

# The Practical Neuroscience Of Lasting Happiness



Marin Academy, 1.22.19

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



# Two Wolves in the Heart





# Inner Strengths

Understandings

Capabilities

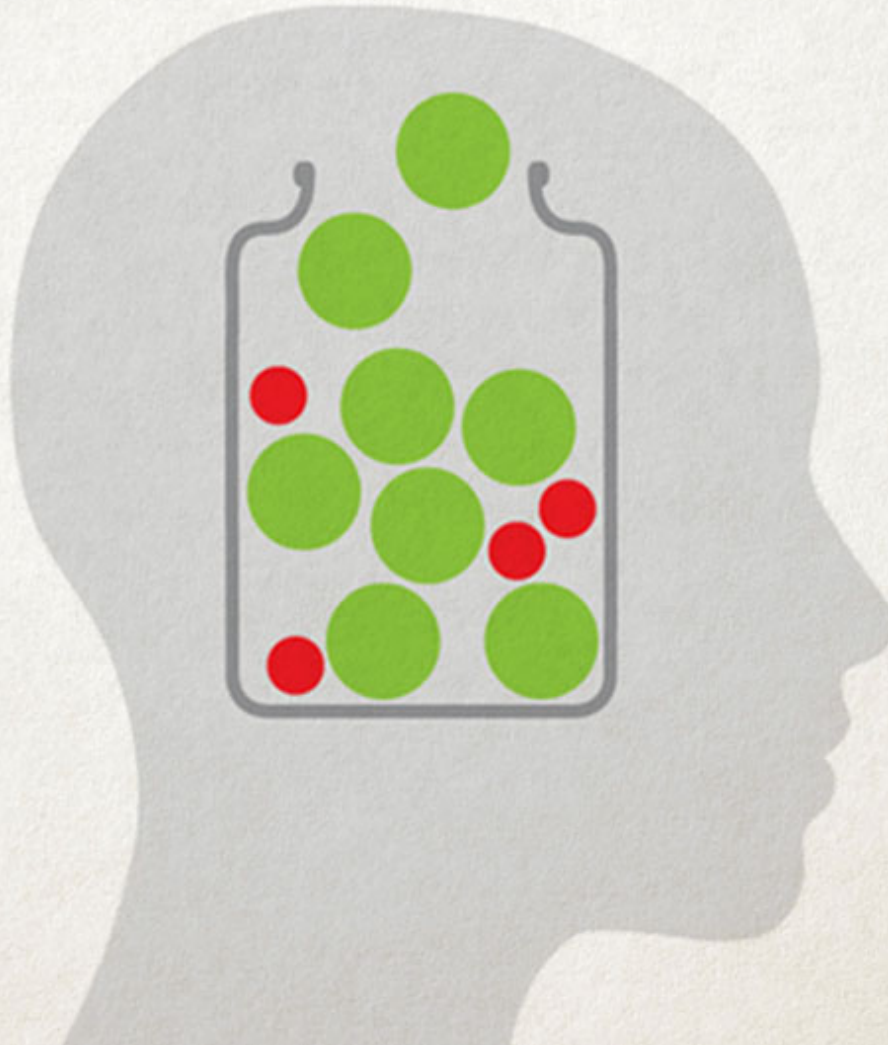
Positive Emotions

Attitudes

Motivations

Virtues

# Inner Strengths Are Built From Brain Structure





# **Mental resources** are acquired in two stages:





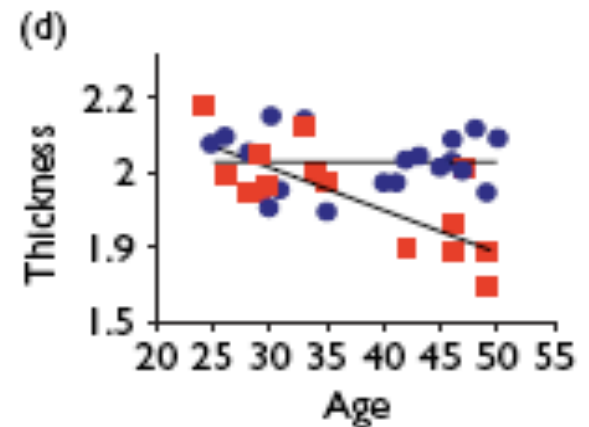
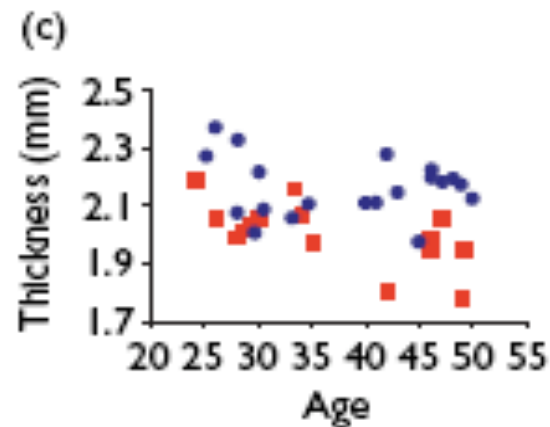
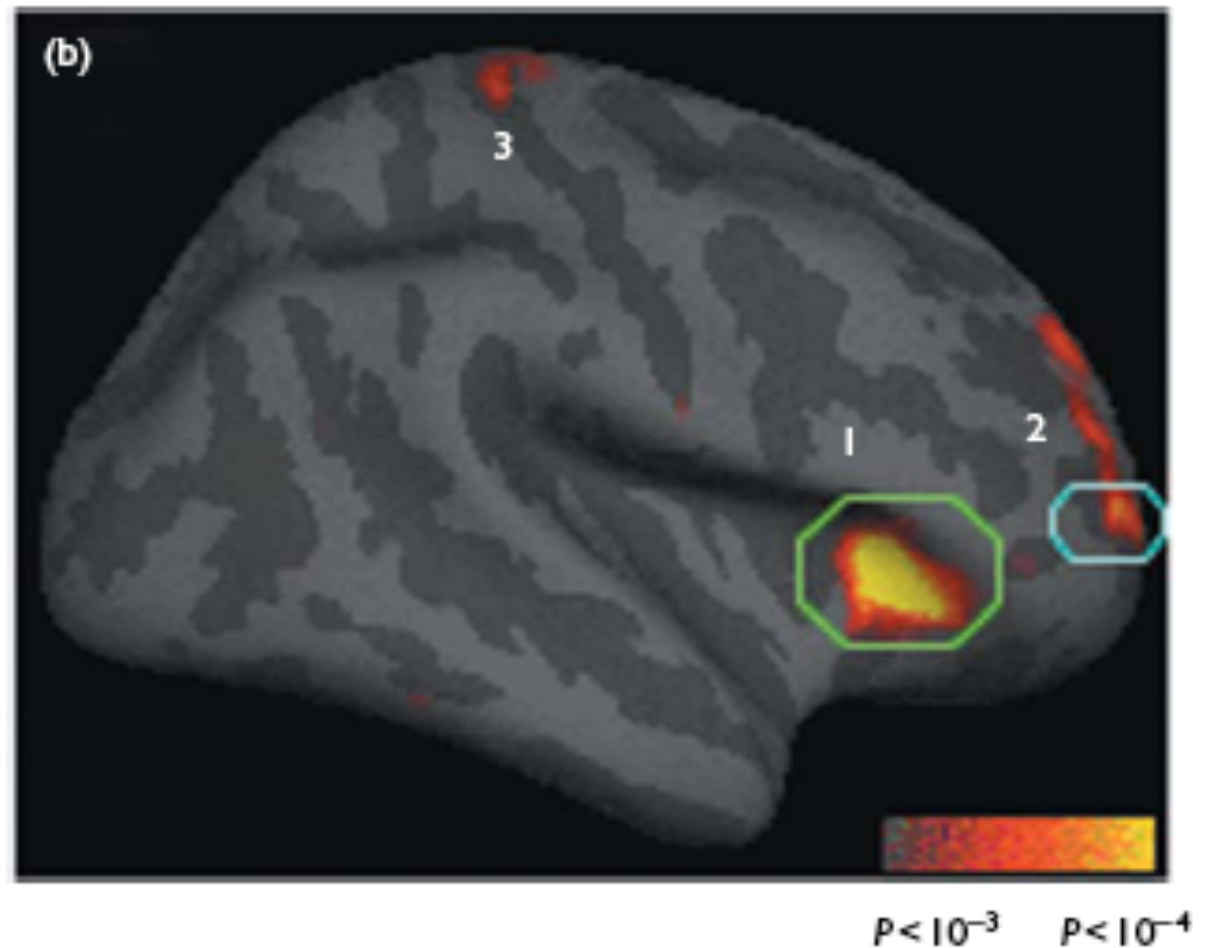


Neurons that fire together,

wire together.



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





**Experiencing doesn't equal learning.**

**Activation without installation  
may be pleasant,  
but no trait resources are acquired.**

**What fraction of our  
beneficial mental states ever  
become neural structure?**

Professionals and the public  
are generally good at activation  
but bad at installation.

This is the fundamental weakness –  
and opportunity – in much health  
care, psychotherapy, human  
resources training, and mindfulness  
programs.



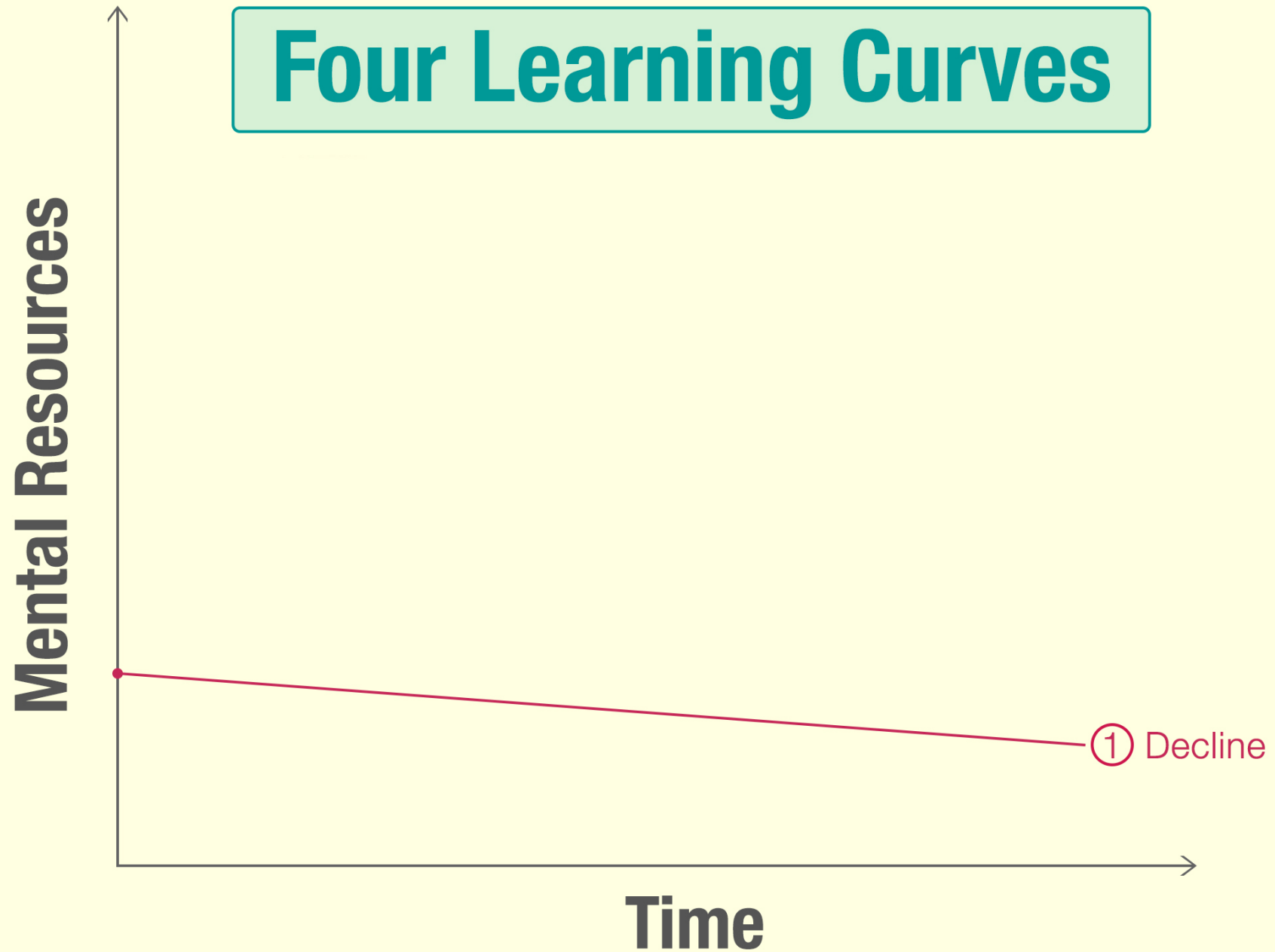
# Velcro for Bad, Teflon for Good

**The negativity bias**

*bad experiences*

*good experiences*

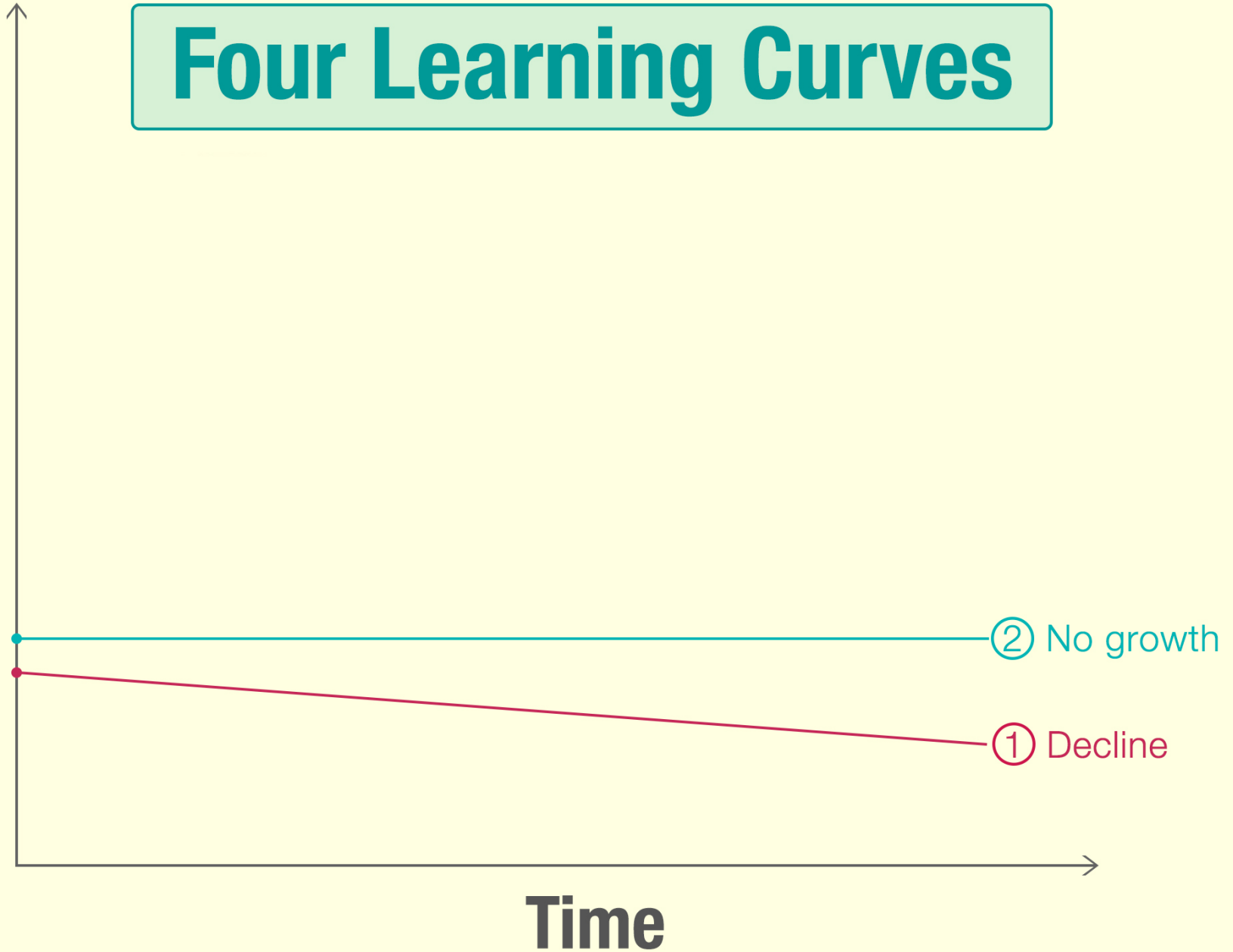
# Four Learning Curves





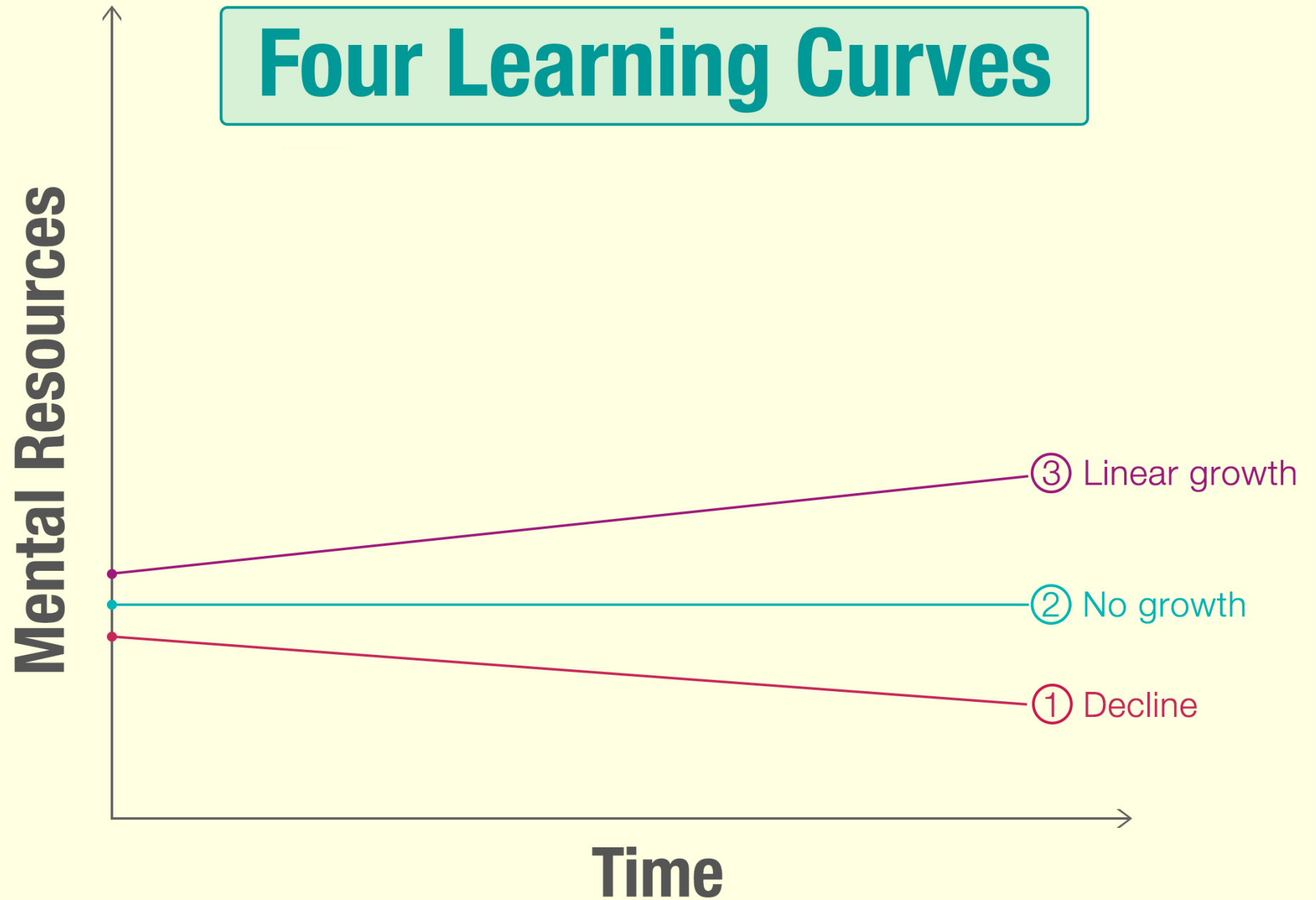
# Four Learning Curves

Mental Resources





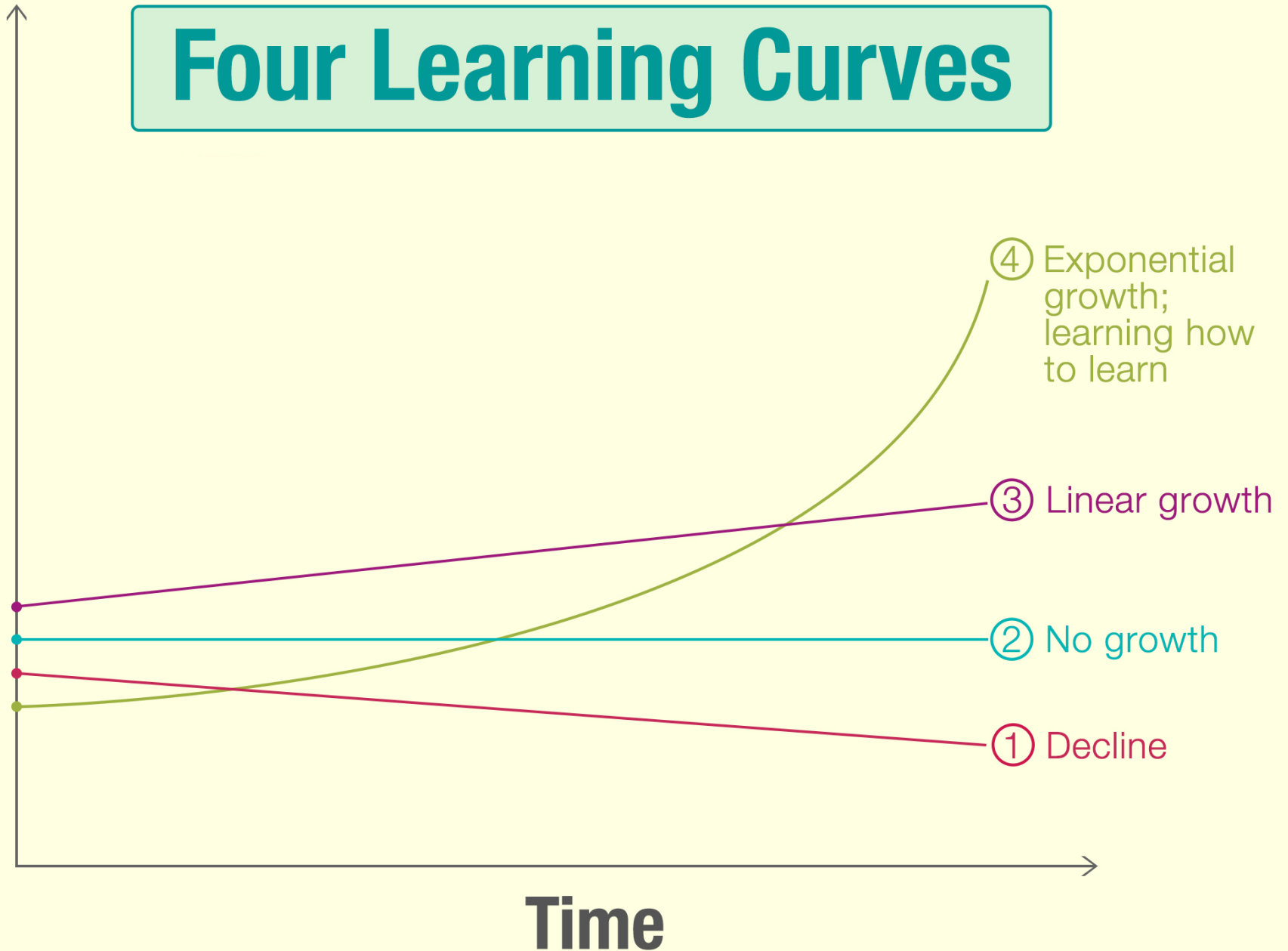
# Four Learning Curves






# Four Learning Curves

Mental Resources





How can we increase  
the conversion rate  
from positive states  
to beneficial traits?



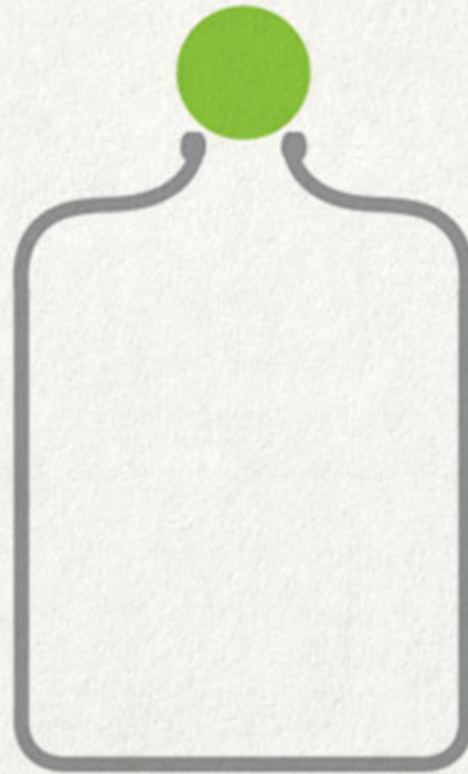
# How to Take in the Good: HEAL

## Activation

1. **Have** a beneficial experience

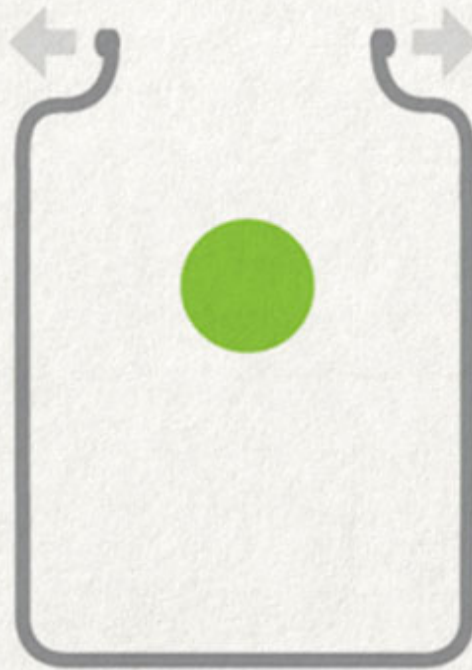
## Installation

2. **Enrich** the experience
3. **Absorb** the experience
4. **Link** positive and negative material  
(Optional)

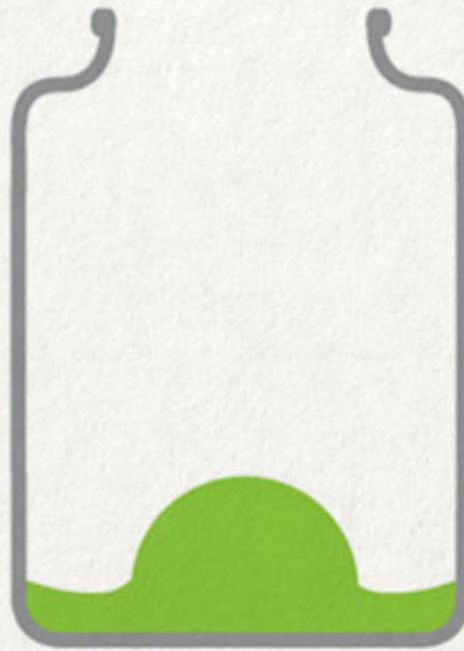


**H**ave a Beneficial Experience





**E**nrich It

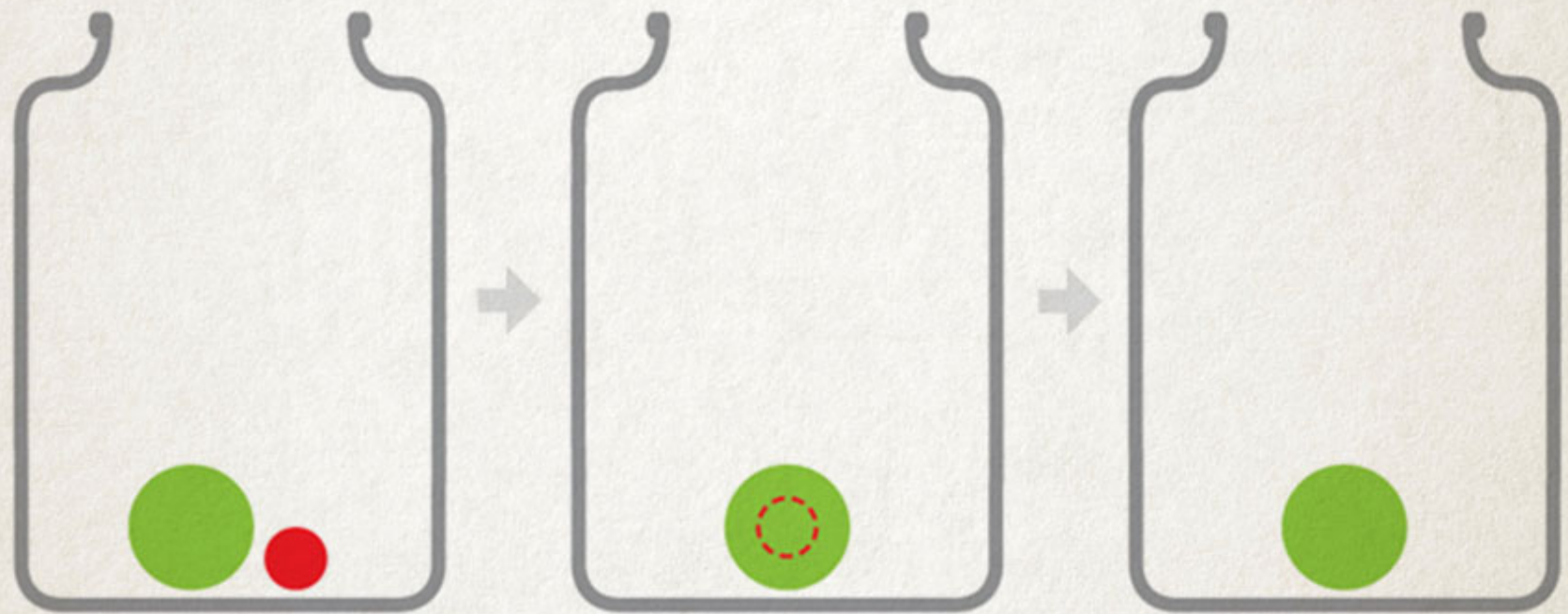


Absorb It



# Like a Nice Fire



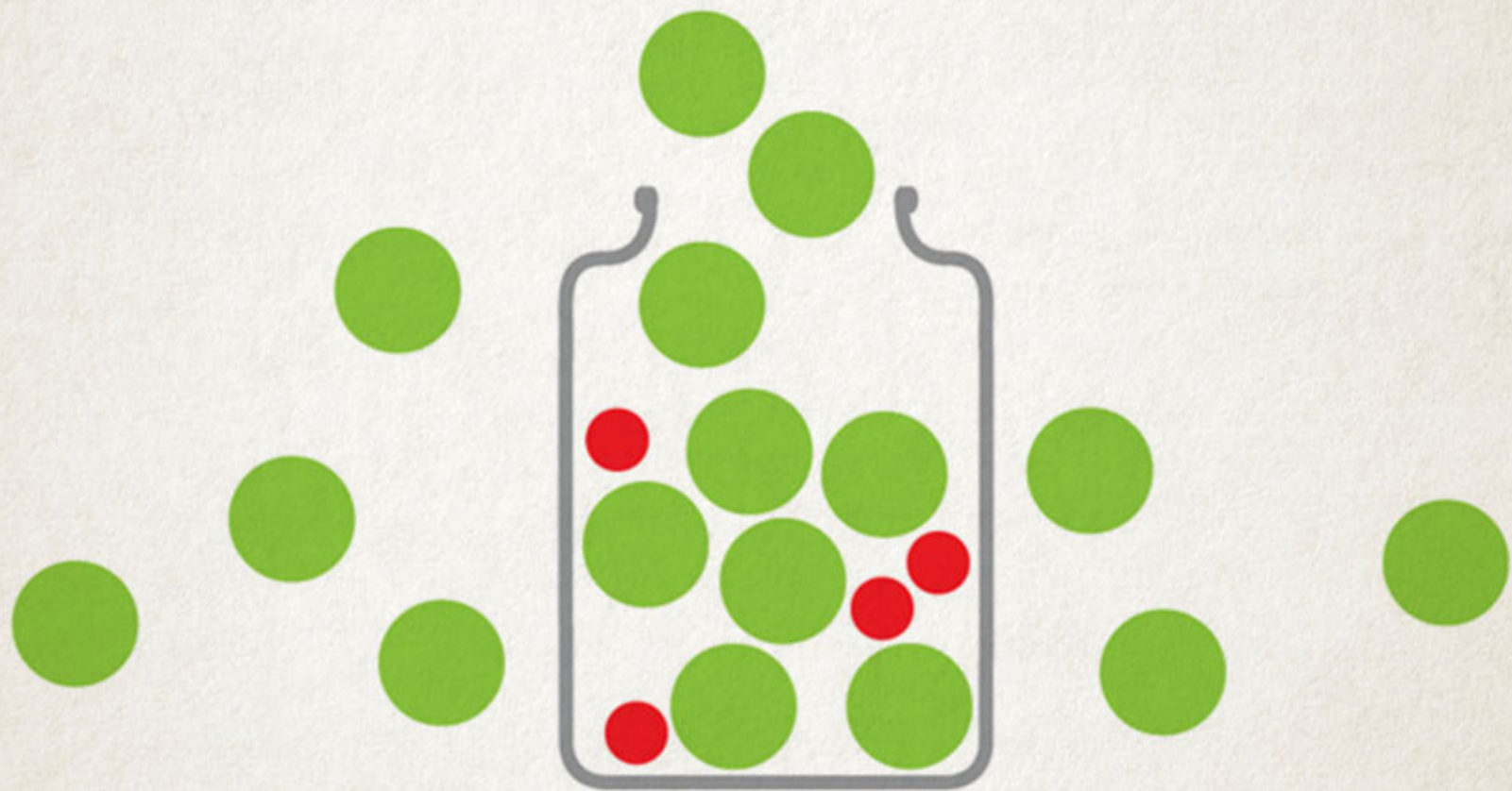


**L**ink Positive & Negative Material



# Conditions for the Link Step

- Divided awareness;  
holding two things at once
- Not hijacked by negative;  
if so, drop negative
- Positive material is more  
prominent in awareness.



Have It, Enjoy It



# Let's Try It

## Notice

relaxing as  
you exhale

## Create

a sense of  
gratitude

## Create

a feeling of  
caring about  
someone

## For each of the above:

Have the experience. Enrich it. Absorb it.



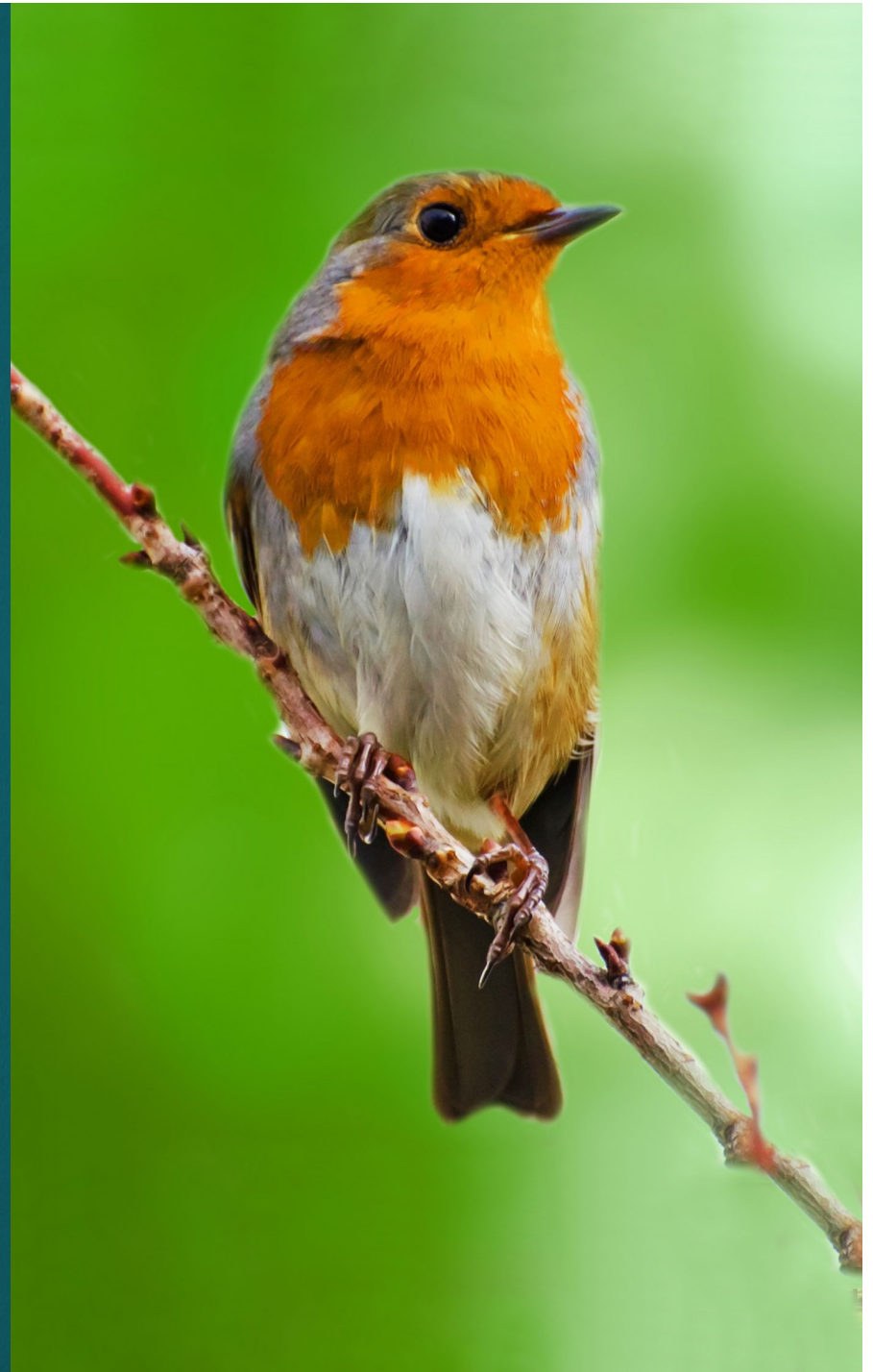
# It's Good to Take in the Good

- **Development of specific inner strengths**
  - General - resilience, positive mood, feeling loved
  - “Antidote experiences” - Healing old wounds, filling the hole in the heart
- **Implicit benefits:**
  - Shows that there is still good in the world
  - Being active rather than passive
  - Treating yourself kindly, like you matter
  - Rights an unfair imbalance, given the negativity bias
  - Training of attention and executive functions
- **Sensitizes brain to positive: like Velcro for good**



”  
*Keep a green bough  
in your heart,  
and a singing bird  
will come.*

**Lao Tzu**





# Our Three Fundamental Needs



**safety**



**satisfaction**



**connection**



# Needs Met by Three Systems



**Safety**

**Avoiding**  
harms



**Satisfaction**

**Approaching**  
rewards

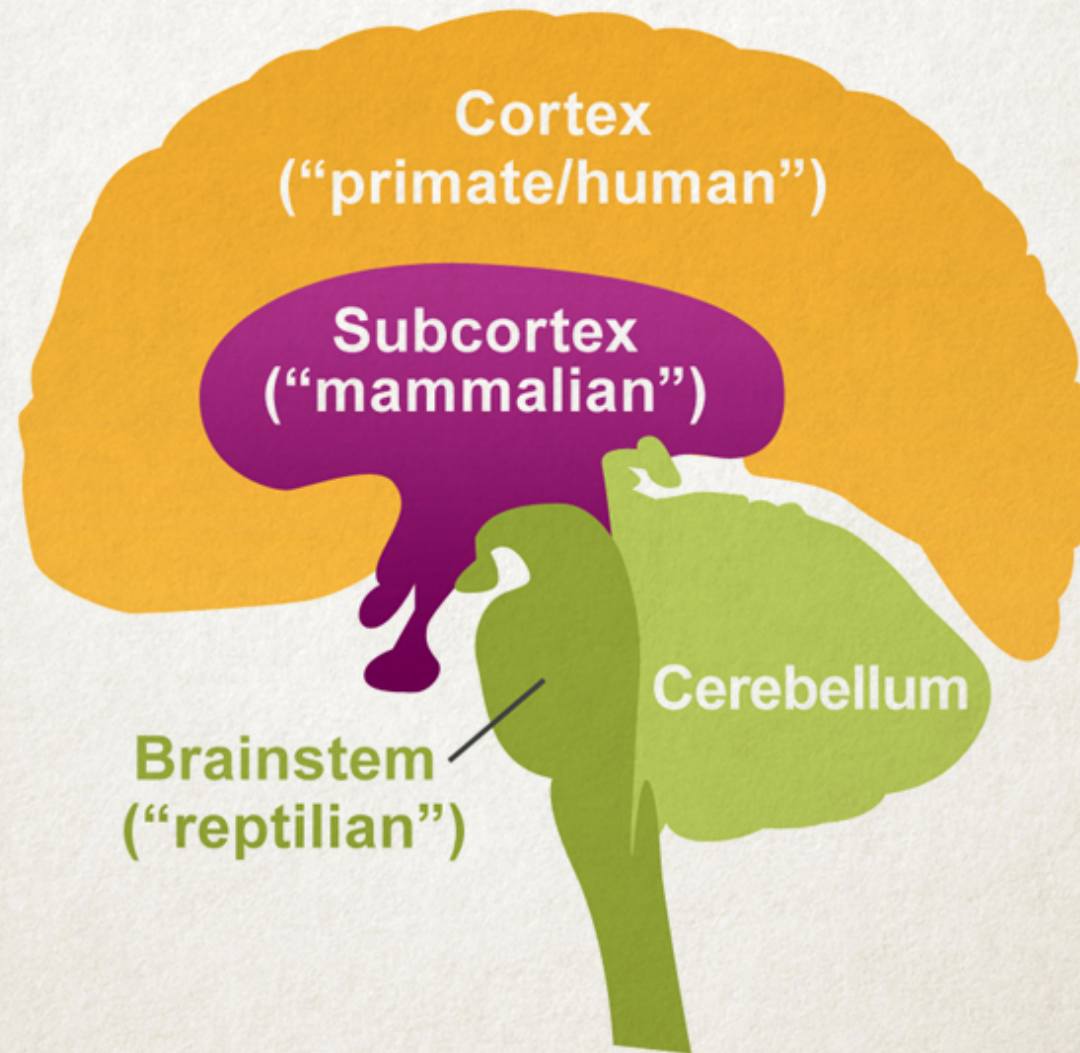


**Connection**

**Attaching**  
to others



# The Evolving Brain





# Can You Stay in the Green Zone When:

Things are  
unpleasant?

Things are  
pleasant?

Things are  
heartfelt?



# Some Types of Resource Experiences

## 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,  
loving

Feeling  
compassionate, kind,  
generous, loving



# Pet the Lizard



# Feed the Mouse





# Hug the Monkey





# Coming Home

**Peace**

**Contentment**

**Love**

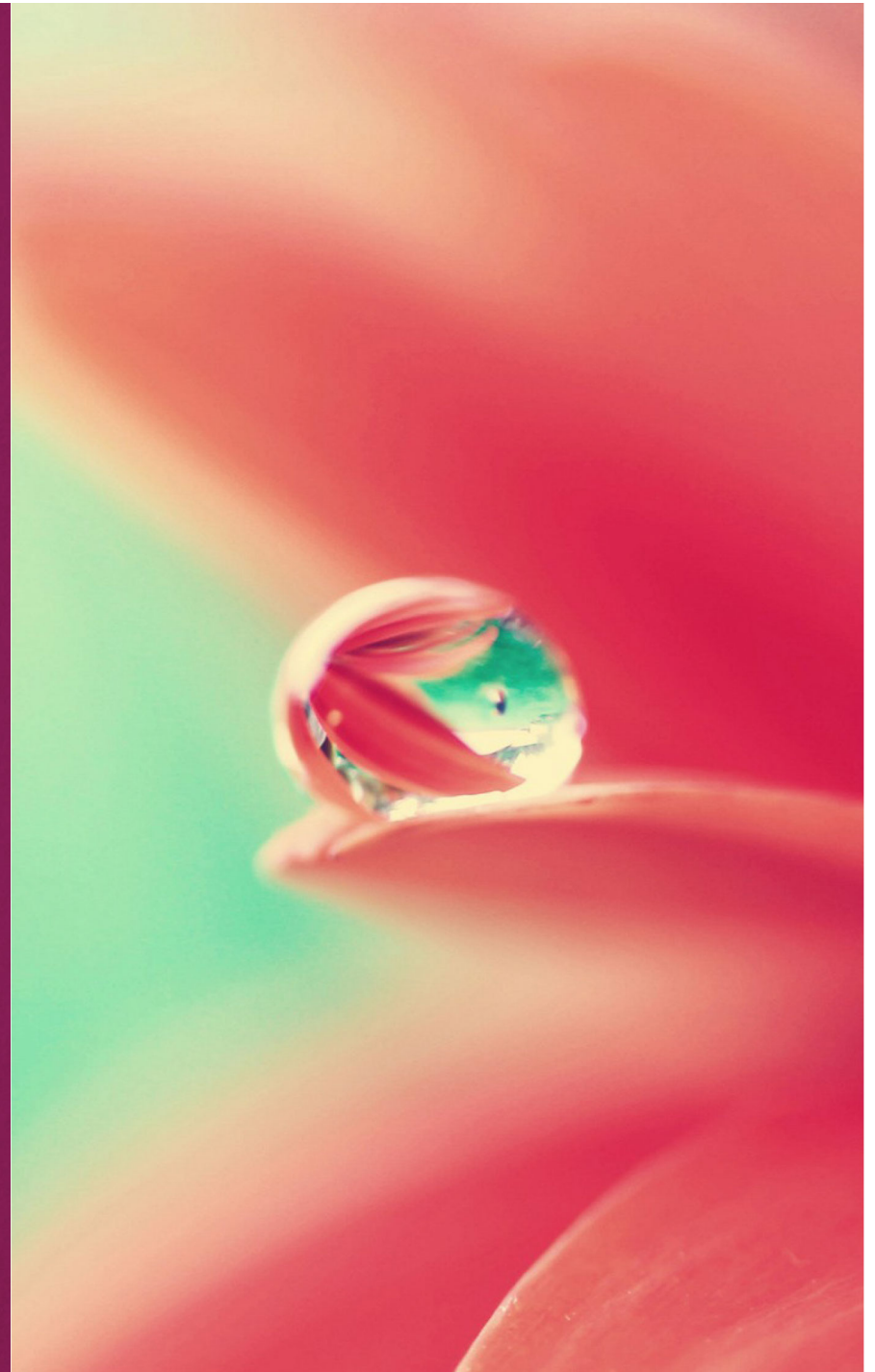


*Think not lightly of good,  
saying,  
“It will not come to me.”*

*Drop by drop is  
the water pot filled.*

*Likewise, the wise one,  
Gathering it little by little,  
Fills oneself with good.*

**Dhammapada 9.122**



# Thank You





# Suggested Books

See **[RickHanson.net](http://RickHanson.net)** for other good 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

See [RickHanson.net](http://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

- 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.
- Gillihan, S.J. & Farah, M.J. 2005. Is self special? A critical review of evidence from experimental psychology and cognitive neuroscience. *Psychological Bulletin*, 131:76-97.
- 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

- 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.

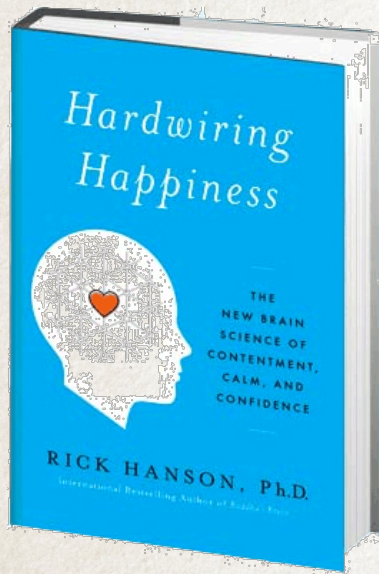


# Key Papers – 4

- 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)**



[youtube.com/drrhanson](https://youtube.com/drrhanson)



[facebook.com/rickhansonphd](https://facebook.com/rickhansonphd)