


Discovering the best in people.

**Love 2.0:  
Creating Happiness & Health  
in Moments of Connection**

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Ode to the 



Thanks also to the U.S. National Institutes of Health (NCI, NIA, NINR, NCCAM, NIMH, The Common Fund) for past & current funding



2-minute Challenge: *Connect!*




What did it take?  
What did it create?



Emotions are Micro-moments



The **Broaden-and-Build**  
Theory of Positive Emotions



[www.PositivtyRatio.com](http://www.PositivtyRatio.com)  
[www.PositivtyResonance.com](http://www.PositivtyResonance.com)

Fredrickson (1998). *Review of General Psychology*, 2, 300-319.  
Fredrickson (2001). *American Psychologist*, 56, 218-226.  
Fredrickson (2002). *Advances in Experimental Social Psychology*, 47, 1-52.

### Positivity **Broadens** Awareness



Fredrickson & Branigan (2005). *Cognition & Emotion*, 19, 313-332.

### ...and **Builds** Resources



Fredrickson et al. (2008). *Journal of Personality and Social Psychology*, 95, 1045-1062.

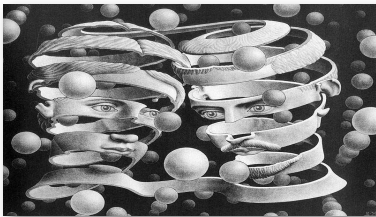
### Beyond the smile



### Positive Emotions Unlock Other-Focused Thinking

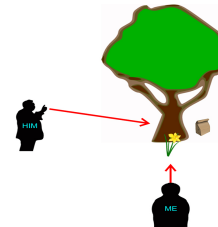


### More "We" than "Me"




Waugh & Fredrickson (2006). *Journal of Positive Psychology*, 1, 93-106.

### Better Perspective Taking



Waugh & Fredrickson (2006). *Journal of Positive Psychology*, 1, 93-106.

### More Oneness

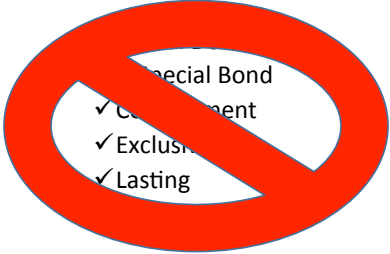


Johnson & Fredrickson (2005). *Psychological Science*, 16, 875-881.

### From Positivity to Positivity Resonance



### What Love is *Not*...




- Special Bond
- ✓ Commitment
- ✓ Exclusion
- ✓ Lasting

### WHAT IS LOVE?

- Two views from **relationship science**:
  - "Investment in the well-being of the other for his or her own sake" (IWB; Hegi & Bergner, 2010).
  - Perceived Responsiveness, or "gets me", i.e., feel understood, validated, and cared for (Reis, Clark & Holmes, 2004)
- What **emotion science** can add:
  - Biobehavioral components
  - A momentary lens
  - A broaden-and-build theoretical backdrop

### LOVE IS



- an interpersonally situated experience marked by **momentary** increases in:
  - shared positive emotions;
  - biobehavioral synchrony;
  - mutual care;
- which, over time, **builds**:
  - embodied rapport (e.g., we really "clicked");
  - social bonds;
  - commitment.

Fredrickson (2013). *Love 2.0*.

### Micro-moments of Positive Emotional Connection



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### Micro-moments of Positive Emotional Connection

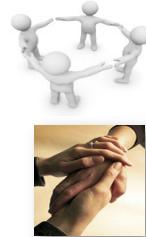


### Love's 1<sup>st</sup> Precondition: Safety



Image from Living Links Center, Emory University; Frans de Waal, Director

### Love's 2<sup>nd</sup> Precondition: Connection



### Smiles Draw Attention



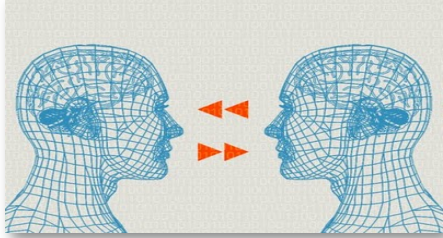
Becker et al. (2011). *Journal of Experimental Psychology: General*, 140, 637-659.

### Eye Contact Causes Mimicry



Schrammel et al. (2009). *Psychophysiology*, 46, 922-931.

### Mimicry Creates Inter-Subjectivity



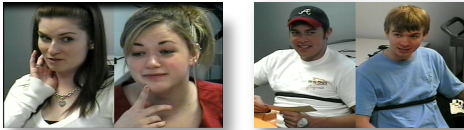
Niedenthal et al., (2010), *Behavioral and Brain Sciences*, 33, 417-480.

### Biobehavioral Synchrony: Acting as One



Felix Gonzalez-Torres, "Untitled" (Perfect Lovers) 1991.

### Behavioral Synchrony



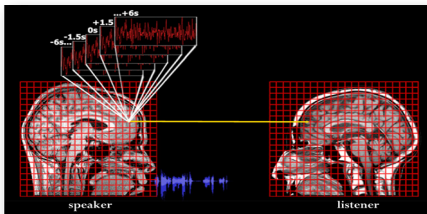
Vacharkulksemsuk & Fredrickson (2012). *JESP*, 48, 399-402.

### Oxytocin Synchrony



Feldman, Gordon, & Zagoory-Sharon (2010). *Hormones and Behavior*.

### Neural Synchrony



Stephens, Silbert & Hasson, 2010, *PNAS*, 107, 14425-14430.

### Love as Positivity Resonance

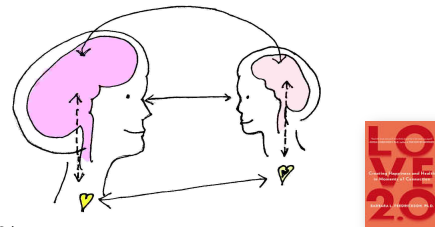
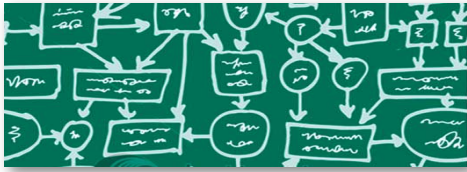


Image by Kat Scherer  
Author of *The Heart and Work of Parenting*

Fredrickson (2013). *Love 2.0*.

### Unlocks Collective Wisdom



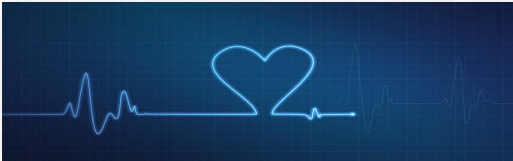
Wilson, Timmel, & Miller (2004). *Human Nature*, 15, 225-250.

### Creates Team Success

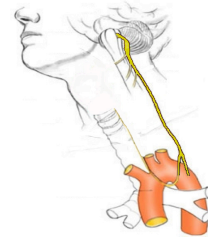


Sy, Cote, & Saavedra (2005). *Journal of Applied Psychology*, 90, 295-305.

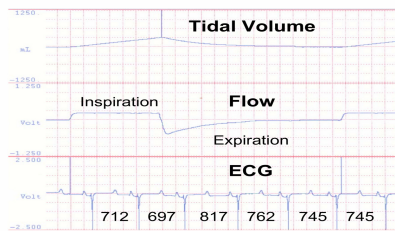
### Positivity Resonance & Health



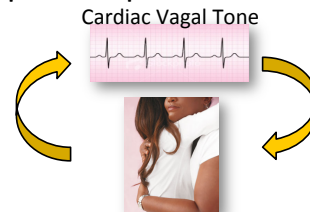
### The Vagus Nerve



### Cardiac Vagal Tone



### Upward Spiral Relations



### Positivity Resonance

Kok & Fredrickson (2010) *Biological Psychology*, 85, 432-436.

### Changing Daily Diets

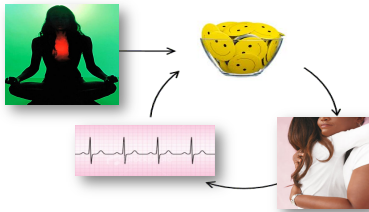


### Seeding Positivity Resonance



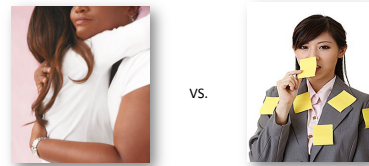
Loving-Kindness Meditation (LKM)

### Nudging the Upward Spiral



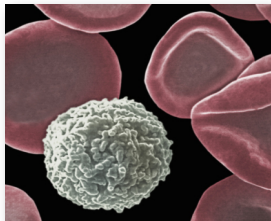
Kok, et al. & Fredrickson (2013). *Psychological Science*, 24, 1123-1132.

### Savoring Positivity Resonance

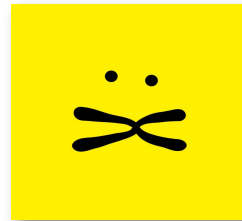


Kok & Fredrickson (revision invited).

### Cellular Effects



### LKM alters gene expression



Fredrickson, et al., & Cole (in preparation).

### What's a Smile For?



- To express positivity (Ekman, 1975);
- To evoke positivity (Bachorowski & Owren, 2003);
- To evoke inter-subjectivity (Niedenthal et al., 2010);
- To broaden collective mindsets and build collective resources (Gervais & Sloan Wilson, 2005);
- **ALL OF THE ABOVE:** To create the life-giving nutrient of positivity resonance (Fredrickson, 2013).

### Wired to Connect



### Plasticity



### Your Phone vs. Your Heart



The New York Times

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### Biological Capacity to Connect: Use it or Lose it



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### LOVE IS ...micro-moments of positivity resonance



a.k.a., "day-to-day micro-utopias"

– Nicholas Bourriaud (1998)



### Loving-Kindness Meditation (LKM)

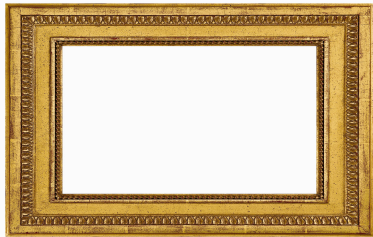


### Classic Phrases of LKM

- *May [you] feel safe.*
- *May [you] feel happy.*
- *May [you] feel healthy.*
- *May [you] live with ease.*



### Framing Thoughts



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### Escape Self-Absorption



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### Start Easy



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### Sincerity Matters



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### Not Magical Thinking



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### Envelop in Equanimity



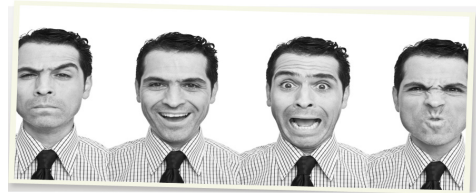
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### Let's Try It



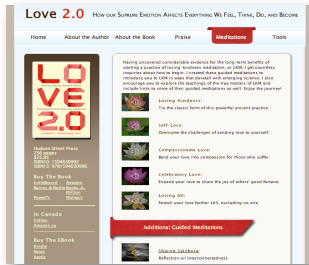
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### Your Reactions?



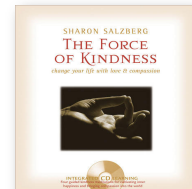
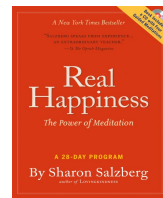
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[www.PositivityResonance.com](http://www.PositivityResonance.com)



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### For More Information...



[www.SharonSalzberg.com](http://www.SharonSalzberg.com)

### Changing Daily Diets



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### How to...?



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Don't " Be Positive "



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*"There wouldn't be such a thing as counterfeit gold if there were no real gold somewhere."*



-- Sufi proverb

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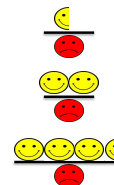
### Positivity Lights Our Path...



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### Positivity Ratios (P/N)


- Pathology: P/N < 1-to-1
- Languishing: P/N ~ 2-to-1
- Flourishing: P/N > 3-to-1



Fredrickson (2013). *American Psychologist*, 68, 814-822.

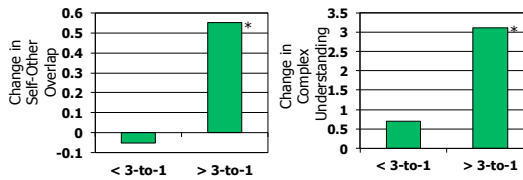
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### Now-you-see-it-now-you-don't



Fredrickson (2013). *American Psychologist*, 68, 814-822. 70

### Positivity Ratios > 3-to-1 Broaden Mindsets

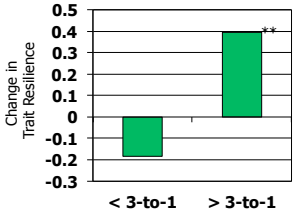


Positivity Ratio	Change in Self-Other Overlap
< 3-to-1	-0.05
> 3-to-1	0.55*

Positivity Ratio	Change in Complex Understanding
< 3-to-1	0.7
> 3-to-1	3.1*

Waugh & Fredrickson (2006). *Journal of Positive Psychology*, 1, 93-106. 71  
\* p < .05


### Positivity Ratios > 3-to-1 Build Resources



Positivity Ratio	Change in Trait Resilience
< 3-to-1	-0.15
> 3-to-1	0.4**


Cohn, Fredrickson et al., unpublished data 72  
\* p < .01

### Now-you-see-it-now-you-don't



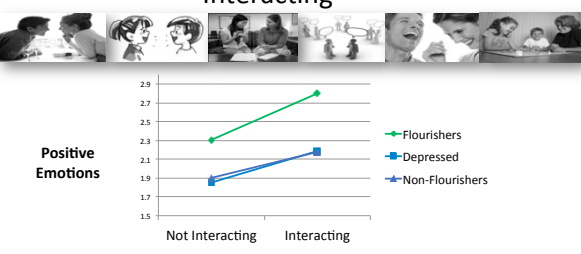
Fredrickson (2013). *American Psychologist*, 68, 814-822. 73

### Tuesdays with Flourishers



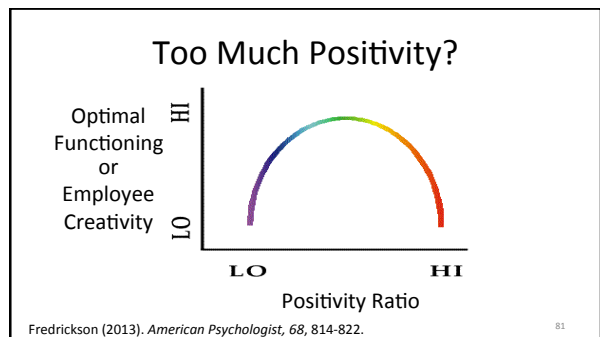
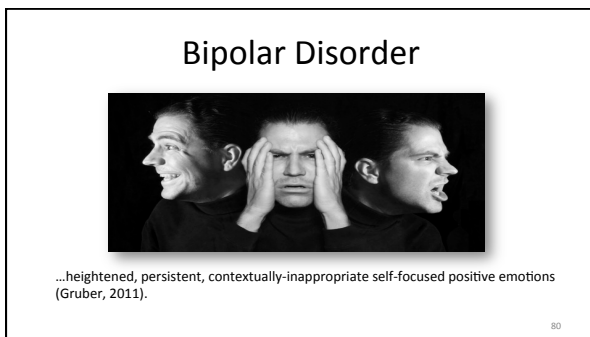
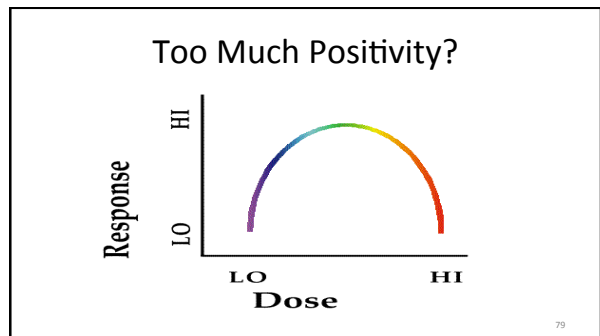
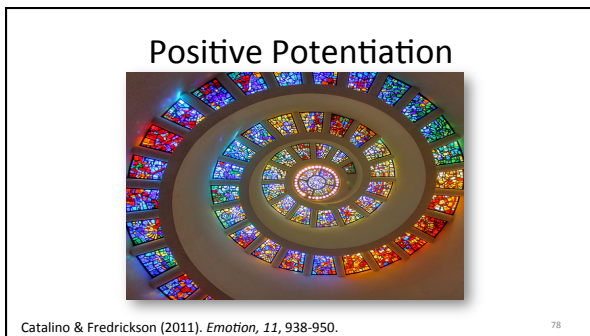
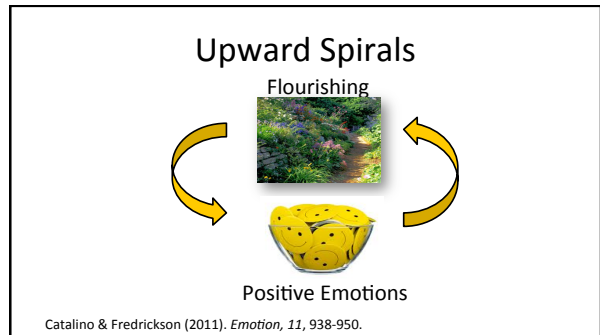
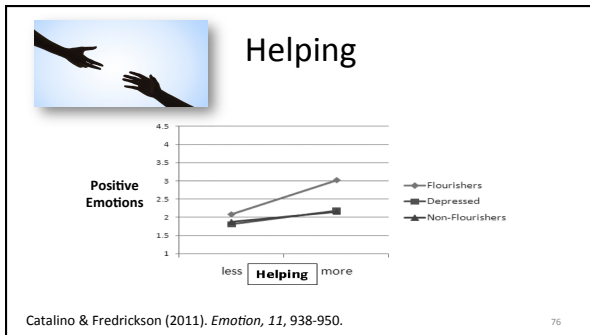
Catalino & Fredrickson (2011). *Emotion*, 11, 938-950. 74

### Interacting



Group	Not Interacting	Interacting
Flourishers	2.3	2.8
Depressed	1.9	2.2
Non-Flourishers	1.9	2.2

Catalino & Fredrickson (2011). *Emotion*, 11, 938-950. 75





### Negativity is Necessary

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### Appropriate vs. Gratuitous Negativity

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### Advice re: Positivity Ratios

The higher the better, within bounds.

Fredrickson (2013). *American Psychologist*, 68, 814-822.

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### Micro-Moment Practices

### Find Nearby Nature

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### Savor Positivity



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### Reflect on Connection



### Nightly: Think of your 3 longest social interactions of the day...

**How true is each:**

- During these social interactions, I felt "in tune" with the person/s around me.
- During these social interactions, I felt close to the person/s.

Rate on a scale from 1-7:  
1 = not at all true  
7 = very true



### Celebrate Another's Good Fortune



### Practice Compassion



### Be Curious



### Be Kind



### Be Appreciative



### Be Real

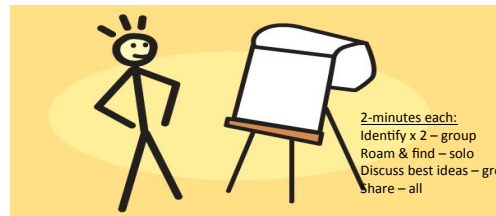


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### Positivity Ratio 8-Minute Challenge

Divide into small groups of 2 or 3.  
Grab a large sheet of paper from a flipchart and find your own wall space.

Identify 5 practices to reduce negativity.  
Identify 5 practices to augment positivity.



2-minutes each:  
Identify x 2 – group  
Roam & find – solo  
Discuss best ideas – group  
Share – all




### Share Your Reflections...



... on the Positivity Ratio Challenge

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### Pursuing Positivity: A Delicate Art



### Prioritizing Positivity



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### Prioritizing Positivity...

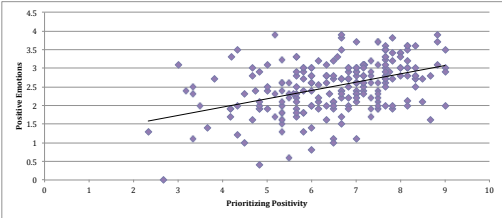
- A priority for me is experiencing happiness in everyday life.
- I look for and nurture my positive emotions.
- What I decide to do with my time outside of work is influenced by how much I might experience positive emotions.
- I structure my day to maximize my happiness.
- My major decisions in life (e.g., the job I choose, the house I buy) are influenced by how much I might experience positive emotions.
- I admire people who make their decisions based on the happiness they will gain.

1 = disagree strongly  
 2 = disagree mostly  
 3 = disagree somewhat  
 4 = disagree slightly  
 5 = neither agree or disagree  
 6 = agree slightly  
 7 = agree somewhat  
 8 = agree mostly  
 9 = agree strongly

Catalino, Algoe & Fredrickson (2014). *Emotion*, 14, 1155-1161.

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### ... predicts increased well-being



Catalino, Coffey, Algoe & Fredrickson (in press). *Emotion*

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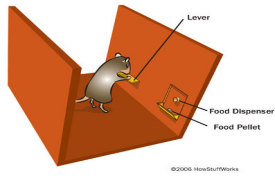
### ... and expressed appreciation



Catalino et al. (2014). *Emotion*.

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...behavioral effort



Catalino et al. Fredrickson (in preparation).

...and more Savoring



Catalino et al. Fredrickson (in preparation).

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Valuing Happiness (to an Extreme)...

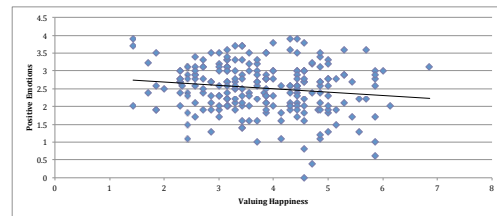
- How happy I am at any given moment says a lot about how worthwhile my life is.
- If I don't feel happy, maybe there is something wrong with me.
- I value things in life only to the extent that they influence my personal happiness.
- I would like to be happier than I generally am.
- Feeling happy is extremely important to me.
- I am concerned about my happiness even when I feel happy.
- To have a meaningful life, I need to feel happy most of the time.

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Somewhat Disagree
- 4 = Neither Agree nor Disagree
- 5 = Somewhat Agree
- 6 = Agree
- 7 = Strongly Agree

Mauss, Tamir, Anderson, & Savino (2011).

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... predicted reduced well-being.



Catalino, Coffey, Algoe & Fredrickson (in press). *Emotion*

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... and loneliness



Mauss et al. (2011).

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Pursuing Happiness: A Delicate Art

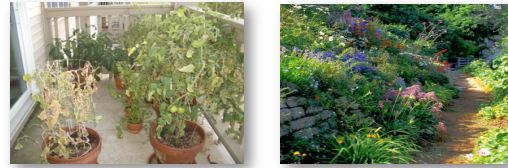


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Q: What blocks eudaimonic pursuits?  
How might those barriers be removed?

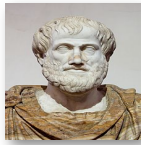


### Languish or Flourish?



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### Two Aspects of Well-being



Aristotle (c. 350 BC)



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### Hedonic & Eudaimonic Well-being

- 0 = Rarely or none of the time (less than 1 day)
- 1 = Some or a little of the time (1 - 2 days)
- 2 = Occasionally or a moderate amount of time (3 - 4 days)
- 3 = Most or all of the time (5 - 7 days)

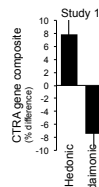


- In the past week:*
- 1 - How often did you feel happy?
  - 2 - How often did you feel interested in life?
  - 3 - How often did you feel satisfied?
  - 4 - How often did your feelings you had something to contribute to society?
  - 5 - How often did you feel that you belonged to a community/social group?
  - 6 - How often did you feel that our society is becoming a better place for people?
  - 7 - How often did you feel that people are basically good?
  - 8 - How often did you feel that the way our society works makes sense to you?
  - 9 - How often did you feel that you liked most parts of your personality?
  - 10 - How often did you feel good at managing the responsibilities of your daily life?
  - 11 - How often did you feel that you had warm and trusting relationships with others?
  - 12 - How often did you feel that you have experiences that challenge you to grow and become a better person?
  - 13 - How often did you feel confident to think or express your own ideas and opinions?
  - 14 - How often did you feel that your life has a sense of direction or meaning to it?

Keyes, C. (2006). *The Mental Health Continuum-Short Form (MHC-SF) for adults*. Available at <http://calmhhsa.org/wp-content/uploads/2013/06/MHC-SFEnglish.pdf>

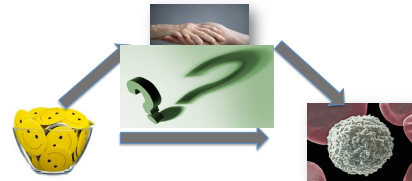
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### Replication of 2013 PNAS results



Fredrickson, et al. & Cole (2013). A functional genomic perspective on human well-being.

### ...and Positive Emotions?



Isgett, Boulton, Cole & Fredrickson (in preparation).