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Energy Psychology: Method, Theory, Evidence

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Abstract

Energy psychology, as most commonly practiced, utilizes a set of psychotherapeutic techniques that build upon the principles of acupuncture. Increasing experimentation with 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 that this combination can rapidly shift the neurological underpinnings 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 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, possible mechanisms, and the current evidence regarding its effectiveness. 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 reports are difficult to interpret scientifically. Peer-reviewed randomized investigation, however, establishes energy psychology as an empirically supported therapy, meeting 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.

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Energy Psychology: Method, Theory, Evidence

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Energy psychology (EP) combines a variety of cognitive procedures with specified physical interventions—believed to impact the body’s electrical system—for the purpose of bringing about therapeutic shifts in the neurochemical foundation 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, see it with their own eyes, and use it to effect changes in the physical body and influence health” (NCCAM, 2005).

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 “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, developed in the 1960’s by chiropractor George Goodheart (Frost & Goodheart, 2002). 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 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 “muscle testing” procedures had been developed for evaluating muscles according to their relative strength and range of motion (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, and it provides an alternative where muscle testing is used to tailor the treatment and the selected acupoints for a particular individual and condition. After studying with Callahan, Gary Craig attempted to simplify Callahan's protocols into an approach that could be used by the general public outside clinical settings. His Emotional Freedom Techniques (EFT) does not utilize muscle testing, 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 strict on other procedural issues.

Nearly all the therapies and self-management approaches that fall under the heading of EP, however, utilize a single shared core strategy. They stimulate electrical fields or specified electromagnetically-sensitive areas of the skin while a maladaptive emotional response is mentally activated. This simultaneous pairing of the thought and the intervention into the electrical system 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; others view it as a comprehensive therapeutic approach. In using it as a comprehensive approach, however, they 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 277,000 active subscribers at the time of this writing, and this number was showing a net increase ranging between 6,000 and 12,000 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. 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, another arm of the APA, the Continuing Professional Education Committee (CPEC) of the Education Directorate, 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 allowing its CE sponsors to make their own determinations about new therapies 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 attempting to determine whether EP is a viable method for helping their clients in a quandary. While a substantial number of therapists representing a broad spectrum of professional backgrounds and orientations are utilizing EP 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 *and* there are very few peer-reviewed experiments. 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.

The purpose of this paper is to provide a framework for evaluating the available information about EP. It examines the relationship of energy psychology to acupuncture, considers mechanisms that might explain the reported clinical outcomes, 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 evidence as a whole is extensive enough that the reader will be able to come to an informed opinion about the viability of the approach.

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, hypertension, and other affect-related disorders. Acupuncture is also frequently 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. A meta-analysis by 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 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.

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 tightly-designed study, 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, pain, and elevated heart rate (each at the .001 confidence level) than the other two treatment conditions.

An unreviewed study (described in Andrade & Feinstein, 2004) compared the use of acupuncture needles with the manual stimulation of acupoints (a critical issue for therapists not licensed to practice acupuncture) using an otherwise standard TFT protocol. Seventy-eight

randomly assigned panic patients were instructed to mentally activate anxiety-evoking thoughts during the acupoint stimulation. The same set of pre-selected acupoints were tapped for 40 of the patients and needled for the other 38. Decreased emotional and/or somatic activation in relationship to the original image or memory was reported to the therapist during the session by 77.5 percent of the patients who received the tapping treatment and 50 percent of the patients who were treated with acupuncture needles ($p < .01$). While this single report 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.

From Acupuncture to 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 even been able to detect this putative fundamental bioenergy, no less 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. EP builds upon these effects.

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 distressful cause-effect sequences (conditioned stimulus → conditioned 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 often reduces 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, however, are not so simple. If, for instance, the presenting problem is a male client's marital issues, any number of cause-effect sequences might be identified, from his feeling jealous when witnessing bonding between his wife and his son to his responding with anger and withdrawal when witnessing facial expressions on his wife that are reminiscent of his mother's ways of expressing disapproval. Each can be treated with the same core protocol: bring to mind the situation that evokes the maladaptive response while tapping specified acupoints.

While it is relatively easy to learn the EP tapping protocols, astute clinical judgment in identifying the issues to focus upon is critical for the approach to be effective with complex psychological problems. In addition, even after a core cause-effect sequence 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 that draws from all the salient ingredients of effective psychotherapy, such as building trust and rapport, conveying respect, mutually examining the presenting problem, and collaboratively establishing and working toward treatment goals.

For instance, the investigative work within EP often resembles that of Cognitive Behavior Therapy (CBT). 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 working with anxiety disorders is the reported speed and power of tapping the acupoints for changing the response to a stimulus that had been causing maladaptive limbic arousal. In treating post-traumatic stress disorder (PTSD), for instance, a series of traumatic memories can be focused upon, one at a time, while acupoint tapping is introduced in an attempt to abate the memory's ability to cause limbic hyperarousal. Abundant anecdotal reports, reviewed later, suggest that this procedure is unexpectedly effective and that by neutralizing the emotional impact of traumatic memories, as well as of *anticipated* distress, the debilitating effects of severe emotional trauma may frequently be mitigated quite rapidly.

Possible Mechanisms

Energy psychology, by adopting from other cultures methods that are outside the scope of standard mental health care practices, poses a paradigm challenge to conventional psychology. While its procedures may, as is claimed in other forms of energy medicine, impact 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.

Work by Ruden (2005), for instance, points to evidence that acupoint stimulation releases serotonin in the amygdala and the prefrontal cortex. He speculates that the electrical impulses to the brain that are elicited by the forms of sensory stimulation used in EP alter the neurological landscape that underlies the reported treatment effects, effectively delinking a targeted stimulus from a problematic conditioned emotional response. The hypothesis that the physical interventions in EP treatments rapidly reduce limbic system hyperarousal was first introduced into the literature after being articulated by a consortium of 27 of the leaders and pioneers within EP who formed the Advisory Board for an EP text and CD-ROM training

program, published as *Energy Psychology Interactive* (Feinstein, 2004). Since disparate theoretical positions were prevalent among the field's leadership, the project was an attempt to reach consensus on the questions of what concepts and what skills a trained psychotherapist needs to master in order to responsibly introduce EP into a professional practice. The group came to a consensus that, based on current understanding of the stress response and the electrical impulses evoked by stimulating acupuncture points, the most plausible explanation for the effects of acupoint stimulation in the EP treatment of fear, anxiety, and other forms of limbic hyperarousal are:

1. When a memory, image, or other stimulus that triggers limbic system hyperarousal is mentally activated while
2. specific areas of the skin that are electrically sensitive are simultaneously stimulated,
3. impulses are sent to the amygdala and other brain structures that cause a reduction in the hyperarousal.

While this formulation has not itself been systematically studied to date, strong empirical evidence from other areas of investigation supports its underlying assumptions. Specifically:

- The stimulation of specific acupoints can deactivate areas of the brain that are involved with the experience of fear and pain (supports points 2 and 3 above).
- Bringing a stress-evoking image, thought, or memory to mind makes it susceptible to being "reconsolidated" so that the conditioned emotional response to the triggering stimulus may be extinguished (supports points 1 and 3).

Acupoint Stimulation and Areas of the Brain Involved with Affect and Pain.

A study published in the *Proceedings of the National Academy of Science* used functional Magnetic Resonance Imaging (fMRI) to demonstrate that stimulating a toe acupuncture point (Bladder 67) used in Traditional Chinese Medicine to treat eye disorders activates the occipital lobes of the brain (Cho, 1998). When the investigators stimulated non-acupoints that were 2 to 5 cm away from the vision-related point, activation in the occipital lobes was not observed. This demonstration of a correlation between acupoint stimulation and the activation of specific areas of the brain as anticipated by ancient acupuncture literature gained considerable notice. In a subsequent study at Harvard Medical School, stimulation of a particular acupoint on the hand (Large Intestine 4) produced prominent decreases of fMRI signals in the amygdala, hippocampus, and other brain areas associated with emotion and pain (Hui, et al., 2000). The investigators speculate that "modulation of subcortical structures may be an important mechanism by which acupuncture exerts its complex multisystem effects" (p. 13). 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).

Activated Memories Need to Be Reconsolidated.

Even if the stimulation of specific acupoints can decrease activation signals in the amygdala and related brain structures, a second process that must be explained regarding the mechanisms involved in EP is how the stimulation of acupoints can cause *targeted changes* in

affect, cognition, and behavior. In virtually all formulations of EP, the mental activation of a situation the client finds problematic, such as an image that evokes maladaptive fear, is conducted simultaneously with the stimulation of areas of the skin believed to be electromagnetically sensitive. 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, a research program at New York University headed by Joseph LeDoux has shown that "considerable evidence now indicates 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.

To restate the earlier hypothesis in terms of these two lines of research: When a memory, image, or situation that triggers hyperarousal is brought to mind, and acupoints that decrease activation signals in the amygdala and other brain areas are simultaneously stimulated, the memory, image, or situation is deconditioned from the stress response. When the 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 peak performance), it seems to account for much of the existing EP data in the treatment of anxiety-related disorders.

Initial Support for the "Acupoint Stimulation/Hyperarousal Reduction" Hypothesis

Four exploratory investigations lend preliminary support to the hypothesis that pairing acupoint stimulation with the mental activation of a problem rapidly shifts neurochemistry in a therapeutic manner. In each case, disturbed brain wave patterns reverted to normal levels following EP treatments.

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 series of digitized EEG scans follows 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 (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 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). The investigator (J. Andrade, personal communication, March 25, 2003) compared the posted scans and other digitized EEG scans made during the course of TFT treatments with scans of GAD patients treated with medication (benzodiazepines) but no psychotherapy. While for both groups, according to self-reports, the symptoms of GAD were reduced, the brain scans of the medication group did not reveal a normalization of brain wave ratios. This suggests that the medication was suppressing the symptoms without addressing underlying imbalances in brainwave frequencies, and the symptoms of GAD did tend to return when the medication was discontinued.

A 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. On 18-month follow-up, the brain wave patterns were again normal when the trauma was brought to mind.

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). The Beck Depression Inventory, the Beck Anxiety Inventory, ten anger items from the Spielberger State-Trait Anxiety Inventory, and a questionnaire to assess avoidance of driving or riding in motor vehicles 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 questionnaires, 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 ($p < .001$).

While the SUD rating decreased significantly for each of the nine subjects immediately following treatment, and a global reduction of symptoms among all subjects was also found on follow-ups 70 to 160 days after treatment on the four questionnaire scores ($p < .05$), the gains reported by four of the nine subjects immediately after the treatment did not hold on follow-up, according to the questionnaire scores. Brain wave data—analyzed according to indicators of depressed mood, central nervous quiescence, and somatic quiescence—revealed a number of significant differences between the five subjects who showed sustained improvement and the four who did not. The four who did not sustain improvement showed increased arousal of the

right frontal lobe relative to the left, an indicator of depressed mood states ($p < .02$ in relation to the changes in the other five participants). The five who did sustain improvement showed 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 ($p < .01$) and increased theta/sensory motor rhythm amplitude over the sensory motor cortex (a measure of somatic quiescence) in comparison to the other four ($p < .05$). Interestingly, the four subjects who did not sustain improvement were the same subjects who did not comply with the back-home tapping assignments (L. Pulos, personal communication, December 12, 2006).

The study was originally designed to determine if EFT treatments gave rise to any consistent changes in qEEG patterns, but the emergence of two distinct groups on follow-up allowed the more focused comparisons. The findings hold strong 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. While all four of the studies presented above were small, used different measures, and only two (Lambrou & Pratt; Swingle, Pulos, & Swingle) were peer-reviewed, each lends support to the hypothesis that stimulating acupoints at the same time a troubling thought is evoked causes measurable neurological changes that correlate with reduced symptoms.

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 are prevalent). Energy psychology may, however, be unprecedented in its accumulation of large amounts of systematically-collected and reported anecdotal outcome data that have substantive evidentiary value.

A recent evolution in the usefulness of some anecdotal material, for instance, 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 severe height phobia, is posted at <http://video.google.com/videoplay?docid=5507061960927141022&q=height+phobia+video&hl=en>. Prior to treatment, a 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.

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 reports 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 treatment first focuses on the height phobia. When asked to think about a situation involving

heights, the client expresses extreme discomfort, pointing out that the hairs on his legs (he is wearing short pants) are literally standing up. After approximately five minutes of acupoint tapping while keeping thoughts of heights active, he reports no fear reaction when imagining situations involving heights. To test this, the therapist invites him to walk out onto the fire escape of the third floor of the building and look down. The video captures his apparent amazement as he reports no fear response whatsoever.

The session continues with a focus on three of his most intense war memories (the original video shows the entire treatment; the training version that is readily available shows excerpted highlights). These are, one at a time, brought to mind simultaneous with acupoint tapping and related procedures until the patient reports no feelings of distress when thinking about the memory. Then the second memory is addressed. Then the third. Finally, he is taught how to tap a selected set of acupoints outside the treatment setting to reduce the emotional charge on remaining war-related traumatic memories. He complies with this homework assignment, focusing on three more of his most intense and intrusive 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 primary EFT website (<http://emofree.com>), which invites reports of experiences using the method, contains thousands of anecdotes based on self-help, peer-help, and professional applications of EFT. 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 and its outcome.

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, ten accounts of applications of TFT or EFT with 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, 2006). These teams focused on reducing severe emotional reactions evoked by specific traumatic memories, which often involved torture, rape, and witnessing loved ones being murdered. A total of 1016 memories were identified by the 337 individuals who were treated. According to the report, 1013 of these memories were “neutralized.” That is, when a memory initially identified as causing the person emotional suffering was brought to mind immediately following the treatment, the person reported that the memory no longer caused “emotional suffering” (the standard 0-to-10 SUD scale often was not used, in order to accommodate cultural factors). Following treatment, 334 of the 337 of the subjects were able to bring to mind their most traumatic memories from the disaster and report “no emotional suffering.” Although there

is no basis for immediate comparison due to the absence of control groups, the spontaneous remission rate for PTSD during the first year in the United States is around 30 percent (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995).

Some informal follow-up was conducted. For instance, reports were obtained on approximately three-fourths of 105 victims of the ethnic cleansing in Kosovo by interviewing two primary care physicians who had served as translators during the treatments by the international TFT team members and who were continuing to attend to these individuals' medical needs. The two physicians had described in their medical records the traumas that were treated and would periodically ask the person to recall the trauma and check for emotional suffering. No incidents of the treatment not holding were reported on 18-month follow-up.

While reducing limbic system hyperarousal in response to intruding or other traumatic memories is only one aspect of treating PTSD, it is a pivotal one. Of course, the memories remain, but they are no longer emotionally disabling or sources of retraumatization, and it becomes possible for the person to begin to return to a pre-trauma level of functioning. Many of the field reports from the disaster relief teams using TFT were corroborated by local authorities who had no affiliation to a particular treatment. For instance, reports of the Kosovo treatments came to the attention of the country's chief medical officer (the equivalent of the U.S. Surgeon General), Dr. Skkelzen Syla (a psychiatrist), who investigated them and subsequently stated in a letter of appreciation 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 early follow-ups, where each was free of relapse].

As a group, the anecdotal reports give the impression of therapeutic outcomes that are both rapid and dramatic, though of course all the cautions about selective reporting, the bias of a method's advocates, and the subjective nature of such reports apply. Nonetheless, the unusual quantity of reports that have been corroborating one another from a wide variety of sources over more than two decades tends to make this data a more robust source of evidence than anecdotal material coming primarily from a small number of advocates of a new therapy.

Uncontrolled Outcome Studies

In addition to the four exploratory studies of modified brain wave patterns, the anecdotal evidence, and the systematic field observations, several uncontrolled outcome studies support the 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, a doctoral dissertation followed 20 subjects who had refused necessary medical attention because of intense needle phobias (Darby, 2001). Each was given a one-hour TFT treatment. They showed significant pre-/post-treatment improvement on both the Wolpe and Lang Fear Survey Schedule questions relevant to blood-injection-injury phobias ($p < .001$) and the SUD rating ($p < .001$). 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 at least give the study anecdotal 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 following 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. 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 half-hour 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 demonstrated in a number of studies (e.g., Callahan, 2001), including the one being discussed, 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 pre-treatment and 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. While this study did not attempt to compare the efficacy of TFT with other treatments, and it did not use objective outcome measures, it still suggests that the reach of TFT across a spectrum of non-psychotic psychiatric conditions may be substantial.

The only other available data on the specific conditions for which EP may be indicated or not indicated is based on therapist impressions. In an informal, unpublished survey conducted by

the author, 18 clinicians who were identified as leaders in EP within the United States and Canada (based on publications, faculty positions in established training programs, visibility at national and international conferences, et cetera), and who are also trained in conventional therapies, offered their impressions of the diagnostic categories where EP was more effective, about as effective, or less effective than the other modalities available to them. The survey used a subset of the more common diagnostic categories specified in an earlier report of therapist impressions at 11 clinics in Argentina and Uruguay (Andrade & Feinstein, 2004) and produced parallel findings.

The therapists in both groups all believed that EP was more effective than the other approaches available to them in treating most anxiety disorders, including the hyperarousal found in PTSD, and many of the garden variety emotional difficulties of everyday life, from inappropriate anger to excessive feelings of guilt, shame, grief, jealousy, rejection, and isolation. Conditions for which combining EFT with more conventional treatments was believed to produce more rapid outcomes than the conventional treatment alone included mild to moderate reactive depression, generalized anxiety disorder, obsessive-compulsive disorders, learning skills disorders, borderline personality disorder, eating disorders, and substance abuse. Most therapists in the two groups reported that as the sole therapy, they believed EP's effectiveness is limited in overcoming major endogenous depression, dissociative identity disorder, bipolar disorders, many personality disorders, and psychotic disorders, although several described some success in treating such disorders (including the resolution of trauma underlying dissociative identity disorder and the reduction of auditory and visual hallucinations with psychotic disorders). Several also mentioned that while they did not see EP as an independent treatment for these disorders, it had helped individuals with debilitating psychiatric conditions make better adjustments to their diagnosis and their life situation, in part by reducing the stress associated with the primary condition.

The only harm reported, in responses by the second group to a query about contraindications, was that in the hands of inexperienced or lay therapists, people have sometimes been retraumatized—not by the technique itself, but by revisiting unresolved trauma without adequate preparation or support. Practitioners trained first in EMDR and then in EP also reported that EP both provides greater flexibility in the range of issues that can be addressed and that its methods can be more readily modulated by the practitioner to prevent retraumatization, an issue that has been of concern with EMDR treatments (Hartung & Galvin, 2003). Concern about using tapping methods with individuals who have convulsive disorders was mentioned by one respondent, although no instances of harm were described. While these reports originate from therapists who are professionally identified with EP, they provide initial practitioner impressions of the conditions for which EP is more effective and less effective, and they suggest that the method is unlikely to do harm.

Controlled Experiments with Limited Generalizability

The 11 allied clinics in Argentina and Uruguay mentioned above accumulated outcome data on some 29,000 patients (reported in Andrade & Feinstein, 2004) 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). When TFT was first introduced to the clinics, the investigation was carried out as an in-

house evaluation of the new method. Raters who were not involved in the treatment (but who did have a record of the intake evaluation) recorded their judgments about the effectiveness of the treatment in relation to the presenting problem based on follow-up interviews (in-person or telephone) at the end of treatment and at 1, 3, 6, and 12 months. This practice was continued after the clinics had made their determinations about TFT because the follow-up interviews were having clinical merit, sometimes resulting in the patient returning for further treatment. Having these follow-up procedures in place allowed the staff to focus on specific questions through a series of substudies.

For instance, after the introduction of TFT, some of the therapists began to use it as a primary modality in the treatment of anxiety disorders and others continued to use CBT. A substudy followed the course of treatment of approximately 5,000 patients diagnosed with a range of anxiety disorders, randomly assigned to either TFT or CBT treatment. The CBT group also received medication as needed since this combination was the standard treatment for anxiety in place at the clinics when TFT was introduced. The purpose of the substudy was to determine whether TFT alone was less effective, as effective, or more effective than CBT supplemented with medication in the treatment of anxiety disorders. Interviewers who were not involved in the treatment (and in this substudy were also 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/medication 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/medication group ($p < .0002$).¹

Another substudy, involving 190 patients with specific phobias, used the same design (randomized trials for the TFT or CBT/medication treatment conditions and no/some/complete improvement outcome interviews) but tracked length of treatment. The TFT treatment was modified to include mentally playing a film of the phobic situation (a common EP procedure), but also repeatedly imagining the scene and finally imagining entering the film. Seventy-eight percent of the TFT/visualization group reported partial to complete improvement within 1 to 7 sessions (mean = 3). Sixty-nine percent of the CBT/medication group reported partial to complete improvement within 9 to 20 sessions (mean = 15). Because the visualization procedure may have had a therapeutic effect independent of the tapping, these figures are difficult to interpret, but they are consistent with the principal investigator's impression of the treatment length differences in other substudies where the tapping was not combined with the extended visualization procedure (J. Andrade, personal communication, July 19, 2004).

Unfortunately, the provocative data from the overall 14-year investigation is not available for more detailed analysis. Once the findings were tallied, the records were placed in the patients' individual files and the group that conducted the investigation eventually sold the clinics to a group that has not cooperated with requests to retrieve the data. The studies were also designed for in-house purposes rather than publication, and their data are contaminated by a number of factors, most tracing to informal record-keeping, subjective outcome assessments, and variables that were not rigorously controlled. While the design weaknesses disqualify these studies as firm empirical evidence, they nonetheless corroborate other reports and provide heuristic instruction for subsequent investigation.

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, eye movement desensitization and reprocessing (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 these as potential treatment points.

Although this study did not detect differences between the tapping of standard acupuncture points and sham points, it did find that the basic EFT protocol, regardless of which points were tapped, quickly reduced fear levels while the no-treatment condition did not. More investigation of standard vs. sham points is needed, with some studies showing that traditional acupoints produced therapeutic effects not produced by sham points (e.g., Kober, et al., 2002), and others showing that sham points also produce some therapeutic effect. For example, a large-scale study of acupuncture in the treatment of migraine headaches found that traditional points reduced symptom days over a 6-month period by 2.3 days while sham points reduced them by 1.6, suggesting that stimulating points not recognized in traditional acupuncture may still have a therapeutic effect (Diener, 2006).

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.

Controlled Experiments with 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 subjective accounts, with more effective self-expression in varying contexts frequently being reported, though no instruments were 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 controlled clinical 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 reported symptoms matching the *DSM-IV* criteria for specific phobia, 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 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 3 of the 4 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 had not dissipated. 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 ($p < .025$).

A well-designed master's thesis by Salas (2001) that partially replicated the Wells study supported its findings. 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 that has been presented at a professional meeting (Baker & Siegel, 2005), and that is currently under journal consideration, 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.

Conclusions

The abundance of anecdotal material (as well as a number of large, uncontrolled outcome studies) suggesting that EP holds unusual clinical power, 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.

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 because 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 Wells study meets Task Force criteria in 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 would meet the Task Force criteria if they were peer-reviewed. 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 Task Force’s criteria for empirically supported therapies, evaluators of research are also asked by Chambless and Hollon “to include in their evaluation nonexperimental, quasi-experimental, and full experimental research studies” (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 reports statistically mitigates some of the criticisms of uncontrolled outcome studies and anecdotal accounts. Systematically tracked reports of individual outcomes and 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). However, numerous accounts from credible sources such as HMOs and disaster relief programs now corroborate one another with observations of unusually strong outcomes where tapping acupoints while bringing a problematic emotion to mind was the consistent factor. Similarly, 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 constitute a different order of evidence.

Many of the studies of EP, such as the controlled investigations of EFT with specific phobias, are based on single-session treatments. Cause-effect sequences (CS → CR), as when a harmless situation causes a phobic response, are 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. More 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 eye movements, 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.

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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 the original data no longer being available) are certainly problematic in terms of scrutinizing the findings, it is also the case that these figures were 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 original study, which resulted in his being listed as one of the study's authors (H. Baker, personal communication, December 31, 2006).

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