EFFECTS OF TAI CHI CHUAN ON THE ANXIETY AND SLEEP QUALITY OF YOUNG ADULTS

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TAI CHI CHUAN - WHAT IS IT?

- A traditional Chinese martial art with multiple intervention components (Wayne & Kaptchuk, 2008)
  - Musculoskeletal strength, flexibility and efficiency
  - Breathing
  - Concentration, attention and mindfulness
  - Imagery, visualization, and intention
  - Physical touch and subtle energy
  - Psychosocial interactions
  - Alternative health paradigm and philosophy
  - Rituals, icons, and environment
Often a high stress stage of life

2008 American College Health Survey results at ASU the most frequent factors negatively impacting academic performance within the last 12 months: stress (20.3%), sleep difficulties (16.5%), anxiety (14.6%)

Meta-analysis found tai chi to have moderate effect sizes on symptoms of anxiety (Hedges’ $g = 0.66$, in Wang et al., 2010)
Tai chi chuan classes at ASU - increases in mindfulness associated with improved sleep, self-regulatory self-efficacy, mood and perception of stress (Caldwell et al., 2010, 2011)

Increases in mindfulness across the semester for tai chi students while no change in control group (Caldwell 2011).

Sleep improved for tai chi participants but not for control group.

Stress perception did not change for tai chi students but worsened for control group.
CURRENT FEASIBILITY STUDY

Exploratory psychobiological processes

Tai Chi Chuan as Mind-body Exercise Develops Mindfulness

Two Psychobiological Processes
1. Improved Psychological Functioning (Decreased perception of stress, improved emotion regulation, decreased experiential avoidance, decreased rumination)
2. Reduced Physiological Arousal (Reduced HPA activity, changes in SNS responses to stress, improved vagal control of heart rate)

Improved Mood and Sleep Quality
• Decreased Anxiety
• Improved Sleep quality
Randomize 80 participants to one of three arms:
- (1) educational materials,
- (2) 10 weeks of tai chi classes,
- (3) 10 weeks of tai chi classes plus DVD with instruction
  http://www.chentaiji.com/books/

Measures taken pre-, 4th week, and post- (anxiety & sleep also at 2 month follow-up):
- State-Trait Anxiety Inventory
- Mindfulness, Perceived Stress, Experiential Avoidance
- Sleep quality - both self-report and ambulatory sleep architecture monitor
- Physiological arousal - salivary cortisol, salivary alpha-amylase, and cardiac autonomic modulation
REFERENCES

