spiritual goal is to "benefit oneself and others."

The last of the Ten Ox-herding Pictures depicts an enlightened master now translating his wisdom into compassionate actions.

In Buddhism, it is not enlightenment unless it moves the practitioner to act to benefit others.

This is parallel to what Christian prayers aspire to, to respond and act in love.

- Master Wonhyo said, "Once truly enlightened and in nirvana, one cannot stay there (不住涅槃)."

"Because all living beings are sick, therefore I am sick. If all living beings are relieved of sickness, then my sickness will be mended." (*Vimalakirti Sutra, Chapter on Manjushri Inquiring About The Illness*)

2. While modern meditation focuses more on "benefiting oneself," efforts should be made to restore the balance with "benefiting others" through the practice of the Path of Bodhisattva.

– Communalized enlightenment

"The proof and authentication of all religions is the realization of a good heart, a human being's innate qualities of compassion and tolerance... which has today become an important work and activity of all religions."
- The 14th Dalai Lama

But each religion is tasked to develop its unique meditation techniques to suit modern society.

Christian churches must restore the tradition of simple prayer practice that has been passed down from the early Church fathers.

Like the Desert Fathers of the time of Constantine, modern Christians also must build a closed room in their mind.

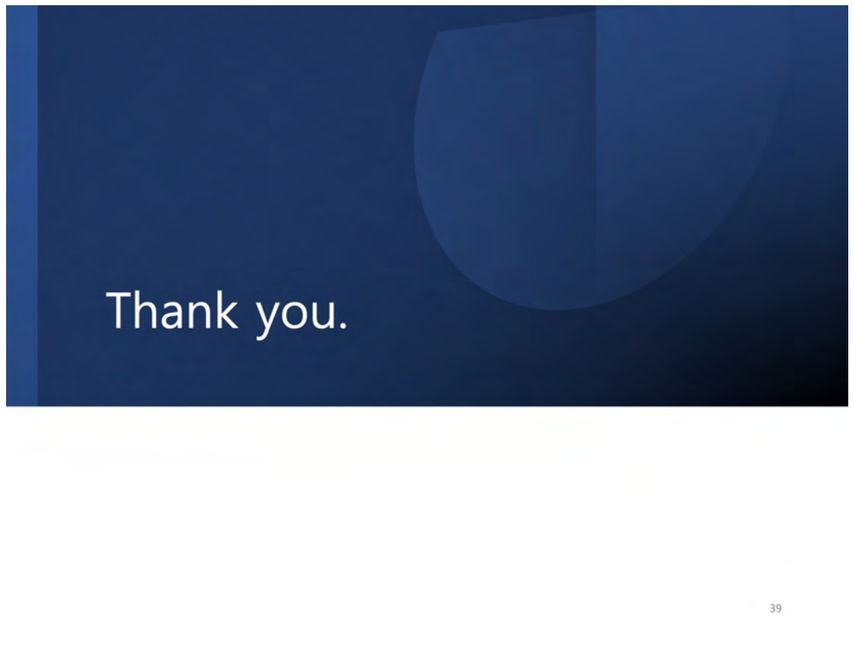
"...when you pray, go into your room, close the door and pray to your Father, who is unseen. Then your Father, who sees what is done in secret, will reward you (Mattew 6:6)."

Catholic tradition has a firm principle of "reject(ing) nothing of what is true and holy in (other) religions."

"Just as "the Catholic Church rejects nothing of what is true and holy in these religions," neither should these ways be rejected out of hand simply because they are not Christian. On the contrary, one can take from them what is useful so long as the Christian conception of prayer, its logic, and requirements are never obscured.."

– Letters to the Bishops of the Catholic Church on Some Aspects of Christian Meditation, October 15, 1989, Congregation for the Doctrine of the Faith

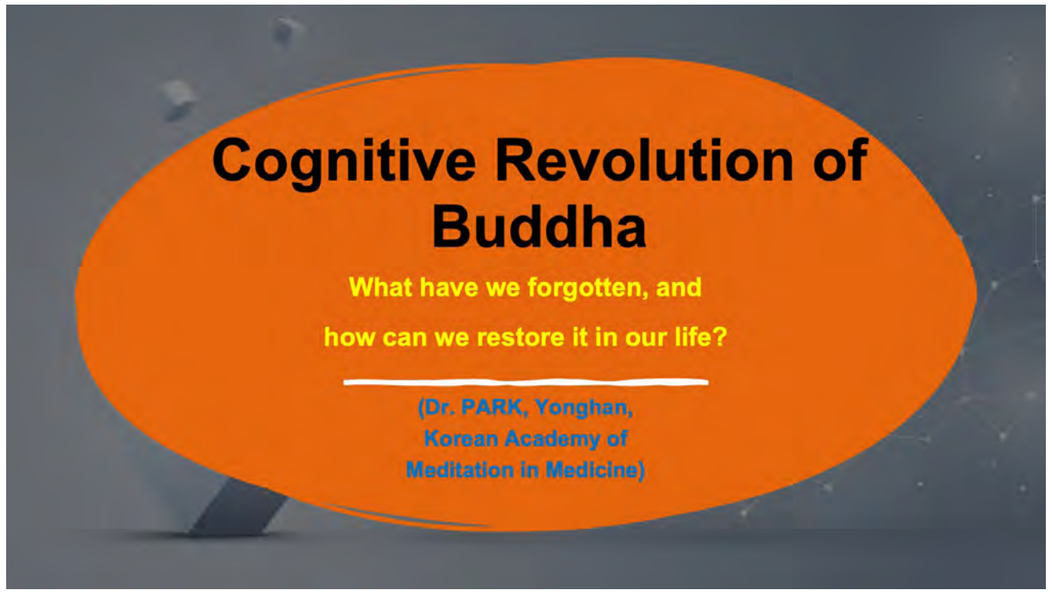
Christians hope that our meditation and prayer will grow deeper and richer through exchanges with Eastern spiritual traditions, as instructed by the Church. (body postures, breathing methods, etc.)

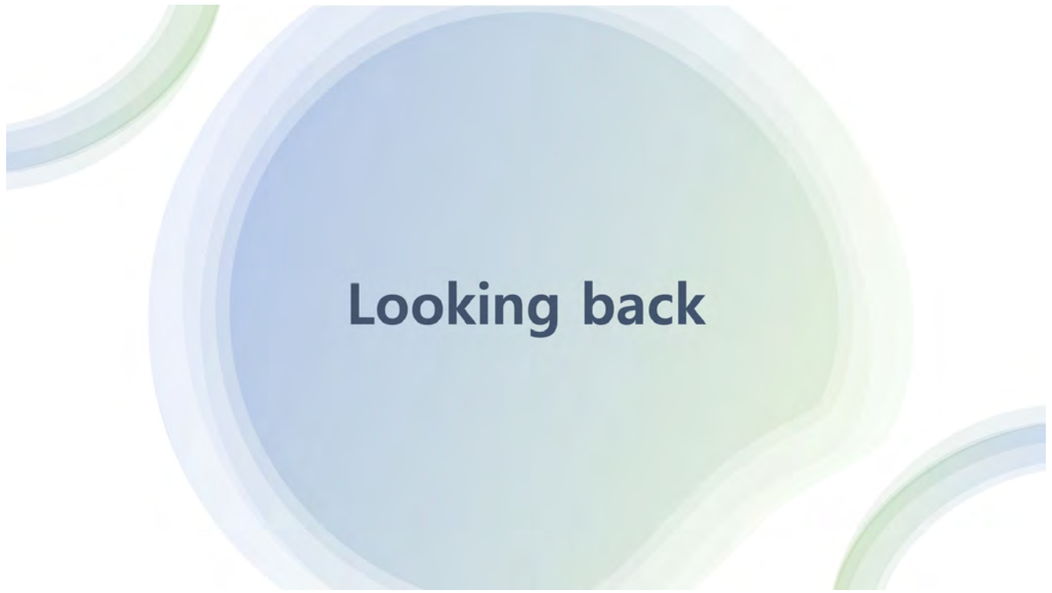


The Role of Korean Meditation in the Era of 4th Industrial Revolution

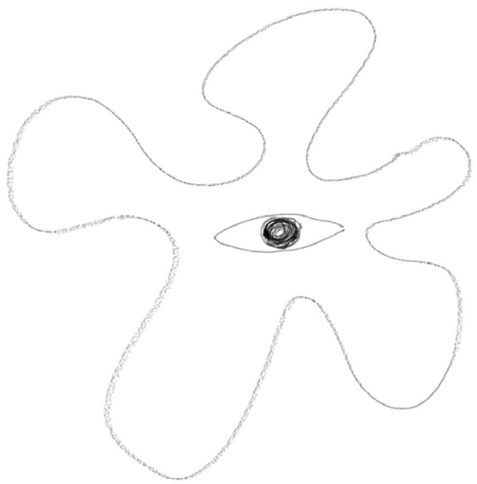
Yonghan Park
Korean Academy of Meditation in Medicine

Yong-han Park graduated from the College of Medicine, the Catholic University of Korea, and the same graduate school. He is the Director of the Park Psychiatry Clinic (psychiatrist) and served as a member of the Information Communication Committee and Social Participation Committee of the Korean Medical Association. He developed a mindfulness-enhancing program for the Korean Meditation Association and gave a lecture on “Self-analysis by mindfulness practice” at the American Psychoanalytic Association (AAPDPP) annual meeting. He is the current President of the Korean Meditation Society.

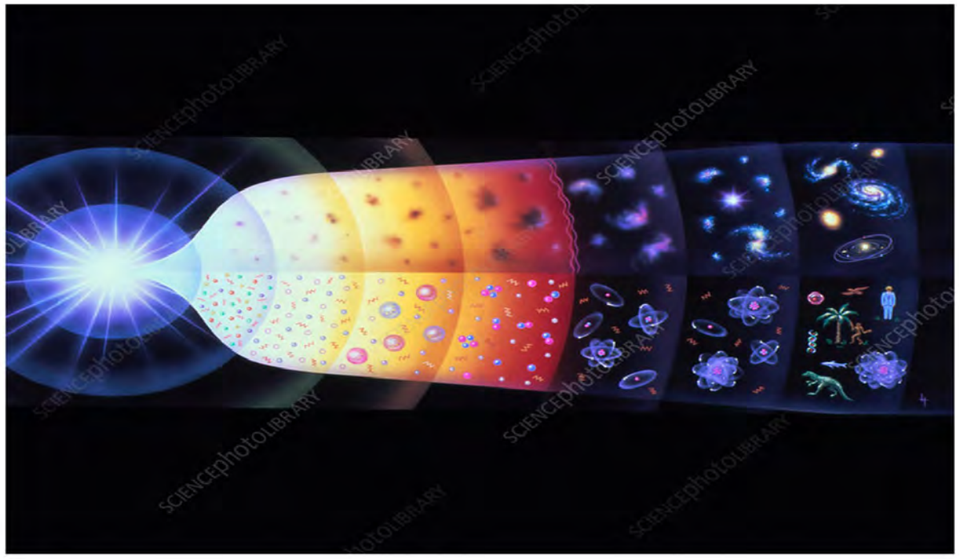

Cognitive Revolution of Buddha
What have we forgotten, and
how can we restore it in our life?
(Dr. PARK, Yonghan,
Korean Academy of
Meditation in Medicine)


Looking back

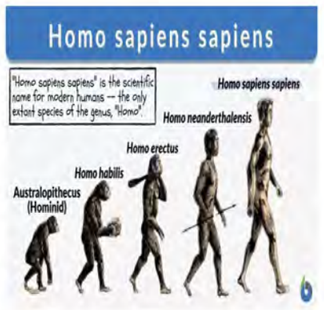

4

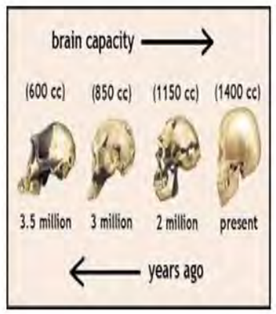


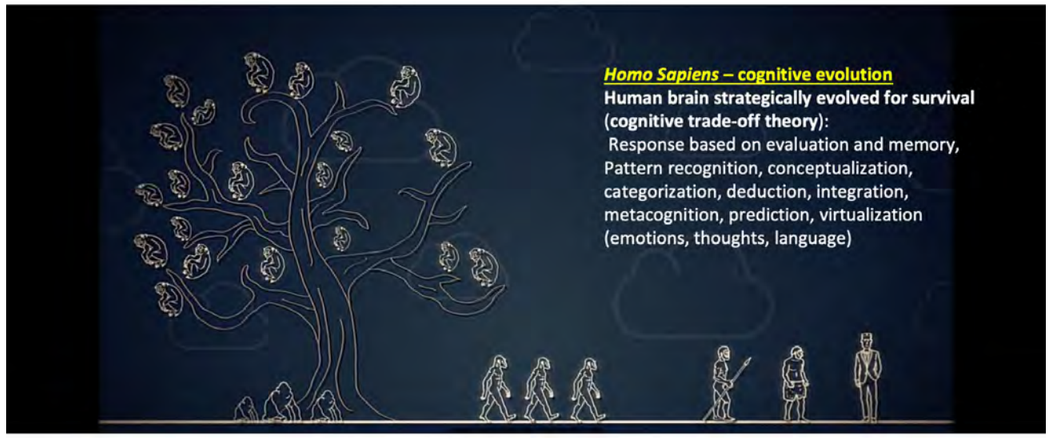
Who am I?

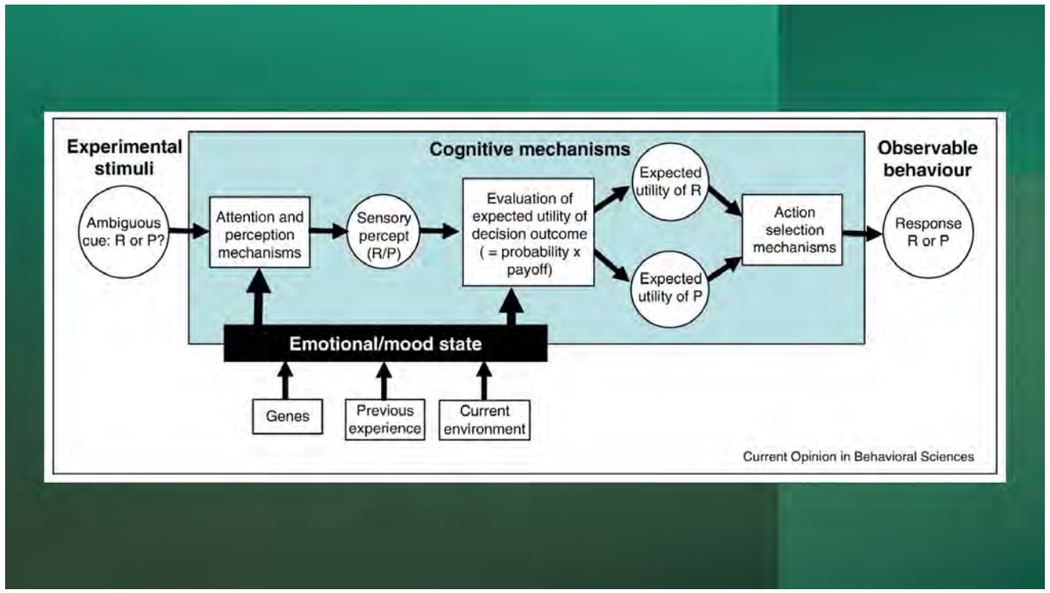


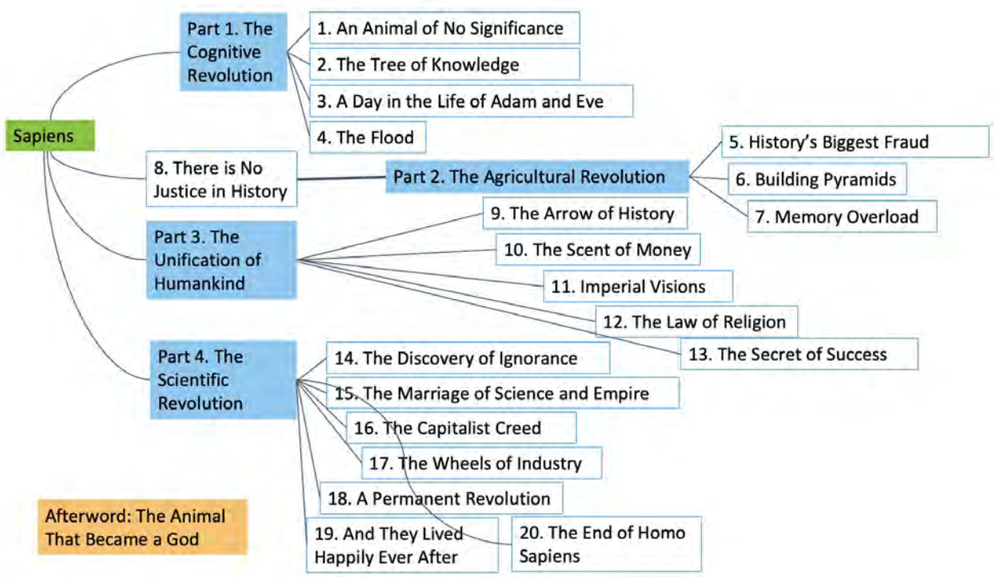
Cognitive revolution

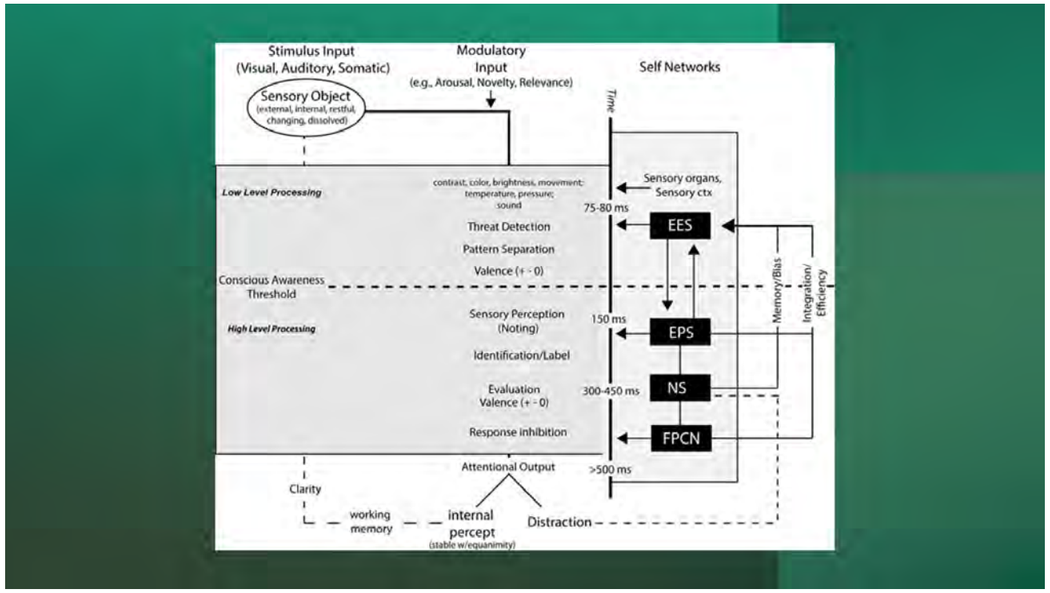




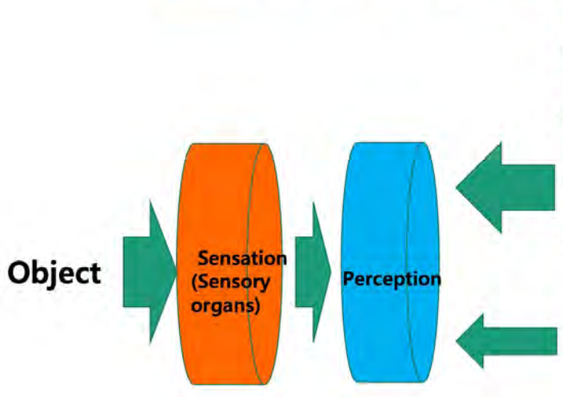

Homo Sapiens – cognitive evolution
Human brain strategically evolved for survival (cognitive trade-off theory):
Response based on evaluation and memory, Pattern recognition, conceptualization, categorization, deduction, integration, metacognition, prediction, virtualization (emotions, thoughts, language)


Experimental stimuli
Ambiguous cue: R or P?
Cognitive mechanisms
Attention and perception mechanisms
Sensory percept (R/P)
Evaluation of expected utility of decision outcome (= probability x payoff)
Expected utility of R
Expected utility of P
Action selection mechanisms
Observable behaviour
Response R or P
Emotional/mood state
Genes
Previous experience
Current environment
Current Opinion in Behavioral Sciences


Sapiens
Part 1. The Cognitive Revolution
1. An Animal of No Significance
2. The Tree of Knowledge
3. A Day in the Life of Adam and Eve
4. The Flood
8. There is No Justice in History
Part 2. The Agricultural Revolution
5. History's Biggest Fraud
6. Building Pyramids
7. Memory Overload
Part 3. The Unification of Humankind
9. The Arrow of History
10. The Scent of Money
11. Imperial Visions
12. The Law of Religion
13. The Secret of Success
Part 4. The Scientific Revolution
14. The Discovery of Ignorance
15. The Marriage of Science and Empire
16. The Capitalist Creed
17. The Wheels of Industry
18. A Permanent Revolution
19. And They Lived Happily Ever After
20. The End of Homo Sapiens
Afterword: The Animal That Became a God


Stimulus Input (Visual, Auditory, Somatic)
Modulatory Input (e.g., Arousal, Novelty, Relevance)
Self Networks
Sensory Object (external, internal, restful, changing, dissolved)
Time
Low Level Processing
contrast, color, brightness, movement; temperature, pressure; sound
Sensory organs, Sensory ctx
75-80 ms
EES
Threat Detection
Pattern Separation
Valence (+ - 0)
Conscious Awareness Threshold
High Level Processing
Sensory Perception (Noting)
150 ms
EPS
Identification/Label
Evaluation Valence (+ - 0)
300-450 ms
NS
Response inhibition
FPCN
Attentional Output
>500 ms
Clarity
working memory
internal percept
(stable w/equanimity)
Distraction
Memory/Bias
Integration/ Efficiency

General Cognitive Process



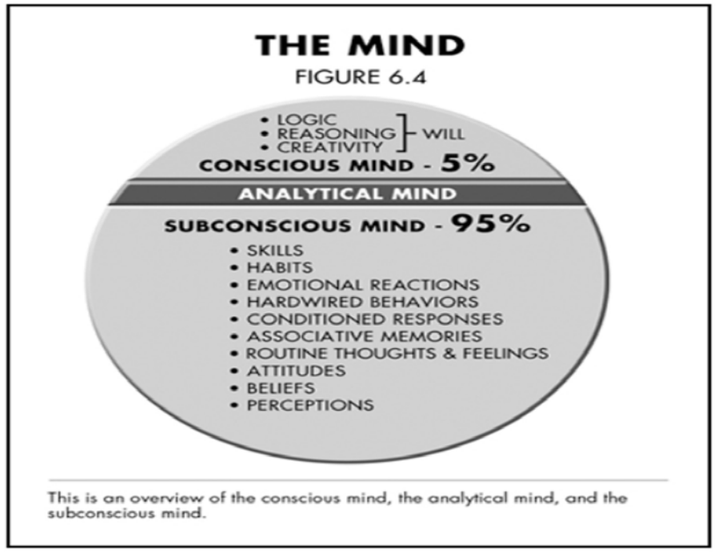
Propositional working memory

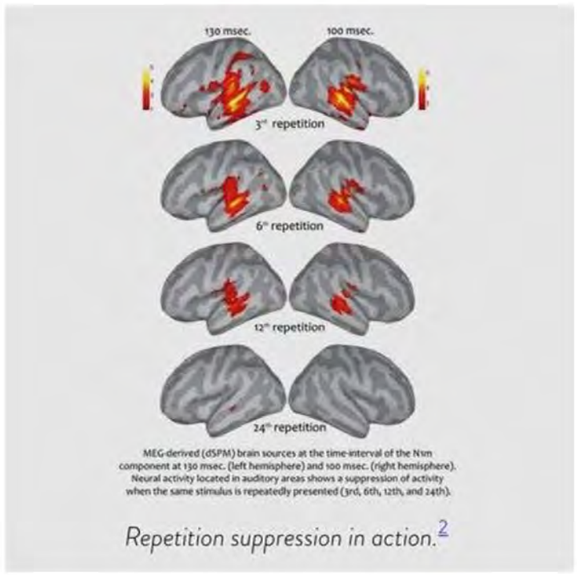
- Concept, symbol, value, categorization
- **Evolved for survival, compared to the long-term memory**
- **Conceptualized "sense of self"**
- Separate from sensation; virtual, interpretation, prediction
- **Future/past oriented**, ruminate, travel to fixed thoughts, discontent, suffering, VR, matrix, DMN
- Doing mode

Implicative working memory

- Focus on the experience and circumstances vs. analysis
- Intuitive, aligned with nature
- Aligned with sensory perceptions
- **Related to the experience of here and now**
- Being mode

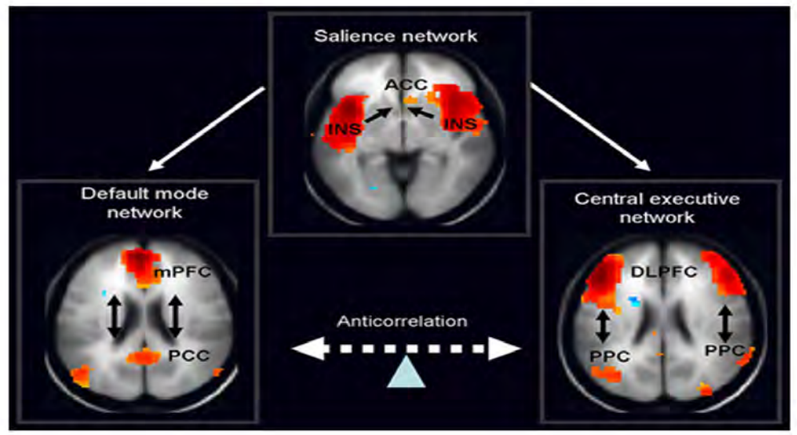
John Teasdale, 2012





Repetition suppression in action.[2]

Triple network model



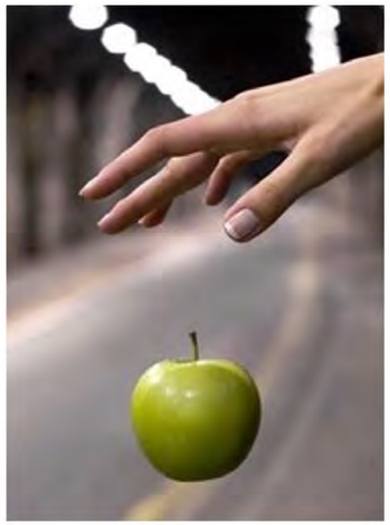
明鏡之水

一魚濁水

A single fish can muddy the water.

Suffering

- **Psychological pain**, the second arrow (simulation to solve problem)
- Cognitive fusion, overgeneralization, fixation, auto-prediction and interpretation,
- **The root cause: attachment** – ignorant of impermanence, no-self and suffering- ignorant of one's own cognitive process
- **Imbalance between propositional/implicative working memories** – present < past, future (presence<matrix), Being mode < Doing mode , sensory perceptions < desire, emotion, thoughts
- Virtual reality, matrix, augmented reality
- Four Noble Truth



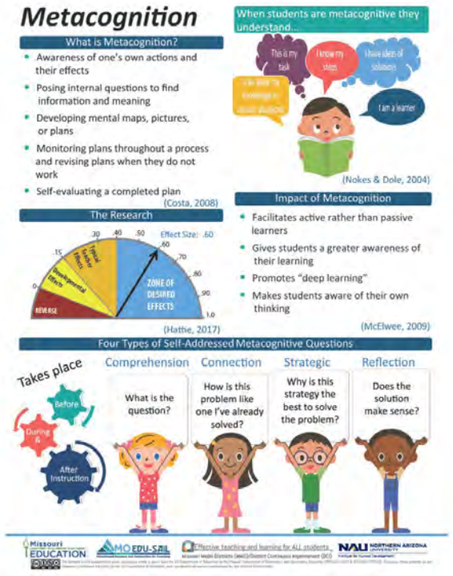
1 2 3 4 5

Self-portrait

24

Why is it difficult to know oneself?

- Blind spots: cognitive fusion, identification, centration
- Self conformity : defense mechanism, belief, faith, temperament, culture
- Nature of self: conditioned arising, inter-dependent, complex system
- Reaction to the object: external > internal (limitations of simultaneous attention)
- Living on auto-pilot
- Need to have intuition and insight based on keen observation and full experiences, rather than thinking.
- Specific training and education

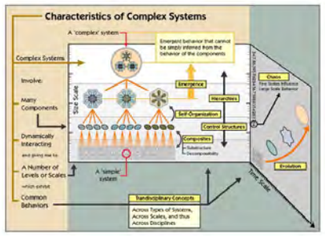


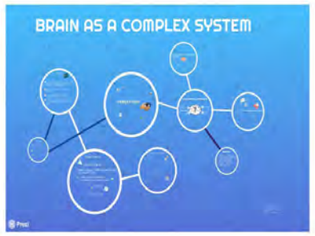
Metacognition

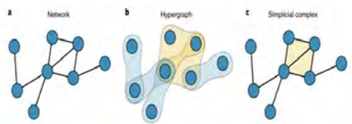
- Mental process of observing, discovering, regulating and evaluating one's own cognition
- Cognition about cognition
- Conscious of others' conscious process
- Higher level cognition
- Integrating; insight into the whole

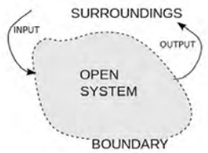
Complex system

- A system composed of many components which may interact with each other and be on feedback loops whose collective behaviors are intrinsically distinctive from their constituent parts and the individual interactions between them.
- Must be addressed as whole, not the sum of its parts.
- Conducive to emergence





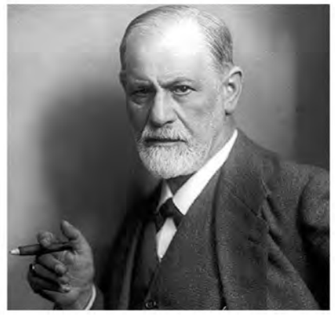




29

Observer of self

Freud



Buddha

30

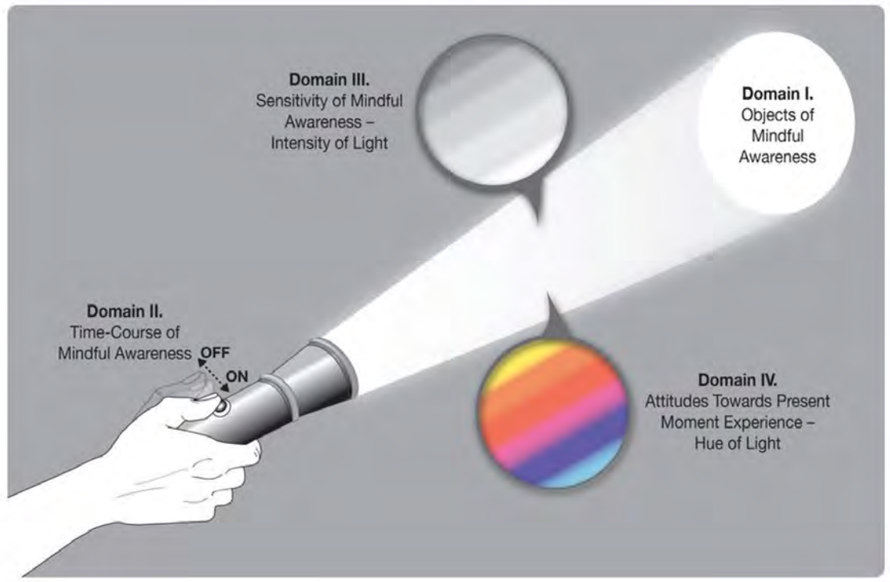
Stop, then Can see

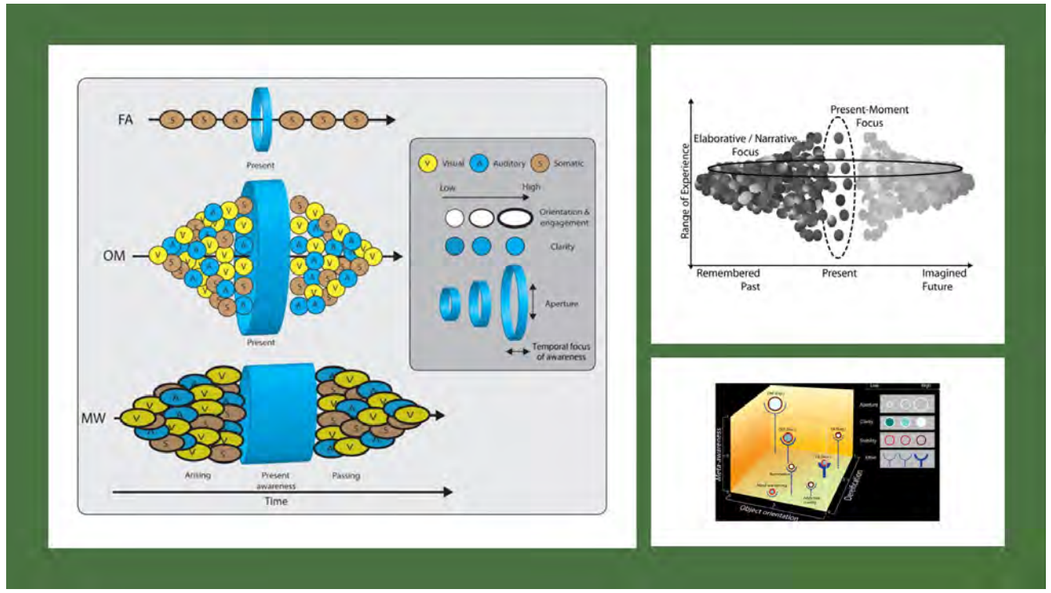
31

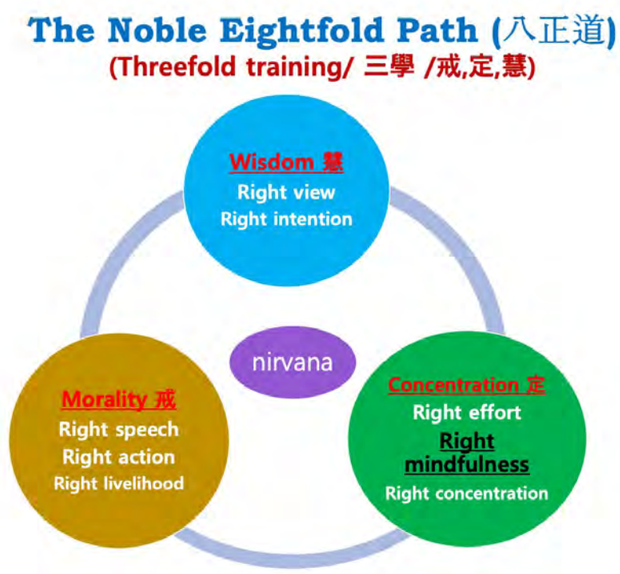
Mindfulness

- **Originated from the ancient pali word SATI**
- Paying attention to what is happening here and now;
- meta-attention, meta-awareness

- By cultivating of mindfulness, the mind is deliberately kept at the level of ***bare attention, a detached observation*** *of what is happening within us and around us* ***in the present moment (비판단적 순수주의,직접 경험)***







The Noble Eightfold Path (八正道)
(Threefold training 三學)

1. WISDOM

1) **Right view (正見)** : 4 Noble Truth
2) **Right intention (正思惟)** : Cultivate the right intention in mind so that aversion, greed or the intent to harm others would not arise.

2. MORALITY

3) **Right speech (正言)**: No lie, slander, hurtful speech, gossip
4) **Right action(正業)** : No killing, theft, sexual misconduct
5) **Right livelihood(正命)**: A way of making a living that does no harm to others

3. CONCENTRATION

6) **Right effort(正精進)** : unwholesome⬇, wholesome⬆
7) **Right mindfulness (正念)** : 4 Bases of mindfulness
8) **Right concentration (正定)** : 4 *dhyanas*

SEP (SATI-POWER ENHANCEMENT PROGRAM)

- **SEP – CORE**
  1. Sitting SEP
  2. Walking SEP

대한명상의학회
Korean Academy of Meditation in Medicine

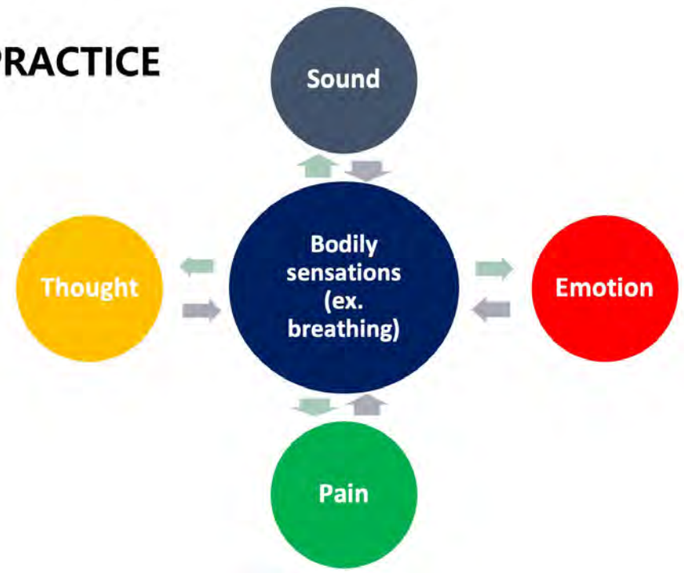
- **SEP - EXTENSION**
  1. Self-awareness with loving
  2. Compassion meditation
  3. Mindful-relation exercise
  4. Daily mindfulness exercise
  5. Connecting five senses to heart

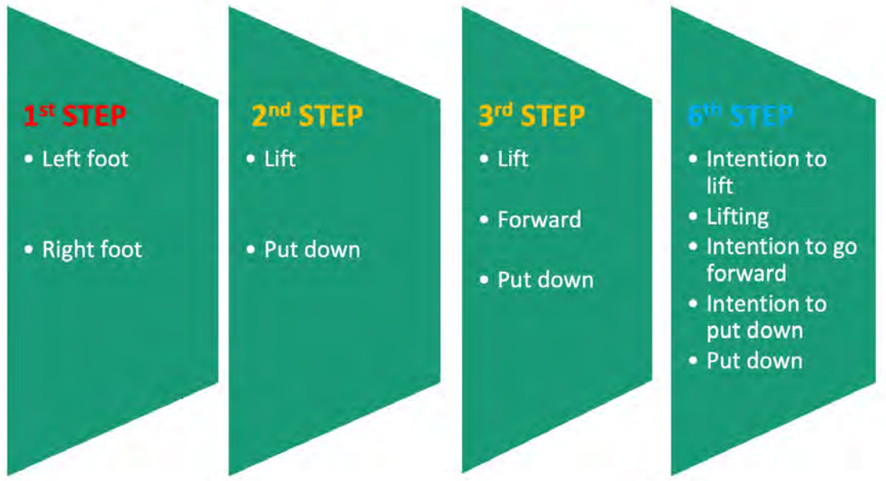
37

Table. Levels of Sati

Form oriented Evaluate values Yoga practice Cultivate samadhi	Properties oriented Evaluate facts Sati practice Cultivate sati	Reality oriented Evaluate reality Sati practice Panna sati
Phenomena (Form)	Properties (4)	Reality (3 Dharma Seals)
Ordinary sati	Mid-level sati	High-level sati
Levels of sati		

SATI PRACTICE

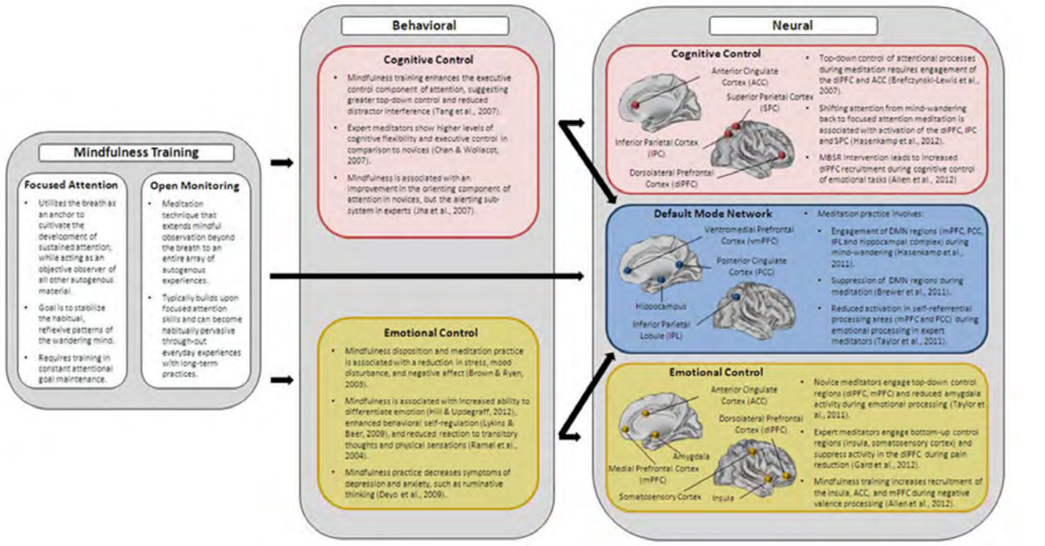


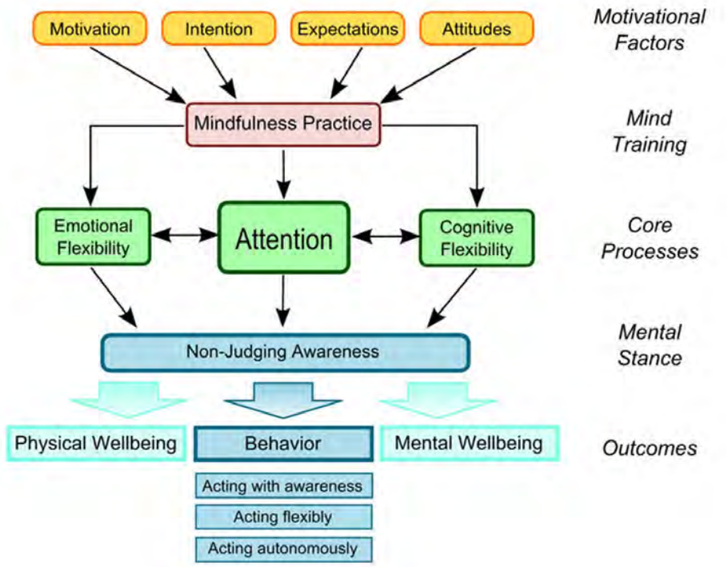


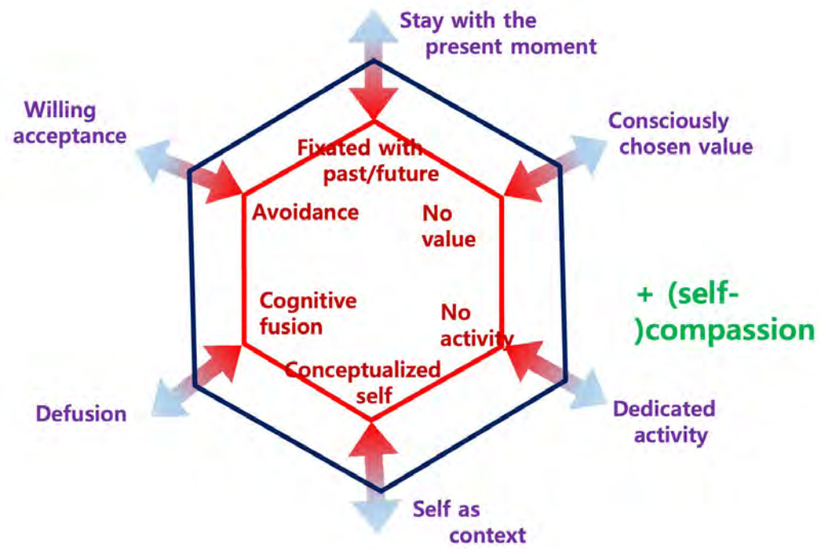
Process of self analysis in mindfulness practice

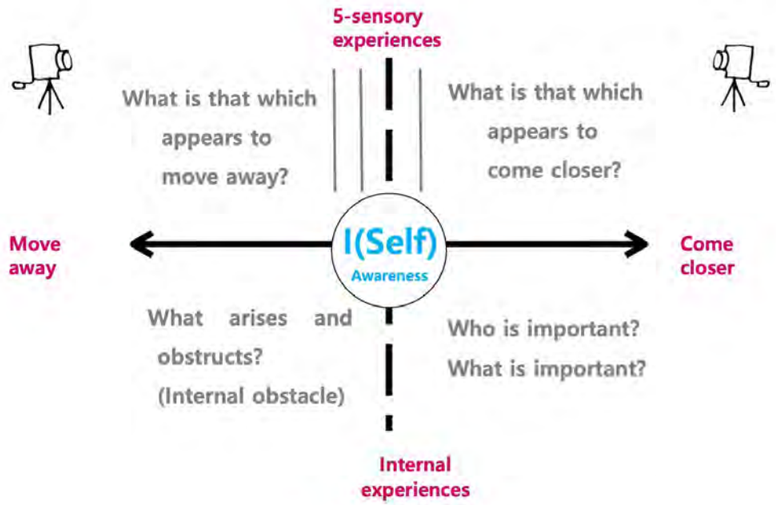
- **Increasing power to observe the self** more in detail **step by step**
- **Changing judgment about objects :**
  ex) Valuable judgment-> realistic judgement -> real
- **Weakening attachment & chain reaction to objects :**
  ex) Cognitive defusion, decentralization, disidentification, decategorization, deconceptualization, deconstruction -> no self in phenomenon -> living in no self state moment to moment
- **Interdependent interaction in relation**
- **SATI** is **self-awareness**

41





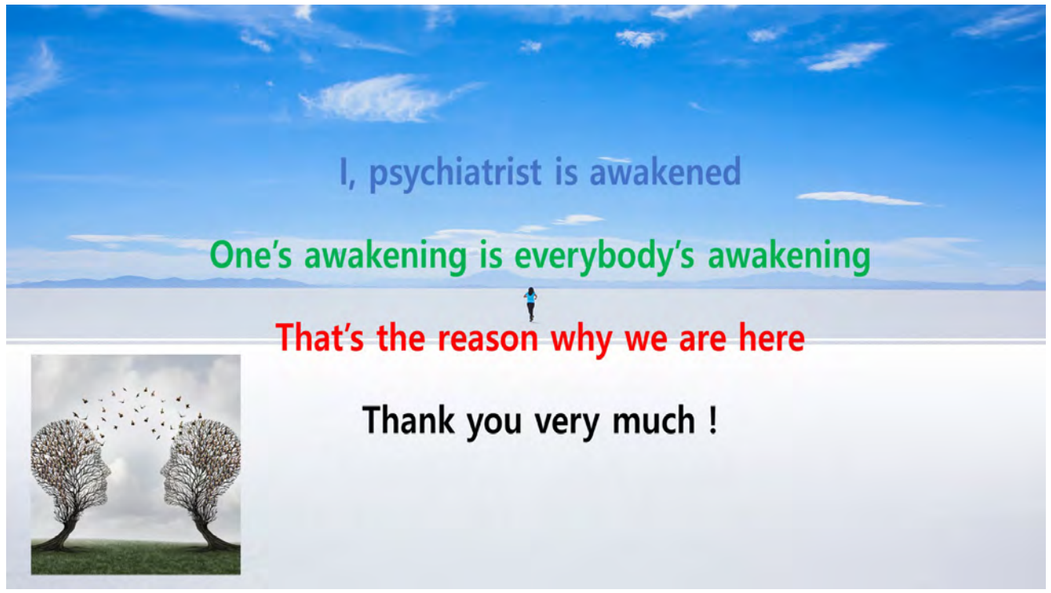



5-sensory experiences
What is that which appears to move away?
What is that which appears to come closer?
Move away
I(Self)
Awareness
Come closer
What arises and obstructs? (Internal obstacle)
Who is important? What is important?
Internal experiences

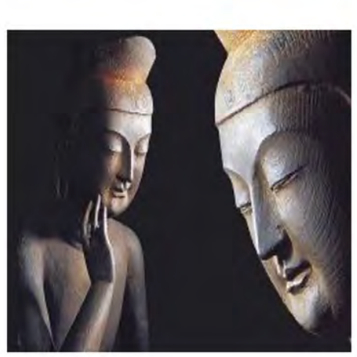
Life of God


Effects of mindfulness
Presence
Acceptance
Awareness
Emotional regulation
Empathy and understanding (Listen and communicate)
Compassion and loving-kindness
Self management
Connection and wholeness (Heal and recover)


Savoring and gratitude



How do they look?

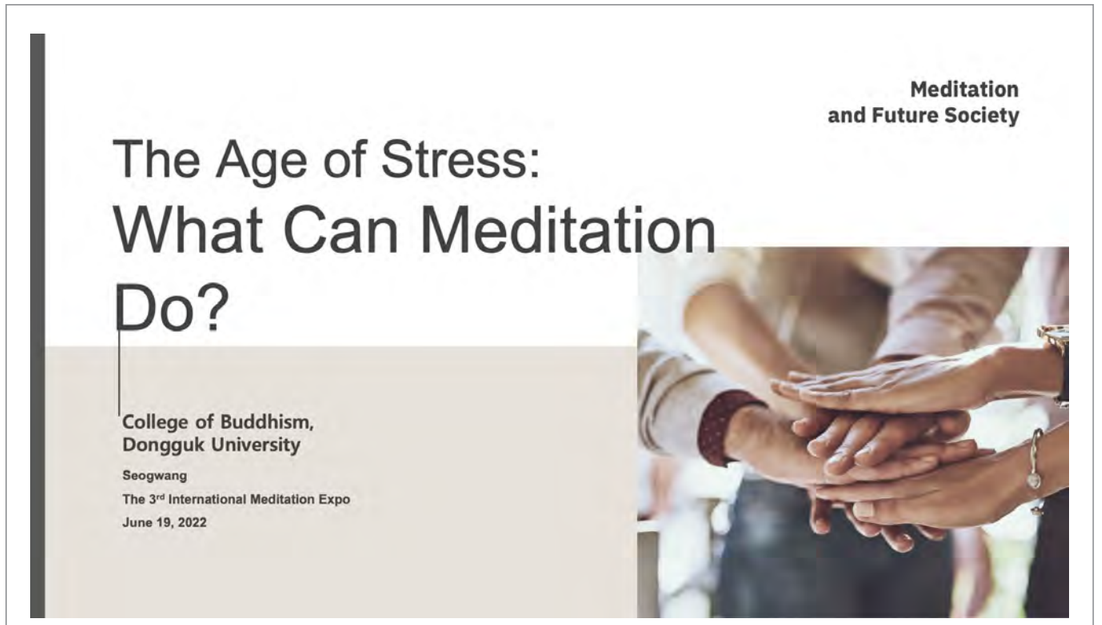


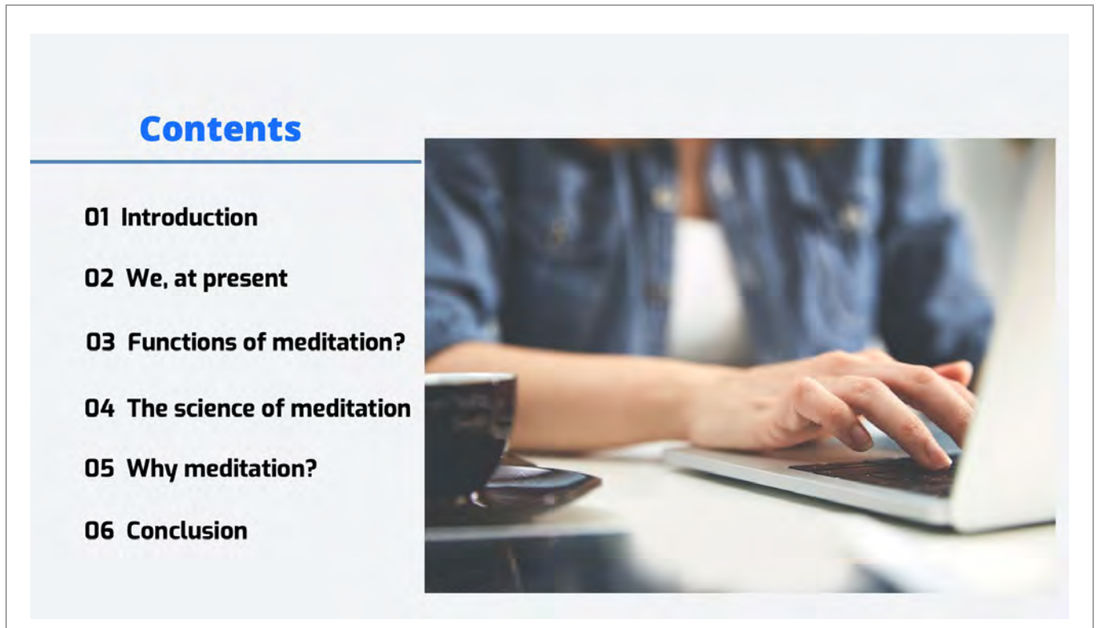
50

The Role of Korean Meditation in the Era of 4th Industrial Revolution

Ven. Seogwang | Dongguk University

Ven. Seokwang received his Ph.D. in Transpersonal Psychology from ITP in the United States and is currently a professor at Buddhist College, Dongguk University. She has been researching the integration of Buddhist meditation, practice, and psychotherapy. She founded the Korea Meditation Psychological Counseling Institute and developed a self-transcendence program and RHS program that applied the principles of Buddhism and Zen. She has been conducting Transpersonal Psychology Treatment-related lectures, workshops, and group programs. She is an MSC program teacher trainer and CMSC (Center for MSC) Mentor, Director of Dongguk University's Healing and Happiness Convergence Research Institute, and Korea Meditation Psychological Counseling Research Institute.





01 The motive of the meditation conference:

To comfort people suffering from coronavirus stress ...

https://www.unipress.co.kr/news/articleView.html?idxno=3596

The 1st Seoul International Meditation Festival

"Meditation, Seoul On"

Meditation, Mental Strength to Overcome Coronavirus

In order to overcome the suffering experienced by global citizens imposed by COVID-19,
we present contact-free meditation.
In this online meditation platform, anyone interested in meditation can experience meditation
anywhere at any time in easier and safer way.


Pleasure 기쁨


Happiness 행복


Peace 평온


Courage 용기

동국대학교 dongguk university

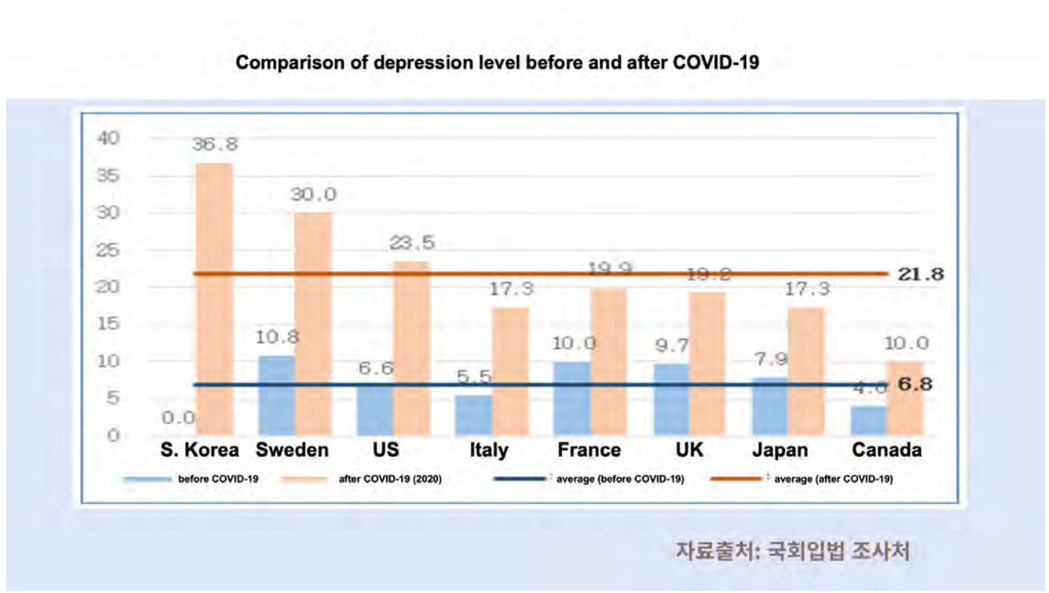
동국대학교 불교학술원 종학연구소 서울특별시 중구 퇴계로36길2 mind@dongguk.edu

https://mind.dongguk.edu

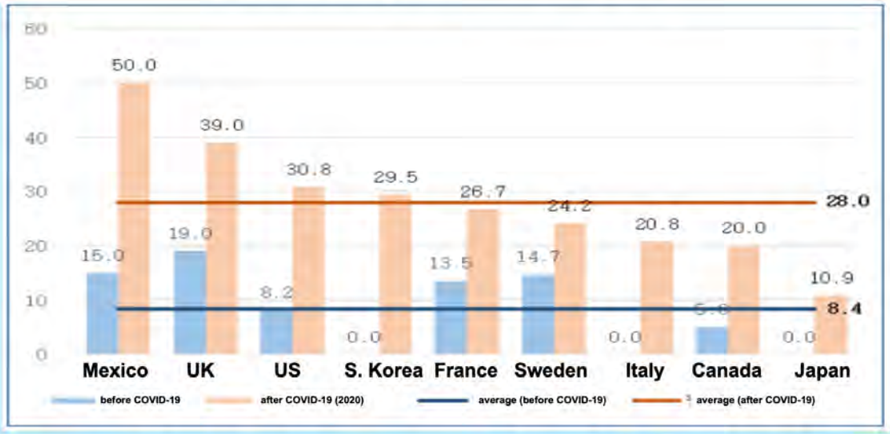

2021 MEDITATION, NEW CONNECTIONS
2021 명상,
새로운 연결
Skip
본 페이지는 크롬 웹브라우저에 최적화 되어있습니다.


2021 MEDITATION, NEW CONNECTIONS
2021 명상,
새로운 연결
Skip
본 페이지는 크롬 웹브라우저에 최적화 되어있습니다.


2021 명상,
새로운 연결
Skip
본 페이지는 크롬 웹브라우저에 최적화 되어있습니다.

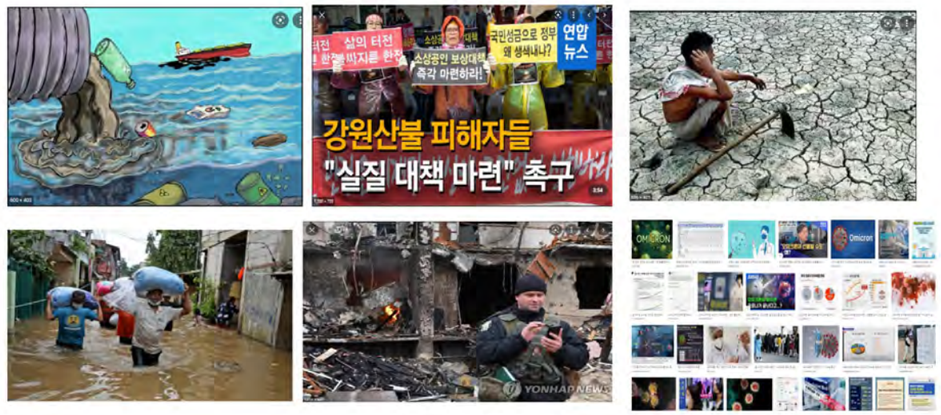

Comparison of depression level before and after COVID-19
40
35
30
25
20
15
10
5
0
36.8
30.0
23.5
17.3
19.9
19.2
17.3
21.8
10.8
6.6
5.5
10.0
9.7
7.9
10.0
6.8
0.0
4.6
S. Korea
Sweden
US
Italy
France
UK
Japan
Canada
before COVID-19
after COVID-19 (2020)
average (before COVID-19)
average (after COVID-19)
자료출처: 국회입법 조사처

Comparison of anxiety level before and after COVID-19



자료출처: 국회입법 조사처

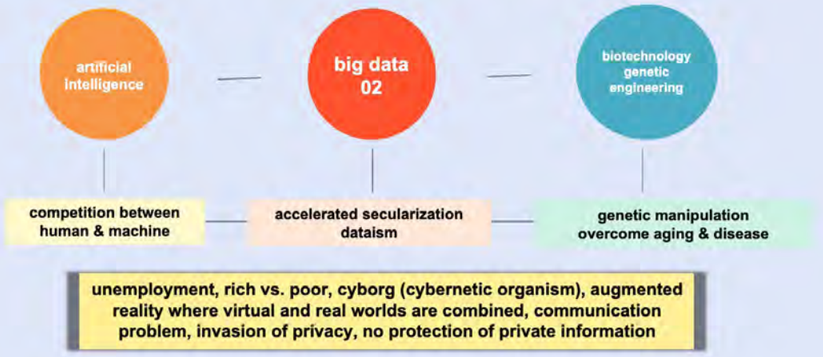
Climate change, environmental pollution, war, hunger, crimes..



Besides,

- Increased anger
- Increased suicide ideation
- Increased breaking up of relationships (family members or acquaintances)
- Worsened physical health
- Worsened friendship
- Increased sadness & hatred

02 The world we live now: The age of fourth industrial revolution



Dangers of crime

https://www.donga.com/news/Society/article/all/20210401/106199413/1

https://www.donga.com/news/Society/article/all/20220405/112704587/1

http://www.healthumer.com/news/articleView.html?idxno=3069

03 What does meditation do?

What do we want to achieve through meditation?

From the scientific perspective

ill-being → well-being

vulnerability → resilience
(취약, 연약) (회복력, 탄력, 유연)

Richard Davidson, 2022

Now, we are . . .

https://www.korea.kr/news/policyNewsView.do?newsId=148853491

Alienated, anxious, divided, polarized, depresse

How meditation brings these changes:

ill-being -> well-being,
vulnerability -> resilience

https://talbotspy.org/lifes-lessons-the-keys-to-unhappiness-by-angela-rieck/

Meditation changes our mind, brain, & body; Test of scientific vali

Analysis of 60 papers from 6,000 scientific papers on meditation

(1) Reduced stress reaction, enhanced resilienc

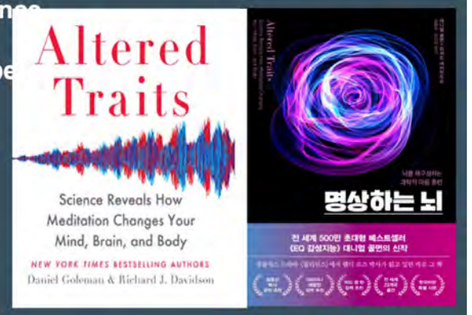
(2) Increased compassion & compassionate be

(3) The core of retaining attention

(4) Reduced attachment to self

(5) Increased physical health

(6) Effective for alleviation of mental disorder



2017 2022

Epigenetics, neuroplasticity

Epigenetics: Without changes of DNA sequence or genetic information, modification of gene expression occurs and this change is inherited.

Neuroplasticity: Existing neural networks are rebuilt and reshaped following new learnings and experiences

Ex) Traumatic experiences induce epigenetic changes, inherited to the next genera
-Traumas induce neuroplasticity and epigenetics

- Karma induces neuroplasticity and epigenetics
Repetitive actions & habits -> Affect next life – Induce neuroplasticity and epige

Meditation induces epigenetics & neuroplasticity.

Mindfulness, compassion, loving-kindness, gratitude... With meditation one cultivates good karma and one grows.

Retained in one's mind, brain, bod

Enlightenment can be genetically inherited bet. Generations.

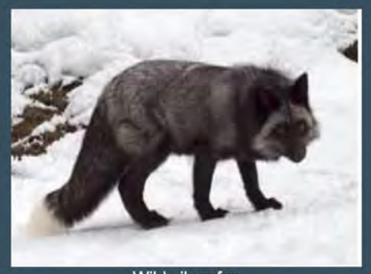
But a wise prescription is needed to apply most suitable trainings and means
for each individual

https://www.thehansindia.com/posts/index/Hans/2018-05-13/Mental-well-being-survey/380939?infinitescroll=1

Silver fox domestication experiment

Dmitri Belyaev, 1959

After 40 years



Wild silver fox

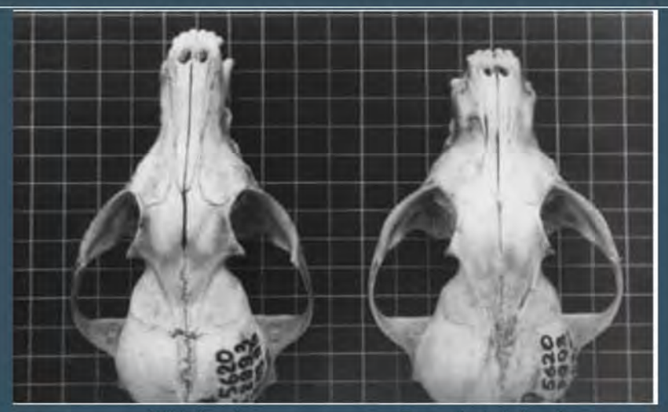
Domesticated silver fox

https://m.cafe.daum.net/ssaumjil/LnOm/2815414?svc=popular

Domesticated silver fox

Act like dogs; groaning, wagging tails, licking,...

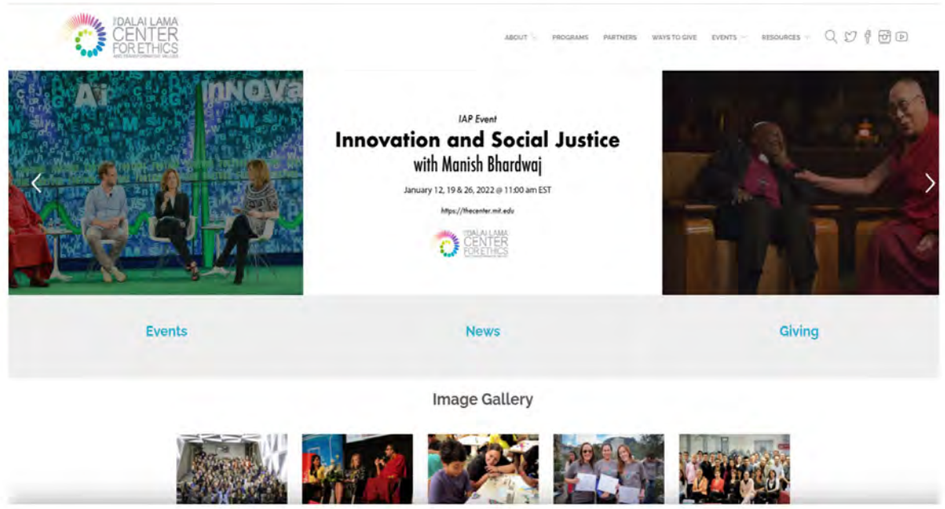
Cranial bones change; widened cranial bones, shortened nasal



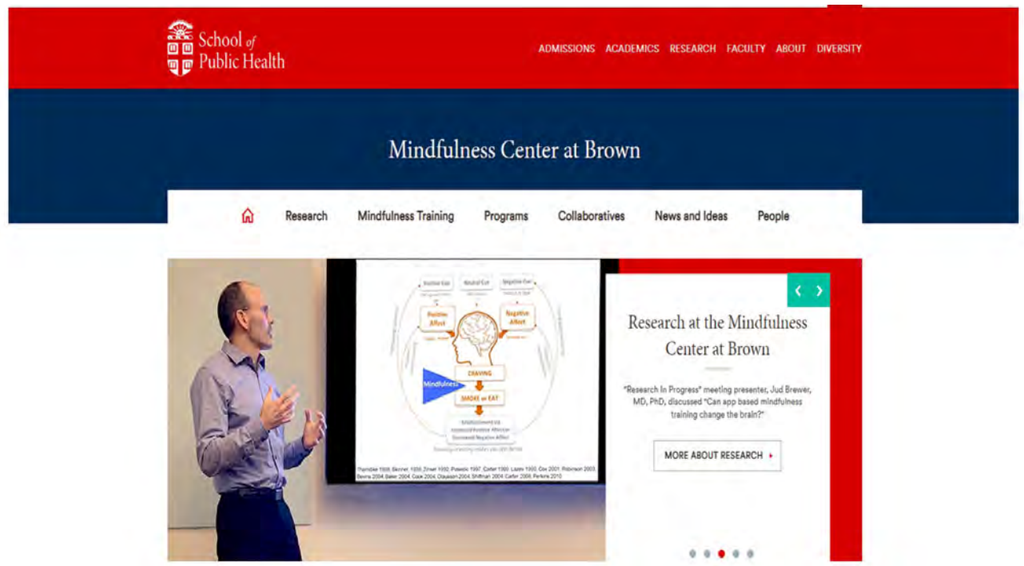
04 Meditation research, education, practice

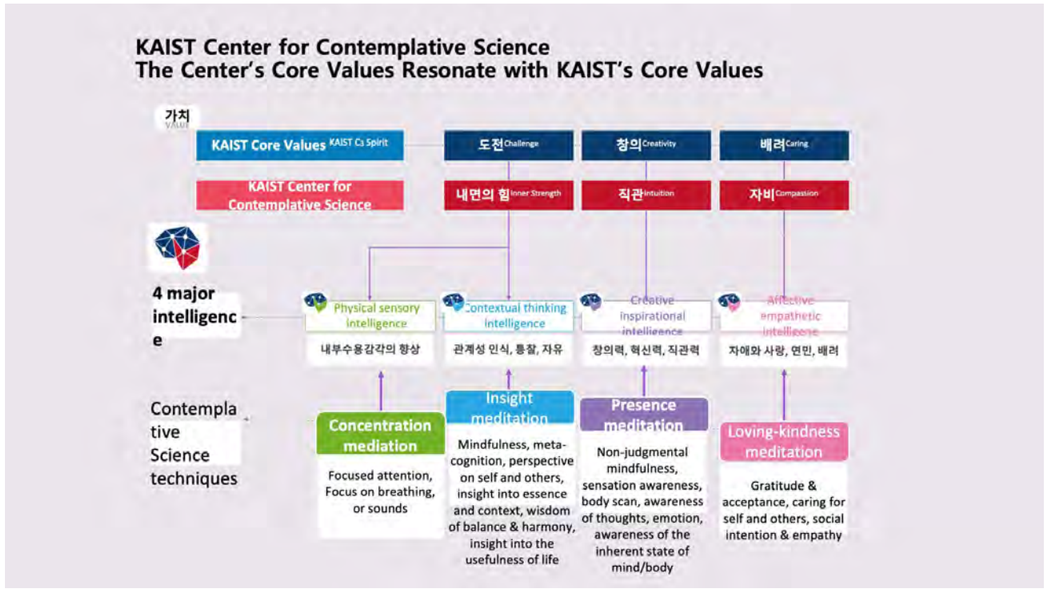
Education. research. Practice.

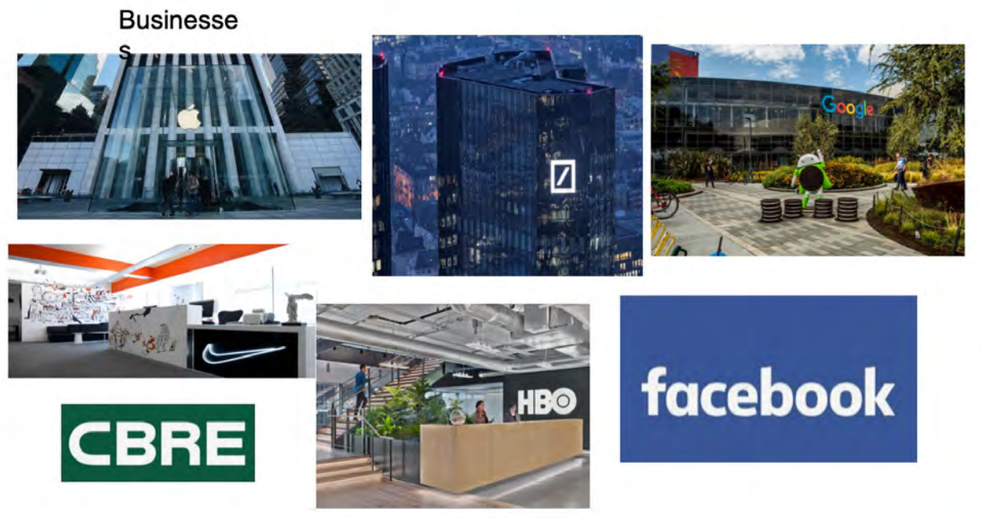
universities
businesses
organizations

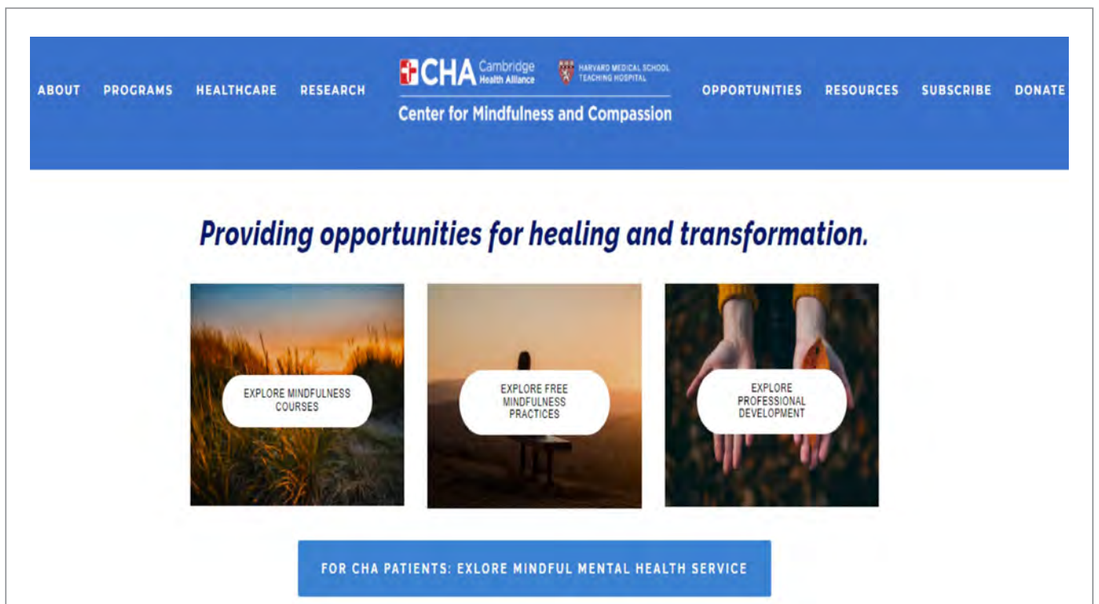


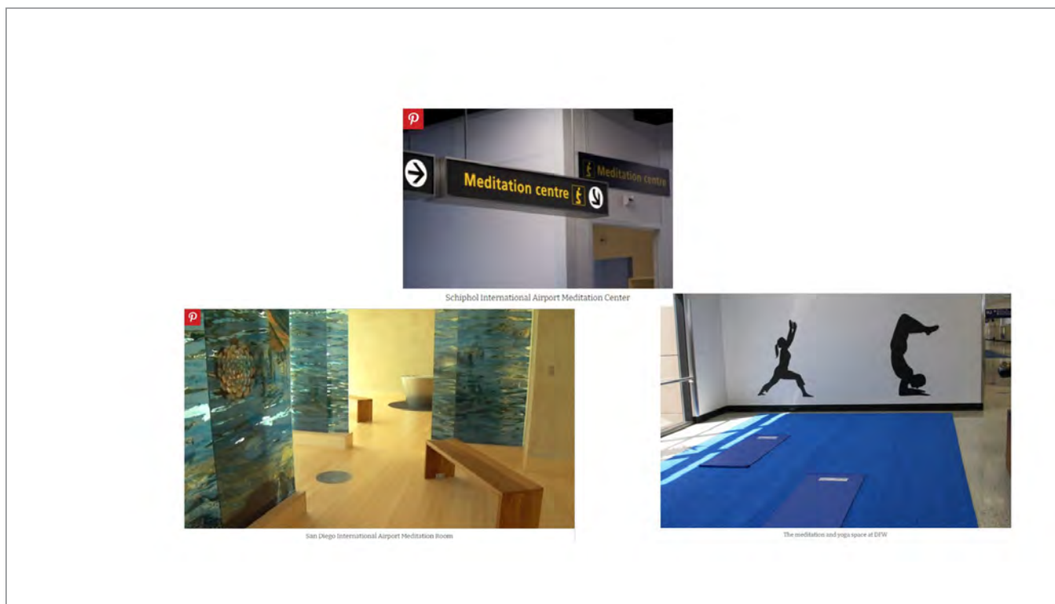
The Center for Compassion and Altruism Research and Education




KAIST Center for Contemplative Science
The Center's Core Values Resonate with KAIST's Core Values
가치
KAIST Core Values KAIST C3 Spirit
도전Challenge
창의Creativity
배려Caring
KAIST Center for Contemplative Science
내면의 힘Inner Strength
직관Intuition
자비Compassion
4 major intelligence
Physical sensory intelligence
내부수용감각의 향상
Contextual thinking intelligence
관계성 인식, 통찰, 자유
Creative inspirational intelligence
창의력, 혁신력, 직관력
Affective empathetic intelligence
자애와 사랑, 연민, 배려
Contemplative Science techniques
Concentration mediation
Focused attention, Focus on breathing, or sounds
Insight meditation
Mindfulness, meta-cognition, perspective on self and others, insight into essence and context, wisdom of balance & harmony, insight into the usefulness of life
Presence meditation
Non-judgmental mindfulness, sensation awareness, body scan, awareness of thoughts, emotion, awareness of the inherent state of mind/body
Loving-kindness meditation
Gratitude & acceptance, caring for self and others, social intention & empathy


Businesse
s
Google
CBRE
HBO
facebook


ABOUT
PROGRAMS
HEALTHCARE
RESEARCH
CHA Cambridge Health Alliance
HARVARD MEDICAL SCHOOL TEACHING HOSPITAL
Center for Mindfulness and Compassion
OPPORTUNITIES
RESOURCES
SUBSCRIBE
DONATE
Providing opportunities for healing and transformation.
EXPLORE MINDFULNESS COURSES
EXPLORE FREE MINDFULNESS PRACTICES
EXPLORE PROFESSIONAL DEVELOPMENT
FOR CHA PATIENTS: EXLORE MINDFUL MENTAL HEALTH SERVICE

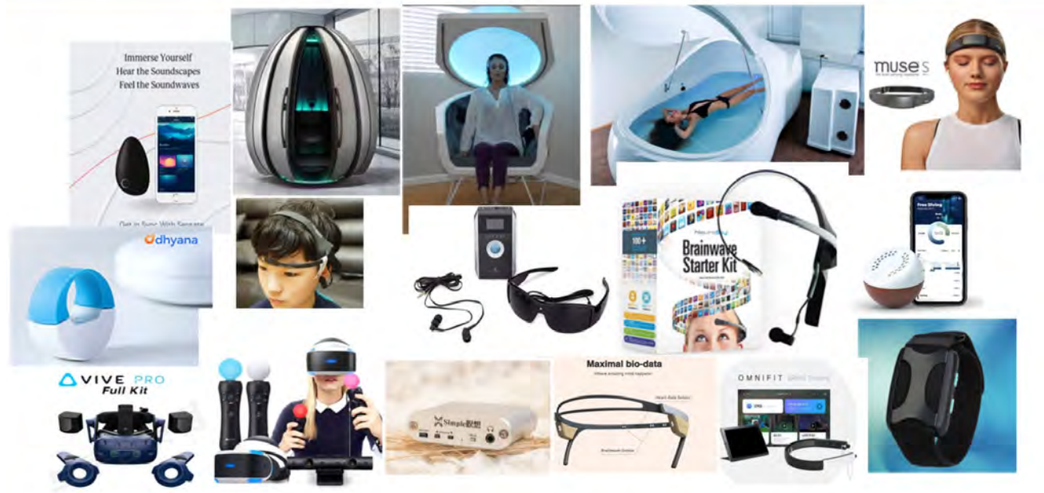

Meditation centre
Schiphol International Airport Meditation Center
San Diego International Airport Meditation Room
The meditation and yoga space at DFW

Current status of meditation program operation by Korean businesses

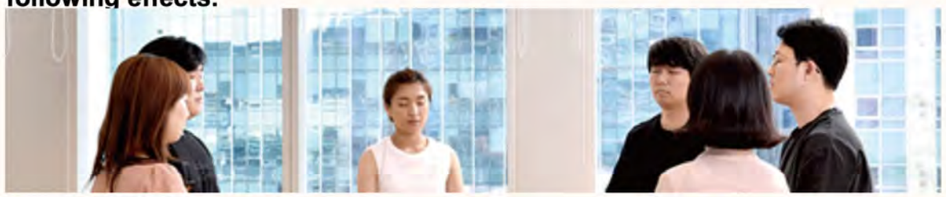
Businesses	Contents
Samsung	-With 100 billion won budget in 2017, established their meditation training center in Yeongdeok, Gyeongbuk Province -Gives monthly sound-sleep therapy training for executives
LG Display	-Established their healing center in 2017 in Mungyeong,Gyeongbuk Province
Lina Life Insurance	-Operates in-house meditation center. Conducts two-days one-night meditation workshops for all employees
WeWork Korea	-Operates in-house meditation center
Kyobo Life Insurance, Kyowon, Daesang Group, Ottogi, Korea East-West Power, Hanhwa Aerospace, SK Planet, HS Ad	-Adopts meditation classes in their training sessions for new employees and executives

https://magazine.hankyung.com/business/article/201908065507b

Meditation & Industry 4.0



Meditation brings about the following effects.



—Increased job effectiveness
—Excessive job stress reduced
—Increased sense of wellbeing

—Reduced stress at workplace
—Vigorous, active participation at work
—Reduced depression

https://magazine.hankyung.com/business/article/201908065507b

05 Why meditate?

For us who live in the age of stress

1. Meditation helps to be connected with self and others.

Kindness, compassion, love, empathy, altruism => wellbeing, resilience

05 **Why meditate?**

For us who live in the age of stress

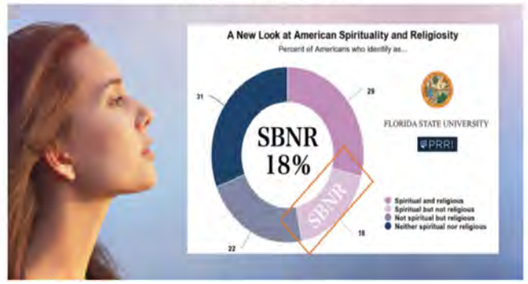
2. Meditation helps to be connected with all things of the world.

kindness, compassion, love, empathy, altruism => Earth, nature

S B N R
Spiritual But Not Religious

米国人の5人に1人はSBNR

One in Five Americans are Spiritual but Not Religious



https://note.com/nabeken27/n/n78638db28c81

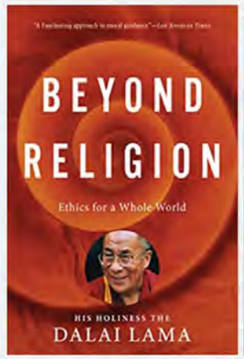
05 **Why meditate?**

To resolve the crises of humanity and the Earth

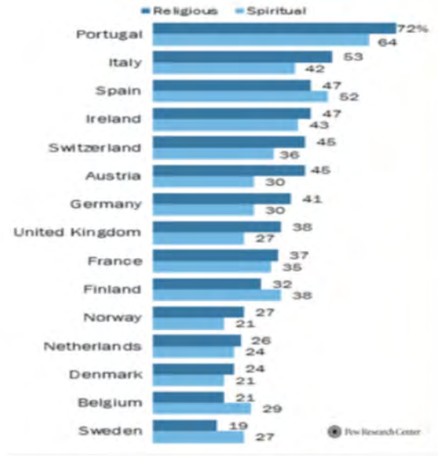
Beyond the religious boundaries we should cultivate universal foundation, which is our inner values including compassion, kindness, love & honesty.

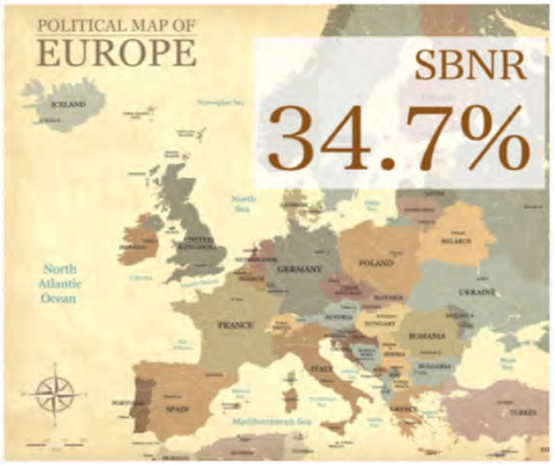
External, material improvement is not en...

Functions that meditation can fulfill...



SBNR化が進展するヨーロッパ諸国





https://note.com/nabeken27/n/n78638db28c81

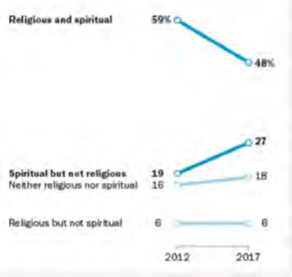
Phone interviews of 5,002 adults (age 18 & over)

Pew Research Center

Religious but not spiritual -- down
Spiritual but not religious -- up

A quarter of Americans now say they are spiritual but not religious

% who identify as ...



-Increase in all ages
-Increase in all educational levels including high school, college, graduate school

Increase of 'spiritual but not religious' Americans, by age and education

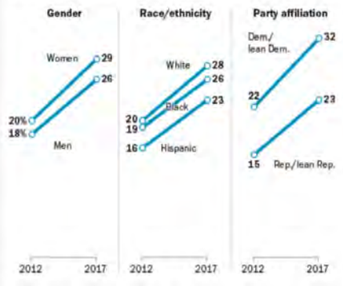
% of U.S. adults who identify as spiritual but not religious

	2012 %	2017 %	Change
Ages 18-29	20	29	+9
30-49	20	30	+10
50-64	21	29	+8
65+	14	17	+3
High school or less	16	20	+4
Some college	20	32	+12
College graduate	23	32	+9

-Increase in all categories including gender, race, & political party affiliation

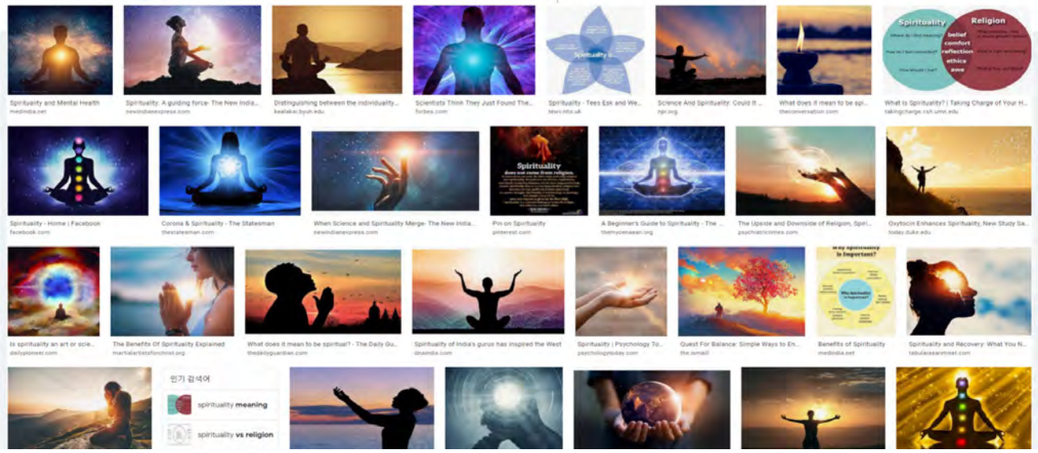
Increase of 'spiritual but not religious' is broad-based

% of U.S. adults who identify as spiritual but not religious



Spirituality vs Religion vs Meditation

Spirituality



Religion vs Spirituality

Religion needs spirituality.
Spirituality doesn't necessarily need religion.

His Holiness the Dalai Lama

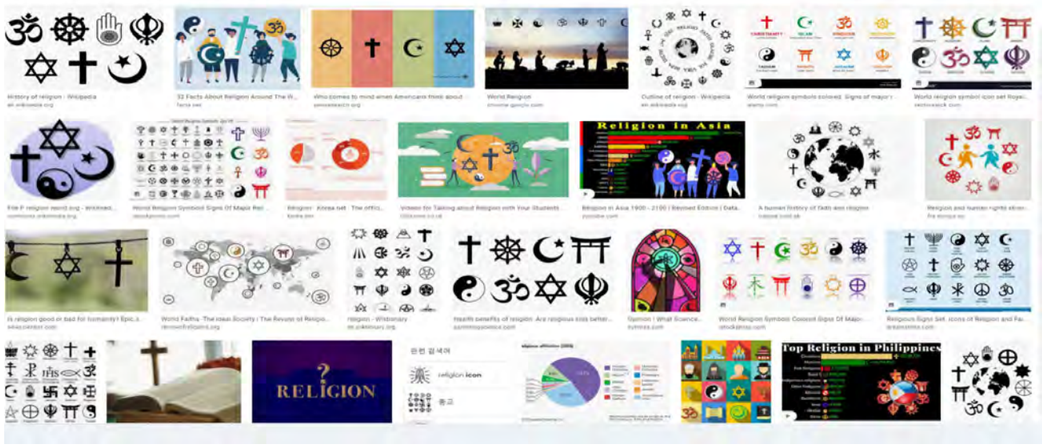
#Spirituality – Related to traits— bringing happiness both to self and others—includi
perseverance, patience, forgiveness, satisfaction, responsibility, and

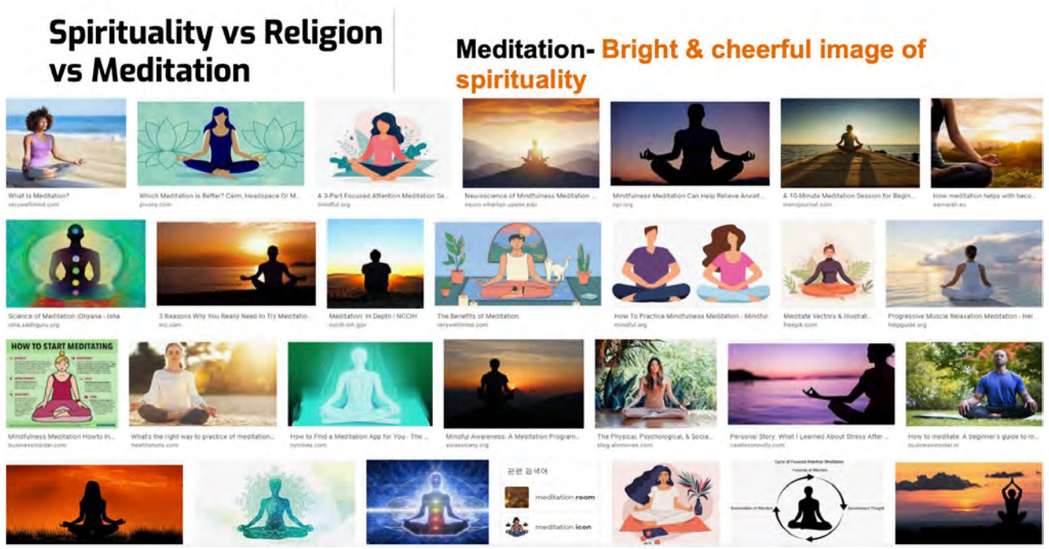
#Religion – Related to the faith of salvation contended by different religious traditions
The faith embraces metaphysical, supernatural reality including the concept of hea
It also concerns religious teachings or dogma, rituals and prayers.

Deepak Chopra
"Spirituality: non-religious, scientific, self-awareness"

Spirituality vs Religion vs Meditation

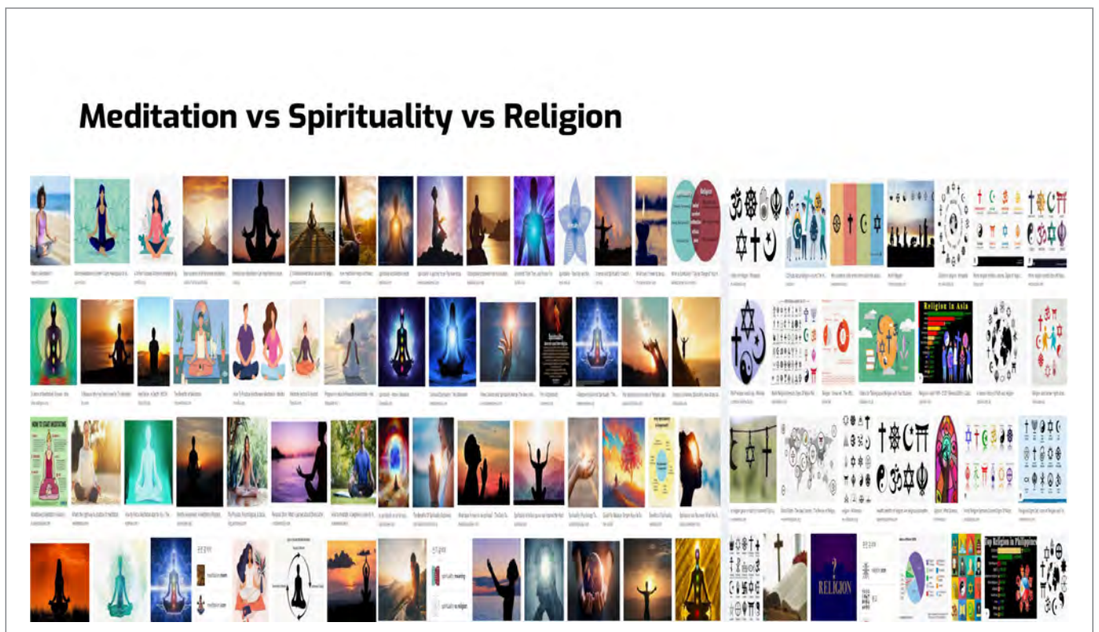
Religion





06 Conclusion

Inner values such as compassion, kindness, love, honesty,
satisfaction and responsibility,
which bring happiness both to self and others,
are based on the universal foundation of goodness,
which is inherent to all individuals,
beyond the religious, national, organizational, and dogmatic boundaries.
Meditation is a tool to cultivate these resources.



MEMO

MEMO

MEMO

MEMO

주최 동국대학교 Seoul International Meditation Expo 동국대학교 서울국제명상엑스포 운영위원회 후원 문화체육관광부 서울특별시