

# Mind-Body Connection



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# Overview of Course

- I: Principles of Mind-Body Medicine: Stress Physiology, Allostatic Load, and Clinical Sequelae
- II: The Relaxation Response: The Antidote to Stress
- III: The Basic Building Blocks of Life: Nutrition/Supplements, Exercise and Sleep
- IV: The Biological Implications of Cognitive Re-Structuring: How Our Thinking Can Alter the Expression of Our Genes
- V. Cultivating Resiliency: Cognitive Skills, Conscious Positive Expectation, Pro-social Behavior, Altruism, Gratitude, Social Connectedness, Spirituality, Remembered Wellness (The Placebo Effect)**
- VI. Clinical Applications for Our Clients

# Finding Meaning

- “To live is to suffer, to survive is to find meaning in the suffering. The ability to see something good in adversity is the central trait needed by all of us.” –Viktor Frankl, *Man’s Search For Meaning*
- Importance of empathy; ability to understand another’s plight

# Google Resiliency

Physics equations/properties of matter

Psychological resiliency in trauma

Emotional resiliency during trying times

Cognitive resiliency under stress

Resiliency at a cellular level

Resiliency at a genetic level

Population resiliency (e.g. Japan)

??Are we on to something universally BIG???

# Resiliency

- A positive change that the individual experiences as a result of a struggle with an adverse event.
- Human ability to rebound from adversity by recognizing an opportunity to discover a new strength
- General movement away from pathologizing and towards strengths and resiliency building
- Resiliency is evidence-based, recognizes shortcomings of and high cost of Mainstream medicine, embraces the positive psychology and wellness-recovery movements.

# Resiliency

- Stamina
  - Perseverance
  - Strengths
  - Stress hardiness
  - Thriving
  - Coping effectiveness
  - Strong sense of self yet highly connected to others and universal consciousness
  - Passion, purpose, and meaning
  - Actions/behavior are in accordance with values
- Vitality
  - Flourishing
  - Benefit-finding
  - Post-traumatic Growth
  - Survivor (not a victim)
  - Adaptability

# Resilience

- “We cannot change the cards we are dealt, just how we play the hand.” Randy Pausch, Carnegie Mellon Professor, *The Last Lecture*
- Lance Armstrong
- Michael J. Fox
- Holocaust survivors
- Christopher Reeves
- Magic Johnson
- Israeli child

# The 5 Cs (Stress Hardiness)

- **Calm Yourself:** Relaxation Response to quiet minds and bodies to reduce distress, enables self to observe in a less reactive way and to accommodate what has happened to them, learn to be with what is, staying in the now
- **Commitment:**— “vital engagement” —individuals who are curious and passionate, confident they can change their world, give everything their best try
- **Control:**—ability to influence events and surroundings (and the ability to discern what is in your control)--self-efficacy, internal locus of control, take responsibility and don't blame or try to control others (vs. feeling like The Victim, hopeless, helpless)
- **Challenge:** welcoming new situations with openness as opportunities to learn, grow, develop on a personal level and bounce back, rather than looking at everything new with pessimism and as a threat. Treating adversity as a challenge allows one to rehearse potential outcomes and opportunities.
- **Community:** in order to be resilient everyone must have social supports, someone or a group with whom to share the stress, a confidante who is willing to be there when times are tough, to listen to the story. Cultivating healthy and solid relationships, helping others, and being generous with your time and attention. It also means seeking out and asking for help when needed. Recognizing the importance of altruism, empathy...

# Equation

STRESS x ALLOSTATIC LOAD

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SOCIAL SUPPORT x RESILIENCY

# Building Resiliency

- Nutrition, Physical Fitness, and Sleep
- Relaxation Response: tones down SR, allows access to the following
- **Cognitive skills and re-structuring**
- **Positive psychology**
- **Social support**
- **Connectedness/meaning**

# Cognitive Skills: Top-Down Control

- Cognitive appraisal and re-structuring
- Inquisitive/curiosity
- Pro-active coping, problem solving, goal setting
- Emotional, anxiety and stress self-regulation
- Full access to attention, memory, judgement and decision-making
- Effectiveness despite being fearful
- Internal locus of control (versus external locus)
- Desire to improve oneself
- Turn traumatic helplessness into learned helpfulness
- HUMOR

# Positive Psychology

- Belief and conscious positive expectation: expect positive things to happen, look for positive path, take actions to get there
- Cultivating optimism and strengths
- Developing positive parts of narrative/memory
- Using remembered wellness to project positive health
- Cultivation of happiness

# Social Support

- Pro-social behavior: caring about the welfare and rights of others, feeling concern and empathy, acting in ways that benefit others
- Reciprocity (beware: obligation) and Altruism (pure)
- Secure attachment evoke RR and combat SR and stimulate oxytocin: required for health, growth and nurturance

# Resiliency Quiz

# Connectedness and Meaning

- New discoveries in brain science and human development studies: we are an empathic species by nature
- Empathy is necessary to our survival as a species
- We are not an aggressive, materialistic, utilitarian, and self-interested species as previously thought
- Technology, communication, new energy sources have rapidly expanded our global awareness and empathic capacities => potential shift from the Age of Reason to the Age of Empathy?

# Strategies that promote resiliency:

- Self-monitoring and CBT to discover individual strengths
- Finding the “ally within” — ‘make friends with the part of you that wants to take care of you’
- Imagery for inner strength; cultivating the ability to project yourself positively into the future
- Goal-setting: possible even with end-of-life issues, how do you want to be remembered?

# Creating a new now...

- What is important in my life now?
- What are my priorities?
- What are my passions?
- Why am I here?
- What are the gifts I have to give?
- What am I meant to do, what is my purpose?

# Belief and Faith

- Affirming beliefs and consciously living life according to your values makes a critical contribution to our physical health
- Belief in an entity greater than ourselves (e.g. God, Allah, Universal Consciousness, Higher Power, Nature, Science, faith in the Good of Humanity, etc...)
- The Placebo Effect, a.k.a. “Remembered Wellness”—positively projecting your healthy self into the future

# Spirituality...the Faith Factor

- 80% of individuals pick a religious word to elicit the RR
- Most individuals report a spiritual feeling of openness, 'oneness', connected to something larger than themselves while eliciting the RR
- All religions use some form of meditation and contemplation, as well as the importance of pro-social factors (e.g. community, fellowship, altruism)
- We are biologically wired for spirituality, for ritual
- Faith/Hope/Optimism allows you to believe in something that you can't see or prove...enables you to quiet distress, generate hope and positive expectancy, even in the face of the inevitability of disease and death
- Brings people together
- Judgemental attitude and Intolerance negate individual and society health benefits of spirituality/religion.

# Placebo = to please

- Therapeutic rewards to a good relationship between provider and client
- Realistic expectations conveyed in empowering, hopeful language
- Historical evidence of therapeutic alliance: priests, healers, sorcerers, medicine men, witch doctors, witches, shamans, midwives, herbalists, physicians, surgeons
- Early medicine relied on scientifically unproven potions and procedures—majority had no physical value, and some did more harm than good—however patients got better, either through the natural course of their illness or through the power of belief

# Placebo = to please

- British study in 1987 showed patient improvement when doctors conveyed positive information (firm diagnoses, confidently remarked clients could expect improvement in a few days, vitamins as “prescriptions” or told no meds required)
- No improvement after negative sessions (“I don’t know what’s wrong with you, therefore I will give you no treatment,” unsure the “medications”/vitamins will have any effect)

# 3 Essential Components for Remembered Wellness

- 1: Belief and Expectancy on the part of the client
- 2: Belief and Expectancy on the part of the caregiver
- 3: Belief and Expectancies generated by a relationship between the patient and the caregiver

# Stress, Resiliency, and Illness

- Thousands of studies on social support, isolation, social satisfaction, volunteerism and its effects on health
- Increased autoimmune disorders, increased chronic disease burden, increased disability (mental and physical), increased distress and depression, increased recurrence of MI, increased rates of mortality
- Altruism: improved mental health, giving (not receiving) help decreased risk of dying by 50%, volunteers decreased risk of dying by 63%

# Science of Resiliency

- Oxytocin
- Mirror Neurons
- At least 5 more Brain Structures
- Neurochemical, neuropeptides, and hormonal mediators of cellular function, organ function, and genetic expression

# Oxytocin

- Highest after childbirth, but present throughout life
- Promoted by social interaction
- Counter-acts the Stress Response physiology
- Stimulates growth, nurturance, attachment, bonding, trust
- Without it, insecure attachment=constantly unsafe or under threat, mental and physical health suffers due to chronic stress response
- Mammalian heritage: empathy and social relations are required to survive

# Mirror Neurons

- Present in over 5 major areas of the brain
- Fires both when mammal acts and a mammal sees another perform the same action, as if the mammal did the same action (smile)
- Evolution of imitation, understanding intentions, social development, language capabilities, empathy
- Implicated in Autism

# Neural mechanisms for resiliency

- Enhanced activity @ reward and motivation (PFC, NA, ACG): hedonia, optimism, learned helpfulness and optimism, meaning
- Decreased activity @ fear responsiveness (amygdala, hippocampus): effective behaviors despite fear
- Enhanced adaptive social behavior: altruism, bonding, teamwork

# Neurochemical, -peptide, -hormonal mediators of resiliency

- HPA Axis- cortisol, DHEA, CRH, Norepi
- Testosterone and Estrogen
- Neuropeptide Y
- Galanin
- Dopamine
- NF-kB factor
- 5HT transporter gene
- BZD receptor
- e.g. 1) stress activates NF-kB -> transcription factors -> inflammatory sticky cascade -> ulceration/plaque -> myocardial infarction
- e.g. 2) stress activates HPA/CRH + negative affect -> lower gene expression of NPY -> lower anxiolysis -> higher amygdala tone, emotional valencing, and diminished resiliency
- e.g. 3) NPY increased in special ops troops survival training, decreased in PTSD

# Take home message

- Resiliency factors can be learned and enhanced
- We all have the biological pre-requisites for Resiliency= hard-wired!
- Cultivate and nurture resiliency by
  - 1) first, take care of the basics: nutrition, exercise, sleep
  - 2) then, get out of the stress response and into relaxation
  - 3) learn cognitive skills, positive psychology
  - 4) connect with others, meaning

**Build resiliency at an emotional, psychological, cognitive, cellular, genetic, physics, community and population level**

# Equation

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