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Energy Psychology: Background, Method, Evidence

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Abstract

Energy psychology, as most commonly practiced, employs a set of psychotherapeutic techniques that build upon the principles of acupuncture. Increasing utilization of these techniques is bringing “acupuncture without needles” into conventional psychotherapy. The techniques combine a variety of cognitive strategies with the stimulation of specific acupuncture points, usually by tapping them. Proponents believe this combination can rapidly shift the neurological substrate of a range of psychological problems, supporting desired changes in emotions, cognition, and behavior. The approach is used both in clinical settings and as a back-home tool for emotional regulation and self-management. Energy psychology has been exceedingly controversial. It relies on unfamiliar procedures, posits unverified mechanisms of action, and early claims of unusual speed and therapeutic power ran far ahead of initial empirical support. This paper reviews the development of energy psychology, its relationship to acupuncture, its basic procedures, the current evidence regarding its effectiveness, and hypothesized neurological mechanisms. While an unusual amount of corroborating anecdotal and uncontrolled outcome data affirming the method’s efficacy exist and are provocative, including reports from credible disaster relief organizations of rapid responses to PTSD, such accounts are difficult to interpret scientifically. Reports of randomized clinical trials have, however, also been appearing, and energy psychology must now be considered an empirically supported therapy, having met the Society of Clinical Psychology’s criteria as a “Probably Efficacious Treatment” for specific phobias. Further research is required to more fully demonstrate the method’s efficacy and clinical reach as well as to inform practitioners about its most effective applications.

Key words: acupuncture, EFT, energy psychology, hyperarousal, TFT

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Energy psychology (EP) combines a variety of cognitive procedures with specified physical interventions—designed to impact the body’s electrical system and the energy fields that purportedly penetrate and surround the body—for the purpose of bringing about therapeutic shifts in the neurochemical substrate of targeted emotions, thoughts, and behaviors. While EP is a psychotherapeutic approach, it is also a branch of energy medicine, much as psychiatry is a psychotherapeutic approach that is also a branch of conventional medicine.

Energy medicine is recognized by the National Institutes of Health (NIH) as a form of “complementary and alternative medicine” (National Center for Complementary and Alternative Medicine of NIH, or NCCAM, 2005). Energy medicine is based on the supposition that illness results from disturbances in the body’s electromagnetic energies and energy fields (NCCAM, 2005). Many of the body’s electrical systems and electromagnetic fields are well-known, readily verified, and a focus of established interventions. The application of lasers and magnetic pulsation, for instance, can be described in terms of specific, measurable wavelengths and frequencies that have been found to be therapeutic. Other postulated energies are considered to be of a more subtle nature and have not been directly measured by reproducible methods. Healing Touch, Reiki, and qi gong, for instance, purportedly influence subtle energies in ways that have not been detected by mechanical devices, and their reported therapeutic actions are not well-understood within conventional paradigms. Some practitioners of these methods, however, claim that they “can work with this subtle energy . . . and use it to effect changes in the physical body and influence health” (NCCAM, 2005, p. 1).

Energy psychology works with the body’s electrical systems and electromagnetic fields for the purpose of alleviating psychological problems and pursuing psychological goals (Gallo, 2005). More than two dozen variations can be identified, with the most well-known being Thought Field Therapy (TFT) and the Emotional Freedom Techniques (EFT). Many of the variations adapt practices and concepts from acupuncture (and from acupressure, a non-needle form); others borrow from yoga, meditation, qigong, and other traditional systems for healing and spiritual development. Some focus more on the activation of electrical signals and others on catalyzing shifts in the body’s purported biofield (Rubic, 2002). Those borrowing from acupuncture stimulate electromagnetically-sensitive points on the surface of the body to send signals to the brain that are believed to produce therapeutic effects.

TFT and EFT, both based on the principles of acupuncture, have received the most attention and investigation, and they will be the focus of this review. Both trace their origins to Applied Kinesiology (Frost, 2002), developed in the 1960’s by chiropractor George Goodheart. Goodheart identified relationships among muscles, organs, and the body’s acupuncture *meridians* or “subtle energy pathways” (at least 670 acupuncture points are distributed over the body’s 14 major meridians; the stimulation of an acupuncture point is believed to affect the energy flow of the meridian on which it is located). Goodheart was able to test and verify these relationships by drawing from the field of kinesiology (the study of movement) where procedures had been developed for making assessments based on the relative strength and range of motion of specific muscles (Kendall & Kendall, 1949). Since each muscle is associated with a meridian, Goodheart reasoned, weakness or restricted range of motion in an uninjured muscle

indicates impairment in the meridian flow through that muscle and, by implication, the organs that receive energy from that meridian. Applied Kinesiology utilizes a variety of methods, including the manual stimulation of specific acupuncture points, to correct such impaired energy flow.

A student of Goodheart's system, psychologist Roger Callahan, paired the manual stimulation of acupuncture points with a variety of other physical as well as psychological techniques for treating emotional problems, calling the method Thought Field Therapy (TFT). TFT determines which acupoints to use in two ways. It has formulaic treatment "algorithms," where a specific sequence of acupoints is preselected for treating specific conditions, such as panic or guilt. TFT also uses a second approach where assessments are made according to the relative strength of the muscles associated with specific meridians, and the acupoints to be used for a particular individual and condition are selected based on these assessments. After studying with Callahan, Gary Craig attempted to simplify Callahan's protocols into a format that could be used by the general public outside clinical settings. His Emotional Freedom Techniques (EFT) does not utilize muscle-based assessments, does not match different sets of acupoints with different conditions (having selected a set designed to stimulate each of the body's major meridians, which he believes to be sufficient for almost all conditions), and is also less strictly adherent to other TFT procedures.

Nearly all the therapies and self-management approaches that fall under the heading of EP, however, utilize a single shared core strategy. They manually stimulate electromagnetically-sensitive areas of the skin or purported energy fields while a maladaptive emotional response is mentally activated. This simultaneous pairing of the mental activation and the manual stimulation is believed to send signals to the brain that interrupt the emotional response pattern.

Some practitioners view EP as a set of specific procedures they have integrated into their clinical practice whereas others view it as a comprehensive therapeutic approach. In using it as a comprehensive approach, however, practitioners not only derive principles and procedures from energy medicine but also adopt other clinical modalities—much as psychiatry incorporates procedures from areas of psychotherapy outside of medicine.

Strong Opinions, Conflicting Data

EP has been exceedingly controversial among psychotherapists. Its advocates have for more than two decades been claiming a level of clinical effectiveness for a range of conditions that surpasses that of established treatment modalities in its speed and power, but a robust body of research directly supporting these claims has yet to be produced. Adding to EP's credibility problems, it is rooted in an unfamiliar paradigm adapted from Eastern health care practices, its techniques look patently strange (e.g., humming or counting while tapping on the back of one's hand), and even its most committed practitioners disagree about the mechanisms that might explain the results they report.

Meanwhile, the approach has gained a strong popular following. *EFT Insights*, an e-newsletter that provides instruction on how to utilize EFT on a professional as well as self-help basis, had 318,000 active subscribers at the time of this writing, and this number was showing a net increase ranging between 5,000 and 10,000 per month (G. Craig, personal communication, January 9, 2007). A professional organization, the Association for Comprehensive Energy Psychology (www.energypsych.org), was incorporated in 1999 and has developed a credible

certification program, code of ethics, and standards of practice formulation. Energy psychology protocols are being increasingly utilized by a spectrum of mental health practitioners, disaster relief organizations, and in traditional health care settings such as HMOs and Veteran's Administration hospitals.

For instance, the Green Cross (The Academy of Traumatology's humanitarian assistance program), founded in 1995 after the Oklahoma City bombings to attend to the mental health needs of disaster victims, has begun to use EP as a standard protocol for working with disaster victims. According to the organization's founder, Charles Figley, who also served as the chair of the committee of the Department of Veteran Affairs that first identified PTSD: "Energy psychology is rapidly proving itself to be among the most powerful psychological interventions available to disaster relief workers for helping the survivors as well as the workers themselves" (C. Figley, personal communication, December 10, 2005). Lynn Garland, a social worker with the Veterans' Healthcare System in Boston, reports that she, along with numerous colleagues using energy psychology in the V.A., are having "dramatic results in relieving both acute and chronic symptoms of combat-related trauma" (L. Garland, personal communication, June 9, 2004).

Professional gatekeeping organizations have been equivocal. A review of one of EP's major texts (*Energy Psychology Interactive*; Feinstein, 2004) in the online book review journal of the American Psychological Association (APA), describes energy psychology as "a new discipline that has been receiving attention due to its speed and effectiveness with difficult cases" (Serlin, 2005). The review, by a former APA division president, notes that because EP successfully "integrates ancient Eastern practices with Western psychology [it constitutes] a valuable expansion of the traditional biopsychosocial model of psychology to include the dimension of energy." At the same time, the Continuing Professional Education Committee (CPEC) of the Education Directorate of APA is holding to a policy regarding EP that reflects the understandable antipathy within the profession for therapies whose advocates make strong claims of efficacy without adequate research validation. Rather than adhering to its usual protocol—having its CE sponsors make their own determinations about a new approach according to established CPEC guidelines—the Committee took the unprecedented step in 1999 of notifying its CE sponsors by a memo that they risked losing their sponsorship status if they offered APA CE credit for courses in TFT (Murray, 1999), a policy that has been applied to all energy psychology approaches and that was still in effect at the time of this writing.

Such conflicting information leaves clinicians in a quandary regarding how to determine whether EP is a viable method for helping their clients. While therapists representing a broad spectrum of professional backgrounds and orientations are utilizing EP in substantial numbers and enthusiastically describing strong favorable outcomes, practitioner exuberance is not known to be reliable evidence of efficacy. The psychotherapy field has, in fact, a long history—dating back to phrenology and Anton Mesmer's magnetic rods—of diagnostic and therapeutic approaches that were once widely touted and embraced but ultimately proved ineffective and sometimes deceptive. Even the most sincerely promulgated methods are frequently shown to have less therapeutic benefit than initially reported when their use by practitioners who did not develop them are investigated over time. Is EP another highly publicized therapy that will soon be universally recognized as being clinically hollow; is it old wine in new skin—producing positive results by repackaging established therapeutic modalities; or does the introduction of energy methods into psychotherapy represent a genuine innovation?

With EP's growing popularity, many clinicians are being forced to weigh in on this controversy, whether in answering the questions of a client who has heard about the approach or sitting on a review board that is determining whether to institutionally support or exclude EP. Beyond the familiar dilemma that there is always a lag time between the introduction of a new therapy and its scientific evaluation, a somewhat unique situation exists with EP. There are two sets of data at this point: unusually strong "field reports" lending anecdotal validation from second, third, and fourth generation practitioners (as contrasted with the method's developers) in a wide variety of settings yet there are very few peer-reviewed randomized clinical trials. Clinicians are required to develop the most informed opinion possible despite very limited scientific evidence for either establishing or refuting claims about the method's therapeutic power.

To address such dilemmas, the Society of Clinical Psychology (APA, Division 12) appointed a task force led by Dianne Chambless to consider methods for identifying effective psychotherapies and educating psychologists, insurance providers, and the general public about them (Task Force on Promotion and Dissemination of Psychological Procedures, 1995). The Task Force report, along with a series of updates and commentaries by Chambless and various colleagues, has set a standard in developing criteria for empirically supported treatments. The Task Force designates two categories for therapies that have substantial support: "Well-Established Treatments" and "Probably Efficacious Treatments." Issues such as research design, subject selection, specificity of problem or disorder, treatment implementation, outcome assessment, data analysis, replication, and the resolution of conflicting data are all discussed, and guidelines are offered for those evaluating clinical research (Chambless & Hollon, 1998).

To meet the criteria for being a "Well-Established Treatment," the approach may demonstrate efficacy by proving itself to be statistically superior to a placebo or an unproven treatment approach in at least two well-designed, peer-reviewed studies conducted by different investigators or investigating teams (Chambless, et al., 1998). Having one such study in the literature meets the criteria for being a "Probably Efficacious Treatment." Two additional criteria for either category include that the client sample must be clearly specified and that treatment implementation must be uniform, either through the use of manuals or other means, such as when a treatment intervention that is relatively simple "is adequately specified in the procedure section of the journal article testing its efficacy" (Chambless & Hollon, 1998, p. 11).

The remainder of this paper examines the relationship of energy psychology to acupuncture and reviews the small body of established scientific evidence as well as preliminary evidence that has not been peer-reviewed, such as anecdotal reports, master's and doctoral studies, and other unpublished research. An unusual amount of data of this nature has been produced. While reports that have not been peer-reviewed are difficult to interpret scientifically and cannot on their own establish efficacy, the existing hierarchy of evidence bearing upon EP is considered and—after a brief consideration of possible mechanisms—assessed according to the criteria set forth by the Division 12 Task Force.

Acupuncture as a Foundation

Energy psychology, as it is most commonly practiced, is both a psychotherapy built on the principles of acupuncture and a clinical development that introduces the principles of acupuncture into psychotherapy. Acupuncture has roots in the medical traditions of China, Japan,

and Korea, and evidence of its practice extends back at least 5,000 years (Dorfer, et al., 1999). Unique electromagnetic properties of acupuncture points and meridians have been postulated, with some empirical support (Ahn, Wu, Badger, Hammerschlag, & Langevin, 2005; Becker, Reichmanis, Marino, & Spadaro, 1976; Bergsmann & Woolley-Hart, 1973). The World Health Organization (WHO) lists over 50 conditions for which acupuncture is believed to be effective, including anxiety, depression, addictions, insomnia, and hypertension. Acupuncture has also frequently been used as a sedative or as an anti-anxiety agent (Lo & Chung, 1979). The American Academy of Medical Acupuncture (<http://www.medicalacupuncture.org>) has more than 1600 physicians in its membership.

Since a majority of EP approaches utilize acupuncture points, a fundamental question is whether acupuncture provides a viable foundation to build upon in developing new treatments for psychological problems. The British Acupuncture Council (the UK's primary regulating body for the practice of acupuncture) reviewed seven controlled clinical trials that used acupuncture in the treatment of anxiety and/or depression (total of 406 patients) and four outcome studies that did not utilize control groups (total of 171 patients). The Council concluded: "The findings from these studies suggest that acupuncture could play a significant role in the treatment of depression and anxiety. The papers included here show acupuncture consistently effecting significant improvement in these conditions" (British Acupuncture Council, 2002, p. 11).

For instance, one of the studies reviewed by the Council investigated acupuncture treatments of 38 female patients diagnosed with major depressive disorder, using a randomized, controlled, double-blinded design (Allen, Schnyer, & Hitt, 1998). The researchers compared the use of acupuncture points (during twelve treatment sessions over an eight-week period) specifically selected for the treatment of depression with acupuncture points usually used for other ailments (also twelve sessions over eight weeks) and a wait-list control group that received no treatment. Initial severity of the depression and treatment outcome were assessed by raters, blind to the treatment conditions, who used a modified 31-item version of the Hamilton Rating Scale for Depression and the depression module of the Structured Clinical Interview for the *DSM IV* (American Psychiatric Association, 2000). Following the acupuncture treatments, 50 percent of patients who received the depression protocol had improved and 42 percent were in complete remission, as contrasted to 9 percent complete remission for those who received the control acupuncture treatment and 20 percent for the wait-list group. After the initial clinical trial, the women from the other two groups were administered acupuncture using the points associated with the treatment of depression over an eight week period. Post-treatment, 70 percent of the total group had experienced a drop in depressive symptoms, with 64 percent showing complete remission according to *DSM IV* criteria.

While the mechanisms involved in these outcomes have not been firmly established, a growing body of laboratory research demonstrating that the stimulation of selected acupuncture points sends signals directly to areas of the brain involved with psychological issues is suggestive. A study conducted at Harvard Medical School, for instance, showed that the stimulation of a particular acupoint on the hand produced prominent decreases of fMRI signals in the amygdala, hippocampus, and other brain areas associated with emotion and pain (Hui, et al., 2000). A conference on "Neurobiological Correlates of Acupuncture" convened by NCCAM in November 2005 reported findings from numerous investigators using neuroimaging experiments. As a group, the studies suggest that the identification of acupuncture-associated brain responses

may lead to the development of “biomarkers that relate to physiologically and/or clinically relevant acupuncture responses” (Napadow, Webb, Pearson, & Hammerschlag, 2006, p. 931).

Acupuncture without Needles

The points used in EP generally correspond with subsets of the points used in acupuncture, but in EP they are stimulated without needles. Acupressure, the prototypical non-needle form of acupuncture, dates perhaps as far back as acupuncture (a Japanese form is called Shiatsu), and is still widely practiced. A review of 420 articles by Harvard Medical School's Consumer Health Information website (<http://www.intelihealth.com>) found at least preliminary evidence for the efficacy of acupressure with each of the affect-related disorders for which the WHO found acupuncture to be effective (including anxiety, depression, addictions, insomnia, and hypertension).

For instance, in a randomized controlled trial, published in *Anesthesia & Analgesia*, three treatment conditions were used to investigate the effects of acupressure on pain, anxiety, and heart rate with patients who suffered a minor injury that nonetheless required paramedics to transport them to the hospital (Kober, et al., 2002). Condition one involved having the paramedic manually stimulate for three minutes a set of pre-selected acupuncture points (acupoints) after medical interventions were completed but before transport to the hospital. Condition two was identical, except the treatment involved stimulating areas of the skin that do not contain recognized acupuncture points (“sham” points). Condition three involved three minutes of waiting with no acupressure or sham acupressure applied. Sixty patients were randomly assigned to one of these three groups. An independent observer, blinded to the treatment condition, recorded vital signs and the patient's self-assessment of pain and anxiety on a visual analog scale before the acupressure treatment and after arrival at the hospital. The treatments that used the traditional points resulted in a significantly greater reduction of anxiety ($p < .001$), pain ($p < .001$), and elevated heart rate ($p < .001$) than the other two treatment conditions.

The use of acupuncture needles was, in a non-peer reviewed study (described in Andrade & Feinstein, 2004), compared with the manual stimulation of acupuncture points (a critical issue for therapists not licensed to practice acupuncture) within an otherwise standard TFT protocol. Seventy-eight patients with panic disorder rated an anxiety-evoking thought for the amount of distress it caused on a 0 to 10 verbal self-report scale. After random assignment to manual stimulation or needle stimulation, the same set of pre-selected acupoints were tapped for 40 of the patients and needled for the other 38 while the original thought was again mentally activated. The degree of distress evoked by the thought was then given another rating. The post-treatment distress score was lower with 77.5 percent of the patients who received the tapping treatment but only 50 percent of the patients who were treated with acupuncture needles ($p < .01$). While this study relied on subjective measures and has not been peer-reviewed, it is consistent with the substantial acupressure literature suggesting that the non-needle stimulation of acupuncture points produces therapeutic effects, and it investigates this proposition specifically within an EP protocol.

The Methodology of Energy Psychology

The effects of acupuncture and acupressure have traditionally been referred to in terms of bringing balance to the body's *chi* or “life force.” Since existing instrumentation has not yet been

able to detect this putative fundamental bioenergy, nor scientifically measure it, a more useful description of the primary procedure EP has adapted from acupuncture and acupressure is that stimulating certain points on the surface of the body results in consistent physiological and psychological sequelae.

Even when treating psychological problems such as anxiety or depression, traditional acupuncture and acupressure do not introduce psychological interventions as such. EP, on the other hand, combines the stimulation of acupoints with precise cognitive protocols for the purpose of extinguishing conditioned responses associated with specific stimuli. The presenting problem is analyzed for maladaptive cause-effect sequences (conditioned stimulus → maladaptive emotional or cognitive response) and generally rated on the 0-10 SUD (subjective units of distress) scale used in systematic desensitization (Wolpe, 1958). With a simple phobia, this is straightforward. The object of the phobia causes limbic system hyperarousal and irrational fear. In an EP treatment, an image, memory, or verbal description of the feared situation would be mentally evoked to activate the emotional response at the same time a series of acupoints is stimulated. This procedure has been reported to reduce the fear within minutes, with the link between the feared situation and the hyperarousal permanently extinguished after a few rounds of treatment (e.g., Wells, Polglase, Andrews, Carrington, & Baker, 2003).

Most clinical situations are, however, more complex than phobias. Even with phobias, various “aspects” of the presenting problem (Hartung & Galvin, 2003, p. 82), such as unresolved trauma or childhood associations evoked by the current situation, may require attention. A phobia about driving, for instance, may appear following a minor traffic accident but resist treatment until a previously repressed childhood memory of a serious automobile mishap has been addressed. More complicated psychological problems—such as generalized anxiety disorder, depression, or obsessive-compulsive disorder—are also within the scope of EP practice, as claimed by its practitioners, but the number and intricacies of the aspects that must be addressed increase with more complex disorders. Still, each aspect can be treated with the same core protocol: bring to mind the situation that evokes the targeted emotion, thought, or other association while stimulating electromagnetically-sensitive areas of the skin.

While the EP tapping protocols are relatively mechanical and easy to learn, astute clinical judgment in identifying the aspects to focus upon is critical for the approach to be effective with complex psychological problems. In addition, even after a pertinent aspect of the clinical situation has been selected, it may be necessary to shift the focus to 1) an earlier experience that was formative in the current pattern, 2) a maladaptive belief that is maintaining it, 3) a more specific aspect of the problem, or 4) an internal conflict about changing the pattern. Furthermore, as it is generally practiced in clinical settings, EP is more than its core technique for extinguishing the link between a stimulus and a maladaptive response. It is, rather, usually part of a comprehensive approach, conducted in a context that integrates it with other clinical interventions as well as generic features of effective psychotherapy, such as building trust and rapport, conveying respect, mutually examining the presenting problem, and collaboratively establishing and working toward treatment goals.

A comparison of EP and Cognitive Behavior Therapy (CBT) highlights the salient features of each. Both approaches focus with precision on the thoughts and images associated with maladaptive physiological, emotional, and behavioral responses and intervene to extinguish such responses. Some EP interventions resemble CBT methods—such as systematic desensitization and *in vivo* exposure—for decreasing the limbic hyperarousal responses to

stimuli. The difference is that EP uses acupoint stimulation while CBT uses techniques such as muscle relaxation or repeated exposure for reducing the elevated responses. EP also utilizes carefully crafted positive self-statements, similar to the affirmations used in CBT, and the tapping is believed to facilitate the integration of the statement and related imagery into the cognitive system. Other parallels between CBT and EP include a focus upon automatic thoughts, feelings, and behaviors, a focus on maladaptive beliefs, a focus on the specific ways the client responds to distress, and the use of therapist-guided as well as back-home, self-administered interventions designed to alter those thoughts, feelings, and behaviors. In both approaches, the therapist and client collaboratively identify and come to a shared understanding of psychological problems by focusing on triggering internal and external events, leading to personalized, highly specific goals that are continually monitored and evaluated.

The distinctive purported advantage of EP in extinguishing maladaptive emotional responses is the reported speed and power of tapping the acupoints for evoking the effect. What data back this claim? A hierarchy of evidence includes 1) case studies that investigate the neurological correlates of EP treatments but do not attempt to establish efficacy, 2) anecdotal reports and systematic observation of outcomes, 3) outcome studies that do not use randomized controls, 4) controlled studies with limited generalizability, and 5) randomized controlled trials with potentially strong generalizability.

Case Studies Investigating Neurological Correlates of Successful EP Outcomes

More than attempting to establish efficacy, case studies are best suited for examining questions regarding the “how” and “why” of a clinical procedure (Yin, 2003). Beyond formulating the research question, Yin suggests that four other components of a strong case study design include a clear focus on what is being studied (unit of analysis), clear propositions that direct attention to what should be examined, a logic for linking the data to the propositions, and criteria for interpreting the findings.

Two single-case and two multiple-case reports, which can be treated as case studies according to Yin’s criteria, attempted to identify shifts in brain wave patterns that follow successful EP treatment outcomes with phobias and anxiety. Brain wave patterns were measured by electroencephalogram (EEG). Treatment outcome assessments ranged from self-report to standardized symptom inventories. The explicit or implied logic of each study was that EP treatments which reduced clinical symptoms also normalized brain wave patterns.

Case study designs are evaluated according to construct validity, internal validity, external validity, and reliability (Yin, 2003). All four studies had strong construct validity – the measures they used (self-reports, SUD ratings, standardized check-lists, and EEGs) correspond with the concepts being studied. They also had high internal validity. The logic of the changes from abnormal brain wave patterns to the treatment to normalized brain wave patterns was readily established. External validity requires that the findings can be generalized beyond the immediate cases. Reliability requires that another investigator would arrive at the same findings and conclusions if following the same procedures under the same conditions. Replication is required to establish external validity and reliability in case study designs. While the following studies appear to corroborate each another, they do not replicate one another, so external validity and reliability have not been established and their findings cannot, with confidence, be generalized to other situations.

In one of the single-case studies, a series of digitized EEG scans examined changes in the ratios of alpha, beta, and theta frequencies distributed throughout the brain prior to TFT treatment for an individual diagnosed with generalized anxiety disorder (GAD) and after 4, 8, and 12 sessions (images from this otherwise unpublished study are posted at http://innersource.net/energy_psych/epi_neuro_foundations.htm). Over the 12 sessions, which were conducted during a four-week period, the symptoms of GAD abated according to self-report and SUD ratings and the brain wave patterns normalized, as compared with profiles in databases (GAD patients have distinctive brain wave ratio signatures that distinguish them from a non-clinical population; Lubar, 2004).

A second single-case study, by Diepold and Goldstein (2000), evaluated quantitative electroencephalogram (qEEG) measures before a TFT session, immediately following the session, and on an 18-month follow-up. Statistically abnormal brain-wave patterns were observed when the subject thought about a targeted personal trauma prior to the session, but not when a neutral (baseline) event was brought to mind. Reassessment of the brain-wave patterns following a TFT treatment that focused on the traumatic memory revealed no statistical abnormalities when the trauma was again mentally activated. Subjective distress, based on self-report, was also eliminated. On 18-month follow-up, the brain wave patterns were still normal when the trauma was brought to mind.

Lambrou, Pratt, and Chevalier (2003) provided each of four individuals diagnosed with claustrophobia a thirty-minute TFT session and compared their pre- and post-treatment EEG alpha, beta, delta, and theta readings with those of four non-phobic control subjects who were provided with a 30-minute relaxation treatment. Prior to the treatment, all eight subjects were asked to enter and remain in a small metal lined enclosure (7' x 10' x 8') resembling an elevator, with the door closed for as long as they could tolerate, or up to 5 minutes. At that point, physiological measures and subjective distress ratings were taken, followed by the 30-minute TFT or relaxation treatment. Subjects returned to the enclosure for another 5 minutes and then the tests were readministered. Each of the experimental subjects exhibited significantly higher theta activity than the control subjects prior to the treatment ($p < .001$), but post-treatment their theta activity had decreased to the same range as the non-phobic subjects (whose theta activity did not significantly change post-treatment). The reduced theta activity in the experimental group correlated with decreases in pre- and post-treatment state anxiety as measured by the Spielberger State-Trait Anxiety Inventory ($p < .001$) and decreases in trapezius muscle tension as measured by EMG ($p < .05$). The reduced state anxiety on the State-Trait Anxiety Inventory remained at two-week follow-up.

A study investigating brainwave patterns before and after EFT treatment followed nine subjects who responded to a newspaper advertisement seeking individuals who suffered moderate to severe traumatic stress following a motor vehicle accident within the previous year (Swingle, Pulos, & Swingle, 2004). Standardized symptom inventories were administered within 10 to 24 days prior to treatment and again within 70 to 160 days following the two EFT sessions (which also prescribed back-home tapping). Along with the symptom inventories, each subject received an eyes-closed qEEG assessment of 19 brain locations. SUD ratings immediately prior to the first EFT session averaged 8.3; immediately following the second EFT session, they averaged 2.5 ($p < .001$). On follow-up, the gains held for five subjects, according to the symptom inventories, but did not hold for the other four. Follow-up brain wave data—analyzed according to indicators of depressed mood, central nervous quiescence, and somatic

quiescence—revealed a number of significant differences between the subjects who showed sustained improvement and those who did not. The five who sustained improvement registered increased theta/beta ratio changes (since the pre-treatment readings) in the occipital region of the brain (a measure of central nervous system quiescence) in comparison with the other four ($p < .01$); increased theta/sensory motor rhythm amplitude over the sensory motor cortex (a measure of somatic quiescence) in comparison to the other four ($p < .05$); and less arousal of the right frontal lobe relative to the left, an indicator of depressed mood states ($p < .02$ in comparison to the other four). These findings hold heuristic implications regarding the role of somatic quiescence, central nervous system quiescence, and right vs. left hemispheric arousal in sustaining the benefits of EFT in trauma treatment.

All four studies found that EP treatments which reduced clinical symptoms also normalized brain wave patterns, though none addressed the question of whether there was a cause-effect relationship between normalized brain wave patterns and reduced symptoms. Some insight into that question is shed, however, by comments from the investigator who did the digitized EEG scans during the GAD treatment (J. Andrade, personal communication, March 25, 2003). In unpublished trials, Andrade compared scans made during the course of TFT treatments with scans of GAD patients treated with CBT but no medication and GAD patients treated with medication (benzodiazepines) but no psychotherapy. The symptoms of GAD were reduced for all three groups, according to self-reports. Brain wave patterns for the CBT patients tended to show the same normalization pattern as those treated with EP, though a greater number of sessions was generally required for the patients treated with CBT. The brain scans of the medication group did not, however, reveal a normalization of brain wave ratios. Symptoms of GAD were also more likely to return when medication was discontinued than following the completion of EP or CBT treatments. This suggests that symptoms can be suppressed without addressing underlying imbalances in brainwave frequencies, but that brain wave normalization may be required if the treatment gains are to be permanent.

Anecdotal Reports and Systematic Observation

Anecdotal reports about a new therapy help determine whether the approach merits formal study, and if so, they help investigators formulate the questions that research needs to address. Beyond this, however, anecdotal material is a form of evidence that carries a low level of credibility. Besides offering no comparison condition, anecdotal reports are subject to both selection bias (negative outcomes are less commonly reported by the advocates of a method) and assessment bias (subjective and sometimes objective incentives for perceiving and reporting positive outcomes may be substantial).

A recent evolution in the usefulness of some anecdotal material, however, is that treatment sessions are being recorded on video and made available for critical examination. One such session, showing a modified EFT protocol in the treatment of a woman presenting with a severe and longstanding height phobia, is posted at <http://phobiatreatment-video.com>. Prior to treatment, the woman walks toward the railing of a fourth story balcony and begins to shake, sweat, and report intense discomfort. Immediately following a half-hour treatment session, she is able to calmly walk to and lean over the railing. A two-and-one-half year videotaped follow-up interview shows her reporting that her fear of heights has not returned.

Energy psychology may be unprecedented in its accumulation of large amounts of systematically-collected anecdotal outcome data, including videotaped treatments. More than 200 EFT sessions are available on DVD as part of training programs from <http://emofree.com>. Among these are treatments with six inpatients at the Veteran's Administration Hospital in Los Angeles suffering from prolonged, severe PTSD. In one of them, a veteran who fought in Cambodia and had subsequently undergone 17 years of intermittent psychotherapy still reported disabling insomnia and flashbacks as well as a severe height phobia that was exacerbated over the course of some 50 parachute jumps made during the war. The videotaped sessions focus on his phobia and his most intense war memories, which are, one at a time, brought to mind simultaneous with acupoint tapping and related procedures until he reports no feelings of distress when thinking about the memory. He is then taught how to tap a selected set of acupoints outside the treatment setting to reduce the emotional charge on remaining war-related traumatic memories. Two days later, he reports having been able to sleep throughout the night without nightmares for the first time in recent memory, and he is able to bring to mind without arousal (SUD = 0) the traumatic experiences that had been paired with the acupoint treatment. In the subsequent days, he discontinued his medication and checked himself out of the hospital. On a two-month telephone follow-up with the therapist, he was still free of the height phobia, the insomnia (now sleeping an estimated seven hours per night instead of four), and the intrusion of disturbing war memories (G. Craig, personal communication, January 12, 2005).

The same website (<http://emofree.com>), which invites reports of experiences using EFT, contains thousands of anecdotes based on self-help, peer-help, and professional applications of the method. A search engine on the site lists, at the time of this writing, 165 entries for depression cases, 460 for anxiety, 102 for PTSD, 141 for weight loss, 128 for addictions, 90 for sports performance, and 389 for physical pain (which often has an emotional component). The majority of these entries present at least one report of a treatment session with a successful or partially successful outcome as judged by the client and/or practitioner.

The only other available data on the specific conditions for which EP may be indicated or not indicated is based on surveys of practitioners. A doctoral study of therapist perspectives on the use of energy psychology in treating adult survivors of childhood sexual abuse surveyed 12 licensed psychologists in private practice (9 female, 3 male) ranging in age from 43 to 67 years old (Schulz, 2007). All 12 utilized EP. Six had been licensed more than 20 years, and all had been licensed more than 5 years. EP was the primary modality used by 5 of them with adult survivors of childhood sexual abuse. The other 7 combined EP with talk therapy, CBT, and/or eye movement desensitization and reprocessing (EMDR). All 12 believed that EP is the most effective approach available for the anxiety, panic attacks, and phobias found in adult survivors. All 12 also reported improved mood, self-esteem, and interpersonal relationships in using EP with this population. Ten attributed decreases in the dissociative symptoms of their abused clients to EP, with better self-care and less self-harming behaviors also being reported. These impressions are consistent with two other practitioner surveys, one originating in North America, the other in South America (see http://energymed.org/pages/ep_survey.htm).

As EP is being increasingly applied by disaster relief programs such as Green Cross, a body of anecdotal reports from the field has been accumulating (for instance, accounts describing TFT or EFT treatments of ten individuals suffering from traumatic stress following natural or human-made disasters and three describing group treatments with such individuals can be found at http://www.innersource.net/energy_psych/articles/ep_energy-trauma-cases.htm). In some

instances, post-disaster treatment outcomes have been systematically tracked and reported. For example, TFT treatments by international teams working with post-disaster victims in Kosovo, Rwanda, the Congo, and South Africa tallied the treatment outcomes with 337 individuals (Feinstein, 2007). Treatment focused on reducing severe emotional reactions evoked by specific traumatic memories, which often involved torture, rape, and witnessing loved ones being murdered. Following the EP interventions, 334 of the 337 individuals were able to bring to mind their most traumatic memories from the disaster and report no emotional arousal. These striking outcomes were frequently corroborated by local authorities who had no affiliation to a particular treatment approach. For instance, reports of the TFT treatment of 105 people in Kosovo came to the attention of the country's chief medical officer (the equivalent of the U.S. Surgeon General), Dr. Skkelzen Syla, who investigated the outcomes and subsequently stated in a letter to the sponsoring organization on January 21, 2001:

Many well-funded relief organizations have treated the post traumatic stress here in Kosova. Some of our people had limited improvement but Kosova had no major change or real hope until . . . we referred our most difficult trauma patients to [the international TFT team]. The success from TFT was 100% for every patient, and they are still smiling until this day [referring to follow-ups, where each was free of relapse].

As a group, the anecdotal reports and field observations give an impression of therapeutic outcomes that are both rapid and dramatic, though of course all the caveats about selective reporting, the bias of a method's advocates, and the subjective nature of such reports apply.

Uncontrolled Outcome Studies

In addition to the exploratory case studies, anecdotal evidence, and systematic field observations, several uncontrolled outcome studies support the potential efficacy of EP interventions. Uncontrolled outcome studies measure the effects of a treatment intervention with a sample of subjects according to specified outcome criteria. No attempt is made to control for placebo and other non-specific therapeutic factors via comparison with a no-treatment group or with another therapy. While such studies cannot be interpreted as having established an empirical basis for efficacy because factors independent of the intervention being investigated—such as placebo, expectation, caring attention, and the passing of time—may have been active ingredients in therapeutic change, they are suggestive and help guide future research. As with anecdotal reports, a great deal of this suggestive type of evidence is available regarding EP.

For instance, in one study, 20 subjects who had refused necessary medical attention because of intense needle phobias (Darby, 2001) were each given a one-hour TFT treatment. They showed significant pre-/post-treatment improvement on both questions relevant to blood phobias, injection phobias, and injury phobias from the Wolpe and Lang Fear Survey Schedule ($p < .001$) and on SUD ratings ($p < .001$). The improvement held on one-month follow-up, where both measures were re-administered. While the study contains a number of methodological flaws (such as that the experimenter both administered the treatments and collected the data), remarks from the participants give the study qualitative value, particularly in the context that their phobias had potentially life-threatening consequences and they received only a single treatment session. Shown a hypodermic needle and syringe a month after the treatment, their comments

included: “It’s just an instrument now,” “Now I can watch myself receive an injection,” “It doesn’t bother me,” and “It’s just a needle.”

A large-scale uncontrolled outcome study was conducted at Kaiser Behavioral Medicine and Behavioral Health Services, the behavioral medicine specialty clinic of a health maintenance organization (HMO) in Honolulu, for the purpose of testing the potential reach of TFT with a variety of presenting problems (Sakai, 2001). While most outcome studies attempt to investigate treatment results with a specific condition, this investigation followed a spectrum of conditions as presented by 714 outpatients receiving 1594 thirty-minute to fifty-minute TFT sessions from seven TFT-trained therapists. Some subjects had more than one psychiatric diagnosis, and for a diagnosis to be included in the study, it had to have been identified in at least 5 subjects. Thirty-one conditions were followed, including obsessive-compulsive disorders, PTSD, a variety of other anxiety disorders, depression, major depressive disorder, alcohol cravings, nicotine cravings, adjustment disorder, bereavement, tremors, and chronic pain. The only pre-/post-treatment outcome measures consistently applied were SUD ratings. An additional outcome measure used on a small sample of the patients was Heart Rate Variability (HRV). While the ability of TFT to affect HRV has been claimed in a number of reports (e.g., Callahan, 2001), including the Sakai study, and speculation about HRV and psychological problems is interesting, any relationship between HRV and psychological symptoms is yet to be established, so the investigation of acupoint tapping and HRV is not considered here.

In the HMO study, the therapists guided the patients through the TFT treatment protocol for the presenting symptom or problem, obtaining in-session SUD ratings prior to the treatment as well as at various treatment choice points. The specific acupoints, sequences, and other procedures varied from patient to patient but were specific to the targeted symptom or problem, following TFT protocols and treatment flow charts. The treating therapist also obtained a post-treatment SUD rating at the end of each session, with the various ratings recorded by the therapist on clinical multi-purpose tracking forms. Paired t-tests of improved pre-treatment to post-treatment SUD ratings were significant at the .001 level for 28 of the conditions. For the other three conditions, alcohol cravings, major depressive disorder, and tremors, they were significant at the .01 level. Weaknesses of this study include the lack of objective outcome measures and the fact that it did not attempt to compare the efficacy of TFT with other treatments or non-treatment controls. While the investigators concluded that TFT produced a therapeutic effect across a spectrum of non-psychotic psychiatric conditions, the study did not determine whether the reported outcomes were based on compliance, expectation, the passage of time, or other non-specific therapeutic factors.

Controlled Experiments with Limited Generalizability

Eleven allied clinics in Argentina and Uruguay (reported in Andrade & Feinstein, 2004) accumulated outcome data on some 29,000 patients treated over 14 years by 36 therapists using TFT or TFT derivatives (the constant was combining the mental activation of a problematic emotional or behavioral response with the stimulation of specified points on the skin). Several relatively informal in-house studies were conducted, including some that used randomized controlled trials. In the largest of these, the course of treatment of approximately 5,000 patients diagnosed with a range of anxiety disorders were randomly assigned to either TFT or CBT treatment. Interviewers who were blind to the treatment modality placed each patient into one of three categories at the termination of therapy: no improvement with the presenting problem,

some improvement, or complete remission. Complete remission was reported by 76 percent of the patients in the TFT group and 51 percent of the CBT group ($p < .0002$). Some improvement to complete remission was reported by 90 percent of the patients in the TFT group and 63 percent of the CBT group ($p < .0002$).¹ While these data are contaminated by a number of factors, most tracing to informal record-keeping, subjective outcome assessments, and variables that were not rigorously controlled, and thus cannot be considered firm empirical evidence despite the large n and large between-group differences, they nonetheless corroborate reports from other investigators.

A doctoral dissertation that used a controlled, randomized design investigated the effects of TFT with 28 phobia patients who were compared with 25 wait-list controls (Wade, 1990). SUD ratings were the primary outcome measure, with an average decrease of 3.4 for the experimental group and less than half a point for the wait-list group ($p < .001$). The SUD improvements held for the experimental group on two-month follow-up. An interesting tangent to this experiment was to track whether TFT, or simply overcoming or partially overcoming a phobia, impacted self-concept and self-esteem without any particular focus on either during the treatment. Two self-concept inventories, the Tennessee Self Concept Scale (TSCS) and the Self Concept Evaluation of Location Form (SELF), were administered a month prior to the treatment and then two months after the treatment. Statistically significant improvements were found on the self-acceptance scale of the TSCS and on the self-esteem scale and self-incongruence scale (how I see myself vs. how I would like to be) of the SELF. While standardized instruments were used to measure self-concept, a primary weakness of this study is that assessments regarding reduction of the phobias were based solely on SUD self-reports.

A within-subjects design was used with 102 participants who attended either of two 3-day EFT workshops open to the general public (Rowe, 2005). The participants were given a well-established, standardized symptom checklist (the Derogatis Symptom Checklist-90, short form) one month prior to the workshop, immediately prior, immediately after, one month after, and six months after the workshop. In a within-subjects design, the subjects are used as their own controls. No significant difference was found in the mean test scores one month prior to and immediately prior to the workshop, suggesting that the mere passage of time was not a factor in causing the scores to drop. Following the workshop, a highly significant decrease ($p < .0005$) was found on the checklist's global measure of psychological distress as well as all nine subscales, and these improvements held at the six-month follow-up. While this large effect is striking, it is possible that the pre-/post-test differences could have resulted from the intensive group experience or other elements of the event rather than the specific EFT procedures.

A randomized comparison conducted at Florida State University in the late 1990s evaluated the effectiveness of four approaches that were in use at the time for the treatment of PTSD (Carbonell & Figley, 1999). The approaches investigated included TFT, EMDR, traumatic incident reduction (TIR), and visual/kinesthetic dissociation (V/KD). The study employed detailed evaluative measures and follow-up assessments based on the Derogatis and Spencer Brief Symptom Inventory, the Horowitz, Wilner, and Alvarez Impact of Events Scale, and SUD ratings. All four approaches yielded sustained reduction in anxiety measures immediately following treatment and during follow-up evaluations conducted within the four- to six-month range. The differences among TFT, TIR, and EMDR were not statistically significant (mean SUD reduction on the 0 to 10 scale, for instance, was 3.3 for TFT; 3.1 for TIR; 3.0 for EMDR; and 1.5 for V/KD). The differences in the amount of time required to produce the improvement,

however, were significant, with TFT averaging 63 minutes per patient, EMDR averaging 172 minutes, TIR averaging 254 minutes, and V/KD averaging 113 minutes. Among the study's weaknesses are that it had only 28 subjects testing four conditions and the number of subjects across treatment conditions varied.

A randomized study involving 119 university students investigated the impact of brief EFT tapping for fears (Waite & Holder, 2003). Three treatment conditions included: 1) tapping on 12 standard EFT points with the usual EFT verbalizations and physical activities such as eye movements, counting, and humming, 2) tapping on 12 arm points not used in traditional acupuncture (sham points), along with the usual EFT verbalizations and physical activities, and 3) tapping on 12 locations on a doll, with the usual EFT verbalizations and physical activities. A fourth, no-treatment control group had the task of making a toy out of paper. The treatments were very short (two to three minutes), and unlike clinical uses of EFT, they did not attempt to bring the SUD rating down to 0, stopping after only two rounds of the procedure. Pre-/post-treatment SUD fear ratings decreased 18 percent for each of the tapping conditions (standard EFT, $p < .003$; sham points, $p < .001$, and doll tapping; $p < .001$), but there was no significant SUD decrease for the no-treatment group. In the three treatment conditions, all the elements of EFT were present, with the variable being which points were tapped (standard, arm, or finger). Interestingly, tapping on the end of the forefinger happens to stimulate acupoints on either side of the fingernails (Large Intestine 1) that are sometimes used to reduce fear and grief, though the researchers apparently had not conceived of the doll condition as potentially activating treatment points. The study demonstrated that the basic EFT protocol, regardless of which points were tapped, quickly reduced fear levels while the no-treatment condition did not, but it did not determine whether the physical interventions, the verbalizations, or the two in combination were the necessary active ingredients.

While each of these five studies employed a control condition, limitations in each study make its findings difficult to interpret or generalize. The South America study did not control for all relevant variables, did not use objective outcome measures, and did not adhere to strict standards in collecting and storing data. Wade's outcome data was limited to SUD self-reports. Rowe did not control for non-specific treatment factors so it is not clear what caused the measured improvements. Carbonell and Figley used a very small n distributed unevenly over the four treatment conditions. Waite and Holder limited the interventions to two to three minutes so differences among the treatment conditions may not have had time to emerge and be detected. Five randomized clinical trials whose findings can more readily be interpreted and generalized have investigated EP treatments with public speaking anxiety, test-taking anxiety, and phobias of insects or small animals.

Randomized Controlled Trials with Potentially Strong Generalizability

Thirty-eight women and 10 men with public speaking anxiety who participated in a study for a doctoral dissertation were randomly assigned to a treatment group or a wait-list control group (Schoninger, 2004). Each of the 48 subjects gave an extemporaneous speech in front of a small audience and was then given self-report instruments to measure emotional responses to the public speaking experience. The measures included the Clevenger and Halvorson Speaker Anxiety Scale, the Spielberger Trait and State Anxiety Scale, and a SUD rating. No significant differences were found between the two groups in the pretreatment measures. Subjects in the treatment group were given a single TFT session of up to an hour that focused on public

speaking. They then gave another extemporaneous speech under the same conditions, followed by the same anxiety measures. Scores on all three instruments were significantly lower compared with pretreatment scores ($p < .001$). Anxiety scores for the control group following a second speech (instead of treatment there was a two-week delay between speeches given by the wait-list group) increased slightly, though not significantly. The wait-list group was then given a TFT session of up to an hour and immediate post-testing, with improved outcome scores equivalent to those of the original treatment group. Significant pre-/post-treatment changes on the Speech Anxiety Scale included less shyness, confusion, physiological activity, and post-speech anxiety, as well as increased poise, positive anticipation, and interest in giving a future speech. On follow-up interviews four months later, the treatment outcomes held according to participant accounts, with more effective self-expression in varying contexts frequently being reported, though standardized instruments were not administered.

EFT was compared with Progressive Muscle Relaxation (PMR) in the self-treatment of test anxiety with a group of adolescent students taking intensive training for the preparation of the university entrance exam in Turkey (Sezgin & Özcan, 2004). Thirty-two students with elevated scores on the Turkish form of the Test Anxiety Inventory (TAI) were randomly divided into two groups ($n = 16$). Each group first received a lecture on the modality being used (EFT or PMR). Students in the EFT group were then taught how to self-apply EFT tapping procedures while focusing on taking a test. Students in the PMR group received audio instruction CDs for progressive muscle relaxation, published by the Turkish Psychological Association. The groups were asked to apply EFT or PMR (as instructed in the audio CD) three times a week for the following two months, particularly at times when feeling anxiety about the test. The TAI was then re-administered (still prior to taking the entrance exam). Both groups showed a significant decrease in test-taking anxiety, but the decrease for the EFT group (mean pre-treatment score of 53.9 decreased to 33.9) was significantly greater than the decrease (56.3 to 44.9) for the PMR group ($p < .05$).

A randomized controlled trial compared EFT with a form of Diaphragmatic Breathing (DB) in the treatment of specific phobias of insects or small animals, including rats, mice, spiders, and roaches (Wells, Polglase, Andrews, Carrington, & Baker, 2003). The DB was designed to include verbal elements similar to those of EFT. The two treatment conditions were, except for the primary variable (the physical intervention—tapping or DB), kept as similar as possible so the investigators would be able to determine whether tapping was the operative factor in any treatment gains. Volunteers recruited through newspaper and radio announcements were given an extensive telephone interview structured around the *DSM IV* criteria for specific phobia. Participants selected for inclusion matched these criteria, were not currently receiving treatment for the phobia, and agreed to be contacted for follow-up testing. Potential subjects who reported a SUD level of less than 5 while standing directly in front of the feared animal (the animal was used *in vivo* for the assessments but not the treatment) were also excluded from the study.

Thirty-five participants were randomly assigned to the EFT treatment ($n = 18$) or the DB treatment ($n = 17$) condition. A modified form of the Brief Standard Self-Rating for Phobic Patients (using three of the four measures: Main Target Phobia, Global Phobia, and Anxiety-Depression) was administered to measure phobic symptoms and change. A Behavioral Approach Task (BAT) was designed to measure the participants' level of avoidance of the feared animal. Participants were assessed on how close they would allow themselves to get to the feared animal according to 8 measurement points (outside the room, door closed; outside the room, door open;

inside the room at 5, 4, 3, 2 and 1 meters, and directly in front of the animal). SUD ratings were taken at each of the points the participant reached on the BAT. Experimenter demand was kept low, with participants never being encouraged to move closer to the animal. A research assistant who was blind to the person's treatment condition manually took a pulse rate following completion of demographic data, and once again at the point at which the client voluntarily stopped on the Behavioral Approach Task.

The treatment session, which was limited to 30 minutes and began with the experimenter providing a brief rationale for the intervention, was conducted immediately following the pretesting. After the allotted time, the treatment was stopped and post-tests were administered in the same order as the pretests, using identical measures. At follow-up, participants were retested on all measures and also given an opportunity to discuss their experiences with the researchers.

Both groups showed immediate post-treatment improvement on all 5 measures, with EFT being superior on four of them: fear questionnaire ($p < .005$), BAT ($p < .02$), SUD rating during the BAT ($p < .02$), and pre-/post-treatment SUD ($p < .005$). Pulse rate decreased about equally following both treatments. Twelve participants from the EFT condition and 9 from the DB condition were available for the follow-up testing 6 to 9 months after the treatment. Follow-up scores for the EFT group on the BAT, the SUD rating during the BAT, and the pre-/post-treatment SUD rating showed that the improvement found immediately following treatment was sustained. Scores on the fear questionnaire indicated an increase in fear since the treatment, but they were still significantly lower than the original pre-treatment scores ($p < .025$).

An unpublished study by Salas (2001) partially replicated the Wells study. Rather than using a control group, the 22 subjects served as their own controls, with half receiving EFT first and then DB; the other half receiving DB first and then EFT. Subjects were college students who reported having specific phobias which, to be included in the study, they rated as 8 or higher on a written SUD inventory. Phobias that did not lend themselves to the concrete testing used in the behavioral avoidance procedure, such as the fear of flying, were also not included. Three measures – the Beck Anxiety Inventory, a modified BAT, and SUD ratings – were administered prior to either treatment, after the first treatment, and after the second treatment. DB produced a significant decrease of anxiety ($p < .001$) as measured by the SUD when it was the first treatment, but not when it was the second treatment, and it did not produce significant improvement according to the other two measures, regardless of the order of the treatments. EFT produced a significant decrease of anxiety on all three measures, whether it was used as the first or second treatment. Improved SUD ratings with EFT, whether given before or after DB, were at the .001 level. Improvements in both the Beck inventory and the modified BAT were at the .001 level when EFT was administered first and at the .01 level when it was administered second.

Another replication of the Wells study (Baker & Siegel, 2005), currently under editorial review, used randomized controls and also corroborated the Wells findings. Baker and Siegel added a third condition, a no-treatment control group, and they changed the comparison condition from diaphragmatic breathing to a supportive interview where participants were given an opportunity to discuss their fears in a respectful, accepting Rogerian-like setting. The time allotted for the two treatment conditions was also changed, from 30 minutes to 45 minutes. Improved pre- to post-EFT treatment scores on the fear questionnaire, the BAT, the two SUDS measures, and pulse rate (as well as a questionnaire designed for the new study) strongly supported the original study. Where the diaphragmatic breathing treatment resulted in some improvement in the original study, participants in the supportive interview and the no-treatment

control conditions of this study showed no significant changes on the questionnaire measures. As in the original study, only heart rate showed large but equal changes for both treatments. Follow-up, on average 1.4 years later, showed that the effects of EFT persisted, though in attenuated form.

Specific phobias are among the most prevalent of the anxiety disorders, with phobias of bugs, mice, snakes, and bats being the largest subgroup in this category (Ost, Stridh, & Wolf, 1998). *In vivo* exposure has been shown to be more effective in the treatment of specific phobias than eye movement desensitization and reprocessing (EMDR), systematic desensitization without *in vivo* exposure, or other approaches (Muris & Merckelbach, 1998), and it is widely considered the treatment of choice for adults with specific phobias (systematic desensitization that does not utilize *in vivo* exposure is an alternative that avoids the potential stress caused by exposure). An *in vivo* exposure protocol has been developed where a single intensive session, averaging 2.1 hours, is reported to equal the results of more widely spaced and lengthier exposure programs for treating specific phobias (Ost, Ferebee, & Furmark, 1997). The EFT protocol in the Wells study and its two replications was able to provide significant alleviation of specific phobias using single sessions of 45 minutes or less without introducing the stress that *in vivo* exposure places on the client or requiring objects or situations that are often not available in clinical settings.

Hypothesized Mechanisms

Before assessing the efficacy data, plausible mechanisms for the reported treatment outcomes will briefly be considered. The absence of credible explanatory models has been a significant barrier to the acceptance of EP by the professional community. While EP may, as is claimed in other forms of energy medicine, impact putative energy fields that cannot be readily measured by existing instrumentation (e.g., the formulation by Diepold, Britt, and Bender, 2002, of “electromagnetic frequency modulation”), models and hypotheses are being developed that rely solely on measurable agents (e.g., Ruden, 2005). One line of support for such models is the finding, already mentioned, that the stimulation of specific acupoints can decrease activation signals in the amygdala and related brain structures (e.g. Hui, et al., 2000). A second process, however, must be explained. Even if tapping an acupoint while mentally activating an emotionally evocative stimulus reduces limbic hyperarousal in the moment, how does this permanently delink the stimulus from the response?

A research program at New York University headed by Joseph LeDoux has shown that whenever a memory is accessed, it must then be reconsolidated into the person’s cognitive system. While consolidation, the process by which newly learned information is stored, was at one time believed to occur only at the time of the experience, LeDoux’s team has demonstrated that “consolidated memories, when reactivated through retrieval, become labile (susceptible to disruption) again and undergo reconsolidation” (Debiec, Doyere, Nader, & LeDoux, 2006, p. 3428). That is, when a memory is retrieved, it can then be altered (including changes in the associations it evokes) before it is stored again. In a study suggestive of the clinical implications of this dynamic, rats conditioned to expect an electric shock when a particular tone was played would freeze in fear upon hearing the tone. But when administered a drug that prevents the amygdala from producing the proteins that are needed for memory storage, the response to the tone was immediately and permanently extinguished (Nader, Schafe, & LeDoux, 2000). The

memory needed to be reconsolidated if the fear that had been conditioned to the tone was to be sustained.

Combining the laboratory findings that acupoint stimulation can send deactivation signals to brain structures which regulate affect with those showing that evoked memories need to be reconsolidated, the following hypothesis begins to account for the clinical data:

When a memory, anticipated situation, or other thought that triggers limbic hyperarousal is evoked, and acupoints that decrease activation signals in the amygdala and related brain areas are simultaneously stimulated, the stress response is reduced. When the memory or thought is then reconsolidated, the strength of its ability to trigger hyperarousal has been reduced, leading (after a number of exposures to the procedure) to the extinction of the elevated limbic response.

While this “acupoint stimulation/hyperarousal reduction” hypothesis, even if confirmed, will not account for all the observed clinical outcomes since numerous reports suggest that EP has an effect with a range of emotional conditions (from those involving hyperarousal to those involved with the mastery of psychological tasks), it seems to account for much of the existing EP data in the treatment of anxiety-related disorders.

Conclusion: Assessing the Evidence

The abundance of anecdotal material (as well as a number of large, uncontrolled outcome studies) suggesting that EP holds promise as an efficacious treatment, combined with only a limited number of well-designed clinical trials, poses a challenge to clinicians and institutions wanting to determine whether EP has merit for their clients. The existing evidence is provocative, but it is difficult to interpret.

The Wells study, however, brings EP past the threshold formulated by the Division 12 Task Force, establishing EFT as a “Probably Efficacious Treatment” for specific phobias. It is a well-designed, randomized investigation demonstrating that a session of EFT was superior to a session with a similar protocol that used diaphragmatic breathing instead of tapping in treating phobias of insects and small animals. The Baker and Siegel replication of the Wells study meets the same criteria, this time demonstrating that an EFT session was superior to no treatment and to a Rogerian-like supportive counseling session. The two studies in combination almost meet the criteria for designating EFT as a “Well-Established Treatment” of specific phobias, but to meet those criteria they would have to have been conducted by independent research teams, and Baker² is an author in both studies. The Baker and Siegel study is also yet to be accepted by a peer-reviewed journal. The Schoninger and the Sezgin and Özcan studies will meet the Task Force criteria if they withstand peer-review. All three studies (Baker & Siegel, Schoninger, and Sezgin & Özcan) were at the time of this writing being prepared for journal consideration or under review. The Salas replication of the Wells study also almost meets the Task Force criteria, although the subjects served as their own controls in investigating the two treatment conditions and the study was not peer-reviewed.

While the existence of just one robust peer-reviewed study reaches only the minimum threshold of the Chambless Task Force’s criteria for empirically supported therapies, evaluators of research are also asked “to include in their evaluation nonexperimental, quasi-experimental, and full experimental research studies” (Chambless and Hollon, 1998, p. 14). Placing the limited

number of well-designed trials of EP into the context of the anecdotal reports, uncontrolled outcome studies, and less robust clinical trials yields a picture that suggests EP is a rapid, effective, and durable treatment for anxiety disorders and possibly a range of other psychological issues. The sheer number of systematically tracked reports statistically mitigates some of the criticisms of anecdotal accounts and uncontrolled outcome studies. While anecdotal reports from a small number of a method's proponents are certainly suspect, thousands of corroborating reports emanating from a wide variety of sources over more than two decades constitute a different order of evidence. Similarly, while outcome studies that do not use control conditions are subject to a variety of distortions due to the role of well-established non-specific therapeutic factors (e.g., expectation effects), accounts of hundreds of unusually strong outcomes from credible sources such as HMOs and disaster relief programs now corroborate one another and seem to be identifying effects beyond incidental factors. While not replacing the need for controlled experiments, the extensive anecdotal and outcome data augment formal studies.

An idiosyncrasy of many of the studies of EP, such as the controlled investigations of EFT with specific phobias, is that they are often based on single-session treatments. Cause-effect sequences (CS → CR), as when a harmless situation causes a phobic response are, in fact, frequently deconditioned within a single session, according to practitioner reports and early studies. While EP treatments for more complex issues typically require multiple sessions, these often involve the identification and treatment, one by one, of the numerous cause-effect sequences involved in a complex problem. So the studies demonstrating the ability of EP to rapidly decondition specific maladaptive cause-effect sequences are highly relevant for understanding the treatment of more complex conditions.

In reviewing the available information bearing upon the efficacy of EP, one of the most striking observations is that despite the strong anecdotal reports that have been accumulating for more than twenty years from a spectrum of credible sources, no comparisons between EP and other modalities have been conducted by neutral investigators. Further controlled research of EP is clearly called for. Neutral investigators are needed to answer efficacy questions such as whether half-hour sessions of EP are indeed superior to 2-hour *in vivo* exposure sessions in the treatment of specific phobias. Investigators close to the practice of EP need to address specific clinical questions. For what conditions is EP most effective? Under what conditions, if any, are the various auxiliary methods, such as those using humming or counting, necessary? Are different acupoints more effective for different disorders? How do EP methods best combine with other clinical approaches in treating complex psychological issues? While reports from growing numbers of psychotherapists suggest that EP techniques are safe, effective, and relatively easy to learn, controlled investigation of EP's efficacy, clinical reach, and procedures will affect not only the method's credibility but also the way it is practiced.

References

- Ahn, A.C., Wu, J., Badger, G.J., Hammerschlag, R., & Langevin, H.M. (2005). Electrical impedance along connective tissue planes associated with acupuncture meridians. *Complementary and Alternative Medicine* 5,10
- Allen, J.J.B., Schnyer, R.N., & Hitt, S.K. (1998). The efficacy of acupuncture in the treatment of major depression in women. *Psychological Science*, 9(5),397-401.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: Author.
- Andrade, J., & Feinstein, D. (2004). Energy psychology: Theory, indications, evidence. In D. Feinstein, *Energy psychology interactive* (Appendix, pp. 199 – 214). Ashland, OR: Innersource.
- Baker, A. H., & Siegel, L. S. (2005, April 29). Can a 45 minute session of EFT lead to reduction of intense fear of rats, spiders and water bugs? — A replication and extension of the Wells et al., (2003) laboratory study. Paper presented at the Seventh International Conference of the Association for Comprehensive Energy Psychology, Baltimore, April 27 – May 4, 2005.
- Becker, R.O., Reichmanis, M., Marino, A.A., & Spadaro, J.A. (1976). Electrophysiological correlates of acupuncture points and meridians. *Psychoenergetic Systems*. 1,105-112.
- Bergsmann, O & Woolley-Hart, A. (1973). Differences in electrical skin conductivity between acupuncture points and adjacent areas. *American Journal of Acupuncture*, 1, 27-32.
- British Acupuncture Council. (2002). Depression, anxiety and acupuncture: The evidence for effectiveness. London: Author.
- Callahan, R. J. (2001). Raising and lowering of heart rate variability: Some clinical findings of thought field therapy. *Journal of Clinical Psychology*, 57, 1175-1186,
- Carbonell, J.L., & Figley, C. (1999). A systematic clinical demonstration project of promising PTSD treatment approaches. *Traumatology* (online journal), 5(1), Article 4. Retrieved July 2, 2005, from <http://www.fsu.edu/~trauma/promising.html>
- Chambless, D. L., & Hollon, S. D. (1998). Defining empirically supported therapies. *Journal of consulting and clinical psychology*, 66, 7 – 18.
- Chambless, D. L., et al. (1998). Update on empirically validated therapies, II. *The Clinical Psychologist*, 51(1), 3 - 16.
- Darby, D. (2001). *The efficiency of thought field therapy as a treatment modality for individuals diagnosed with blood-injection-injury phobia*. Unpublished doctoral dissertation. Walden University, Minneapolis.
- Debiec J., Doyere V., Nader K., & LeDoux J.E. (2006). Directly reactivated, but not indirectly reactivated, memories undergo reconsolidation in the amygdala. *Proceedings of the National Academy of Sciences, USA*. 28;103(9),3428-33.
- Diepold, J. H., Britt, V., Bender, S. S. (2004). *Evolving Thought Field Therapy: The clinician's handbook of diagnoses, treatment, and theory*. New York: W. W. Norton.

- Diepold, J. H., Jr., & Goldstein, D. (2000). *Thought field therapy and qEEG changes in the treatment of trauma: A case study*. Moorestown, NJ: Author.
- Dorfer L, Moser M, Bahr F, Spindler K, Egarter-Vigl E, Giullen S, Dohr G, & Kenner T. (1999). A medical report from the stone age? *Lancet*, 354, 1023-5.
- Feinstein, D. (2004). *Energy psychology interactive: Rapid interventions for lasting change*. Ashland, OR: Innersource.
- Feinstein, D. (2007). Energy psychology in disaster relief. Paper submitted for publication. www.ed-em.com/ep-trauma.htm.
- Frost, R. (2002). *Applied Kinesiology: A training manual and reference book of basic principles and practices*. Berkeley, CA: Ronin.
- Gallo, F. P. (2005). *Energy psychology: Explorations at the interface of energy, cognition, behavior, and health*. (2nd ed.). New York: CRC Press.
- Hartung, J., and Galvin, M. (2003). *Energy psychology and EMDR: Combining forces to optimize treatment*. New York: Norton.
- Hui , K.K.S, Liu, J., Makris, N., Gollub, R.W., Chen, A.J.W., Moore, C.I., et al., (2000). Acupuncture modulates the limbic system and subcortical gray structures of the human brain: Evidence from fMRI studies in normal subjects. *Human Brain Mapping*. 9(1), 13-25.
- Kendall, H. O., and Kendall, F. M. P. (1949). *Muscles: Testing and function*. Baltimore, MD: Williams and Wilkins.
- Kober A., Scheck, T., Greher, M., Lieba, F., Fleischhackl, R., Fleischhackl, S., et al., (2002). Pre-hospital analgesia with acupressure in victims of minor trauma: A prospective, randomized, double-blinded trial. *Anesthesia & Analgesia*, 95 (3), 723-727.
- Lambrou, P.T., Pratt, G.J., & Chevalier, G. (2003). Physiological and psychological effects of a mind/body therapy on claustrophobia. *Subtle Energies & Energy Medicine*, 14(3), 239-251.
- Langevin H.M., & Yandow J.A. (2002). Relationship of acupuncture points and meridians to connective tissue planes *Anatomical Record*, 269, 257-265.
- Lo, C. W.. & Chung, Q. Y. (1979). The sedative effect of acupuncture. *American Journal of Chinese Medicine*, 7, 253-258.
- Lubar, J. F. (Ed.). (2004). *Quantitative electroencephalographic analysis (qEEG) databases for neurotherapy: Description, validation, and application*. New York: Haworth Medical Press.
- Muris, P., & Merckelbach, H. (1998). Specific phobias. In P. M. Salkovskis (Ed.), *Comprehensive clinical psychology: Vol. 6. Adults: Clinical formulation & treatment* (pp. 461–474). Oxford: Elsevier.
- Murray, B. (1999). APA no longer approves CE sponsorship for Thought Field Therapy. *APA Monitor on Psychology*, 30(11), 9.
- Nader K, Schafe, G. E., & LeDoux, J. E. (2000). The labile nature of consolidation theory. *Nature Neuroscience Reviews*, 1(3), 216-219.

- Napadow, V., Webb, J. M., Pearson, N., & Hammerschlag, R. (2006). Neurobiological correlates of acupuncture. *Journal of Alternative and Complementary Medicine*, 12, 931-935.
- National Center for Complimentary and Alternative Medicine. (2005). Energy medicine: An overview. Bethesda, MD: NCCAM. Retrieved December 3, 2006, from <http://nccam.nih.gov/health/backgrounds/energymed.htm>
- Ost, L-G., Ferebee, I., & Furmark, T. (1997). One-session group therapy of spider phobia: direct versus indirect treatments. *Behavior Research and Therapy*, 35 (8), 721-732.
- Ost, L-G., Stridh, B-M., & Wolf, M. (1998). A clinical study of spider phobia: prediction of outcome after self-help and therapist-directed treatments. *Behavior Research and Therapy*, 36, 17-35.
- Rowe, J.E. (2005). The effects of EFT on long-term psychological symptoms. *Counseling and Clinical Psychology*, 2(3), 104-111.
- Rubik B. (2002). The biofield hypothesis: Its biophysical basis and role in medicine. *Journal of Alternative and Complementary Medicine*, 8:703-717.
- Ruden, R.A. (2005). Neurobiological basis for the observed peripheral sensory modulation of emotional responses. *Traumatology*, 11,145-158.
- Sakai, C., Paperny, D., Mathews, M., Tanida, G., Boyd, G., & Simons, A. (2001). Thought field therapy clinical application: Utilization in an HMO in behavioral medicine and behavioral health services. *Journal of Clinical Psychology*, 57, 1215-1227.
- Salas, M. M. (2001). The effect of an energy psychology intervention (EFT) versus diaphragmatic breathing on specific phobias. Unpublished master's thesis. Kingsville, Texas: Texas A&M University.
- Schoninger, B. (2004). *Efficacy of thought field therapy (TFT) as a treatment modality for persons with public speaking anxiety*. Unpublished doctoral dissertation. Cincinnati: Union Institute.
- Schulz, K. M. (2007). *Integrating energy psychology into treatment for adult survivors of childhood sexual abuse: An exploratory clinical study from the therapist's perspective*. Unpublished doctoral dissertation. California School of Professional Psychology, San Diego.
- Serlin, I. (2005, March 2). Energy psychology--An emerging form of integrative psychology [Review of the book /CD *Energy psychology interactive: Rapid interventions for lasting change*]. *PsychCritiques* [On-line serial]. Vol. 50, No. 9, Article 12.
- Swingle, P.G., Pulos, L., & Swingle, M.K. (2004). Neurophysiological indicators of EFT treatment of posttraumatic stress. *Subtle Energies & Energy Medicine*, 15(1), 75-86.
- Task Force on Promotion and Dissemination of Psychological Procedures. (1995). Training in and dissemination of empirically-validated psychological treatments: Report and recommendations. *Clinical Psychologist*, 48, 3-23.
- Wade, J. F. (1990). *The effects of the Callahan phobia treatment techniques on self concept*. Unpublished doctoral dissertation. The Professional School of Psychological Studies, San Diego, CA.

- Waite, L. W. & Holder, M. D. (2003). Assessment of the emotional freedom technique: An alternative treatment for fear. *Scientific Review of Mental Health Practice*, 2 (1) 20-26.
- Wells, S., Polglase, K., Andrews, H.B., Carrington, P. & Baker, A. H. (2003). Evaluation of a meridian-based intervention, emotional freedom techniques (EFT), for reducing specific phobias of small animals. *Journal of Clinical Psychology*, 59, 943-966.
- Wolpe, J. (1958). *Psychotherapy by reciprocal inhibition*. Stanford, CA: Stanford University Press.
- Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Footnotes

¹ These probability scores are based on rough figures—approximately 2,500 patients in each treatment condition, along with the percentages in each group reporting improvements. While the inexact figures (due to inconsistencies in the record-keeping) are certainly problematic in terms of scrutinizing the findings, it is also the case that a large amount of data was carefully accumulated, the investigators' only stake was finding out which modalities would be the most effective in their clinics, and the outcome measures of “no improvement,” “some improvement,” or “complete remission” were determined through structured interviews about the patient's progress by individuals who knew the presenting complaints but not which treatment the person had received.

² Technically, the replication study was conducted by an independent team. The Wells study was already completed and its data analyzed when Baker first learned of it and designed the replication study with Siegel. Only after the completion of the replication study (though before the completion of its follow-up phase) was Baker asked to consult in the writing of the journal presentation of the Wells study, which resulted in his being listed as one of the study's authors (H. Baker, personal communication, December 31, 2006).