

## FIT/UCE EAP Lunchtime Seminar

### Happiness: Bringing it Into Your Daily Life

## Summary of Brain Research

Taken from *Hardwiring Happiness: The New Brain Science of Contentment, Calm and Confidence*, by Rick Hanson, Ph.D., Harmony Books, New York, 2013

1. Brain has tripled in volume over the past several million years. Over time brain was conditioned to scan for potential dangers. It needed to survive against predators – the fight or flight responses we have all heard about.
2. Negative stimuli are perceived more rapidly and easily than positive stimuli in the fight for survival.
3. 3 centers of the brain – amygdala – feelings centered here, which then sends an alarm system to the sympathetic nervous system control centers in the brain – i.e., the adrenaline cortisol stress hormones released, sends message to hippocampus which then forms a neural trace of the experience of what happened, etc. and consolidates it into a cortical memory.
4. Whatever we repeatedly sense, feel, want and think is slowly but surely sculpting neural structure.
5. Neurons and synapses are continually firing – active synapses become more sensitive and new synapses start growing within minutes.
6. All mental activity – sights, sounds thoughts, feelings, conscious, unconscious processes are based on underlying neural ability. Intense prolonged activity leaves imprint on neural structure. Mental states become neural traits.
7. Experience dependent neuroplasticity – experiences don't just grow new synapses, but also reach down into your genes–DNA and change

(over)

how they operate. For example if you routinely practice relaxation, this will increase the activity of the genes that calm down stress reactions. Using your mind to change your brain to change your mind for the better.

8. Experiences matter and create lasting traces in your brain.  
“Brain takes shape about what the mind rests upon.”  
Resting mind on good events and conditions, pleasant feelings – brain takes different shape with strength and resilience hardwired into it.
9. Brain has two operating systems – responsive and reactive.
  - a) Responsive – core needs being met, avoiding harm, feel safe, relaxed, peaceful, have feelings of gratitude, gladness, accomplishment, connection to others, compassion, kindness and ability to meet challenges without them becoming stressors. Every time you take in the good and experience that core needs are being met, you strengthen the neural substrates. Positive experiences increase release of neurotransmitter dopamine which then makes the amygdala react more intensely to good facts. Dr. Rick Hanson describes this as the “green zone.”
  - b) Reactive – helped our ancestors escape danger and predators. There were urgent demands but during down times stress cortisol could be released in the wild through exercise. Dr. Hanson describes this as the “red zone.”
10. Healthier to be in the “green zone” and need to train ourselves to be responsive and not reactive.
11. Best way to develop happiness and other inner strengths is to have experiences with them, and then help these good mental states become neural traits. This is *taking in the good*: activating a positive experience and installing it in your brain.