

# **Filling the Hole In Your Heart**

## **Wake Up Festival**

**August, 2014**

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**[WiseBrain.org](http://WiseBrain.org)**

**[RickHanson.net](http://RickHanson.net)**

# Topics

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- **Self-directed neuroplasticity**
- **Resource yourself**
- **How do we get these strengths into the brain**
  
- **Positive neuroplasticity: taking in the good**
- **Key resource experiences**
- **Linking positive and negative**



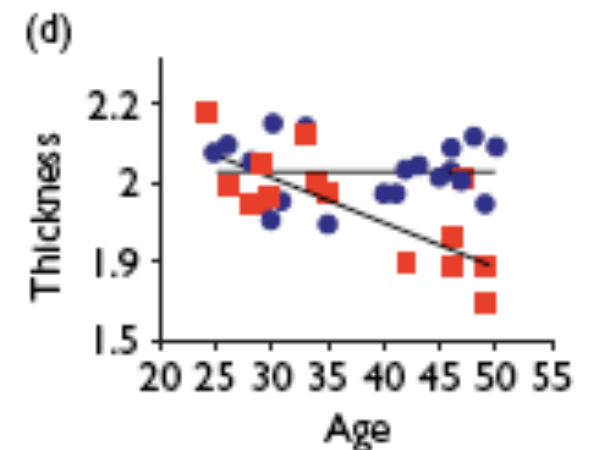
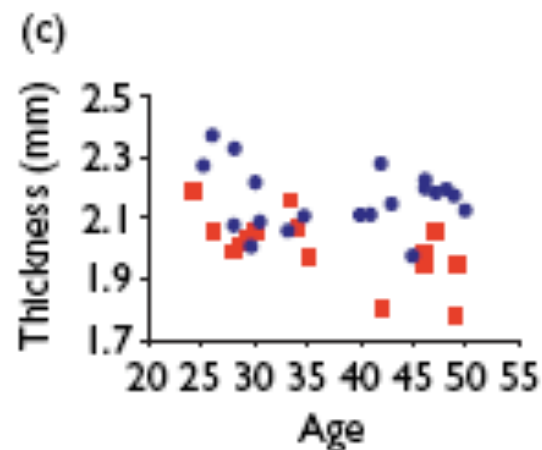
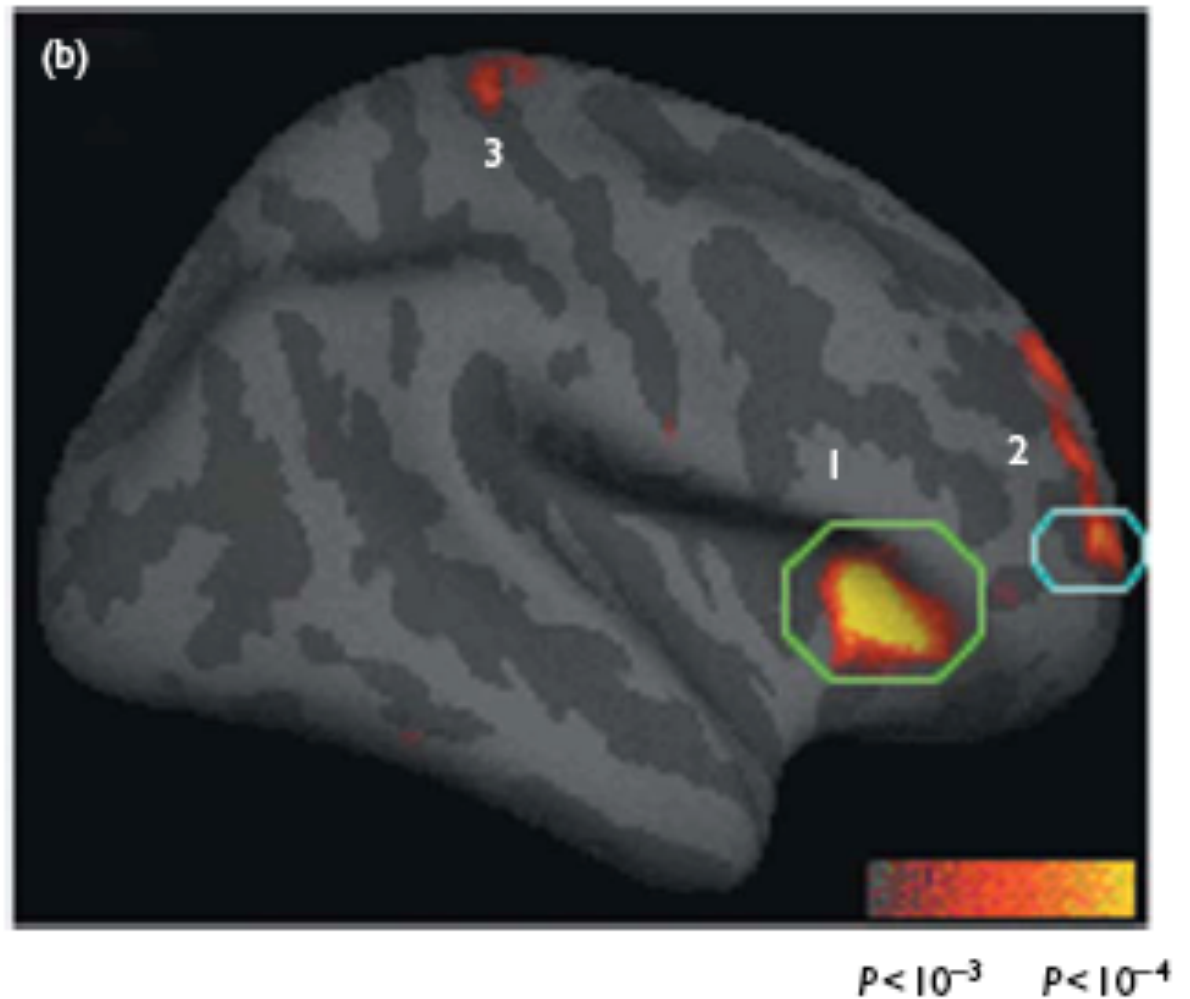
# **Self-Directed Neuroplasticity**

A detailed illustration of a neural network. Numerous yellow, thread-like axons crisscross the frame against a dark background. Several neuron cell bodies (soma) are visible, some with prominent green nuclei. The central neuron is the most prominent, with a bright green nucleus and a yellow soma. The text is overlaid on this image.

Neurons that fire together,

wire together.

Lazar, et al. 2005.  
Meditation  
experience is  
associated  
with increased  
cortical thickness.  
*Neuroreport*, 16,  
1893-1897.





**We can use the mind**

**To change the brain**

**To change the mind for the better**

**To benefit ourselves and other beings.**



# **Resource Yourself**

# What Determines Happiness in Life?

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**Challenges**

**Vulnerabilities**

**Resources**

# What Can You Usually Affect the Most?

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**Resources**

# Where Are Resources Located?

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**The World**

**The Body**

**The Mind**

# What Can You Usually Affect the Most?

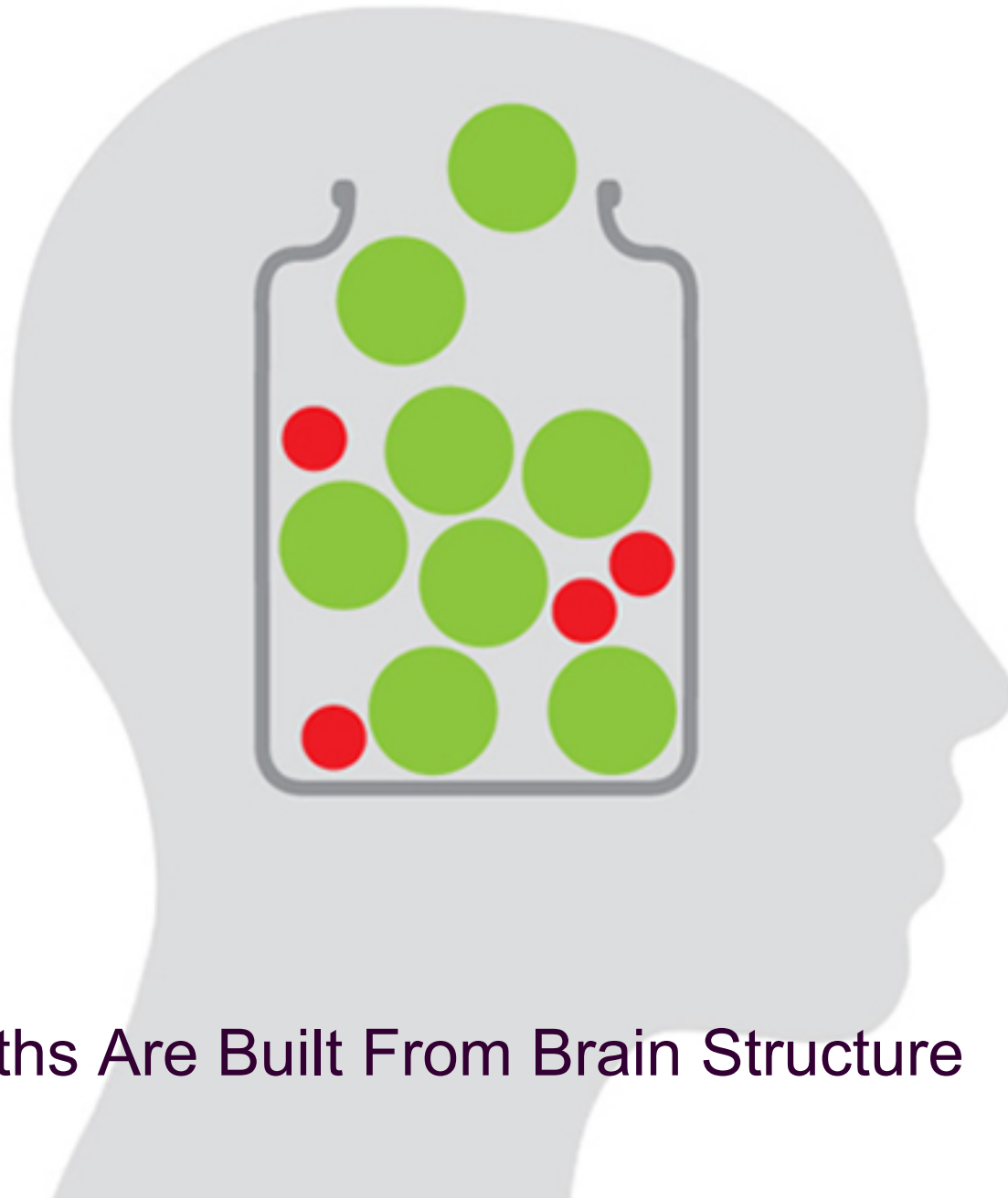
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**The Mind**

# Inner Strengths Include

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- **Capabilities** (e.g., mindfulness, insight, emotional intelligence, resilience, executive functions, impulse control)
- **Positive emotions** (e.g., gratitude, self-worth, love, self-compassion, secure attachment, gladness, awe, serenity)
- **Attitudes** (e.g., openness, determination, optimism, confidence, approach orientation, tolerance, self-respect)
- **Somatic inclinations** (e.g., vitality, relaxation, grit, helpfulness)
- **Virtues** (e.g., wisdom, patience, energy, generosity, restraint)



Inner Strengths Are Built From Brain Structure



**HOW**

**Do we get these strengths into the brain?**



# Let's Try It

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- **Create** the experience of compassion
  - **Have** the experience – Bring to mind someone you care about . . . Be aware of the difficulties, stress, or suffering of this being . . . Open to the wish that this being not suffer . . . Open to warmth and tenderness
  - **Enrich** it – Stay with it . . . Feel compassion in your body . . . Let it grow more intense, pervading your mind
  - **Absorb** it – Intend and sense that compassion sink into you . . . Give yourself over to it . . .

# The Neuropsychology of Learning


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**Learning – changing neural structure and function – proceeds in two stages:**

**From short-term memory buffers to long-term storage**

**From state to trait**

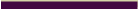
**From activation to installation**



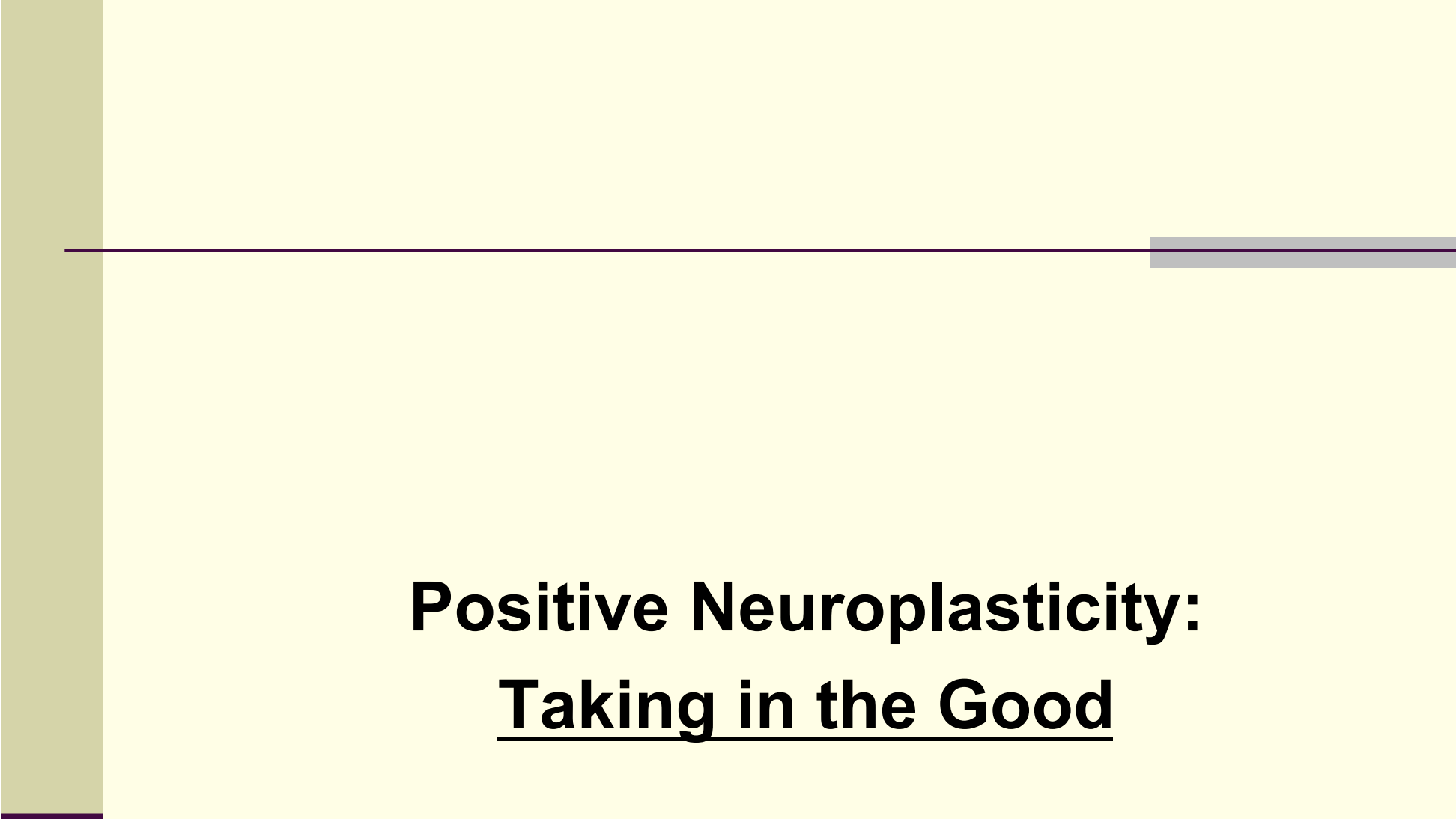
**Most experiences of inner strengths –  
resilience, kindness, insight,  
mindfulness, self-worth, love, etc. –  
are enjoyable.**



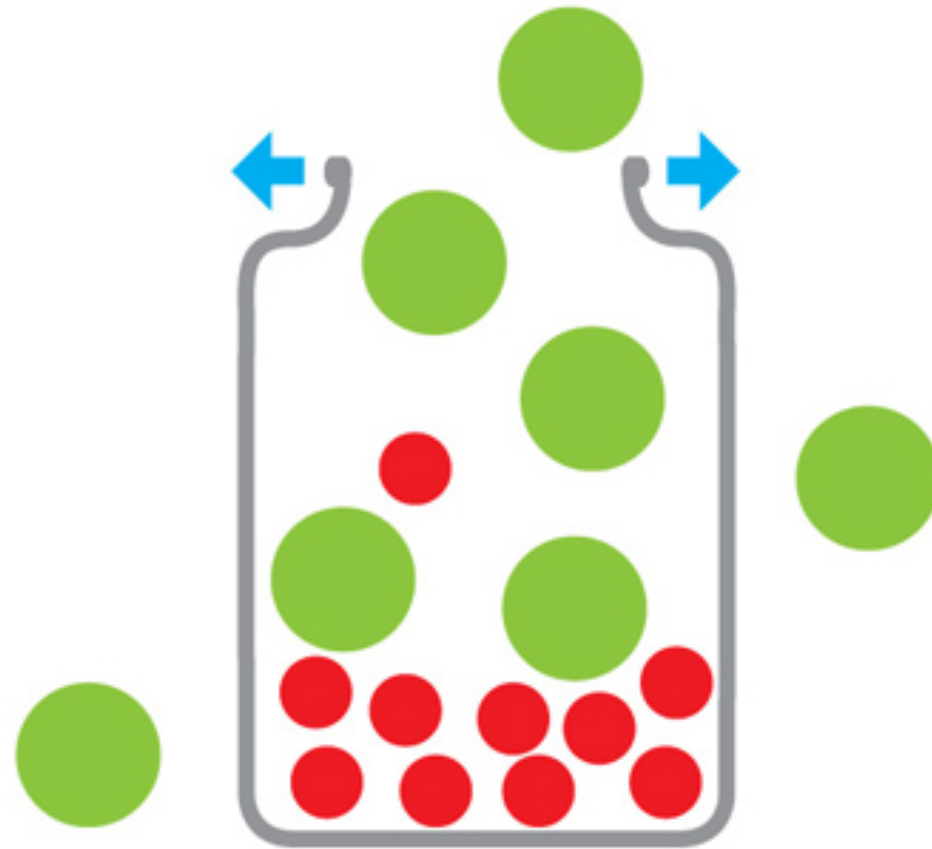
**In general, we're good at activation  
but bad at installation.**



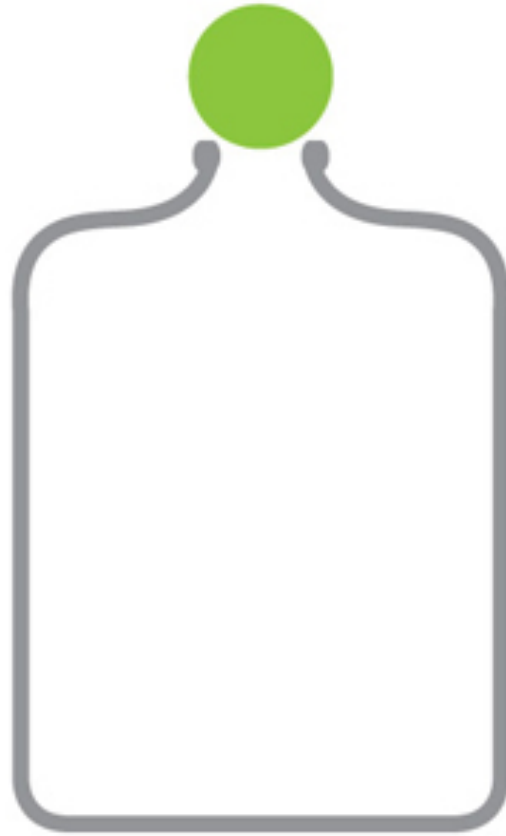
**This is the fundamental weakness in most  
human resources training, psychotherapy,  
coaching, social-emotional education in  
schools, and mindfulness training.**



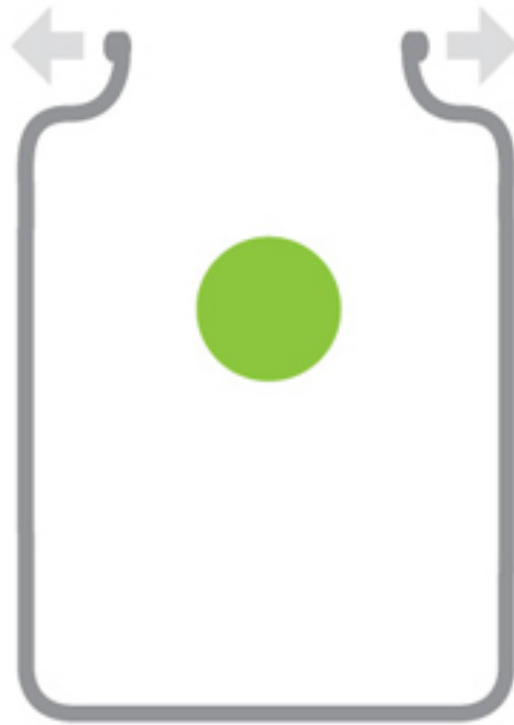
# **Positive Neuroplasticity: Taking in the Good**



Learning to Take in the Good



Have a Good Experience



Enrich It

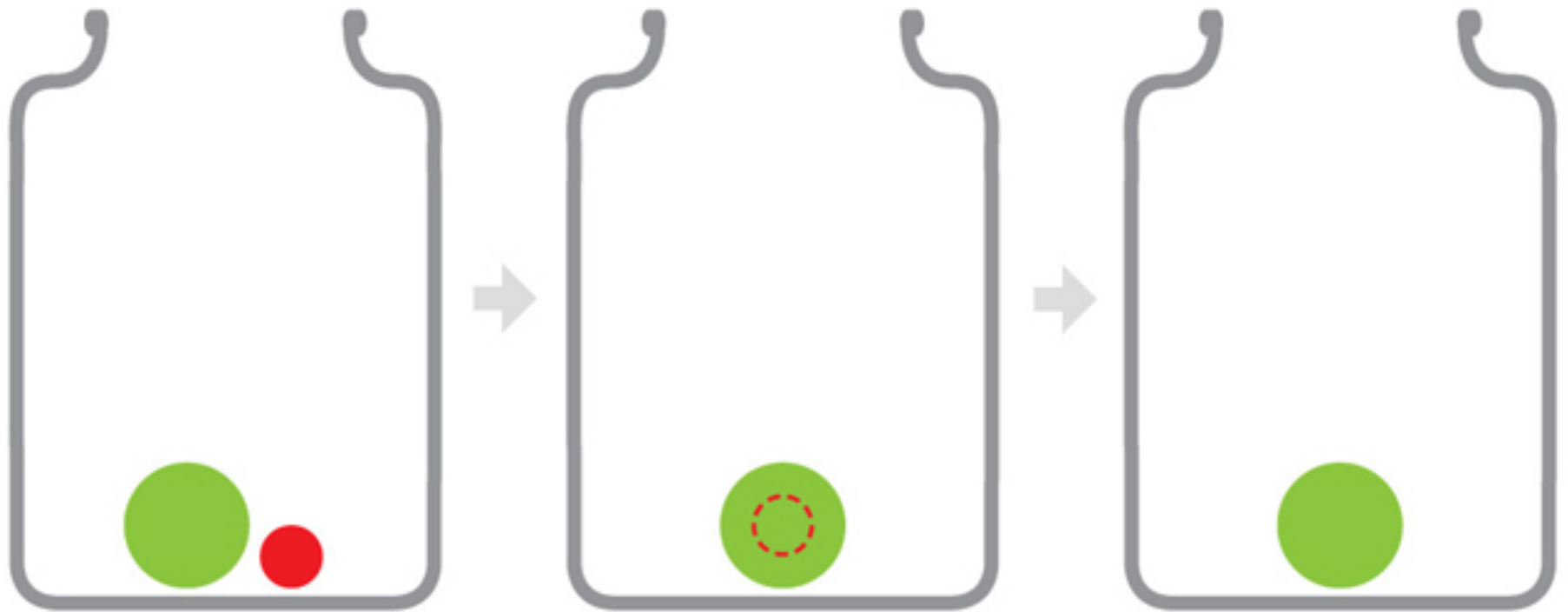
# “Enriching” Factors

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- Duration
- Intensity
- Multimodality – thought, perception, emotion, desire, action
- Novelty
- Personal relevance



Absorb It



**L**ink Positive and Negative Material

# HEAL by Taking in the Good

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1. Have a positive experience. Notice it or create it.
2. Enrich the experience through duration, intensity, multimodality, novelty, personal relevance
3. Absorb the experience by intending and sensing that it is sinking into you as you sink into it.
4. Link positive and negative material. [optional]

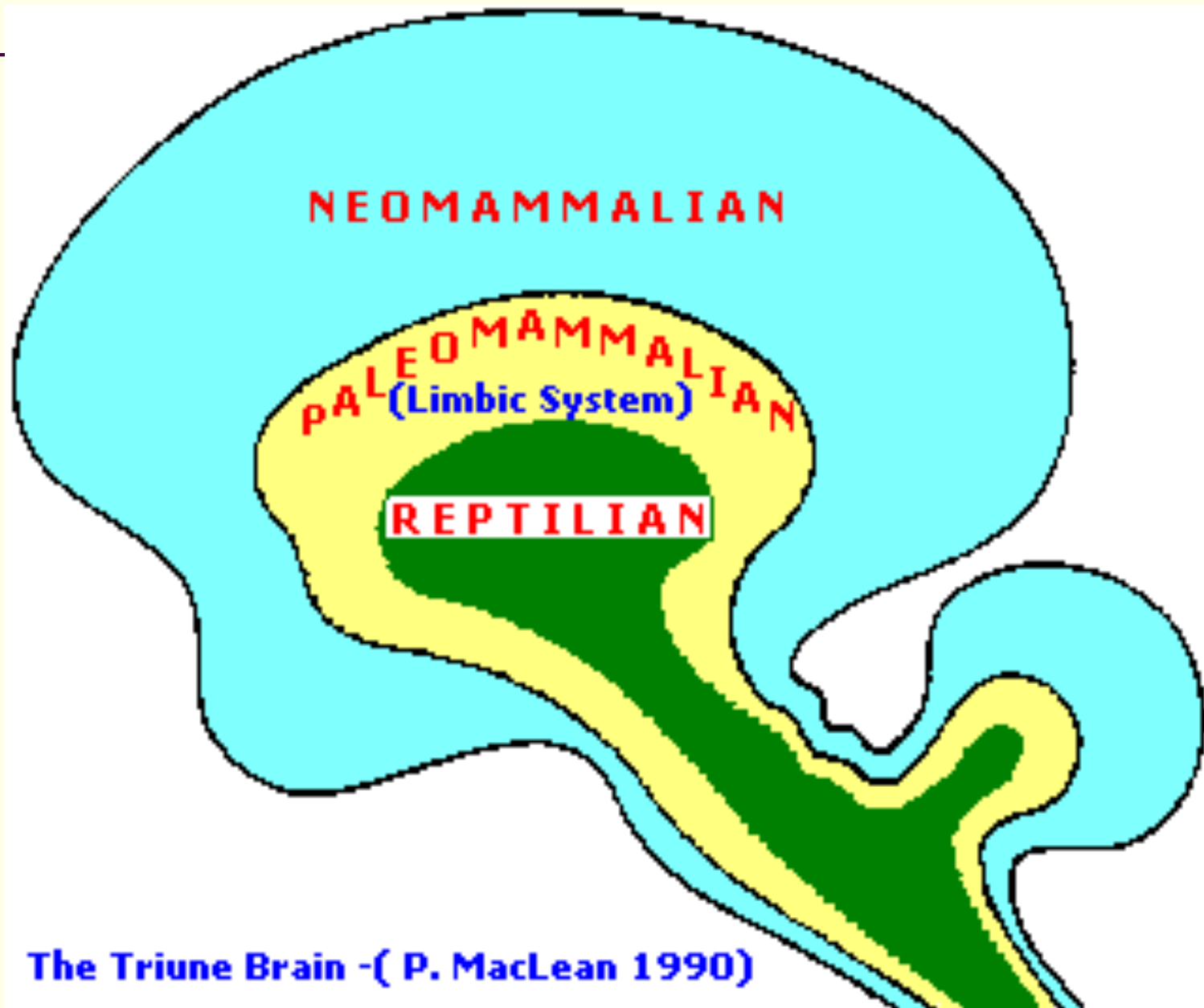


Have It, Enjoy It



# **Key Resource Experiences**

# Evolutionary History



The Triune Brain -( P. MacLean 1990)

# **Our Three Fundamental Needs**

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**Safety**

**Satisfaction**

**Connection**

# Needs Met by Three Systems

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**Safety – Avoiding harms**

**Satisfaction – Approaching rewards**

**Connection – Attaching to others**

# Pet the Lizard



# Feed the Mouse

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# Hug the Monkey

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# Some Types of Resource Experiences

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## Avoiding Harms

- Feeling basically alright right now
- Feeling protected, strong, safe, at peace
- The sense that awareness itself is untroubled

## Approaching Rewards

- Feeling basically full, the enoughness in this moment as it is
- Feeling pleased, glad, grateful, satisfied
- Therapeutic, spiritual, or existential realizations

## Attaching to Others

- Feeling basically connected
- Feeling included, seen, liked, appreciated, loved
- Feeling compassionate, kind, generous, loving

# Psychological Antidotes

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## Avoiding Harms

- Strength, efficacy --> Weakness, helplessness, pessimism
- Safety, security --> Alarm, anxiety
- Compassion for oneself and others --> Resentment, anger

## Approaching Rewards

- Satisfaction, fulfillment --> Frustration, disappointment
- Gladness, gratitude --> Sadness, discontentment, “blues”

## Attaching to Others

- Attunement, inclusion --> Not seen, rejected, left out
- Recognition, acknowledgement --> Inadequacy, shame
- Friendship, love --> Abandonment, feeling unloved or unlovable

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**Pick a partner and choose an A and a B (A's go first).  
Then you'll take turns, with one partner mainly  
speaking while the other person listens. Regarding  
yourself (or a client), explore these questions:**

**What's an issue?**

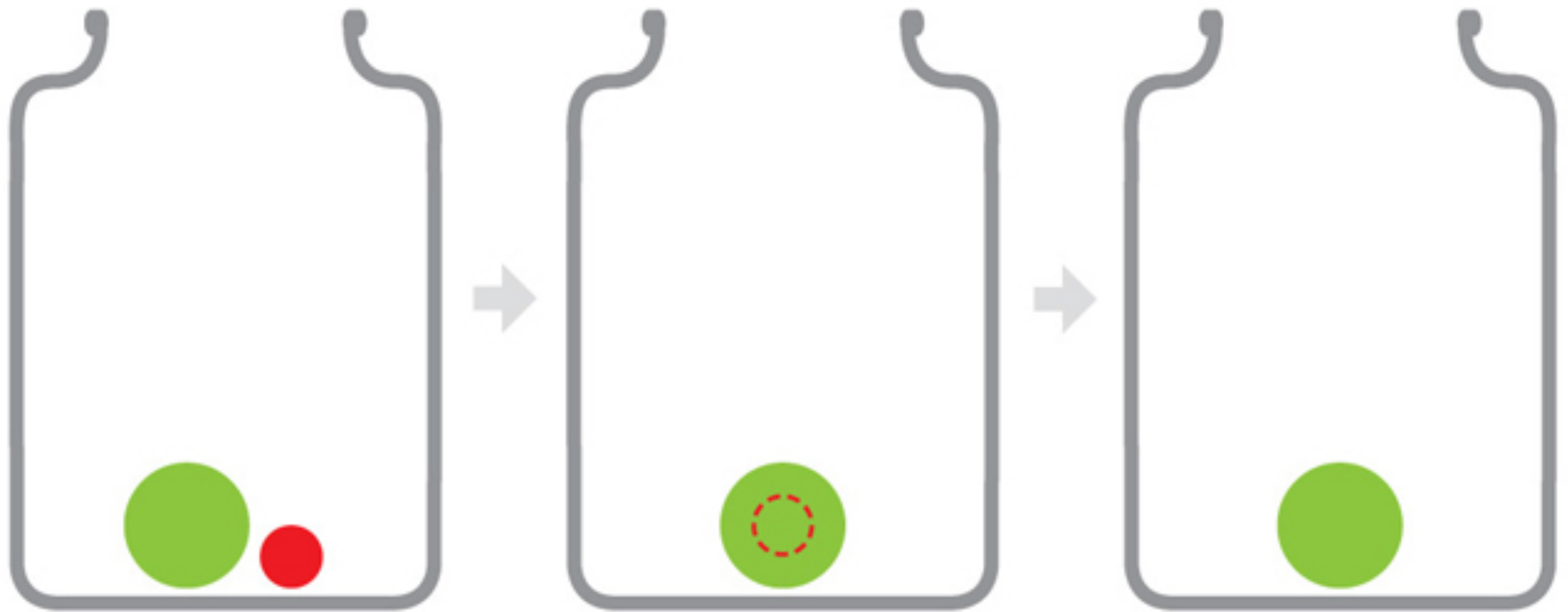
**What inner strength would help?**

**How to have experiences of this strength?**

**How to internalize these experiences?**



# **Linking Positive and Negative**



**L**ink Positive and Negative Material

# Using Memory Mechanisms To Help Heal Painful Experiences

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- The machinery of memory:
  - When explicit or implicit memory is re-activated, it is re-built from schematic elements, not retrieved *in toto*.
  - When attention moves on, elements of the memory get re-consolidated.
- The open processes of memory activation and consolidation create a window of opportunity for shaping your internal world.
- Activated memory tends to associate with other things in awareness (e.g., thoughts, sensations), esp. if they are prominent and lasting.
- When memory goes back into storage, it takes associations with it.
- You can imbue implicit and explicit memory with positive associations.

# The Fourth Step of TG

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- When you are having a positive experience:
  - Sense the experience sinking down into old pain and deficits, and soothing and replacing them.
- When you are having a negative experience:
  - Bring to mind a positive experience that is its antidote.
- Have the positive experience be prominent while the negative experience is small and in the background.
- You're not resisting negative experiences or getting attached to positive ones. You're being kind to yourself and cultivating resources in your mind.

# Psychological Antidotes

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# The Tip of the Root

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- For the fourth step of TIG, try to get at the youngest, most vulnerable layer of painful material.
- The “tip of the root” is commonly in childhood. In general, the brain is most responsive to negative experiences in early childhood.
- Prerequisites
  - Understanding the need to get at younger layers
  - Compassion and support for the inner child
  - Capacity to “presence” young material without flooding



*Know the mind.*

*Shape the mind.*

*Free the mind.*

# Suggested Books

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See [www.RickHanson.net](http://www.RickHanson.net) for other great books.

- Austin, J. 2009. *Selfless Insight*. MIT Press.
- Begley, S. 2007. *Train Your Mind, Change Your Brain*. Ballantine.
- Carter, C. 2010. *Raising Happiness*. Ballantine.
- Hanson, R. (with R. Mendius). 2009. *Buddha's Brain: The Practical Neuroscience of Happiness, Love, and Wisdom*. New Harbinger.
- Johnson, S. 2005. *Mind Wide Open*. Scribner.
- Keltner, D. 2009. *Born to Be Good*. Norton.
- Kornfield, J. 2009. *The Wise Heart*. Bantam.
- LeDoux, J. 2003. *Synaptic Self*. Penguin.
- Linden, D. 2008. *The Accidental Mind*. Belknap.
- Sapolsky, R. 2004. *Why Zebras Don't Get Ulcers*. Holt.
- Siegel, D. 2007. *The Mindful Brain*. Norton.
- Thompson, E. 2007. *Mind in Life*. Belknap.

# Key Papers - 1

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See [www.RickHanson.net](http://www.RickHanson.net) for other scientific papers.

- Atmanspacher, H. & Graben, P. 2007. Contextual emergence of mental states from neurodynamics. *Chaos & Complexity Letters*, 2:151-168.
- Baumeister, R., Bratlavsky, E., Finkenauer, C. & Vohs, K. 2001. Bad is stronger than good. *Review of General Psychology*, 5:323-370.
- Braver, T. & Cohen, J. 2000. On the control of control: The role of dopamine in regulating prefrontal function and working memory; in *Control of Cognitive Processes: Attention and Performance XVIII*. Monsel, S. & Driver, J. (eds.). MIT Press.
- Carter, O.L., Callistemon, C., Ungerer, Y., Liu, G.B., & Pettigrew, J.D. 2005. Meditation skills of Buddhist monks yield clues to brain's regulation of attention. *Current Biology*, 15:412-413.

# Key Papers - 2

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- Davidson, R.J. 2004. Well-being and affective style: neural substrates and biobehavioural correlates. *Philosophical Transactions of the Royal Society*, 359:1395-1411.
- Farb, N.A.S., Segal, Z.V., Mayberg, H., Bean, J., McKeon, D., Fatima, Z., and Anderson, A.K. 2007. Attending to the present: Mindfulness meditation reveals distinct neural modes of self-reflection. *SCAN*, 2, 313-322.
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- Hagmann, P., Cammoun, L., Gigandet, X., Meuli, R., Honey, C.J., Wedeen, V.J., & Sporns, O. 2008. Mapping the structural core of human cerebral cortex. *PLoS Biology*, 6:1479-1493.
- Hanson, R. 2008. Seven facts about the brain that incline the mind to joy. In *Measuring the immeasurable: The scientific case for spirituality*. Sounds True.

# Key Papers - 3

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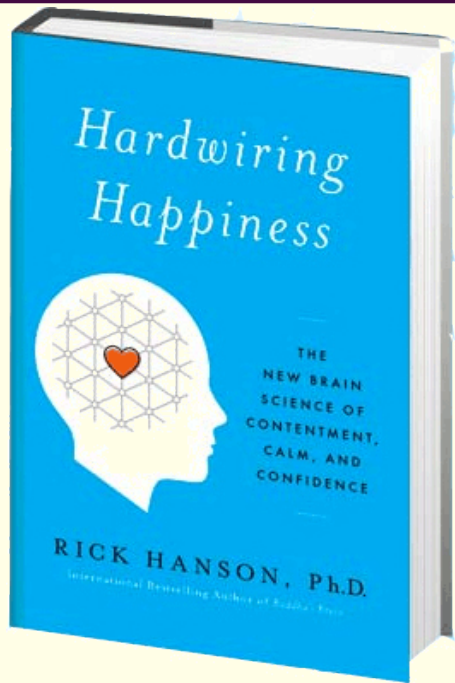
- Lazar, S., Kerr, C., Wasserman, R., Gray, J., Greve, D., Treadway, M., McGarvey, M., Quinn, B., Dusek, J., Benson, H., Rauch, S., Moore, C., & Fischl, B. 2005. Meditation experience is associated with increased cortical thickness. *Neuroreport*, 16:1893-1897.
- Lewis, M.D. & Todd, R.M. 2007. The self-regulating brain: Cortical-subcortical feedback and the development of intelligent action. *Cognitive Development*, 22:406-430.
- Lieberman, M.D. & Eisenberger, N.I. 2009. Pains and pleasures of social life. *Science*, 323:890-891.
- Lutz, A., Greischar, L., Rawlings, N., Ricard, M. and Davidson, R. 2004. Long-term meditators self-induce high-amplitude gamma synchrony during mental practice. *PNAS*, 101:16369-16373.
- Lutz, A., Slager, H.A., Dunne, J.D., & Davidson, R. J. 2008. Attention regulation and monitoring in meditation. *Trends in Cognitive Sciences*, 12:163-169.

# Key Papers - 4

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- Rozin, P. & Royzman, E.B. 2001. Negativity bias, negativity dominance, and contagion. *Personality and Social Psychology Review*, 5:296-320.
- Takahashi, H., Kato, M., Matsuura, M., Mobbs, D., Suhara, T., & Okubo, Y. 2009. When your gain is my pain and your pain is my gain: Neural correlates of envy and schadenfreude. *Science*, 323:937-939.
- Tang, Y.-Y., Ma, Y., Wang, J., Fan, Y., Feng, S., Lu, Q., Yu, Q., Sui, D., Rothbart, M.K., Fan, M., & Posner, M. 2007. Short-term meditation training improves attention and self-regulation. *PNAS*, 104:17152-17156.
- Thompson, E. & Varela F.J. 2001. Radical embodiment: Neural dynamics and consciousness. *Trends in Cognitive Sciences*, 5:418-425.
- Walsh, R. & Shapiro, S. L. 2006. The meeting of meditative disciplines and Western psychology: A mutually enriching dialogue. *American Psychologist*, 61:227-239.

# Where to Find Rick Hanson Online



## ***Hardwiring Happiness: The New Brain Science of Contentment, Calm, and Confidence***

[www.rickhanson.net/hardwiringhappiness](http://www.rickhanson.net/hardwiringhappiness)

Personal website: [www.rickhanson.net](http://www.rickhanson.net)

Wellspring Institute: [www.wisebrain.org](http://www.wisebrain.org)



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