

Psychophysiological Coherence: A Proposed Link Among Appreciation, Cognitive Performance, and Health

Rollin McCraty, Ph.D., HeartMath Research Center, Institute of HeartMath, Boulder Creek, California

Proceedings of the American Psychological Association 109th Annual Convention, Symposium on Gratitude and Positive Emotionality as Links Between Social and Clinical Science, San Francisco, CA, Aug. 2001.

While psychology has primarily focused on improving health and well-being by reducing negative emotions, relatively little research has explored the impact of positive emotions on physiological processes and psychological functioning. We have found that sustained states of appreciation lead to a distinct mode of physiological function that is correlated with improved cognitive function and health-related outcomes.

We have distinguished between two physiological modes. The first, physiological coherence, is associated with a sine wave-like pattern in the heart rhythms, increased heart/brain synchronization and entrainment between diverse physiological systems. Although this mode can occur spontaneously during positive emotional experiences or sleep, sustained periods are generally rare. While several approaches can be used to induce coherence for brief periods, we have found that actively generating a state of sincere appreciation can produce extended periods of physiological coherence. Using appreciation to drive the coherent mode allows it to emerge naturally and typically makes it easier to sustain positive emotions and physiological coherence for longer periods, even during challenging situations. When the physiological coherence mode is driven by a positive psychological state, we call it psychophysiological coherence.

Physiological correlates of this mode can be objectively defined and measured. In addition, by using practical, positive emotion refocusing techniques designed to enhance states of appreciation, individuals can learn to self-orchestrate coherence with increased consistency, thereby reducing stress and enhancing health, emotional stability, performance and quality of life.

Studies conducted across diverse populations have associated the use of techniques that increase psychophysiological coherence with a range of favorable outcomes, including reduced anxiety and depression, enhanced cognitive performance, reduced physical stress symptoms, reduced cortisol and increased DHEA. Additionally, practice of these interventions has been associated with reduced depression and improved functional capacity in patients with congestive heart failure, the restoration of normal blood pressure levels in hypertensive individuals, and improved glycemic control and quality of life in patients with diabetes.

For a detailed monograph on this subject, see also: [*The Appreciative Heart: The Psychophysiology of Positive Emotions and Optimal Functioning*](#) scientific e-book.