

The Science of Meditation: Shifts in Emotions, Connections, & Biomarkers of Health



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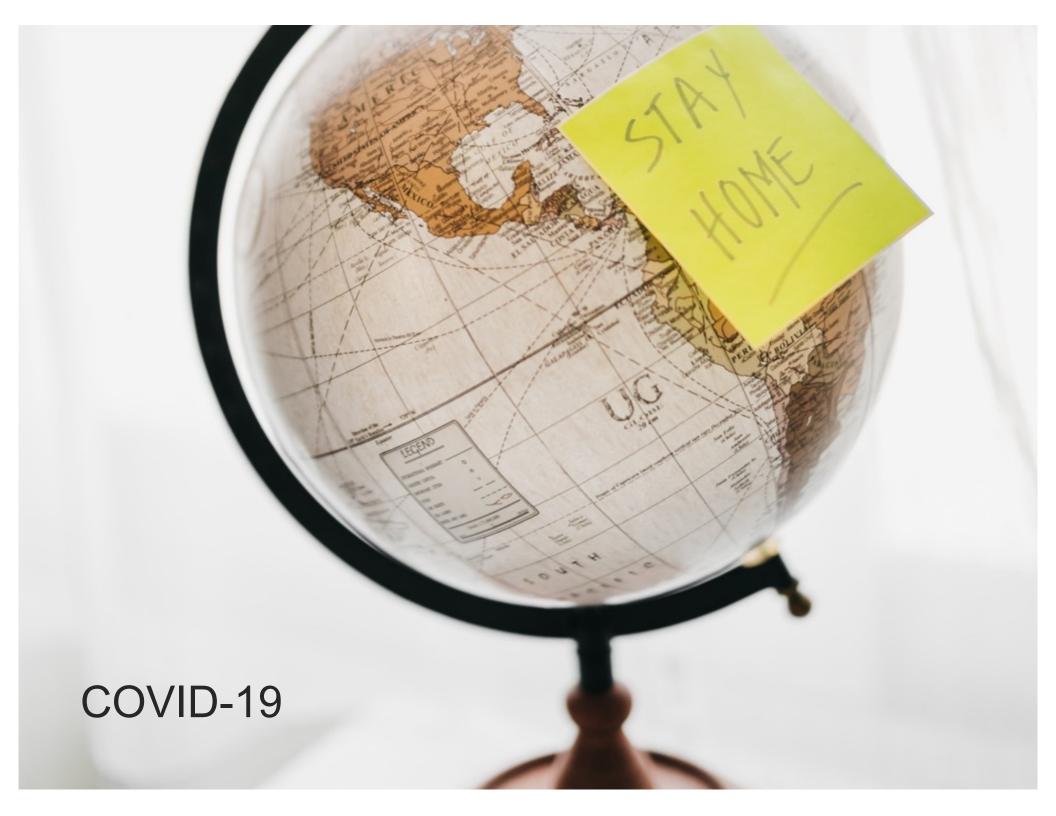








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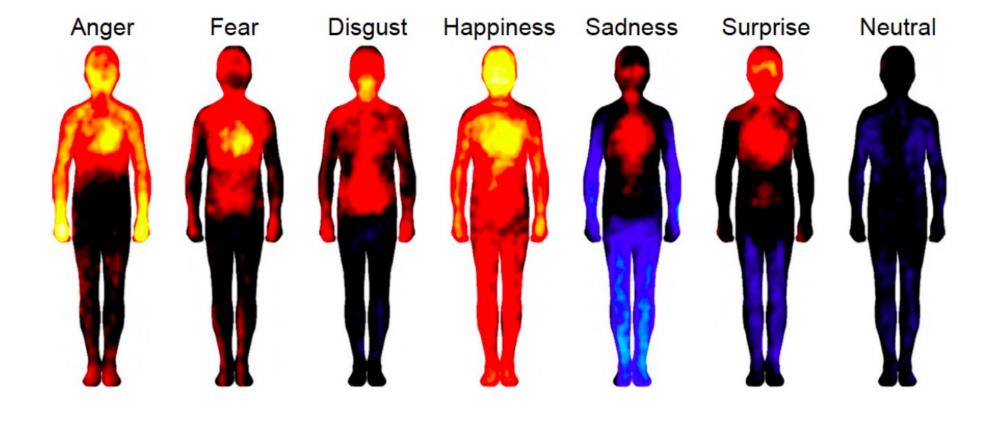


...Holding Positivity Alongside Negativity



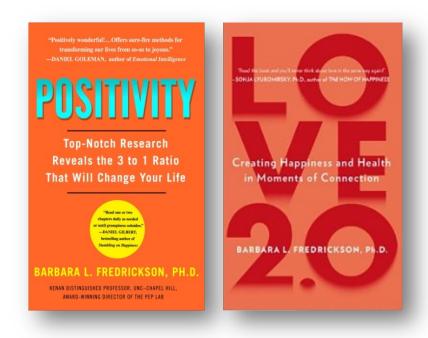
Quilt by Billie Shambley





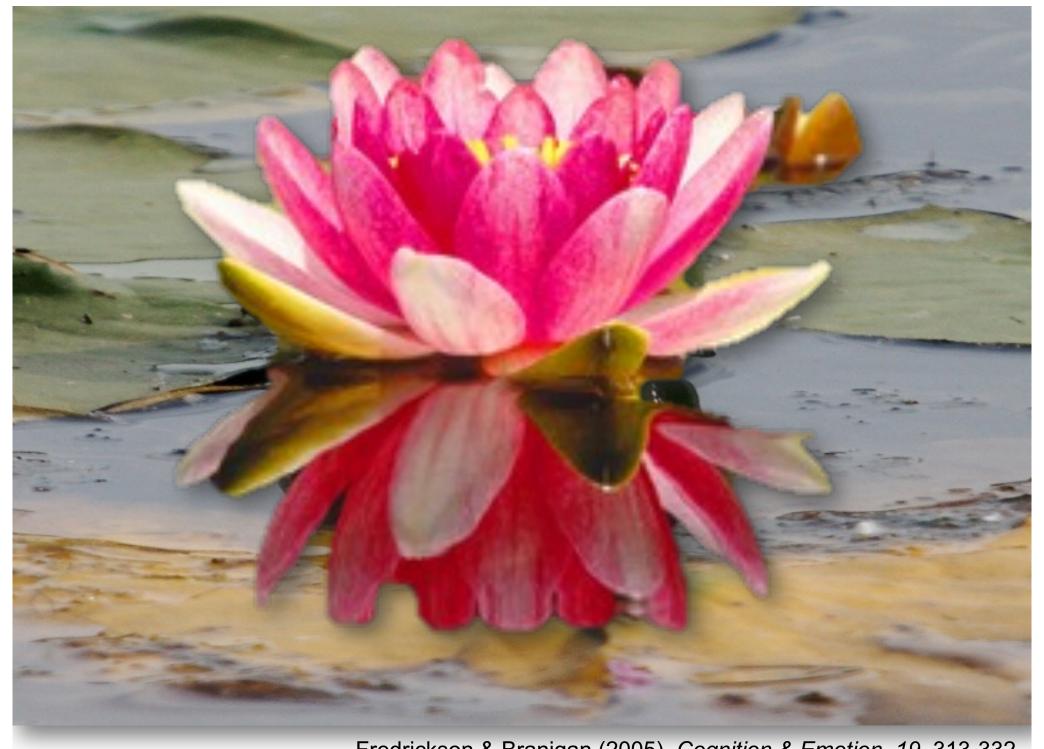
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The Broaden-and-Build Theory of Positive Emotions



www.PositiveRatio.com www.PositivityResonance.com

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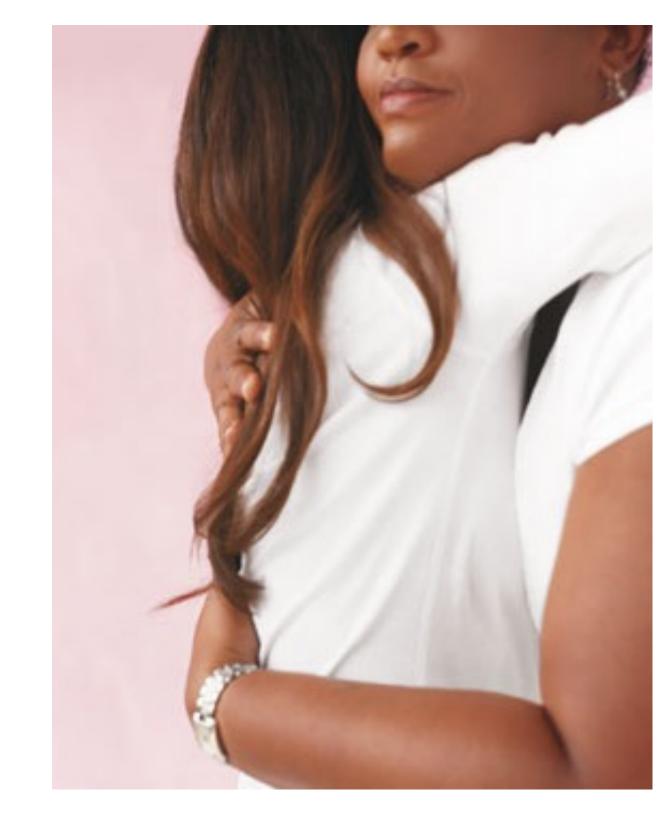


Positivity Resonance

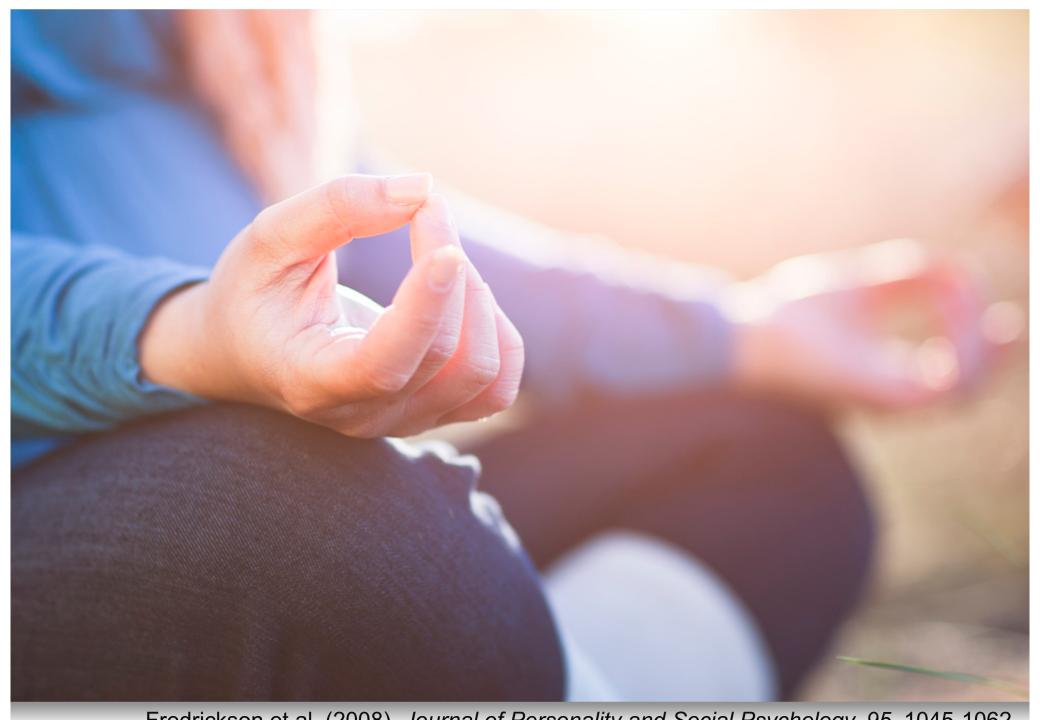
Positivity Resonance



Positivity Resonance

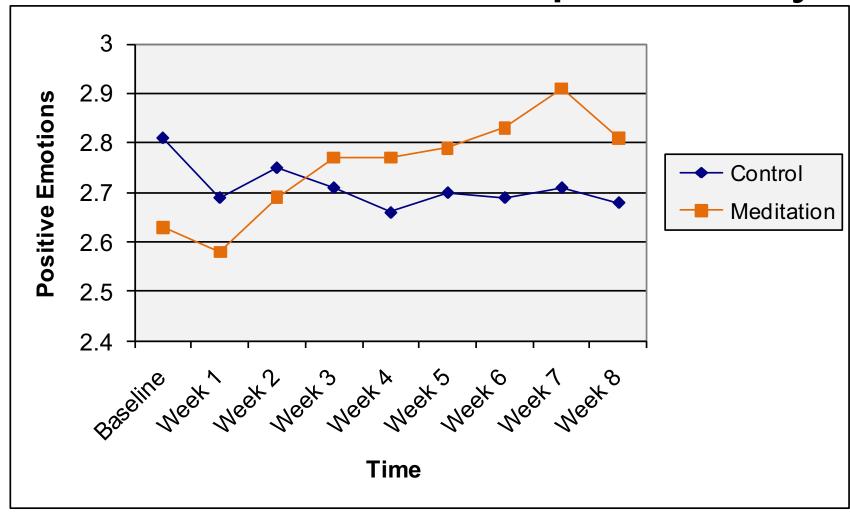






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Meditation Improves Positive Emotions Specifically



Fredrickson et al. (2008). *Journal of Personality and Social Psychology,* 95, 1045-1062. Fredrickson et al. (2017). *Mindfulness,* 8, 1623-1633.

Improves Negative Symptoms for Persons with Schizophrenia



Johnson, Penn, Fredrickson et al. (2011). Schizophrenia Research, 129, 137-140.

Meditation Builds Resources



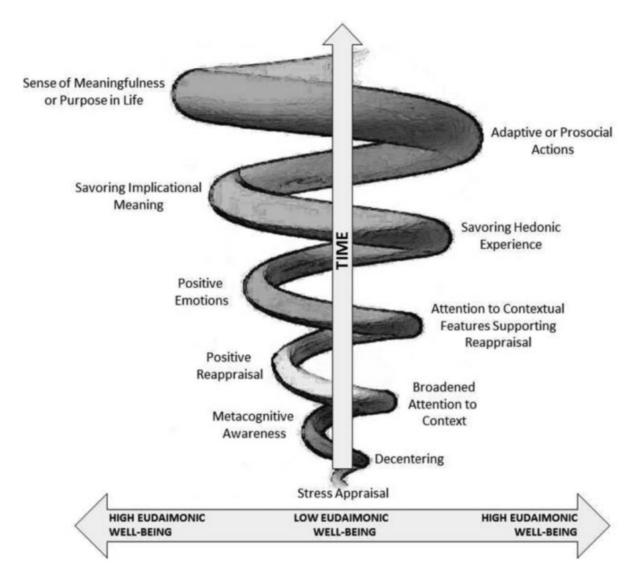






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Mindfulness-to-Meaning Theory



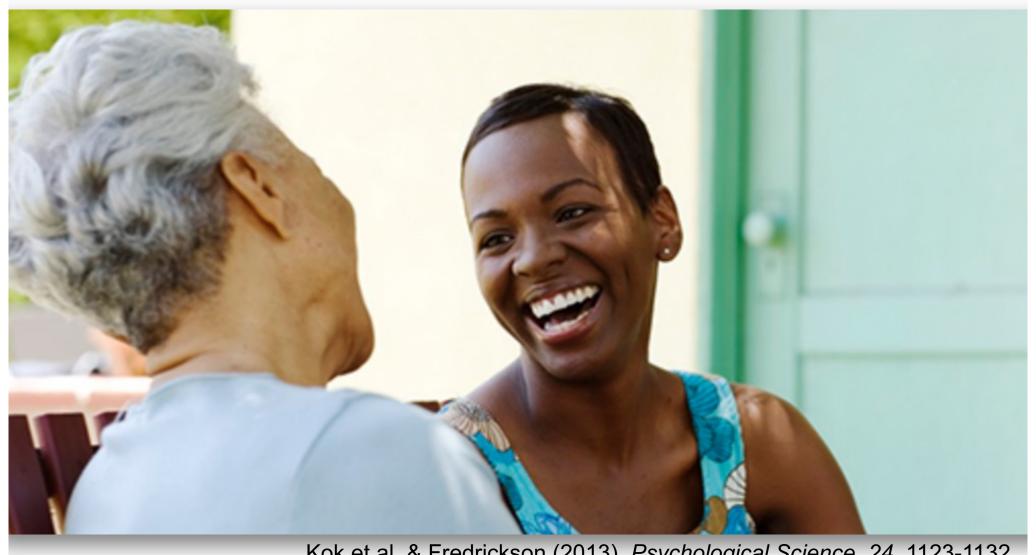
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Meditation Improves Social Motives



Don, Algoe & Fredrickson (2021). Mindfulness, 12, 582-593.

Meditation Warms Social Connections



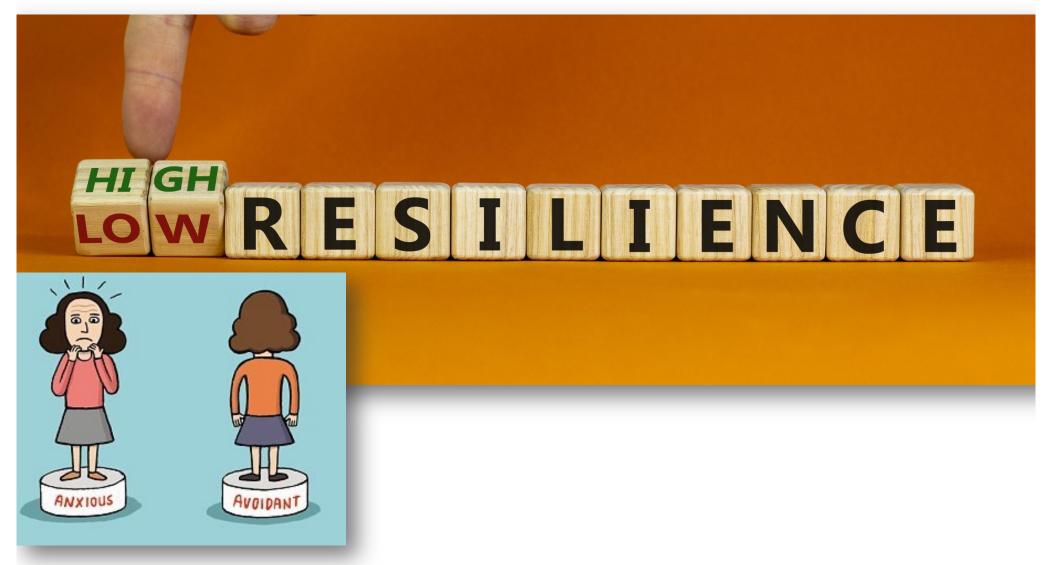
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Dose Response Relations



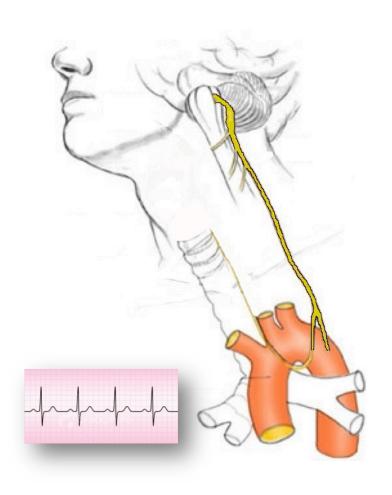
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People Differ in Who Benefits Most



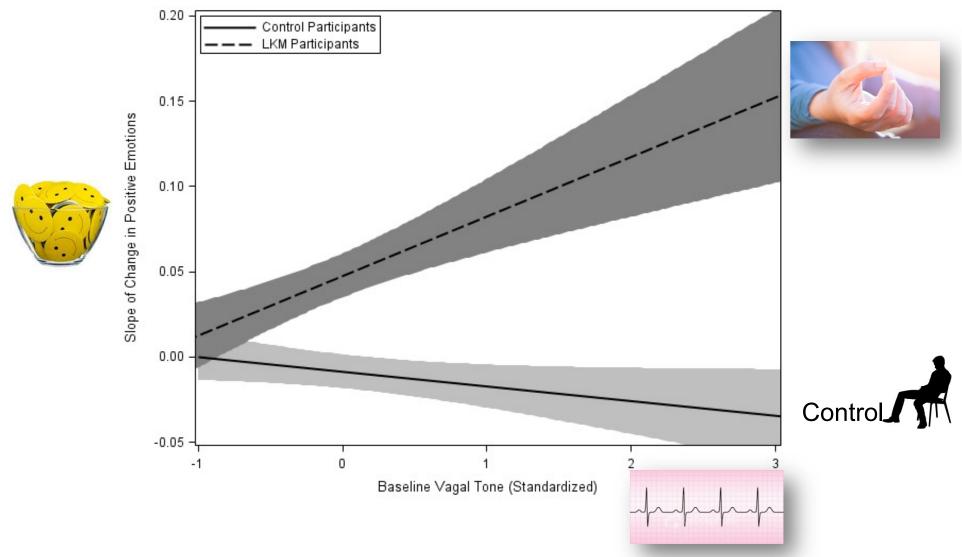
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People Differ in Who Benefits Most



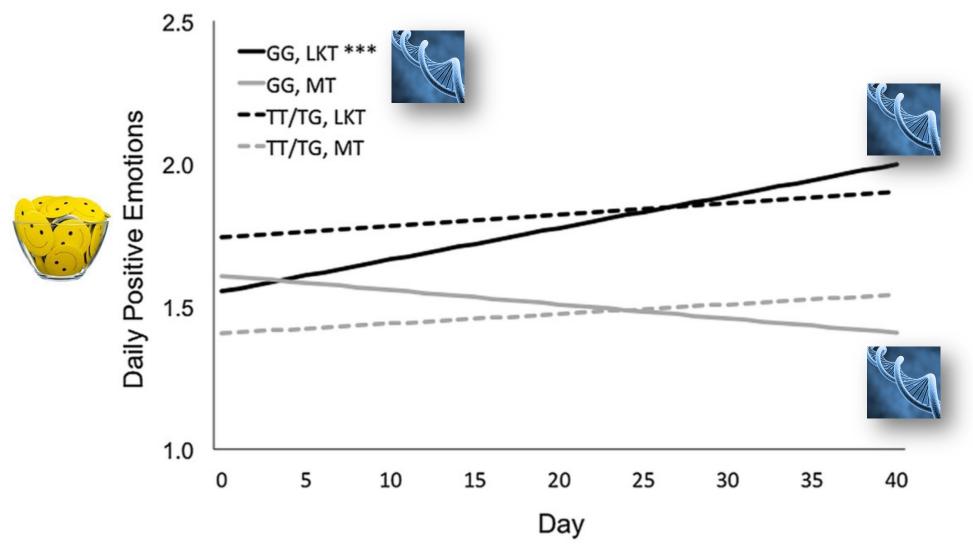


Cardiac Vagal Tone Predicts Positive Emotion Yield of LKM



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

OXTR rs1042778 Moderates Growth in Positive Emotions during LKM

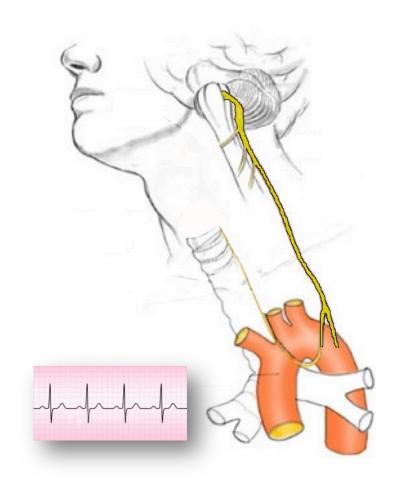


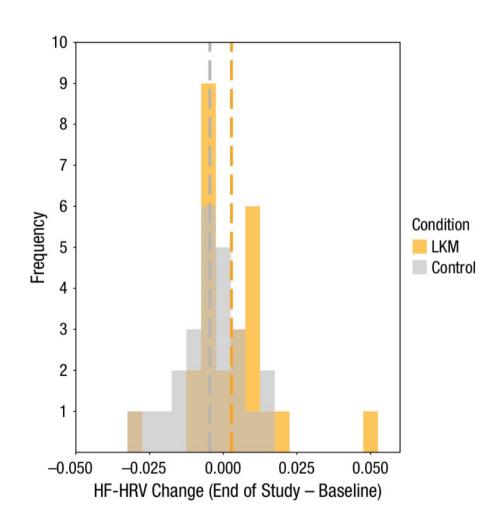
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Meditation Improves Biomarkers of Health

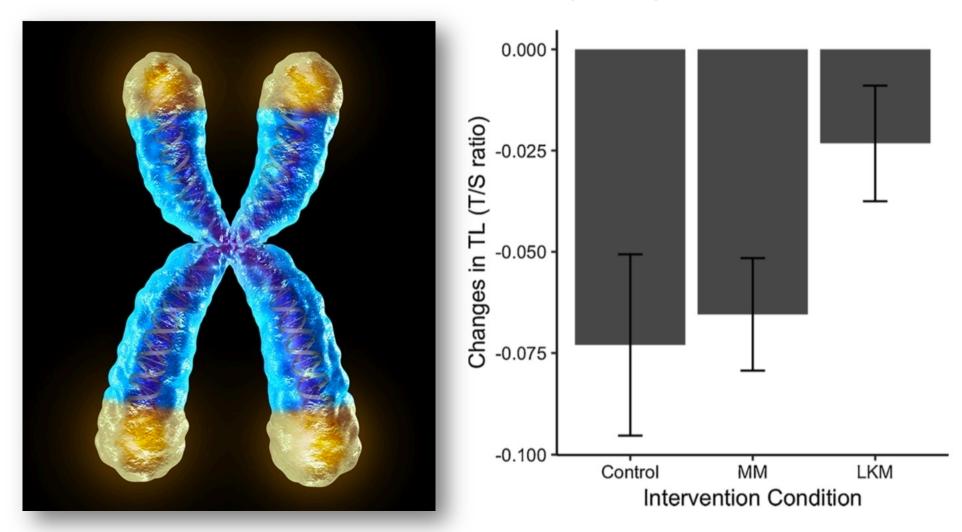


Improved Biomarkers: Cardiac Vagal Tone



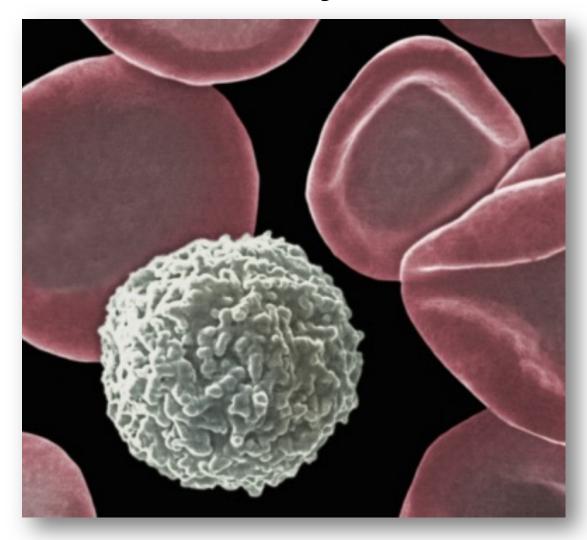


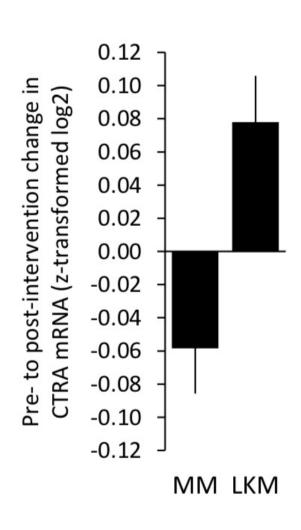
Improved Biomarkers: Cellular Aging



Le Nguyen et al. & Fredrickson (2019). Psychoneuroendocrinology, 108, 20-27.

Improved Biomarkers: Leukocyte Gene Expression





Other Health Benefits



- Mindfulness meditation linked to sustained physical activity
- Mindfulness meditation elevates enjoyment of physical activity
- No parallel effects for Loving-kindness meditation



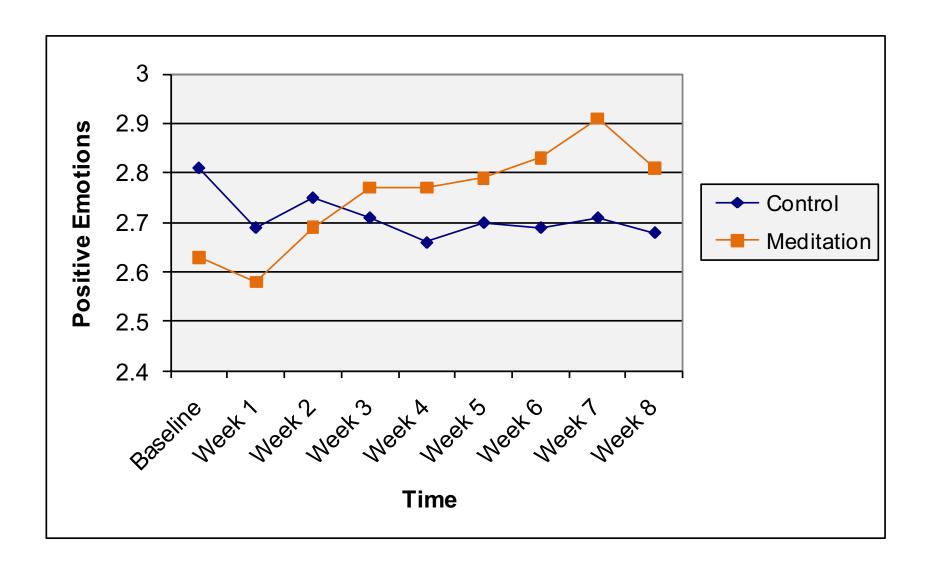
Fredrickson et al. (2019). *Mindfulness, 10,* 1915-1925.

Prioritizing Positivity Matters



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

Remember This?

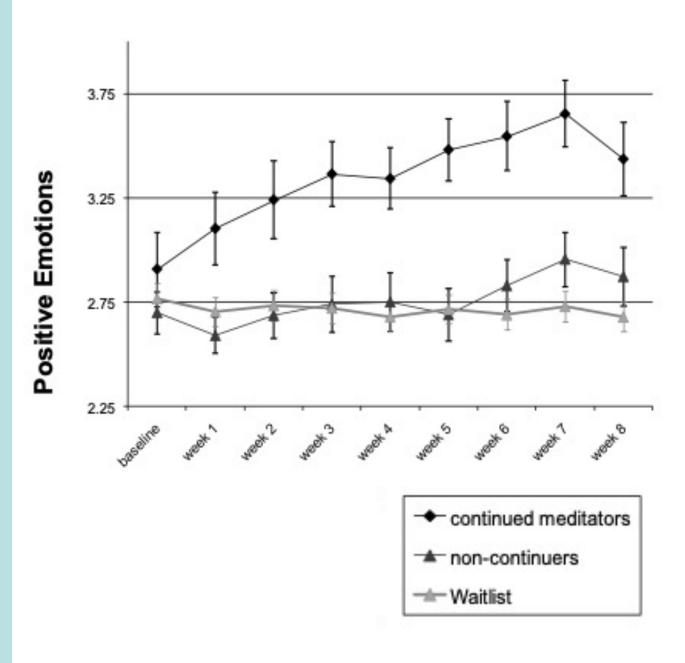


Fredrickson et al. (2008). Journal of Personality and Social Psychology, 95, 1045-1062.

Who Continues?



Early
Positive
Emotions
Forecast
Sustained
Behavior
Change



Cohn & Fredrickson (2010). J of Positive Psychology, 5, 355-366.

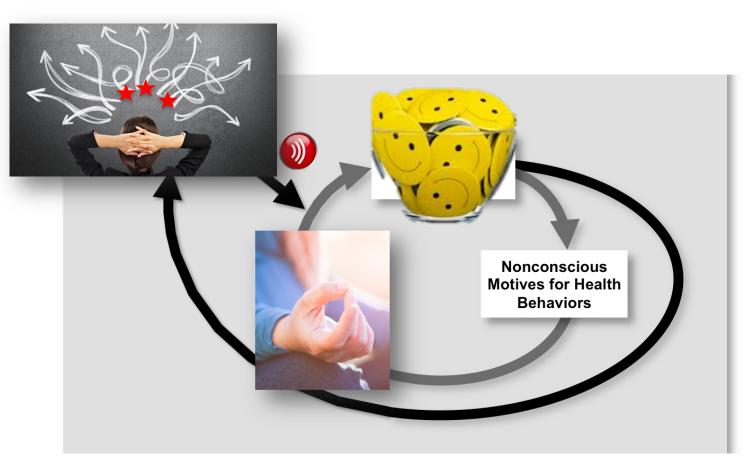
Prioritizing Positivity Matters



Van Cappellen, Catalino & Fredrickson (2020). Emotion, 20, 1332-1343.

What is the best way to organize your day? Scientific evidence suggests that when making decisions about how to spend your time, you should take into account your potential to experience positive emotions. Growing evidence suggests that good feelings lead to good health. Yet research also shows that if you simply "will" or "wish" yourself to feel positive emotions, it can backfire, making you feel worse. By contrast, a recent study by Andrea McDevitt of the University of Arizona finds that people who devote time each day to activities that generate positive emotions fare the best. They experience more vitality, less stress, and have lower levels of inflammation in the body, a biological indicator of physical health. Setting aside time each day for feel-good activities, then, may be as vital to your health as eating your vegetables and staying active.

Positive Affect in Meditation...

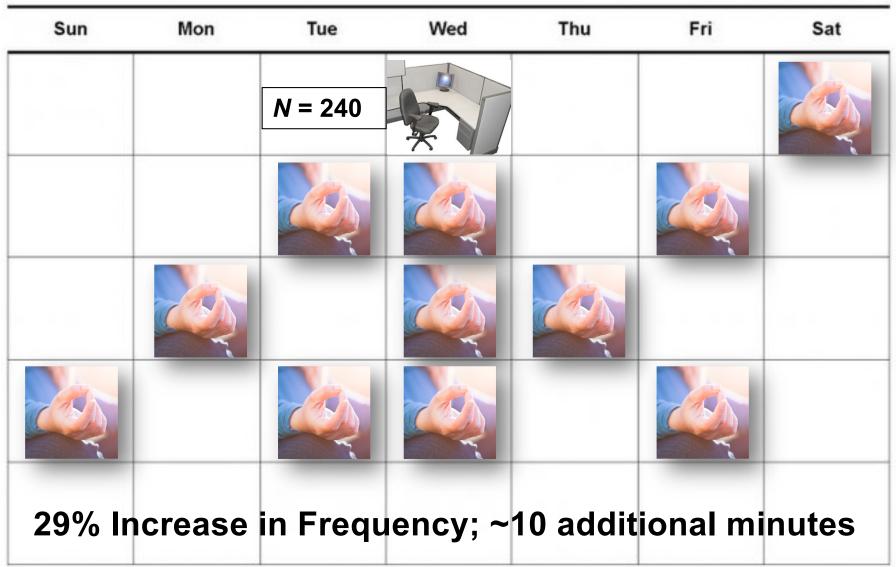




N = 240 Midlife Adults

Van Cappellen, Catalino & Fredrickson (2020). Emotion, 20, 1332-1343.

...Inspires Sustained Behavior



Van Cappellen, Catalino & Fredrickson (2020). Emotion, 20, 1332-1343.

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The University of North Carolina at Chapel Hill Positive Psychology



