

Empowering **Executive Function** and
Self-Regulation through **Mindfulness**:
Practical Strategies for Children and
Adolescents

Fengyi Kuo, DHS, OTR, CPRP, TMF



Background



长和大蕴
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LIHSC REHAB

- Postdoctoral Fellow in Psychiatry, **Harvard University & UCLA Semel Institute** for Neuroscience & Human Behavior; Registered Occupational Therapist (OTR) in the United States; Certified Psychiatric Rehabilitation Practitioner (CPRP); UCLA PEERS® Certified Social Skills Training Instructor; Trained Mindfulness Facilitator (TMF, UCLA Semel Institute); and CareDuchenne certified DMD OT.
- **Background:** Bachelor of Science in Occupational Therapy, Department of Rehabilitation Medicine, Kaohsiung Medical University; Occupational Therapist at Taipei City Psychiatric Hospital; Master of Science in Occupational Therapy, **New York University**; Occupational Therapist at **MetroHealth Medical Center** and **Cleveland Clinic** in Ohio; Doctor of Occupational Therapy, **University of Indianapolis**; Clinical Professor at **Indiana University** School of Rehabilitation Medicine and **Riley Hospital** for Children Child Development Center (RCDC).
- **Certifications:** Sensory Integration and Praxis Test (**SIPT**) by USC, Autism Diagnostic Observation Schedule (**ADOS-2**), Integrated Listening System (**iLs-Advanced®**), **SOFFI®** Feeding for Premature Infants, Sequential Oral Sensory (**SOS**) Feeding, Evidence-Based Interventions for Autism (**Project ImPACT**), **UCLA PEERS®** Certified Social Skills Instructor, **STAT™** (Screening Tool for Autism in Toddlers and Young Children), Advanced Beckman Oral Motor Assessment and Intervention, and Global Mental Health, Trauma, and Recovery (**UNHCR** and **Harvard** Medical School).
- Recipient of the **2013 American Occupational Therapy Foundation (AOTF) Community and Volunteer Service Award.**



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正念 / Mindfulness

有意識地在當下
以不帶評判的方式
專注於當前的經驗

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

(Kabat-Zinn, 1990)





萬物靜觀皆自得
四時佳興與人同

程顥秋日詞典網集



Defining Mindfulness 正念

- Jon Kabat-Zinn: "paying attention in a particular way; On purpose, in the present moment, and nonjudgmentally." - Kabat-Zinn, J. (1994). *Wherever You Go, There You Are: Mindfulness Meditation in Everyday Life*.
- Thich Nhat Hanh: "the energy of being aware and awake to the present moment. It is the continuous practice of touching life deeply in every moment of daily life." - Nhat Hanh, T. (2012). *The Miracle of Mindfulness: An Introduction to the Practice of Meditation*.
- Joseph Goldstein: "the clear comprehension of what is happening within us and around us at the moment it is happening." - Goldstein, J. (2013). *Mindfulness: A Practical Guide to Awakening*.
- Jack Kornfield: "a way of befriending ourselves and our experience." - Kornfield, J. (2008). *The Wise Heart: A Guide to the Universal Teachings of Buddhist Psychology*.

**a practice of present-moment awareness, nonjudgmental observation,
and deep understanding of one's experiences**

正念的益處

Benefits

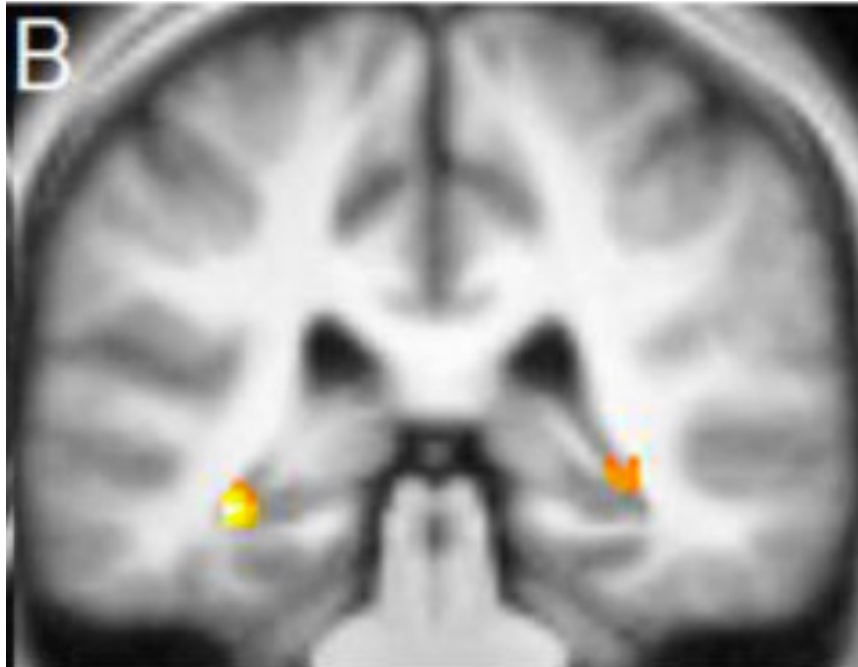
- 放鬆和減壓
- Reduce stress & increase relaxation
- 提高專注力
- Enhance attention & focus
- 增強情緒調節能力
- Improve emotional regulation
- 促進身心健康和幸福感
- Promote physical + mental well-being & happiness



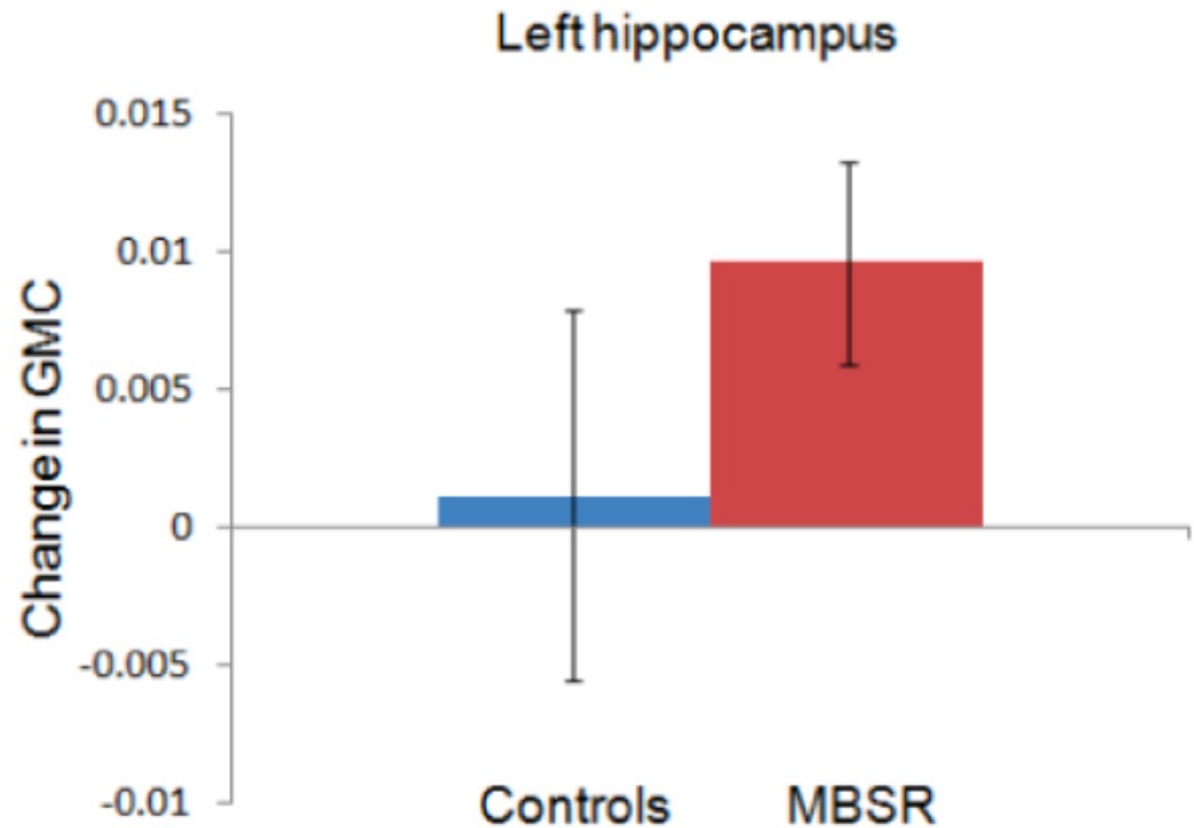
Science of Mindfulness

Hölzel, B. K., Carmody, J., Vangel, M., Congleton, C., Yerramsetti, S. M., Gard, T., & Lazar, S. W. (2011). Mindfulness practice leads to increases in regional brain gray matter density. *Psychiatry research: neuroimaging*, 191(1), 36-43.

- Mindfulness-Based Stress Reduction (MBSR) participation is associated with increased gray matter concentration in brain regions related to learning, memory, and emotion regulation, indicating neural changes linked to mindfulness meditation.



↑ learning, memory, emotional regulation
↓ gray matter in depression & PTSD



Science of Mindfulness

Lazar, S. W., Kerr, C. E., Wasserman, R. H., Gray, J. R., Greve, D. N., Treadway, M. T., ... & Fischl, B. (2005). Meditation experience is associated with increased cortical thickness. *Neuroreport*, 16(17), 1893-1897.

- Association between meditation experience and cortical thickness, providing neuroscientific evidence supporting the benefits of mindfulness practice on brain structure.

Blackburn, E. H., & Epel, E. S. (2012). Telomeres and adversity: Too toxic to ignore. *Nature*, 490(7419), 169-171.

- The role of telomeres, protective caps at the end of chromosomes, in cellular aging and the potential impact of mindfulness-based interventions on telomere length and cellular health.

AGEING

NEUROREPORT

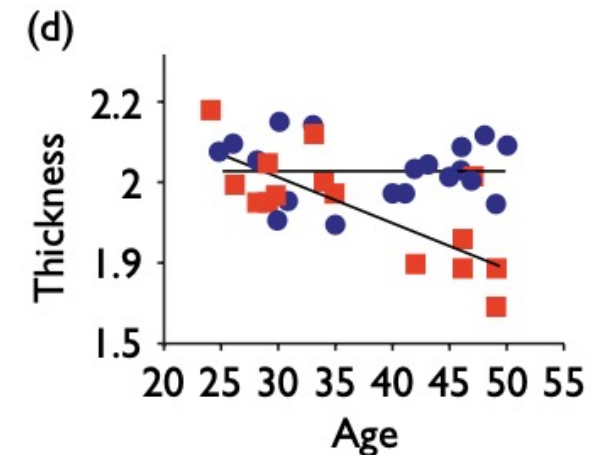
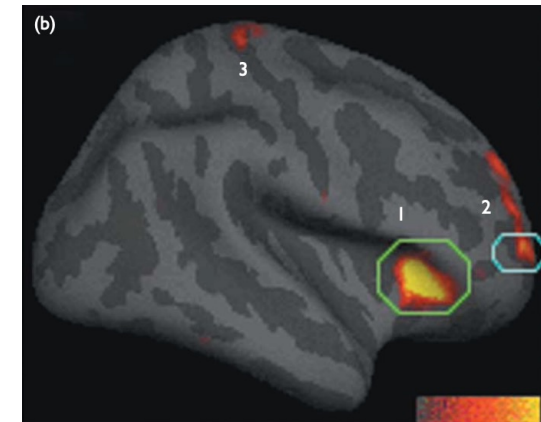
Meditation experience is associated with increased cortical thickness

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Science of Mindfulness

Abstract

Understanding the malleable determinants of cellular aging is critical to understanding human longevity. Telomeres may provide a pathway for exploring this question. Telomeres are the protective caps at the ends of chromosomes. The length of telomeres offers insight into mitotic cell and possibly organismal longevity. Telomere length has now been linked to chronic stress exposure and depression. This raises the question of how might cellular aging be modulated by psychological functioning.

We consider two psychological processes or states that are in opposition to one another--threat cognition and mindfulness--and their effects on cellular aging. Psychological stress cognitions, particularly appraisals of threat and ruminative thoughts, can lead to prolonged states of reactivity. In contrast, mindfulness meditation techniques appear to shift cognitive appraisals from threat to challenge, decrease ruminative thought, and reduce stress arousal. Mindfulness may also directly increase positive arousal states.

We review data linking telomere length to cognitive stress and stress arousal and present new data linking cognitive appraisal to telomere length. Given the pattern of associations revealed so far, we propose that some forms of meditation may have salutary effects on telomere length by reducing cognitive stress and stress arousal and increasing positive states of mind and hormonal factors that may promote telomere maintenance. Aspects of this model are currently being tested in ongoing trials of mindfulness meditation.

Epel, E., Daubenmier, J., Moskowitz, J. T., Folkman, S., & Blackburn, E. (2009). Can meditation slow rate of cellular aging? Cognitive stress, mindfulness, and telomeres. *Annals of the New York Academy of Sciences*, 1172(1), 34-53.

- This paper explores the potential impact of mindfulness meditation on telomere length and cellular aging, discussing the interplay between cognitive stress, mindfulness, and cellular health.

Published in final edited form as:

Ann N Y Acad Sci. 2009 August ; 1172: 34–53. doi:10.1111/j.1749-6632.2009.04414.x.

Can meditation slow rate of cellular aging? Cognitive stress, mindfulness, and telomeres

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Core Principles / 正念的核心原則

- Present moment awareness / 當下時刻感知
 - Kabat-Zinn, J. (1994). *Wherever You Go, There You Are: Mindfulness Meditation in Everyday Life*.
- Non-judgmental observation / 非評判性觀察
 - Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*.
- Acceptance & equanimity / 接受與平靜
 - Kabat-Zinn, J. (2005). *Coming to Our Senses: Healing Ourselves and the World Through Mindfulness*.
- Compassion & kindness / 同情心與善良
 - Salzberg, S. (1995). *Lovingkindness: The Revolutionary Art of Happiness*.



Mindfulness & Executive Function / 正念與執行功能

- **正念核心原則 / Core Principles of Mindfulness:** 有意識地專注當下，不帶評判地自我觀察 / Purposeful attention to the present, observing without judgment
- **大腦影響 / Brain Impact:** 提升前額葉皮層活動，增強專注力與自我調節 / Enhances prefrontal cortex activity, boosting focus and self-regulation
- **情緒穩定 / Emotional Stability:** 減少情緒波動，增強情緒控制，支持執行功能發展 / Reduces emotional fluctuations, strengthens emotional control, supporting executive function
- **實際應用 / Practical Application:** 提升學習、工作和生活中的冷靜應對與決策能力 / Improves calm responses and decision-making in learning, work, and daily life

Mindfulness for Preschoolers (Reflection Sciences; Aug 15, 2017; 3:41)

Fengyi Kuo, DHS, OTR, CPRP, TME



Mindfulness Practice / 正念實踐的方法

Fengyi Kuo, DHS, OTR, CPRP

策略 Strategies

- **Breathing techniques** 呼吸技巧
 - Three part breath
 - Finger tracing
- **Body relaxation techniques** 身體放鬆技巧
 - Body scan/progressive muscle relaxation
 - Shoulder tension countdown
- **Mindfulness techniques** 正念技巧
 - 5-4-3-2-1
 - Visual imagery

呼吸技巧 Breathing Techniques

- **Three Part Breath** 三部分呼吸
 - Inhale through your nose for count of 3; hold for count of 3; exhale through your mouth for count of 3
 - Repeat for 10 sets
- **Finger Tracing Technique** 手指追蹤技術
 - Using your pointer finger, trace from your thumb to your pinkie and back. Inhale as you move your tracing finger up one side of finger and exhale down the other side. Repeat and work your way back to thumb for count of 10.
- **Nose Breathing Rescue Technique** 鼻呼吸技術
 - Hold you nose with thumb and pointer finger, one on each nostril. Plug one nostril with your thumb and inhale. While holding your breath, switch and plug other nostril with pointer finger and release the other side. Keep same side plugged and inhale. Switch to your thumb while holding your breath and then exhale on the other side.

身體放鬆技巧 Body Relaxation Techniques

- **Body Scan** 身體掃描

- Moving from your feet to your head, spend 10-15 seconds observing each body part and taking a deep breath and imagine the breath going to that part of the body: feet, calves, thighs, abdomen, back, chest, arms, neck, face

- **Progressive Muscle Relaxation** 漸進式肌肉放鬆

- Following the same pattern as above, instead of observing each body part, intentionally tense each body part. Hold for count of 3 then relax for count of 3. Take a deep breath and imagine sending to that part of the body. Continue to work your way up through the list above.

- **Shoulder Tension Countdown** 肩部張力倒計時

- Tense your shoulders and arms as tense as possible. Make a fist with both hands. Hold for count of 10. Then gradually, one inch at a time, release for a count of 10.

為正念
深吸一口氣

STOP for
Mindfulness

Stop

Interrupt your thoughts with the command 'stop!' and pause whatever you're doing.



Take a Breath

Notice your breathing for a second. Breathe in slowly through the nose, expanding the belly, and exhale slowly and deeply through pursed lips.



Observe

Become the observer of your thoughts, emotions and physical reactions. What thoughts do you notice? What emotions are present? How does your body feel? Tune in and sit with whatever arises for a few moments.



Proceed

Mindfully consider how you'd like to respond. What's **one thing** you can focus on right now? What's your most important and urgent priority? Narrow down your focus and take it one small step at a time.



Mindfulness 正念

“Being aware of the present moment with open curiosity, accepting both our inner experiences and the world around us”

(Fully Present; Smalley & Winston, 2010)

“*Fully Present* encourages each one of us to explore mindfulness from the inside out for our own benefit and the greater well-being of the world.”
—JON KABAT ZINN, bestselling author of *Wherever You Go, There You Are*

Second
Edition

Fully Present

The Science, Art, and Practice
of Mindfulness

正念的實踐建議 / Practical Strategies



1. 冥想 Meditation
2. 注意力練習 5-4-3-2-1
3. 身體感知 Body Scan
4. 呼吸練習 Breathing Exercises
5. 日常生活中的正念 mindful eating, walking, etc.

正念 Mindfulness

“Purposefully paying attention to experiences in the present moment in a non-judgmental way” (Kabat-Zinn, 1990)



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Videos

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- The Partnership in Education. (Jan 12, 2021). The 5-4-3-2-1 Method: A Grounding Exercise to Manage Anxiety. 4:28 Retrieved from <https://youtu.be/30VMIEmA114>
- The Partnership in Education. (Feb 10, 2021). Heartbeat: A Mindfulness Exercise to Calm Your Emotions. 5:15 Retrieved from <https://youtu.be/3iUf73v92II>

Books & Articles

- Cook-Cottone, C. P. (2017). Mindfulness and yoga in schools: A guide for teachers and practitioners. Springer Publishing Company.
- Kuyken, W., Weare, K., Ukoumunne, O. C., Vicary, R., Motton, N., Burnett, R., ... & Huppert, F. (2013). Effectiveness of the Mindfulness in Schools Programme: non-randomised controlled feasibility study. *The British Journal of Psychiatry*, 203(2), 126-131.
- Willard, C. (2016). Growing up mindful. Bentang Pustaka.

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1. "The Mindful Teen: Powerful Skills to Help You Handle Stress One Moment at a Time" by Dzung X. Vo (《专注青春期：一刻一刻处理压力的强大技巧》作者：Dzung X. Vo)
2. "Mindful Games Activity Cards: 55 Fun Ways to Share Mindfulness with Kids and Teens" by Susan Kaiser Greenland (《专注游戏活动卡片：与孩子和青少年共享正念的55种有趣方式》作者：Susan Kaiser Greenland)
3. "Mindfulness for Teen Anxiety: A Workbook for Overcoming Anxiety at Home, at School, and Everywhere Else" by Christopher Willard (《青少年焦虑的正念：在家、学校和其他地方克服焦虑的练习册》作者：Christopher Willard)
4. "A Still Quiet Place for Teens: A Mindfulness Workbook to Ease Stress and Difficult Emotions" by Amy Saltzman (《专注青少年的宁静之地：缓解压力和困难情绪的正念练习册》作者：Amy Saltzman)
5. "Mindfulness for Teen Depression: A Workbook for Improving Your Mood" by Mitch R. Abbett (《青少年抑郁的正念：改善情绪的练习册》作者：Mitch R. Abbett)
6. "The Stress Reduction Workbook for Teens: Mindfulness Skills to Help You Deal with Stress" by Gina M. Biegel (《青少年压力减轻练习册：帮助你应对压力的正念技巧》作者：Gina M. Biegel)
7. "Sitting Still Like a Frog: Mindfulness Exercises for Kids (and Their Parents)" by Eline Snel (《像一只青蛙一样静坐：儿童(和父母)的正念练习》作者：Eline Snel)