

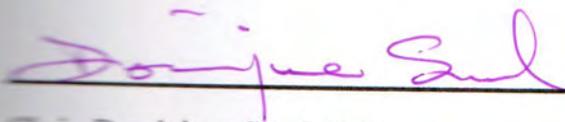
A Validation Study of WHEE as Therapeutic Intervention  
for Alleviating Test Anxiety

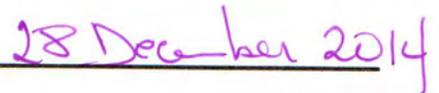
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Submitted to the faculty of  
Energy Medicine University  
in partial fulfillment  
of the requirements for the degree of  
Master of Science  
in Integrative Holistic Health

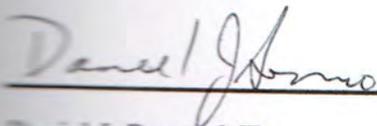
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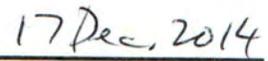




Chair, Dominique Surel, PhD

Date





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2014

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The work reported in this thesis is original and carried out solely by me, with the exception of assistance and direction gratefully received by professors and colleagues in order to produce the best end result.

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## Acknowledgements

The process of writing this thesis evoked a multiplicity of emotions. At times, there was elation, excitement, eagerness, pride, and a sense of accomplishment. Other times, there was a sense of frustration, anxiety, disinterest, aggravation, helplessness and disappointment. I repeatedly procrastinated and found anything else that needed to be done before I delved back into the steps needed to write this thesis.

Many times, the prospect of completing the research thesis was rather bleak. But through it all, emails from energy psychology professionals would end up in my inbox and were read, energy psychology conferences were attended, and correspondence with friends working in the field of energy medicine and energy psychology would be eagerly read and responded to. The excitement and prospects of this evolving area of health care and well-being has always drawn me back into the fold.

As the Association for Comprehensive Energy Psychology Executive Director, Robert Schwarz, stated after the 2012 ACEP conference in San Diego, “We are heading in the right direction. It is only a matter of time. It may be that 2012 will go down in history as the year that EFT and EP becomes mainstream.” It is this prediction and hope (in whatever year it may happen) that continuously moves me forward towards a career in this exciting field and has brought this thesis to a completion.

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## **Abstract**

A recently developed therapeutic technique, Wholistic Hybrid derived from EMDR and EFT (WHEE) (Benor, 2009), has great potential for successfully treating anxiety disorders. This study validated the anxiolytic effects of WHEE on a group of college students who experience significant test anxiety. In addition, this study compared the effectiveness of WHEE with the effectiveness of cognitive behavioral therapy (CBT) in relieving test anxiety in college students. Students attended two respective therapy sessions in either WHEE or CBT and continued using learned techniques for one semester. Reactive anxiety was measured using the Reactions to Tests scale (Sarason, 1984). Preliminary findings indicated that both WHEE and CBT effectively alleviated test anxiety in a pilot sample. Although more extensive experiments are required to accurately determine the benefits of WHEE compared to CBT, this study demonstrates that WHEE is a validated tool for relieving test anxiety among college students.

## Table of Contents

Acknowledgments	v
List of Tables	xi
List of Figures	xii
Chapter 1: Introduction	1
Background of the Problem	1
Statement of the Problem	6
Purpose of the Study	9
Research Question	9
Chapter 2: Literature Review	10
General Test Anxiety Research	10
Traditional Test Anxiety Therapy	11
Energy Psychology Therapy	13
Summary	16
Chapter 3: Research Design and Methods	17
Participants	17
Setting	17
Identification of Testable Subjects	18
Subject Training	18
Instrumentation	19
Design	20
Data Collection Procedures	20
Data Analysis	21

Chapter 4: Results	22
Chapter 5: Discussion, Conclusions, and Suggestions	33
Discussion	33
Conclusions	35
Suggestions for Future Research	36
References	37
Appendix A. Test Anxiety Scale	42
Appendix B. Reactions to Tests Scale	45
Appendix C. Flyer	47
Appendix D. WHEE Therapy Group Handout	50
Appendix E. Cognitive Behavioral Therapy Group Handout	57

## **List of Tables**

Table 1. Results of voluntary survey regarding technique benefits.

## **List of Figures**

Figure 1. No significant differences in test anxiety between CBT and WHEE groups prior to therapy.

Figure 2. Overall test anxiety decreased after CBT and WHEE therapy.

Figure 3. Tension related to test anxiety decreased after CBT and WHEE therapy.

Figure 4. Worry related to test anxiety decreased after CBT and WHEE therapy.

Figure 5. Test-irrelevant thinking unaffected by CBT or WHEE therapy.

Figure 6. Bodily symptoms related to test anxiety affected only by WHEE.

Figure 7. Frequency of CBT and WHEE therapy practice.

## Chapter 1 Introduction

### Background of the Problem

Eastern medicine has focused on working with the holistic, energetic form of a person for thousands of years. Meridians, auras, and chakras are nothing new to the Chinese people. As with most scientifically unproven techniques and, consequently, unaccepted to the Western medical model, working directly with energy via meridians, energy channels of the body, has been looked upon as an invalid and even an insane way to heal a person. Critics have even resorted to labeling energy work as akin to voodoo. Humans typically do not change their minds quickly and are more prone to cynicism and total disregard when their belief system is challenged.

Psychology in modern medicine has followed the Western medical model of clinical trials, both within the testing of psychological theories and within the arena of drug testing. If the theory or drug cannot be proven effective by statistical research analysis or case studies, any interest in evaluating a new *cure* is viewed with skepticism and somewhat suppressed at the onset of presentation.

Fortunately, people also possess unfailing keys to overcoming cynical and oppressive beliefs: hope and curiosity. These two undeniable human traits have prompted individuals suffering from afflictions, such as pain, anxiety disorders, and phobias, to reach out and explore alternative methods of dealing with debilitating issues. Either by word of mouth and/or the fast and far-reaching internet, *energy psychology* is integrating into mainstream terminology and practice. Feinstein, Eden, and Craig (2005) described the theoretical possibility upon which ancient Chinese medicine and energy psychology are based:

Energy is the blueprint, the infrastructure, the invisible foundation for the health of your body. Your body is composed of energy pathways and energy centers that are in a dynamic interplay with your cells, organs, moods, and thoughts. If you can shift these energies, you can influence your health, emotions, and state of mind. Stimulating energy points on the skin, paired with specific mental activities, can instantly shift your brain's electrochemistry to help overcome unwanted emotions such as fear, guilt, shame, jealousy or anger, help change unwanted habits and behavior, and enhance your abilities to love, succeed, and enjoy life (p. 3).

Feinstein et al. (2005) outlined the biological sequence that is involved when a threatening, dysfunctional emotional response is triggered:

1. A harmless sight, sound, smell, feeling, or thought is recognized by the amygdala, the part of the brain that identifies threat, as being similar to a previous threatening experience.
2. The amygdala sends impulses to the autonomic nervous system that elicit the "fight, flight, or freeze" alarm response. Chemicals are released into the bloodstream causing heart rate, blood pressure, and other bodily processes to undergo a series of dramatic changes. At the same time, primitive areas of the brain, designed to respond to threat, shape perception and thought. The rational mind has little involvement in this sequence.
3. The physical sensations of the alarm response are experienced as anger (fight), fear (flight), or inability to take action (freeze). (p. 22)

Energy psychology interventions interrupt this automatic sequence in these ways:

1. The triggering image is brought to mind while physically stimulating a series of acupressure points, also known as “acupoints” that send impulses directly to the amygdala, which inhibit the alarm response.
2. These impulses also cause a reduction, within the amygdala, of the number of neural connections between the image and the alarm response.
3. After a number of repetitions of number 1, the image can then be brought to mind, or the situation be experienced directly, without eliciting the alarm response. (p. 22)

Several different variations of energy psychology tapping techniques have been developed by various psychotherapists searching for ways to obtain better results during client psychotherapy sessions.

Emotional Freedom Techniques is the most popular meridian-based energy psychology tapping technique that involves tapping on a long series of acupoints on the face, chest, and hands (Craig, 2008). Craig, the creator of EFT, unequivocally believed that, “The cause of all negative emotions is a disruption in the body’s energy system” (Craig, 2008, p. 47). Craig emphasized that traumatic memories are not directly treated, as in traditional therapy, but rather the energetic disruption in the body’s energy system is rebalanced.

EFT was the inspiration for Benor’s (2009) energy psychology technique, which he named WHEE (Wholistic Hybrid derived from EMDR and EFT) also known as Whole Health – Easily and Effectively. Benor, in creating the WHEE technique, took EFT one step further, borrowing from the protocol of Eye Movement Desensitization and Reprocessing (EMDR; Shapiro & Solomon, 1995). Benor first started using EMDR to help produce changes in the emotional processing of clients suffering from anxieties, phobias, and fears.

EMDR is a widely recognized technique, in which the patient is guided in alternately stimulating the left and right sides of the body by moving their eyes from right to left and back; by using left and right auditory stimulation; or by tapping on the left and right sides of the body. At the same time, the mind is focused on issues the person wants to feel better about. No counteracting affirmation is used. The EMDR protocol is very carefully defined and practitioners are strongly encouraged to precisely follow this protocol ([www.emdr.com](http://www.emdr.com)). EMDR has been used to treat posttraumatic stress disorder (PTSD), panic disorder, addictions, substance abuse, and sleep disorders.

Studies have demonstrated the effectiveness of EMDR in helping people overcome PTSD, depression, phobias, self-esteem problems, as well as helping athletes achieve “peak performance” (Hockenbury & Hockenbury, 2003). Since 1990, more than 40,000 therapists have been trained in EMDR, and close to a million patients have been treated with the therapy (Hockenbury & Hockenbury, 2003, p. 646). EMDR has a broad base of published case reports and controlled research that supports it as an empirically validated treatment of trauma. The Department of Defense/Department of Veterans Affairs Practice Guidelines has placed EMDR in the highest category, recommended for all trauma populations at all times (Russell, Silver, Rogers, & Darnell, 2007). In addition, the International Society for Traumatic Stress Studies current treatment guidelines has designated EMDR as an effective treatment for PTSD (Foa, Keane, Friedman, & Cohen, 2008). The American Psychiatric Association (2004) Practice Guidelines for the treatment of PTSD (2004) recommended selective serotonin reuptake inhibitors (SSRIs), cognitive behavioral therapy (CBT), and EMDR all as first-line treatments of trauma. EMDR has also been used to effectively treat test anxiety in college students (Bauman & Melnyk, 1994; Gosselin & Matthews, 1995; Maxfield & Melnych, 2000).

EMDR can produce heavy abreactions—the expression and discharge of repressed emotions—and is therefore recommended for use only in a qualified therapist’s office. In contrast, EFT releases negative feelings about a past experience by reciting an affirmation while tapping on a defined series of acupressure points on the face, chest, and hand. EFT is safe to use on one’s own as it does not produce heavy abreactions.

Because Benor wanted to find a safer, less client-reactive therapy, he began to experiment with combining EMDR and EFT by using the alternating stimulation of left and right sides of the body (unrelated to acupoints) as used in EMDR, and at the same time, eliminating the many sets of acupoints, as in EFT (Benor, 2006). This was combined with the recitation of a statement focusing the mind on a problem, followed by a counteracting affirmation, also similar to EFT (Benor, 2006). When the intensity of the negative issue is reduced to zero, positive cognitions and feelings are installed and strengthened, to replace the negative ones that have been released, as in EMDR. Benor (2006) named this combination Wholistic Hybrid derived from EMDR and EFT, or WHEE. He concluded that WHEE was more potent and effective than using either one alone for the following reasons: WHEE is simpler to learn and use than EFT, takes a fraction of the time needed for EFT and other meridian-based therapies, rapidly replaces the negative feelings and cognitions with positive ones, is safe to use on one’s own, and is tremendously empowering, as it is so simple and so rapidly effective in self-healing. (Benor, 2006). Benor and other therapists have had great success utilizing the WHEE technique.

## **Statement of the Problem**

Most students experience test anxiety to some extent throughout their lifetimes. Test anxiety is a complex, multi-dimensional problem that can cause significant emotional distress and impairs optimal performance. Performance anxiety typically occurs in the presence of a difficult, challenging, or threatening situation, in which the student believes that he or she is inadequate or fears the possibility of failure (Cassady & Johnson, 2002; Hembree, 1988). For some college students, test anxiety grows into an all-consuming fear translating into anything from slight physical discomforts to psychological paralysis. Experiencing these symptoms can then escalate into overall debilitating thoughts, such as, “There must be something seriously wrong with me,” or, “I can’t handle the requirements for my studies.” Unfortunately, each experience of not doing well on a test contributes to an increasingly negative self-image, carries over from the testing room into other situations, and inhibits the ways an individual reacts to different life experiences (Johnson, 1997).

The stresses of academic life can prompt serious episodes of anxiety in students who are prone to test anxiety (Zeidner, 1998). Hill and Sarason (1966), pioneers in test anxiety research, followed a cohort of elementary school children, the 10% with the highest anxiety and 10% with the lowest anxiety, and found that the students who experienced the most test anxiety were over one year behind the national norm in reading, mathematics, and basic skills. Another psychologist, Spielberger (1962), followed high anxiety college students for three consecutive years and found more than 20% of the students were classified as academic failures and consequently dropped out compared to 6% of the low anxiety students. Spielberger, Gorsuch, and Lushene (1970) later developed the State/Trait Anxiety Inventory, a widely-used survey in the field.

Spielberger and Vagg (1995) concluded that test anxiety: causes poor performance; is inversely related to students' self-esteem; is directly related to students' fears of negative evaluation, defensiveness, and other forms of anxiety; is influenced by ability, gender, and school grade level; and can be reduced effectively by a variety of treatments.

Test anxiety can develop for a number of reasons, including but not limited to: fear of failure; a past bad experience during a test; lack of preparation or low confidence; or generalized performance anxiety (Deffenbacher, 1980). All of these causes for test anxiety stem from underlying emotional factors. Some symptoms that a student may experience in relation to test anxiety include:

- Physical symptoms—headaches, nausea, diarrhea, excessive sweating, shortness of breath, lightheadedness or fainting, rapid heartbeat, and/or dry mouth
- Emotional symptoms—mild to intense feelings of fear, disappointment, anger, depression, uncontrollable crying or laughing, feelings of helplessness, feelings of dread
- Mental symptoms—racing thoughts, memory loss, going completely blank, negative self-talk, difficulty organizing thoughts
- Behavioral symptoms—fidgeting, pacing, alcohol and substance abuse (Hembree, 1988)

The nine percent of Americans who during any six-month period are affected with an anxiety disorder share at least one common trait—they hunger for relief. This is not a condition people can ignore or actively will themselves out of, despite their desire to do so (Feinstein et al., 2005). Treating with traditional psychiatric therapy techniques can be costly and time-consuming and may or may not produce the desired results.

Cognitive behavioral therapy (CBT) strategies have been shown to be effective in treating test anxiety (Spielberger, 1980; Sapp, 1999). One CBT technique, muscle relaxation therapy, emphasizes systematic relaxation of the muscles while using the mind to control each part of the body.

Sapp (1999) found that test-anxious students tend to hold irrational beliefs, for example that they cannot succeed without being “A” students, it is easier to avoid rather than to face exams, and it is the end of the world when they do not perform well on exams. CBT enlightens the test-anxious student to the awareness that their test anxiety is the result of irrational thinking. Once students are aware of irrational thoughts, they can be taught to challenge and confront these beliefs in the present moment. Students prone to high levels of test anxiety must constantly work to change their irrational beliefs about exams. With consistent attention and correction of irrational beliefs, students can gradually reduce the amount of anxiety experienced related to tests, but no perfect cures for test anxiety exist (Sapp, 1999).

Some Western psychology professionals acknowledge the reality of the *energetic body*, opening new therapeutic options for psychotherapy clients, as well as people suffering from less debilitating anxieties, fears, and pain. One therapy that interacts with the energetic body is acupuncture, the principles of which were first applied to psychological issues by Callahan (1985) and Diamond (1979) in the earliest versions of energy psychology. While acupuncture is usually associated with the use of needles, less invasive procedures—such as tapping or massaging specific acupoints on the surface of the skin—can also produce the desired effects. Feinstein et al. (2005, 2012) proposes that stimulating specific points on these energy pathways, called meridians, while verbally addressing the fear or anxiety alters neurochemistry in ways that enhance the impact of the words and images one focuses on. Clinical talk therapy using

imaginative and self-suggestion techniques have been established as effective ways of changing feelings, behaviors, and beliefs (Raz & Shapiro, 2002). Combining words or images with the stimulation of energy points appears to send signals to the brain that further boost the potency of these methods (Benor, 2014; Feinstein et al., 2005).

### **Purpose of Study**

This study assesses the effectiveness of WHEE therapy in alleviating test anxiety in college students who suffer from moderate to severe test anxiety, following on the findings from a previous pilot study of WHEE for test anxiety done by Benor, Ledger, Toussaint, Hett and Zaccaro (2009). Furthermore, this study also compared the anxiolytic effects of WHEE and CBT, an established therapy for relieving many types of anxieties.

### **Research Question**

The main research question driving this study was, “Is the WHEE tapping technique as effective, less effective, or more effective than CBT in alleviating test anxiety in college students who suffer from moderate to severe test anxiety?” To ascertain the answer to this question, participating students answered an online survey questionnaire at five pre-determined intervals during a four-month period of one semester. The 40-question survey allowed rating of each question on four different levels of severity of anxiety.

## Chapter 2: Literature Review

### General Test Anxiety Research

The stresses of academic life can trigger severe test anxiety in some students (Zeidner, 1998). Test-anxious individuals usually have low levels of self-efficacy, feel unable to influence test outcomes, and believe that any effort to succeed on tests is futile (Sarason, 1984). When obstacles occur during a test, individuals with debilitating test anxiety often give up quickly if initial attempts to overcome the challenges are ineffective. This fuels a cycle of self-defeating behavior, as repeated failure on tests lowers self-efficacy (Sapp, 1999).

Test anxiety is a special case of general anxiety consisting of phenomenological, physiological, and behavioral responses related to fear of failure (Sieber, O'Neil, & Tobias, 1977). The primary problem associated with test anxiety is intrusive thoughts that interfere with task-focused thinking (Sarason, 1984). The test-anxious person's negative self-appraisals hinder performance because these are self-preoccupying and detract from task concentration (Sarason, 1984). Sarason (1984) suggested that test anxiety develops during early school years as a result of a child's performance not corresponding with unrealistic parental expectations.

Hill and Sarason (1966) found through extensive research that highly test-anxious students were more self-critical and more likely to produce personalized, derogatory responses during testing that interfered with task performance.

Taking a cognitive-behavioral view of test anxiety, Sapp (1999) conceptualized worry as the cognitive component of test anxiety and emotionality—the thoughts and feelings that result from test anxiety—as the behavioral response. Both cognitive and behavioral responses can be viewed as the result of experience (Sapp, 1999). From a cognitive perspective, stress can be

understood as a call for action, that homeostasis has been disrupted and needs to be reestablished (Sarason & Sarason, 1981). Situational stress is especially prone to evoking task-irrelevant cognitions that impair performance (Sarason, 1984).

Recently, Burns (2004) examined the relationship between test anxiety and a) exam performance expectations, b) actual exam performance, and c) the level of exam preparation among college students. Interestingly, he found that performance expectations positively correlated with test anxiety; exam preparation and performance on previous exams were not associated with test anxiety (Burns, 2004). These findings are further evidence that test anxiety is primarily triggered by cognitive, emotional, and behavioral processes related to performing well (Burns, 2004).

### **Traditional Test Anxiety Therapy**

Individuals seeking relief from anxiety disorders commonly rely on psychotherapeutic interventions. Historically, psychotherapy sessions have focused on using therapist-client verbal interactions to counter limiting or irrational beliefs, expand self-image, and open consciousness to perception of different possibilities (Sapp, 1999). In this setting, a therapist attempts to alter the client's thought processes, which would subsequently affect the client's emotional patterns as well. Some psychotherapy techniques that effectively reduce test anxiety are: systematic desensitization, cognitive therapy, cognitive-behavioral modification therapy, hypnosis, relaxation therapy, and guided imagery (Ergene, 2003). In addition, a combined strategy for reduction of test anxiety was found more effective than a single strategy (Ergene, 2003; Sapp, 1996).

In addition to therapist-led psychotherapy sessions, test anxiety can also be addressed by improving overall physical well-being. Utilizing deep breathing techniques, getting the right amount of sleep, avoidance of caffeine, alcohol, and sugar, development of good eating habits, and exercising aerobically all are recommended for general stress relief (Pauk, 1997). Naturopathic care for anxiety that included dietary counseling, deep breathing relaxation techniques, and herbal supplements has been verified as an effective regimen for decreasing moderate to severe anxiety (Cooley et al., 2009). However, these well-intentioned recommendations may actually increase stress for some individuals, creating an inner turmoil that leads to an unhealthy indulgence in *forbidden* foods, alcohol, or other substances as a coping mechanism for anxious feelings. These indulgences can trigger more stress, leading to a physical and emotional binge and purge cycle.

Embarking upon a more gentle approach, Gibbs (1990) followed the insights of Zen Buddhism for strategies to alleviate test anxiety. The Zen approach, like many other spiritual practices, places the emphasis on the present moment. Rather than viewing studying, writing, and test-taking as painful necessities, Gibbs (1990) urged students to experience the learning process as an enjoyable *dance* accomplished by becoming less self-conscious and more conscious of the task at hand. Gibbs (1990) boldly asserted that “the biggest problem most students face is getting out of their own way so their natural intelligence can do the work it is supposed to do unencumbered” (p.5).

Smith, Glass, and Miller (1980) studied a variety of psychotherapy treatments—person-centered, systematic desensitization, behavior modification, and cognitive behavioral therapy—and found all to be more effective than no therapy. Sapp (1996) studied the effects of cognitive-behavioral hypnosis, relaxation therapy, and supportive counseling on test anxiety and concluded

that CBT techniques effectively reduce test anxiety, but counseling for the improvement of study skills does not alleviate test anxiety. However, therapeutic intervention strategies that combine both CBT efforts to change negative self-talk and practical skills instruction to improve study habits has been shown to improve performance and reduce test anxiety (Sapp, 1996).

### **Energy Psychology Therapy**

Energy psychology tapping techniques, including WHEE and EFT, have been shown to produce desired mental and emotional changes quickly, sometimes in just one session (Benor, 2005; Benor, 2006). Several recent studies have been published confirming the anxiolytic effects of these energy psychology interventions.

In 2009, Sezgin and Özcan, compared the effects of Progressive Muscular Relaxation (PMR) and EFT in a randomized blind controlled study on 312 Turkish high school students who were suffering from severe test anxiety. A single treatment session was given with self-treatment at home thereafter, and test anxiety was measured before treatment and at the end of a two-month period using the Test Anxiety Inventory (TAI; Sezgin and Özcan, 2009; Spielberger, 1980). Both PMR and EFT treatments alleviated test anxiety, but the improvement for the EFT group (mean pretreatment score of 53.9 decreased to 33.9) was significantly greater than the decrease (56.3 to 44.9) for the relaxation group. The EFT group scored lower on emotionality and worry subscales, but this difference was not statistically significant (Sezgin and Özcan, 2009).

Another recent study compared the efficacy of EFT and EMDR, the two components of WHEE, in the treatment of PTSD (Karatzias et al., 2011). Forty-six participants were randomly divided into two groups and treated using either EMDR or EFT techniques, and PTSD symptoms

were assessed at baseline, after eight weeks of treatment, and at a follow-up three months later (Karatzias et al., 2011). Overall, the results indicated that both interventions produced significant therapeutic gains at post-treatment and follow-up in an equal number of sessions. Similar treatment effect sizes were observed in both treatment groups. Both interventions produced therapeutic gains at post-treatment and follow-up, with a slightly higher proportion of patients in the EMDR group reporting substantial clinical changes compared with the EFT group (Karatzias et al., 2011).

Jain and Rubino (2012), in their study of 40 undergraduates who completed the study suffering from debilitating test anxiety, found that two in-depth EFT sessions significantly improved test anxiety over the course of a semester, compared to the no-treatment control group. Notably, instruction in diaphragmatic breathing was similarly effective for the treatment of test anxiety (Jain & Rubino, 2012). Boath, Stewart, and Carryer (2013) found that EFT techniques also relieved anxiety related to public speaking in undergraduate students.

The impetus for this validation study was the pilot study by Benor, Ledger, Toussaint, Hett, and Zaccaro (2009) that compared the anxiolytic effects of WHEE, EFT, and CBT in the context of test anxiety. Fifteen participants were divided evenly into groups that underwent either WHEE, EFT, or CBT interventions, and test anxiety was measured using the Test Anxiety Inventory (TAI) and Hopkins Symptom Checklist-21 (HSCL-21; Benor et al., 2009). While the small sample size of this study precludes strong conclusions about the effectiveness of these interventions, Benor et al. (2009) reported significant reductions in anxiety scores after all three therapies, and no significant differences among the TAI or HSLC-21 scores for the three treatments. However, in only two sessions, WHEE and EFT achieved the same benefits as CBT did in five sessions (Benor et al., 2009). These preliminary findings suggest that WHEE and

EFT may provide relief from test anxiety quicker and more effectively than traditional psychotherapies such as CBT.

Bair (2006) examined client and therapist heart rates before and after a WHEE session. Interestingly, the heart rates of the therapist (or healer) synchronized with the client only when he or she sat within a 3-4 foot range of the healer, which was considered the *strong* range of the energy field of the healer's heart (Bair, 2006). The control group, who also practiced WHEE, sat beyond a 15-18 foot range of the healer and did not experience heart rate synchronization, nor did they benefit as much from the healing session as the intervention group, as measured by Subjective Units of Distress and Profile of Mood States scores (Bair, 2006). These data suggest a physical mechanism of action for the healing effects of WHEE in the hands of skilled practitioners of energy psychology with an additional healing benefit of being in a closer proximity to experience heart synchronicity.

Although the American Psychological Association remains largely skeptical of energy psychology as a whole, the field enjoyed a step toward mainstream acceptance when the American Psychological Association approved courses in EFT for Continuing Education units in 2012. Furthermore, while the American Psychological Association has yet to formally evaluate energy psychology, Feinstein (2012) asserted that EFT meets the professional association's Division 12 Task Force criteria for *well-established treatment* for phobias (Salas, Brooks, & Rowe, 2011; Wells et. al., 2003) and test-taking anxiety (Jain & Rubino, 2012; Sezgin & Özcan, 2009). The growing body of peer-reviewed scientific literature, combined with extensive clinical reports, and vast amounts of personal testimony, all suggest that energy psychology is a rapid and effective treatment for a range of mental and emotional ailments (Church, 2013).

## **Summary**

Many people suffering from anxiety find relief using energy psychology therapies as well as traditional Western interventions, such as cognitive behavioral therapy (CBT). One energy psychology therapy that has successfully alleviated an assortment of anxiety disorders is emotional freedom techniques (EFT), which combines acupoint tapping with affirming self-talk while simultaneously recalling an emotionally salient event. A novel related therapy, WHEE, adds alternating right-left eye movements (also known as Eye Movement Desensitization and Reprocessing or EMDR). Test-taking anxiety, in particular, has been demonstrably reduced by EFT, and a recent pilot study (Benor et al., 2009) indicated that WHEE may also have anxiolytic effects and produce quicker relief than CBT.

## **Chapter 3: Research Design and Methods**

### **Participants**

Participants were recruited from Eckerd College in St. Petersburg, FL. Students currently enrolled in the college, and who scored over 12 out of 37 points on the Test Anxiety Scale (TAS; Sarason, 1980; Appendix A) met the inclusion criteria. According to the TAS scoring key, a score below 12 ranks in the low test anxiety range. A score of 12 to 20 ranks in the medium range. Scoring 15 or greater is a good indication an individual experiences considerable discomfort about taking tests.

Students currently in psychiatric treatment for severe psychosis or taking prescription drugs for anxiety, depression, or psychosis were excluded from this study.

The final sample consisted of eight students between the ages of 18-20 years old. Only one male participated in this study. All were first or second year college students.

### **Setting**

The WHEE and CBT training sessions took place in a classroom on the Eckerd College campus in St. Petersburg, FL. WHEE sessions were conducted by Daniel Benor, via Skype and cell phone, and the researcher present in the classroom. CBT sessions were conducted by David Swindall and the researcher, both present in the classroom. Handouts with guidelines for the technique presented (either WHEE or CBT respectively) were provided to each participant at the first session (Appendices D and E).

Participants answered five separate surveys at pre-determined intervals to assess their test anxiety using their own personal computers. These surveys were created by the researcher using

a third-party website designed specifically for survey administration, data collection, and analysis. The survey was modeled on Sarason's (1984) Reactions to Tests scale (RTT; Appendix B).

### **Identification of Testable Subjects**

The Director of Counseling at Eckerd College circulated flyers (Appendix C) to students who accessed the Counseling Center offices, and discussed the study with any students who sought help for test anxiety. A psychology professor at Eckerd College allowed the researcher to personally recruit students and distribute flyers in her classroom, and several other psychology professors distributed flyers in their classrooms. Flyers were also posted at several general meeting facilities throughout campus. An e-blast was sent out to all Eckerd College residential students and to all Eckerd College PEL (Program for Experienced Learners) students with the flyer attached.

Students who responded to the flyer either by telephone or email were directed to the pre-designed survey website to take the TAS (Sarason, 1980), a well-established tool for assessing the degree of test anxiety. A test score of 12 and above categorized the student as suffering from moderate to severe test anxiety, and were included in the study if he or she met the inclusion and exclusion criteria.

### **Subject Training**

A total of 17 students were accepted into the research project. Students were randomly divided into two groups. Eight students were placed in the WHEE group, and nine students were

placed in the CBT group. All students were told that they must commit to attend two 2-hour training sessions on campus and complete all five online surveys at pre-determined intervals.

Five students attended both nights of the WHEE session, and four of those students completed the five online surveys. At the first WHEE session on March 21, 2011, Benor taught the students via Skype how to use the WHEE protocol to specifically alleviate their test anxiety and a handout explaining the WHEE protocol was given to each student (Appendix D). Dr. Benor then conducted a group WHEE session. At the second session two weeks later on April 4, 2011, via Skype and speaker phone, Benor answered questions from students regarding their experience using WHEE and conducted a second group WHEE session.

Eight students attended the first CBT session, five of those students attended the second session, and four of them completed the five online surveys. At the first CBT session on March 22, 2011, Swindall talked about anxieties and fears related to test anxiety and taught the Progressive Muscle Relaxation (PMR) technique, a construct of CBT. A handout with information about CBT and test anxiety was given to each student (Appendix E). At the second session on April 5, 2011, Swindall reviewed the PMR technique, showing them a condensed version of the technique. He then took them through a PMR session designed to relieve anxieties related to test-taking. Students from both groups were asked to continue with the therapy learned in the instructional sessions at least several times a week, or more often if desired.

## **Instrumentation**

The TAS (Sarason, 1980) consisted of 37 true-false questions regarding emotional, cognitive, and behavioral responses to exams. This was a precursor to the more refined RTT scale (Sarason, 1984), and was used primarily as a participant selection tool in this study.

The Reactions to Tests scale (RTT; Sarason, 1984) consisted of forty questions evenly divided into four sub-scales: Tension, Worry, Test-Irrelevant Thinking, and Bodily Symptoms. Participants could choose one of four Likert-type answers for each question: 0-Not Typical, 1-Somewhat Typical, 2-Quite Typical, 3-Very Typical. A Grand Total was calculated as the sum of all sub-scale scores.

## **Design**

The RTT scale (Sarason, 1984) was administered via online survey on five separate, pre-determined occasions. All surveys were identical. The first survey was completed immediately after the first WHEE or CBT session. The students were asked to use WHEE or CBT techniques at least once a week. After presumably practicing their respective technique for several weeks, the second survey was completed up to 48 hours before a mid-term exam, and the third survey was completed up to 48 hours after the same mid-term exam. The fourth survey was completed within 48 hours before a final exam, and the fifth survey was completed within 48 hours after the same final exam. All RTT scale (Sarason, 1984) surveys were completed over an eight week period in the spring semester of 2011.

## **Data Collection Procedures**

Between the first and second session, each group was instructed to login to the researcher's Survey Monkey website and complete the first RTT scale (Sarason, 1984). Each participant was given a unique, anonymous participant ID number, which enabled the researcher to verify correct timing of survey completion and prevent data duplication. The participants completed this same procedure at the five assigned frequencies throughout the project. The web

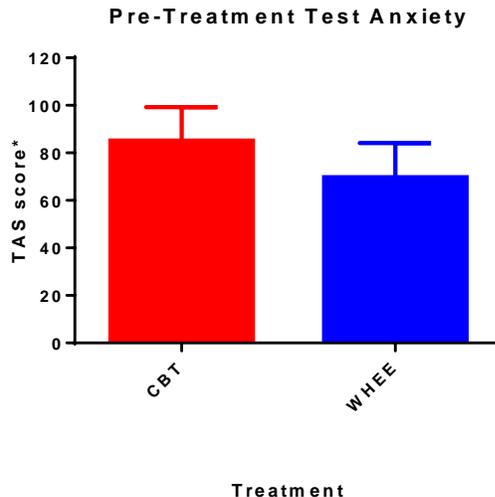
addresses for each survey was unique, allowing the data collected for each subsequent survey to populate a different data bank. Therefore, the CBT group and the WHEE group each had five different data collection banks resulting in a total of ten different data banks utilizing the same exact RTT scale (Sarason, 1984).

### **Data Analysis**

All data were analyzed using Prism 6, (Graphpad Prism, La Jolla, CA). In all surveys, 100% of the questions were answered by each participant. TAS (Sarason, 1980) scores were converted from 37-point scale to 120-point scale for comparison with later test-anxiety as measured by RTT scale (Sarason, 1984), and analyzed using unpaired Student's *t*-test at the 95% level of significance. RTT scale (Sarason, 1984) scores for CBT and WHEE were analyzed separately using repeated measures one-way analysis of variance (ANOVA) with a Greenhouse-Geisser correction for each sub-scale score (Tension, Worry, Test-Irrelevant Thinking, Bodily Symptoms) and the Grand Total at the 95% level of significance. Post hoc tests were performed using Bonferroni's correction.

## Chapter 4: Results

This study was designed to assess the use of WHEE as therapy for moderate-to-severe test anxiety. Participants were chosen who reported anxiety scores of at least 12 (out of 37 total points) on the Test Anxiety Scale (TAS; Sarason, 1980). This score was converted to a 120-point scale for comparison with post-treatment Reactions to Tests (RTT; Sarason, 1984) scale scores because no pre-treatment test was required. Both the TAS and the RTT were very similar in scope and design; therefore, the comparison is considered to be an appropriate baseline data bank for comparison. There were no significant differences in average levels of pre-treatment test anxiety between CBT ( $85.14 \pm 7.06$ ) and WHEE ( $69.73 \pm 7.19$ ) groups, as measured by adjusted TAS score ( $t(6) = 1.53, p = 0.18$ ; Figure 1).

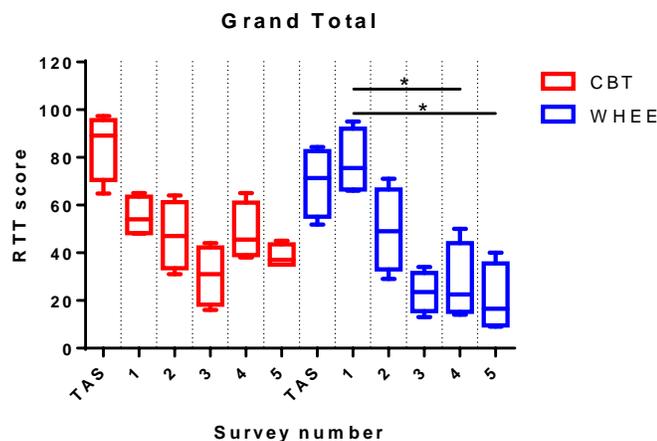


*Figure 1.* No significant differences in test anxiety between CBT and WHEE groups prior to therapy.

Approximately one month after taking the TAS (Sarason, 1980), students participated in two 2-hour instructional sessions about either CBT ( $n = 4$ ) or WHEE ( $n = 4$ ) therapy. Immediately after instruction anxiety-reducing therapy techniques, students answered an online survey to measure test-anxiety using the RTT (Sarason, 1984) scale. Over the course of eight weeks, students then answered the identical survey before and after a mid-term exam, and before and after a final exam. The RTT (Sarason, 1984) scale consisted of ten questions for each subscale (Tension, Worry, Test-Irrelevant Thinking, Bodily Symptoms), and the sum of these scores was calculated as a Grand Total score.

## Overall Test Anxiety Decreased after CBT and WHEE Therapy

A repeated measures ANOVA with a Greenhouse-Geisser correction determined that mean overall test anxiety significantly changed over time for both CBT and WHEE groups ( $F(1.429, 4.287) = 9.04, p = 0.03$ ;  $F(1.799, 5.398) = 5.70, p = 0.048$ , respectively). As illustrated in Figure 2, post hoc tests using the Bonferroni correction revealed that instruction in WHEE therapy elicited a significant reduction in test anxiety, as measured in Grand Total RTT score, from the first use of WHEE (first survey;  $133.0 \pm 28.4$ ) to before (fourth survey;  $46.8 \pm 30.6, p = 0.03$ ) and after the final exam (fifth survey;  $33.8 \pm 27.7, p = 0.03$ ). Instruction in CBT therapy did not elicit robust effects; post hoc analyses revealed a non-significant reduction in Grand Total RTT score from the first use of CBT (first survey;  $95.5 \pm 13.5$ ) to after the final exam (fifth survey;  $66.3 \pm 9.3, p = 0.08$ ).



*Figure 2.* Overall test anxiety decreased after CBT and WHEE therapy. This graph illustrates the Grand Total RTT scale score out of 120 possible points. TAS score was converted from 37-point to 120-point scale, and not included in the statistical analysis. \*,  $p < 0.05$ .

## Tension Decreased after CBT and WHEE Therapy

A repeated measures ANOVA with a Greenhouse-Geisser correction determined that mean tension related to test anxiety significantly changed over time for both CBT and WHEE groups ( $F(2.630, 7.890) = 10.72, p = 0.004$ ;  $F(1.752, 5.255) = 17.69, p = 0.005$ , respectively). As illustrated in Figure 3, post hoc tests using the Bonferroni correction revealed that instruction in WHEE therapy elicited a significant reduction in tension related to test anxiety, as measured in Tension RTT subscale score, from the first use of WHEE (first survey;  $24.3 \pm 2.2$ ) to before (fourth survey;  $9.3 \pm 5.5, p = 0.03$ ) and after the final exam (fifth survey;  $6.0 \pm 4.2, p = 0.02$ ). Instruction in CBT therapy did not elicit robust effects; post hoc analyses revealed a non-significant reduction in Tension RTT subscale score from the first use of CBT (first survey;  $18.3 \pm 3.6$ ) to after the final exam (fifth survey;  $11.0 \pm 2.2, p = 0.13$ ).

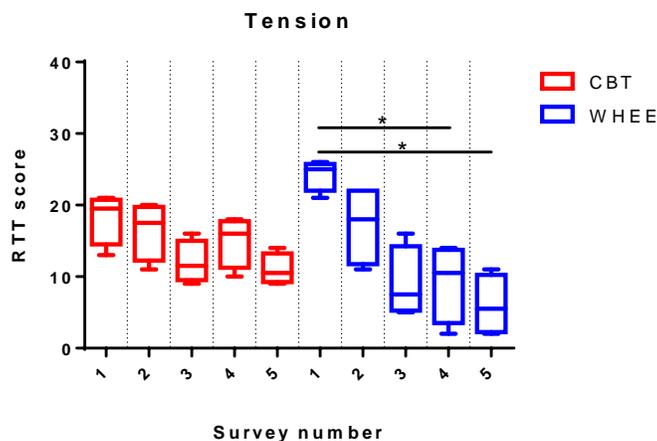


Figure 3. Tension related to test anxiety decreased after CBT and WHEE therapy. This figure illustrates the Tension RTT subscale score out of 40 possible points. \*,  $p < 0.05$ .

## Worry Decreased after CBT and WHEE Therapy

A repeated measures ANOVA with a Greenhouse-Geisser correction determined that mean worry related to test anxiety significantly changed over time for both CBT and WHEE groups ( $F(2.013, 6.038) = 9.03, p = 0.02$ ;  $F(1.716, 5.148) = 22.65, p = 0.003$ , respectively). As illustrated in Figure 4, post hoc tests using the Bonferroni correction revealed that instruction in WHEE therapy elicited a significant reduction in worry related to test anxiety, as measured in Worry RTT subscale score, from the first use of WHEE (first survey;  $23.0 \pm 1.4$ ) to before (fourth survey;  $7.8 \pm 2.2, p = 0.007$ ) and after the final exam (fifth survey;  $7.3 \pm 2.6, p = 0.004$ ). Instruction in CBT therapy did not elicit robust effects; post hoc analyses revealed a non-significant reduction in Worry RTT subscale score from the first use of CBT (first survey;  $15.0 \pm 3.7$ ) to after the final exam (fifth survey;  $10.8 \pm 1.3, p = 0.77$ ).

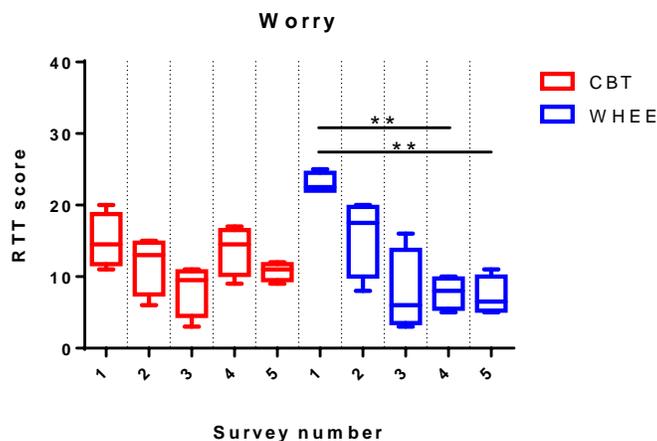


Figure 4. Worry related to test anxiety decreased after CBT and WHEE therapy. This figure illustrates the Worry RTT subscale score out of 40 possible points. \*\*,  $p < 0.01$ .

### Test-Irrelevant Thinking Not Affected by CBT or WHEE Therapy

As illustrated in Figure 5, repeated measures ANOVA with a Greenhouse-Geisser correction determined that mean test-irrelevant thinking, as measured by the Test-Irrelevant Thinking RTT subscale score, did not significantly change over the course of the eight-week study for either CBT or WHEE groups ( $F(2.416, 7.247) = 3.76, p = 0.07$ ;  $F(1.404, 4.212) = 2.739, p = 0.17$ , respectively).

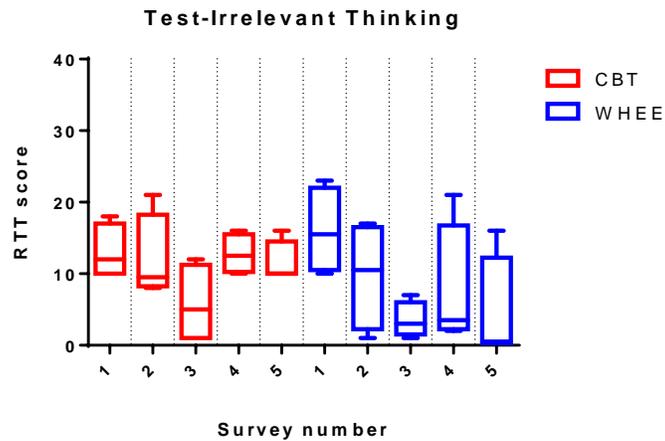
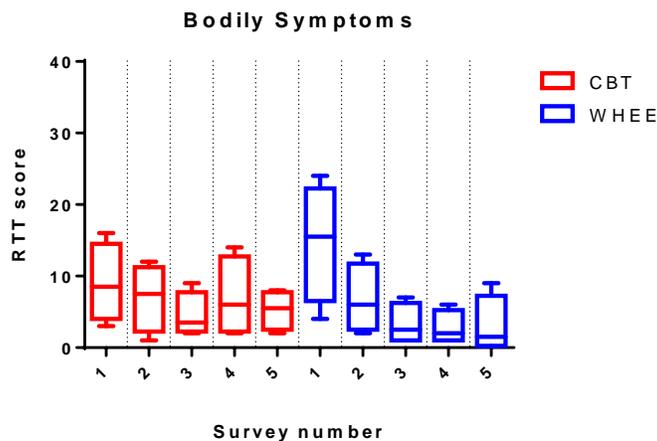


Figure 5. Test-irrelevant thinking unaffected by CBT or WHEE therapy. This figure illustrates the Test-Irrelevant Thinking RTT subscale score out of 40 possible points.

## Bodily Symptoms Affected by WHEE Therapy Not CBT

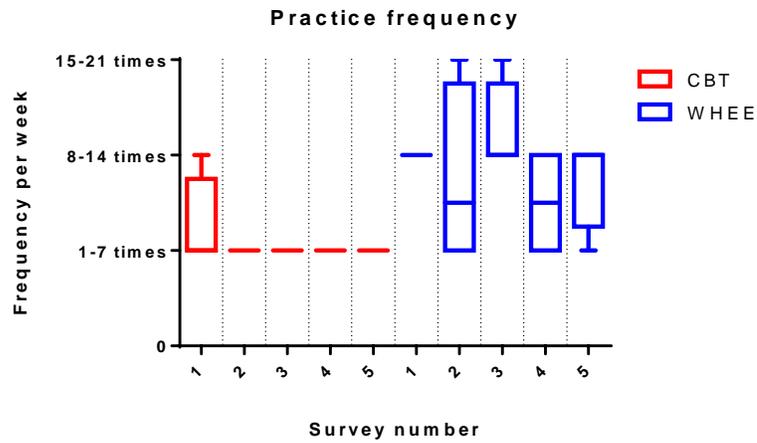
As illustrated in Figure 6, repeated measures ANOVA with a Greenhouse-Geisser correction determined that mean bodily symptoms of test anxiety significantly changed over time for only for the WHEE group ( $F(1.887, 5.662) = 5.612, p = 0.046$ ). Post hoc tests using the Bonferroni correction did not detect a significant reduction in bodily symptoms of test anxiety, as measured in Bodily Symptoms RTT subscale score, from the first use of WHEE (first survey;  $14.8 \pm 8.3$ ) to after the final exam (fifth survey;  $3.0 \pm 4.1, p = 0.23$ ). Instruction in CBT therapy did not affect Bodily Symptoms RTT subscale scores ( $F(1.376, 4.128) = 1.382, p = 0.33$ ).



*Figure 6.* Bodily symptoms related to test anxiety affected only by WHEE. This figure illustrates the Bodily Symptoms RTT subscale score out of 40 possible points.

## Frequency of WHEE and CBT Technique Practice

After each of the five surveys, participants were asked if they practiced 1-7 times a week, 8-14 times a week, or 15-21 times a week. Overall, participants trained in WHEE practiced the techniques with more frequency than participants trained in CBT.



*Figure 7.* Frequency of CBT and WHEE therapy practice. Overall, participants trained in WHEE practiced the techniques with more frequency than participants trained in CBT.

Participants were asked, but not required, to complete a subjective survey responding with their own words after completion of the project. Three participants from each group completed the survey, and all results are shown in Table 1.

Table 1

*Results of Voluntary Survey Regarding Technique Benefits*

---

Do you feel the technique was helpful in alleviating your test anxiety?

<u>WHEE group</u>	<u>CBT group</u>
Yes, definitely helped me to relax and think more constructively.	Yes, after completing the techniques, I noticed improvement on test scores and lower anxiety levels.
Yes, it was an effective technique.	Not really. It just made me more focused not less anxious.
Yes, it helped me to remain calm about the test and to clear my head.	I learned to relax, but didn't really like using it as a test anxiety technique. I got stressed trying to calm myself down in that way.

---

Did you find the technique easy or difficult to incorporate into your daily routine?

<u>WHEE group</u>	<u>CBT group</u>
It was an easy and powerful technique, but easy to forget about doing it.	Easy. I would use small amount of free time during the day.
At first it was difficult to add to routine, but with some practice it was easy to incorporate into my routine.	Easy. I did parts of the technique throughout the day.
Very easy. It did not take long and it was able to calm me down the rest of the day.	It depended. Some days were busy, and it can be a long way to de-stress.

---

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Would you recommend the technique to others to use in alleviated test anxiety?

WHEE group

CBT group

Yes.

Yes.

Yes, I would say that WHEE is generally effective on most people who give it a good try and incorporate it into their daily routines.

Probably, as I think it would help.

Yes.

Yes, I don't think it is for everybody, but I know it helped a lot of individuals.

---

Did you use the technique to alleviate any fears, anxieties, or pain relating to anything other than test anxiety?

WHEE group

CBT group

Yes, I used it for general stress and anxiety.

Yes, when faced with difficult assignments.

No, I only used WHEE for test anxiety.

No.

Not really.

Just to de-stress.

---

Would you recommend the technique to others for use in alleviating other anxieties, fears, and/or pain? Please explain.

Whee group

CBT group

Yes, it's an easy useful technique.

Yes, I would inform them on how it would help them to relax.

Although I did not have experience doing this, I would still recommend this because it worked well with my test anxiety.

Yes, I have witnessed others use the technique to alleviate their anger so they they do not do something rash. Hence, I would recommend others to try it.

Yes, it could help anyone and anything they are nervous about, so why not try it.

Yes, to de-stress.

---

Please describe your overall experience participating in the research project.

Whee group

I learned many new things and the power of integrating both sides of the mind.

Overall, I had a good experience, and I am glad I got to share it with other students who seemed to experience positive results.

Very interesting, opened my eyes to new things.

CBT group

I would say that overall the experience was positive. I was able to improve my test scores.

It made me much more focused. The two group meetings were fun. It was a cool experience.

It was fun. I got to know a few more people around campus, and I also got to learn a de-stress technique.

---

## Chapter 5: Discussion, Conclusions, and Suggestions

### Discussion

This study primarily sought to validate the use of Wholistic Hybrid derived from EMDR and EFT (WHEE) therapy as a practical and effective treatment to reduce test anxiety among college students. Furthermore, this study compared WHEE therapy with Cognitive Behavioral Therapy (CBT), a widely-accepted treatment for many types of anxiety disorders.

Over an eight-week period, participants trained in both CBT and WHEE therapeutic practices reported reduced overall test anxiety. While there were no significant differences in pre-treatment anxiety as measured by the TAS (Sarason, 1980), participants in the WHEE group reported higher initial test anxiety immediately after training as measured by the RTT scale (Sarason, 1984). This may explain the anxiolytic effect suggested by the RTT scale (Sarason, 1984) data. By the end of the eight-week period, the WHEE group reported significant reductions of overall test anxiety, tension, and worry to levels comparable to those of the CBT group. The data revealed lower reported values in these measures in the WHEE group compared to the CBT group, and these differences were not statistically significant.

Even though each group consisted of only four subjects, the efficacy of both WHEE and CBT in relieving test anxiety was significantly demonstrated. Further research utilizing a larger sample size would increase the power of the study and likely produce more accurate data regarding any differences between these therapies.

These data are in line with the previous pilot study conducted by Benor et al., (2009), which also found similar anxiolytic effects of WHEE, EFT, and CBT treatments, using the Test Anxiety Inventory (Spielberger, 1980) and Hopkins Symptom Checklist-21 (Green, Walkey, McCormick, & Taylor, 1988) to measure test anxiety in college students. Similar outcomes

found in the present study using the Test Anxiety Scale (TAS; Sarason, 1890) and the Reactions to Tests scale (RTT; Sarason, 1984) bolster the case for WHEE as an effective treatment for test anxiety.

Interestingly, participants trained in WHEE therapy reported practicing WHEE techniques more frequently than those trained in CBT reported practicing their learned therapeutic techniques. This suggests that WHEE techniques are easier to practice than CBT. The results of the voluntary survey regarding the benefits and ease of these therapeutic techniques also support the notion that WHEE is an easy practice for college students to integrate into their routines. The CBT technique, although effective for alleviating anxiety, requires more time and dedicated thought than WHEE. However, the amount of practice, rather than the techniques themselves, may confer the anxiolytic benefits found in this study. This study asked only a general range of frequencies, and unfortunately did not collect more precise data on this measure. One shortcoming of Benor et al.'s (2009) pilot study was that the WHEE and EFT groups received two 2-hour training sessions, while the CBT group received five 2-hour training sessions. This likely resulted in different practice amounts, although Benor et al. (2009) did not measure practice frequency. Further research is necessary to rule out this confounding variable.

Another limitation of this research is the wide variability among participants regarding time between surveys. Although participants were requested to complete surveys within a 48-hour window (before/after an exam), responses varied by as much as 21 days for the same numbered survey. These differences could skew the data regarding the reduction in test anxiety as participants' abilities to accurately recall their exam-taking experience may degenerate as time passes.

This study found that participants experienced moderate-to-low levels of bodily symptoms associated with test anxiety, such as sweating or shaking. Cassady and Johnson (2002), in their research in cognitive test anxiety, demonstrated that a moderate level of anxious physiological arousal may be desirable. Too much arousal may lead to an inability to focus on the task at hand (Geen, 1980). Too little arousal negatively impacts performance if the individual fails to recognize the test-taking event as significant (Schwarzer, 1986), thus reducing the chance that the individual will adequately prepare (Cassady & Johnson, 2002). Therefore, drastic reductions in bodily symptoms to extremely low levels may be undesirable.

## **Conclusions**

College students with moderate-to-severe test anxiety benefited from training in WHEE therapy, and after eight weeks reported significant reductions in overall test anxiety, as well as worry and tension related to test anxiety. The anxiolytic benefits of WHEE therapy were comparable to those of a widely-used traditional therapy, CBT. Participants reported that WHEE was easier to practice and that they used these techniques frequently. These results suggest that WHEE is a promising new treatment for test anxiety. Although more experiments are necessary to determine the benefits of WHEE compared to CBT, this study demonstrated that WHEE is a valid therapeutic technique for relieving test anxiety among college students.

## **Suggestions for Future Research**

These results are preliminary given the small sample sizes ( $n = 4$  per group) and consequent susceptibility to sampling error. Future studies should work diligently to improve recruitment efforts and employ larger sample sizes. However, the findings regarding overall test anxiety are promising and helps informs future investigators about possible pitfalls.

This study used two different scales for pre-treatment and post-treatment measurements of test anxiety. While the pre-treatment scale (TAS; Sarason, 1980) scores were transformed to match the subsequent RTT scale (Sarason, 1984), these were not ideal baseline measures. Future studies should require participants to complete their first survey prior to learning any therapeutic techniques. Furthermore, all participants should complete each survey within a narrow, standardized time window. Future researchers are encouraged to make surveys accessible only during this set timeframe (e.g., 48 hours).

Another confounding variable that must be addressed by future studies is technique practice frequency. One experimental design possibility is to instruct all participants to practice for a predetermined amount of time (e.g., three times per week with a standard duration for each practice session). A more rigorous approach would be to have participants complete online check-in assessments for each practice session.

Finally, future research regarding the efficacy of WHEE treatment must include a control group who is not trained in any anxiety-reduction techniques. Control group data would help researchers identify the presence of a placebo effect, and determine whether simply focusing on test anxiety via self-report measures affects test anxiety.

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## Appendix A: Test Anxiety Scale

While taking an important exam, I find myself thinking of how much brighter the other students are than I am.	<b>True</b>	<b>False</b>
If I were to take an intelligence test, I would worry a great deal before taking it.	<b>True</b>	<b>False</b>
If I knew I was going to take an intelligence test, I would feel confident and relaxed.	<b>True</b>	<b>False</b>
While taking an important exam, I perspire a great deal.	<b>True</b>	<b>False</b>
During class examinations, I find myself thinking of things unrelated to the actual course material.	<b>True</b>	<b>False</b>
I get to feeling very panicky when I have to take a surprise exam.	<b>True</b>	<b>False</b>
During a test, I find myself thinking of the consequences of failing.	<b>True</b>	<b>False</b>
After important tests, I am frequently so tense my stomach gets upset.	<b>True</b>	<b>False</b>
I freeze up on things like intelligence tests and final exams.	<b>True</b>	<b>False</b>
Getting good grades on one test doesn't seem to increase my confidence on the second.	<b>True</b>	<b>False</b>
I sometimes feel my heart beating very fast during important exams.	<b>True</b>	<b>False</b>
After taking a test, I always feel I could have done better than I actually did.	<b>True</b>	<b>False</b>
I usually get depressed after taking a test.	<b>True</b>	<b>False</b>
I have an uneasy, upset feeling before taking a final examination.	<b>True</b>	<b>False</b>
When taking a test, my emotional feelings do not interfere with my performance.	<b>True</b>	<b>False</b>

During a course examination, I frequently get so nervous that I forget facts I really know.	<b>True</b> <b>False</b>
I seem to defeat myself while working on important tests.	<b>True</b> <b>False</b>
The harder I work at taking a test or studying for one, the more confused I get.	<b>True</b> <b>False</b>
As soon as an exam is over, I try to stop worrying about it, but I just can't.	<b>True</b> <b>False</b>
During exams, I sometimes wonder if I'll ever get through school.	<b>True</b> <b>False</b>
I would rather write a paper than take an examination for my grade in a course.	<b>True</b> <b>False</b>
I wish examinations did not bother me so much.	<b>True</b> <b>False</b>
I think I could do much better on tests if I could take them alone and not feel pressured by time limits.	<b>True</b> <b>False</b>
Thinking about the grade I may get in a course interferes with my studying and performance on tests.	<b>True</b> <b>False</b>
If examinations could be done away with, I think I would actually learn more.	<b>True</b> <b>False</b>
On exams I take the attitude, "If I don't know it now, there's no point in worrying about it."	<b>True</b> <b>False</b>
I really don't see why some people get so upset about tests.	<b>True</b> <b>False</b>
Thoughts of doing poorly interfere with my performance on tests.	<b>True</b> <b>False</b>
I don't study any harder for final exams than for the rest of my coursework.	<b>True</b> <b>False</b>
Even when I'm well prepared for a test, I feel very anxious about it.	<b>True</b> <b>False</b>

- I don't enjoy eating before an important test.    **True   False**
- Before an important examination, I find my hands or arms trembling.    **True   False**
- I seldom feel the need for "cramming" before an exam.    **True   False**
- The university should recognize that some students are more nervous than others about tests and that this affects their performance.    **True   False**
- It seems to me that examination periods should not be made such intense situations.    **True   False**
- I started feeling very uneasy just before getting a test paper back.    **True   False**
- I dread courses where the instructor has the habit of giving "pop"quizzes.    **True   False**

Test Anxiety Scale reproduced from Sarason, I.G. (1980), Test Anxiety: Theory, Research, and Applications. Permission granted by Lawrence Erlbaum Associates, Inc.

Total Score \_\_\_\_\_

The total number of "**True**" answers is your test anxiety score. A score of 12 or below ranks in the low test anxiety range. A score of 12 to 20 ranks in the medium range. Any score above 20 signifies high test anxiety. Scoring 15 or greater is a good indication you experience considerable discomfort about taking tests.

## Appendix B: Reactions To Tests Scale

NAME: \_\_\_\_\_

AGE: \_\_\_\_\_ SEX: \_\_\_\_\_

YEARS OF EDUCATION: \_\_\_\_\_

### REACTIONS TO TESTS

Almost everybody takes tests of various types and there are differences among people in how they react to them. The purpose of this survey is to gain a better understanding of what people think and feel about tests.

In filling out this survey, for each item please circle the response alternative that reflects your typical reaction to the situation described.

- 1- Not at all typical of me
- 2- Only somewhat typical of me
- 3- Quite typical of me
- 4- Very typical of me

	Not Typical	Somewhat Typical	Quite Typical	Very Typical
1. I feel distressed and uneasy before tests.	1	2	3	4
2. The thought, "What happens if I fail this test?" goes through my mind during tests.	1	2	3	4
3. During tests, I find myself thinking of things unrelated to the material being tested.	1	2	3	4
4. I become aware of my body during tests (feeling itches, pain, sweat, nausea).	1	2	3	4
5. I freeze up when I think about an upcoming test.	1	2	3	4
6. I feel jittery before tests.	1	2	3	4
7. Irrelevant bits of information pop into my head during a test.	1	2	3	4
8. During a difficult test, I worry whether I will pass it.	1	2	3	4

	Not Typical	Somewhat Typical	Quite Typical	Very Typical
9. While taking a test, I find myself thinking how much brighter the other people are.	1	2	3	4
10. I feel the need to go to the toilet more often than usual during a test.	1	2	3	4
11. My heart beats faster when the test begins	1	2	3	4
12. My mind wanders during tests.	1	2	3	4
13. After a test, I say to myself, "It's over and I did as well as I could."	1	2	3	4
14. My stomach gets upset before tests.	1	2	3	4
15. While taking a test, I feel tense.	1	2	3	4
16. I find myself becoming anxious the day of a test.	1	2	3	4
17. While taking a test, I often don't pay attention to the questions.	1	2	3	4
18. I think about current events during a test.	1	2	3	4
19. I get a headache during an important test.	1	2	3	4
20. Before taking a test, I worry about failure.	1	2	3	4
21. While taking a test, I often think about how difficult it is.	1	2	3	4
22. I wish tests did not bother me so much.	1	2	3	4
23. I get a headache before a test.	1	2	3	4
24. I have fantasies a few times during a test.	1	2	3	4

	Not Typical	Somewhat Typical	Quite Typical	Very Typical
25. I sometimes feel dizzy after a test.	1	2	3	4
26. I am anxious about tests.	1	2	3	4
27. Thoughts of doing poorly interfere with my concentration during tests.	1	2	3	4
28. While taking tests, I sometimes think about being somewhere else.	1	2	3	4
29. During tests, I find I am distracted by thoughts of upcoming events.	1	2	3	4
30. My hands often feel cold before and during a test.	1	2	3	4
31. My mouth feels dry during a test.	1	2	3	4
32. I daydream during tests.	1	2	3	4
33. I feel panicky during tests.	1	2	3	4
34. During tests, I think about how poorly I am doing.	1	2	3	4
35. Before tests, I feel troubled about what is going to happen.	1	2	3	4
36. The harder I work at taking a test, the more confused I get.	1	2	3	4
37. I sometimes find myself trembling before or during tests.	1	2	3	4
38. During tests I think about recent past events.	1	2	3	4
39. During tests, I wonder how the other people are doing.	1	2	3	4
40. I have an uneasy feeling before an important test.	1	2	3	4

Item Numbers of Reactions to Tests Scales

Tension	Worry	Test-irrelevant Thinking	Bodily Symptons
1	2	3	4
5	8	7	10
6	9	12	11
15	13*	17	14
16	20	18	19
22	21	24	23
26	27	28	25
33	34	29	30
35	36	32	31
40	39	38	37

\*item scoring revised

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## Appendix C: Flyer

Be a part of a research study conducted by a Masters student of Energy Medicine University designed to assess the effectiveness of the utilization of WHEE, a self-treatment tapping technique and of Cognitive Behavioral Therapy in order to determine the degree of successfulness of these methods in relieving moderate to severe test anxiety in college students.

### Would the study be a good fit for me?

This study might be a good fit for you if:

- Are a student at Eckerd College between 18-65
- Suffer from moderate to severe test anxiety
- Are not currently under psychiatric treatment for psychosis or taking prescription drugs for anxiety, depression or psychosis.
- 

### What would happen if I took part in the study?

If you decide to take part, you would agree to:

- Attend two 2-hour instructional evening sessions on campus.
- Practice techniques taught prior to testing.
- Take a short online questionnaire at the beginning of the study.
- Take the same online questionnaire prior to and after taking an Eckerd College course mid-term and final exam.
- Answer general questions at end of the study.

Participants who complete the study will qualify to win one of three **\$50 gift certificates** to a local restaurant.

### Here are possible benefits if you take part in the study.

- Alleviate test anxiety
- Reduce overall emotional stress
- Learn new skills to more easily cope with life

### Research is always voluntary

To take part in this Test Anxiety research study or for more information, please contact:

**Linda Armstrong**  
**727 381-4620 or 727 480-2969**  
**Email: lindaarms@gmail.com**

## **Appendix D: WHEE Therapy Group Handout**

### **TEST ANXIETY RESEARCH PROJECT**

#### **WHEE THERAPY GROUP**

**Meeting Dates:** Monday, March 21 6:30 PM  
Monday, April 4 6:30 PM  
Seibert Humanities Bldg., Room 106

WHEE: Whole Health - Easily and Effectively® AKA Wholistic Hybrid derived from EMDR and EFT

WHEE is a self-treatment method that is extremely simple to learn and to use, yet very rapidly and deeply effective. Within minutes it can reduce physical and psychological pains, even when these have been present for decades.

WHEE is also helpful with stress and distress that often contribute to pains and make them more painful and less tolerable. These, too, can be released within minutes.

Please note that WHEE is completely individualized to the preferences and needs of those who use it. No part of WHEE is a requirement. Every aspect of WHEE is but a suggestion – for people to explore and use, as and if it feels right and comfortable to do so.

WHEE has been hugely successful for several reasons:

- WHEE takes a fraction of the time that EFT and other energy psychology methods require.
- WHEE can be done discreetly, avoiding the embarrassment of tapping on the face, hands, etc. in public.
- WHEE is better accepted and the compliance outside the therapy room is much higher because of its simplicity. People remember how to do it in times of crisis.
- WHEE allows for much greater flexibility in working on target problems within the session because it is so rapid.
- There is much more time to explore alternative target symptoms or alternative methods of addressing problems.
- WHEE is tremendously empowering, as it is so simple and so rapidly effective in self-healing.

The advantages of WHEE are:

- WHEE is a self-healing method that you will always have available to you.
- WHEE is rapidly effective, reducing and eliminating pain within minutes in many cases.
- WHEE addresses the roots of problems
- WHEE is safe.
- WHEE allows you to install positive responses to your outer and inner life experiences to replace the negatives you have released.

WHEE addresses spirit, relationships (with other people and the rest of the world), mind, emotions and body (as matter and energy). See discussion on the relationships between each of these and all the others at: <http://www.wholistichealingresearch.com/srmeb.html>  
(Or you can click on the round icons at the top of [www.ijhc.org](http://www.ijhc.org) or [www.WholisticHealingResearch.com](http://www.WholisticHealingResearch.com) to get to the same page.)

## **WHEE PROTOCOL**

The basic components of the WHEE method are as follows:

- Find a comfortable position
- Focus on the anxiety associated with the situation of test taking
- Feel the quality of the test-taking anxiety and assess the intensity on a scale of 0:10 with 0 being total lack of anxiety to 10 being overwhelming or debilitating anxiety (SUDS – Subjective Units of Distress Scale).
- Identify any bodily sensations associated with the feelings.
- Formulate a statement which addresses the negative feelings associated with test taking such as:  
*Even though I feel \_\_\_\_\_, when I think about \_\_\_\_\_, I wholly and completely accept myself, and [optional] I know that God (Spirit, the Universe; the Source; your choice) loves and accepts me wholly, completely and unconditionally.*
- Tap alternately on the right and left side of the body on one of the following as the affirmation is recited: the inner eyebrow points, the outside of the upper arms, the outsides of the thighs, the feet, the toes, or the teeth using the tongue.
- Take a deep cleansing breath.
- Recheck the intensity of the feeling (SUDS level) on the scale of 0:10.
- Repeat until the intensity of the negative focus is assessed at 0.
- Formulate a replacement positive statement such as:  
*I am confident and comfortable in my ability to take tests, I feel totally relaxed during a test, and see myself performing comfortably and easily on the test, and I wholly and completely accept myself, and [optional:] I know that God (Spirit; the Universe; the Source, your choice) loves and accepts me wholly, completely, and unconditionally.*

- Assess the level of belief or resonance of the positive statement (SUSS – Subjective Units of Success Scale) on a level of 0:10 with 0 being not at all and 10 being in complete resonance with the statement.
- Reprogram the mind/body by repeating the positive statement and tapping in the same manner as described above.
- Remember to take a deep cleansing breath after each recitation.
- Reassess the resonance of the positive statement and repeat until the belief level is up to a 10.

### **TIPS FOR SUCCESSFUL WHEE SESSIONS**

PLEASE NOTE: BELOW ARE GENERIC SUGGESTIONS, TO BE MODIFIED AS APPROPRIATE TO YOUR NEEDS AND PREFERENCES

#### **WHEE – Affirmations**

**Focusing statement:** *Even though I feel \_\_\_\_\_ when I think about*

---

+ **Counteracting affirmation:** *I still love and accept myself, wholly and completely*

*And God (Spirit/ the Infinite Source/ My Higher Self/ Universe - INSERT WHAT FEELS*

*RIGHT TO YOU) loves and accepts me, wholly and completely and unconditionally*

**Replacement affirmation/statement:** [Positive statement \_\_\_\_\_] that counters the negative, after it has been released. e.g. after releasing the anxiety over test-taking [your issue]:

*I am comfortable with my ability to study and take tests*

*And I love and accept myself, wholly and completely*

*And God (or etc.) loves and accepts me, wholly and completely and unconditionally*

**\*\*\*\*Important – Do NOT use a negative word in your replacement affirmation statement.**

**Improper Replacement Affirmation Statement:** *I do **not** feel anxiety when I take tests.*

**Proper Replacement Affirmation Statement:** *I feel relaxed and in control of my emotions when I am taking a test.*

**As you work, consider these pieces:**

- Body symptom = telephone bell from your unconscious
- Search for the feelings attached to the symptoms, then
- Memories with the feelings (Sometimes memories come first)
- It is often very helpful to write down your exact words. When doing this, you can tap with your feet.

**When the numbers are not going down, consider any of the following:**

- *Collarbone point massage*
- *Look at the words you are using*, see if they can be made more intense
- *Look at reasons to hold onto the symptoms* (e.g. Punishing self, not believing you deserve better, inner rule to remain silent, negative childhood experiences with tests or other school issues, harsh criticisms from parents or teachers, etc.)
- *Look at meta-anxieties* about releasing the symptoms/ memories (e.g. If I release these, I might not be as careful to avoid similar problems in the future; I promised myself I would always remember these things/ never forget them - so that I avoid these problems in the future; etc.)
- *Inner child memories* (e.g. I must shut my mouth so my father won't beat me more; etc.)
- *Comfort and protect the inner child*

As you work through very difficult materials, take a break once in a while and install and strengthen some positive cognitions/ feelings/ beliefs.

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## **ADDITIONAL BENEFITS OF USING WHEE**

- WHEE helps you to forgive others for their transgressions and helps you to forgive yourself for not having done better than your best and to accept that you did the best you could at those times.
- WHEE is empowering. It gives you a clear way to deal with almost any problem you might encounter that raises negative feelings. It helps to clear the “bucket” of emotional dross – that place inside where you stuff unresolved feelings when you don’t know how to resolve a stressful situation.
- WHEE develops a sweetening spiral – a positive, self-reinforcing, feedback system that encourages and supports further insights, releases of negativity, growth and change. This is the opposite of a vicious cycle – where a negative experience generates a negative attitude, which leads to a negative behavior, which becomes more negative experiences.
- WHEE shifts your attitudes towards problems so that you can address them as invitations to growth and transformation rather than as worries. Each distressing problem is transformed into a doorway into understanding and clearing the childhood programs that lead you into meta-worries and sap your energies away from addressing the actual concerns.
- WHEE can be a preventative to future problems.

## **THEORETICAL CONSIDERATIONS AND CONCLUSIONS**

People often ask, “How can WHEE work so well and so quickly?” The true answer is that we don’t know yet. The best answer follows the understanding of the ways in which the right brain and the left brain handle traumatic experiences and can best be described by the following principles:

1. Holding the hurts fully within our conscious awareness allows the hurts to dissipate. This requires that we override our childhood programming to bury what hurts, pretending it is not there, and running away from the buried hurts and from anything in our current life that might remind us of them.
2. When we hold the positive along with the hurt simultaneously in our awareness, the positive cancels the negative feelings associated with the hurt.
3. Activating right and left brain hemispheres while doing (1) and (2) markedly enhances the effects. We can bring the skeleton of old traumas out of the closets in the right brain, while connecting it to the left brain – through alternating left and right sensory stimulation. As the two hemispheres reconnect in the conscious presence of traumas, the buried hurts dissipate.
4. Involving the body memories and body-mind processes related to difficult issues helps enormously in dealing with them. Memories are stored in the body as well as in the brain and spirit. Connecting with the body during therapy will markedly enhance the therapy.

Benor, D. (2006) *Whee for Wholistic Healing Workbook*, Medford, NJ: Wholistic Healing Publications

## **CONTACT BIOS**

### **WHEE Therapy Group Leader – Dr. Daniel Benor, MD, ABHM(US)**

Daniel J. Benor, MD, ABHM (US), Wholistic Psychotherapist (Canada), blends elements from intuitive and spiritual awareness, spiritual healing (as in Reiki and Therapeutic Touch), WHEE - Wholistic Hybrid derived from Eye Movement Desensitization and Reprocessing (EMDR) and Emotional Freedom Technique (EFT), transactional analysis, gestalt therapy, hypnotherapy, meditation, imagery and relaxation (psychoneuroimmunology), dream analysis, and other approaches. Dr. Benor has taught this spectrum of methods internationally for 25 years to people involved in wholistic, intuitive, and spiritual approaches to caring, health and personal development.

Dr. Benor founded The Doctor-Healer Network in England and North America. He is the author of Healing Research, Volumes I-IV and many articles on wholistic, spiritual healing. He is the editor and publisher of the peer reviewed International Journal of Healing and Caring - On Line [www.ijhc.org](http://www.ijhc.org) and moderator of [www.WholisticHealingResearch.com](http://www.WholisticHealingResearch.com), a major informational website on spiritual awareness, healing and CAM research.

He appears internationally on radio and TV. He is a Founding Diplomat of the American Board of Holistic Medicine, Coordinator for the Council for Healing, a non-profit organization that promotes awareness of spiritual healing, and for many years on the advisory boards of the journals, Alternative Therapies in Health and Medicine, Subtle Energies (ISSSEEM), Frontier Sciences, the Advisory Council of the Association for Comprehensive Energy Psychotherapy (ACEP), Emotional Freedom Techniques (EFT) and the Advisory Board of the Research Council for Complementary Medicine (UK), Core reviewer for BioMed Central, Complementary and Alternative Medicine – On line.

Contact: [DB@WholisticHealingResearch.com](mailto:DB@WholisticHealingResearch.com)

### **Researcher – Linda Armstrong**

Linda Armstrong is currently a Masters student at Energy Medicine University in Sausalito, California. This research project is the final class for completion of her MS in Integrative Holistic Health. Linda graduated with a BA in Human Development from Eckerd College PEL Program in 2007. Linda is also a Certified Eden Energy Medicine Practitioner and has been trained in various energy psychology techniques, including WHEE, EFT, and TAT. She is a certified life coach of the Coach for Life program.

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Email: [lindaarms@gmail.com](mailto:lindaarms@gmail.com)

**PERSONALIZED WHEE STATEMENTS**

Focus statement with counteracting affirmation:

Even though I feel

---

When I think about

---

---

---

---

I still love and accept myself totally and completely, and I know that God (Insert what feels right for you)

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\_\_\_\_\_ loves and accepts me wholly, completely, and unconditionally.

Replacement affirmation statement:

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and I love and accept myself totally and completely, and God (or your word) \_\_\_\_\_

loves and accepts me wholly, completely, and unconditionally.

## Appendix E: Cognitive Behavioral Therapy Group Handout

### TEST ANXIETY RESEARCH PROJECT

#### COGNITIVE BEHAVIORAL THERAPY GROUP

Cognitive Therapy is based on the theory that psychological issues are caused by distorted thinking and unrealistic beliefs. Cognitive therapy focuses in on identifying the faulty patterns of thinking, or “self-talk”, which are causing the psychological problems. The mistaken beliefs and negative thoughts related to your test anxiety usually circulate outside of your consciousness. Once the faulty patterns of thinking have been identified, the next step is to change them to more adaptive, healthy patterns of thinking.

Behavioral Therapy focuses on directly changing maladaptive behavior patterns by using basic learning principles and techniques. Behavioral Therapy focuses on current behavior rather than focusing on the past. Behavioral techniques have been used to treat every day maladaptive behaviors, such as smoking and nail biting, as well as, more severe psychological problems, such as phobias.

In this combination Cognitive Behavioral Therapy, you will identify the mistaken thought pattern that contributes to your test anxiety and learn to replace the negative thoughts with healthy, positive thoughts resulting in a more relaxed and positive attitude toward taking tests. You will be taught behavior modification actions designed specifically to alleviate your test anxiety, but which can also be used to alleviate anxieties in general.

Hockenbury and Hockenbury. (2003). *Psychology, 3<sup>rd</sup> ed.* New York: Worth Publishers.

#### SELF-TALK

Self-talk exists just on the edge of awareness. Although you're involved in self-talk practically all the time that you're conscious, you seldom even notice it. Several basic characteristics of self-talk that help to explain why thoughts can be so elusive are:

- **Self-talk is automatic.** These thoughts can play themselves over and over in your head like a record, and most of the time you don't even notice them.
- **Self-talk usually occurs in telegraphic form.** Most of the time, you don't think in full sentences, rather in images and words. Thoughts of the future run together with thoughts of the past
- **Irrational self-talk always sounds like the truth.** You seldom question its content. You define your world by repeating the irrational thoughts over and over to yourself many times a day.
- **Irrational self-talk is a habit of mind.** You develop certain self-talks to guide you through the pitfalls of certain unpleasant sensations from past experiences.

Although these self-talks may have been useful at the time, they seldom have the wisdom and truth needed in the present situation.

- **Irrational self-talk can cause anxiety to escalate into panic.** Anxiety causes physical reactions in your body. A racing heart, sweaty palms, and chest tightness are all reactions to stress. These reactions are normal, but your irrational thoughts can jump in and amp up feelings of anxiety which may even rise to the level of panic.

### **DIFFERENT STYLES OF IRRATIONAL THINKING**

- **Filtering** – the process of focusing on a single negative aspect of a person or situation to the exclusion of all positive aspects. You are “awfulizing” your life. A large portion of reality is ignored, while one small part is magnified way out of proportion and seen as the entire reality. For example, if an instructor criticizes a point you discussed on a term paper, you assume that you’ll be getting a bad grade on all your work.
- **Overgeneralization** – allows you to take one specific negative event in your life, and then assume that any similar future event will turn out exactly the same way. For example, if you do poorly on one history test, you may assume that you will always fail on history tests.
- **Overestimating** – you think the odds of a possible bad thing happening are much greater than they actually are. For example, if you’re preparing for a test, you assume no matter how hard you study, you won’t be able to pass it.
- **Polarized Thinking** – only recognizes the extremes in life. You see a world of only black and white. Everything is either terrific or awful, good or bad, the best or the worst. For example, a student will expect an A, and if that goal isn’t met, he will start to see himself as someone who’ll never do well in school.
- **Catastrophizing** – you decide that whatever has actually happened is the worst thing that could’ve occurred. People who catastrophize see the situations that exist in their lives as being much worse than they are. For example, a student might think getting an F on a test is the worst thing that could ever happen and agonize over the grade for a long time instead of realizing that, when looked at as one grade among many, one F is practically meaningless.
- **Emotional Reasoning** – When people believe that everything they feel is the truth, they are practicing the distortion called emotional reasoning. They draw their conclusions about life based on the content of their emotions. The problem with this type of reasoning is that emotions often have little basis in reality. If your thinking is distorted, your emotions will then be at least somewhat off base, and your viewpoint based on these emotions, may not bear too strong a relationship to reality.
- **Should Statements** – Often in response to being criticized as children, some people develop a fixed set of rules – *should statements* – that they use to guide them through

the uncertainties of life. These rules tend to be rigid and define the standards that they believe they and the rest of the world should adhere to. For example, some *should-isms* that demand adherence to an unrealistic set of expectations are: *I should be a perfect student. I should get all A's on papers and tests. I shouldn't make mistakes. I should be the smartest student in class.*

### **CHALLENGING YOUR IRRATIONAL THOUGHTS**

It is important to become aware of the content of your self-talk before it wreaks havoc in your life. Intense, emotional reactions to situations are red flags that point to the existence of illogical thinking. Whenever you feel afraid, angry, or anxious, you need to find out if your thoughts are operating on a belief system that isn't based in reality.

Whenever intense emotions arise, try to face them. Write down the exact thoughts in regards to test anxiety. There may be several. Then challenge each thought with the following questions:

1. Do I really think this is true?
2. What is the evidence that this idea is true?
3. What is the evidence that this idea is false?
4. Have I had this thought, or another similar to it in a past experience?
5. How does this idea hold me back?
6. If I go against this idea, what is the worst thing that could happen?
7. If I go against this idea, what good things might happen?
8. What is the belief behind this idea?

### **TIPS FOR COUNTERING IRRATIONAL SELF-TALK**

1. Watch your thoughts. Pay special attention when you:
  - a. Experience a strong emotion
  - b. Are being critical, either of yourself or others
  - c. Are feeling depressed or lethargic
2. Write these thoughts down.
3. Take a break – Relax your body using progressive muscle relaxation or favorite relaxation technique. Notice the content of your thought and label it. Exercise – Do any activity you enjoy that gets you out of your head and into your body.
4. Question your thoughts and challenge them.
5. Write out a more truthful statement.

### **CREATE A MORE TRUTHFUL STATEMENT**

Challenging your irrational thoughts will help to lessen the intensity of the emotions these thoughts bring on. However, it probably won't stop the thoughts from entering your mind, and you'll still react to them emotionally. When this happens, you need to substitute the irrational thought with another thought that is closer to the truth.

1. Write down a statement that is directly opposite the irrational thought you are working with. Say it over to yourself several times.
2. Ask yourself, "What would it mean if I really believed this statement? What part of my identity would it seem like I was giving up if I didn't have my usual thought, and didn't feel those emotions? How would this make me different?"
3. Say this statement over to yourself again, this time as though you really mean it. Imagine what type of person you would be if you did really mean it. How do you think you're different from this type of person?
  4. Walk up to a friend or acquaintance and express this statement as though you think it's true. What is his or her reaction? Did this person notice that you weren't expressing your "real" opinion? How do you think the reaction would've differed if you'd expressed your original belief?

Johnson, S. (1997). *Taking the anxiety out of taking tests: A step-by-step guide*. Oakland, CA: New Harbinger Publications, Inc.

### **EFFECTIVE STUDY HABITS OF STUDENTS WHO OBTAIN HIGH GRADES**

1. Although the students did not assign themselves specific time to study each individual subject, they did set aside a specific time every day for study.
2. They usually studied during the day (often between classes) and made enjoyable activities contingent upon completing a definite assignment.
3. They studied alone.
4. They studied one subject continuously for at least one hour, rather than skipping from one subject to another.
5. They began working on long range assignments long before they were due.
6. They obtained at least three to six hours of exercise each week.
7. They spent less time studying material specific to psychology than students receiving lower grades.

(According to study conducted by a Psychology professor (Allen, 1971) on his students designed to measure their study habits).

Sapp, M. (1999). *Test anxiety: Applied research, assessment, and treatment interventions*. Lanham, MD: University Press of America.

## **SUCCESSFUL STRATEGIES FOR TEST TAKING**

We all experience some level of anxiety before a test. A little nervousness can actually help motivate us to perform our best. Too much anxiety can become a problem if it interferes with your performance on tests. Some strategies for dealing with test anxiety:

- **Be prepared.** Study the material in advance; do not leave cramming for the day before your test. Do not do a last minute review.
- **Get plenty of sleep,** it is hard to function at your best when overtired.
- **Avoid any use of drugs and alcohol,** they can interfere with your mental ability.
- **Exercise** may increase your alertness and sharpen your mind.
- **Have a moderate breakfast,** fresh fruits and vegetables help reduce stress; avoid caffeine, sugar and junk foods.
- **Allow yourself plenty of time;** arrive at the test location early.
- **Choose a seat** where you will not be easily distracted.
- **Use progressive muscle relaxation or abdominal breathing to help reduce anxiety.** Place one hand on your abdomen, right beneath your rib cage. Inhale through your nose and feel your abdomen fill like a balloon. Count to three on your inhalation and then slowly exhale counting to four, feeling your abdomen contracting with the exhalation.
- **Do a reality check,** how important is this exam in the grand scheme of things. Put it in perspective.
- **Use positive affirmations,** say a phrase to help keep things in perspective. "I've done this before, I can do it again" or "I have all the knowledge I need to get this done."

**During the test take a few minutes to:**

- **Review the entire test.** Read the directions carefully.
- **Work on the easiest portions of the test first.**
- **Pace yourself.** Do not rush through the test.
- **If you go blank,** skip the question and go on.
- **Multiple choice questions,** read all the options first, eliminate the most obvious.
- **Essay questions,** make a short outline. Begin and end with a summary sentence.
- **Take short breaks,** tense and relax your muscles throughout your body.
- **Pause,** do a few abdominal breaths, say your affirmation.
- **Stay in the present moment.**
- **There is no reward for being the first one done.**

**After the test, reward yourself:**

- **Try not to dwell on your mistakes.**
- **Indulge in something relaxing for a while.**

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## CONTACT BIOS

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David Swindall is a Licensed Marriage and Family Therapist practicing psychotherapy for over 35 years, 25 years in Pinellas County. He graduated from Columbia Theological Seminary with a Master of Divinity degree. He did post-graduate training at Central State Psychiatric Hospital in Georgia. David has been the Clinical Director and Executive Director of an outpatient drug - treatment facility. He utilizes therapeutic hypnosis in his practice and is a Board Member of the Florida Society for Clinical Hypnosis. David served as Adjunct Faculty at Eckerd College for nine years in the PEL program.

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Linda Armstrong is currently a Masters student at Energy Medicine University in Sausalito, California. This research project is the final class for completion of her MS in Integrative Holistic Health. Linda graduated with a BA in Human Development from Eckerd College PEL Program in 2007. Linda is also a Certified Eden Energy Medicine Practitioner and has been trained in various energy psychology techniques, including WHEE, EFT, and TAT. She is a certified life coach of the Coach for Life program.

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