

Psychological Trauma in Veterans using EFT (Emotional Freedom Techniques): A Randomized Controlled Trial

Ingrid Dinter¹ Dawson Church²

Abstract

A six session protocol of a brief and novel exposure therapy, EFT (Emotional Freedom Techniques) has been efficacious in reducing PTSD and co-occurring psychological symptoms in a within-subjects time series trial. The current study uses a randomized design and a wait list control group (n=5). Experimental group subjects (n=4) received six hour-long EFT coaching sessions, with pretest and posttest evaluations, as well as intermediate tests after three sessions. PTSD was assessed using the PCL-M (Posttraumatic Stress Disorder Checklist – Military), on which a score of <50 is clinical. The severity and breadth of psychological distress was measured using the SA-45 (Symptom Assessment 45), a short form of the SCL-90. Neither symptoms nor PTSD reduced in the wait list group during the passage of time. The breadth of psychological distress diminished significantly in the EFT group ($p<.013$), as did the severity ($p<.015$). Average PTSD scores went from 60 pre to 38 after six sessions of EFT ($p<.007$).

Keywords: veterans, PTSD, exposure therapy, trauma, EFT (Emotional Freedom Techniques).

¹ Healing Now center, Hopkinton, New Hampshire. This data was presented at the annual meeting of the Association for Comprehensive Energy Psychology (ACEP), in Orlando, Florida, May 29, 2009.

² Research Chair, Epigenetic Medicine Institute. Please address all correspondence to dawson@soulmedicine.net.

Introduction

Some 300,000 US military personnel returning from the conflicts in Iraq and Afghanistan are estimated to be PTSD-positive (Institute of Medicine, 2006). PTSD is associated with cooccurring conditions such as depression, anxiety, and other mental health issues subsequent to deployment (Defense Health Board Task Force on Mental Health, 2007). Over 80% of PTSD sufferers meet diagnostic criteria for other psychological disorders (Breslau, 1990; Clancy, et al 2006). In addition to psychological symptoms, PTSD sufferers are more prone to physical diseases, increasing the cost and complexity of caring for this population (Boston University, 2008). This complex of conditions must be addressed for PTSD treatments to be effective (Tanielian et. al., 2008). Such problems have spurred efforts to find treatments for PTSD, such a meta-analysis by Bradley (2005), which found CBT (cognitive behavioral therapy), EMDR (eye movement reprocessing) and exposure therapies to be efficacious.

EFT (Emotional Freedom Techniques) is a brief exposure therapy with a somatic and a cognitive component. After recalling a traumatic incident, the subject gives it a score on a Likert-type scale from 10 (maximum) to 0 (minimum), referred to as Subjective Units of Distress or SUD (Wolpe, 1973). The subject pairs the traumatic memory with a self-acceptance statement, eg, “Even though I had to shoot the kid who ran toward my foxhole with the grenade...” (memory), “I deeply and completely accept myself” (self-acceptance statement). The subject then taps on a sequence of points on the body. Repeated sequences of EFT tapping may be performed till the subject’s self-report goes to a 0, indicating no emotional intensity associated with the traumatic memory. EFT was developed by Gary Craig and is described in *The EFT Manual* (Craig, 2008), which has been available as a free online download for over a decade, leading to standardized implementation. *EFT for PTSD* (Craig, 2009) reviews the clinical and research evidence applicable to this condition. A research consensus method of EFT used in the present and previous studies is available online at www.SoulMedicineInstitute.org/EFT.pdf.

A pilot study using a within-subject repeated measures design found six sessions of EFT to produce statistically significant reductions across the range of psychological symptoms, as well as PTSD, with gains maintained on follow-up (Church, Geronilla & Dinter, 2009). A one week EFT treatment intensive was also found to reduce PTSD and co-occurring conditions (Church, 2008). EFT has been found efficacious for treating PTSD in non-military populations

(Swingle, et. al., 2000), and other forms of energy psychology have been used for victims of human-caused and natural disasters (Feinstein, 2008b). In addition to psychological symptoms, EFT has been used to treat a wide range of organic diseases (Feinstein, et. al., 2005).

A clinical dilemma found in evoking combat memories is the risk of retraumatization. Subjects asked to recall a traumatic incident may be retraumatized rather than desensitized (van der Kolk, 1996). This safety issue may be minimized with EFT and other energy psychology techniques. An absence of client distress, and the rapid reduction of self-reported emotional intensity is reported by various authors using EFT (Mollon, 2008; Church, Geronilla & Dinter, 2008). A survey of clinicians found that when the danger of retraumatization is present, energy psychology methods were preferred (Schultz, 2008).

The mechanisms of action of EFT and other energy psychology techniques involve a variety of physiological systems. Lane (2006) notes increased regulation of the HPA (hypothalamus-pituitary-adrenal) axis. Oschman (2005) describes the semiconductive properties of connective tissue, and the transmission of stress-reducing signals through this matrix during energy therapy sessions. Sabban & Kvetnansky (2001) describe the regulatory functions of the Immediate Early Genes, especially genes such as C-fos and EGR-1, which reach peak expression during stress. Church (2009) summarizes the increased reuptake of stress hormones such as cortisol and epinephrine during EFT treatment. LeDoux (2002) describes the threat-assessment neurological wiring in the brain, and how traumatic memories may condition the amygdala to respond, resulting in the “hostile takeover of consciousness by emotion.” When successful counterconditioning occurs, memories are reconsolidated in these neuroplastic structures, but are now newly paired with proximate non-stressful cues (Davis, Bozon, & Laroche, 2003). Successful psychotherapy produces measurable changes in these brain structures (Felmingham, Kemp & Williams, 2006). Diepold and Goldstein (2008) used EEG to measure brain states, and found that as subjective emotional intensity of traumatic memories reduced following energy psychology treatment, the neural frequencies associated with stress also reduced. Energy psychology appears to affect multiple physiological systems, especially the structures that regulate the stress response in the body.

Method

Subjects were assessed using the PCL-M and SA-45. Inclusion criteria were a score of 50 or more on the PCL-M, which is the military cut-off point for a PTSD-positive assessment. Subjects were excluded if they scored more than 3 on two questions on the SA-45 related to physical violence. They also completed the ISI (Insomnia Severity Index), and a health history assessing TBI (traumatic brain injury) symptoms, addictions, pain, physical symptoms, drug and alcohol use, and prescription drug use. Subjects were required to be under the care of a Veterans Administration clinician or other licensed healthcare facility, since coaching in the present study was delivered as a complementary and supportive supplement to the Standard of Care (SOC). They were randomly assigned to a wait list (SOC) or experimental (EFT) group.

Experimental subjects received six one hour sessions of EFT over the course of a month. Wait list subjects waited a month, and then received an identical six session intervention. Subjects completed an informed consent form. The study was reviewed for human subject protections, and approved by Copernicus IRB. Data analysis was performed blind and offsite by an independent statistician. Providers were required to possess an EFT competency credential, to complete human subjects protection training and pass the CITI competency examination, and to deliver EFT as client-assessed peer-to-peer coaching, to avoid the power differential implicit in a therapist-client relationship, and to support the therapeutic alliance between the client and their existing SOC healthcare provider. Implementation fidelity was monitored through written session plans and monthly teleconferences.

Subjects were asked to compile lists of traumatic combat memories prior to the first session. During sessions, subjects performed one or more sequences of EFT tapping on themselves until the SUD emotional intensity of each memory was 0, or as close to 0 as could be obtained given the limited time frame.

EFT sessions focus on specific combat incidents, rather than global generalizations. SUD is a primary measure of progress, rather than observer-rated measures. EFT is typically self-applied, and one focus of coaching is to teach the client to self-apply EFT during stressful events or memories that intrude between sessions. Rather than lengthly and detailed recapitulation of distressing incidents, EFT measures progress through the SUD score. EFT does not require the client to disclose the incident; a high SUD is sufficient to initiate intervention.

Subjects completed a set of assessments after three and six sessions. Follow-ups are being obtained after three and six months. A larger sample is being obtained, and the results of the entire sample and follow-ups will be reported elsewhere.

The PCL-M self-assessment (Weathers, 1993) is used by the military. It has seventeen items, with a scale ranging from 1 to 5. The SA-45 is a short form of the SCL-90, and measures the same nine symptom domains. It also has two general scales, the Global Severity Index (GSI) which measures severity of symptoms across all domains, and the Positive Symptom Total (PST) which measures the breadth of symptoms. It has been validated in various studies (Davison, M L, et al. 1997; Maruish, M E 1999). Subjects also completed the Insomnia Severity Index (ISI), since insomnia frequently co-occurs with PTSD (Lamarche & De Konick, 2007).

Results

The sample consisted of 8 males and 1 female. Age ranged between 25-67 years old with an average age of 53 years old. There was no statistically significant difference in age between the groups.

A t-test was conducted comparing the days between initial assessment and pre-treatment assessment date for the wait-list control group vs. the initial assessment date and date of the assessment following the 6th EFT treatment session. Although it was not significant, it was included as a covariate in subsequent analyses given the wide range of psychological symptom change between the two groups.

Pre-Post waiting period analysis

A General Linear Model (GLM) repeated measures analysis of variance was conducted on the SA-45 global scales, General Symptom Index (GSI) and Positive Symptom Total (PST), and the PCL-M. This model examined change over time between the pretest and posttest. A total score of 50 on the PCL-M is considered PTSD positive in military populations (National Center for PTSD, 2008). The average score of the experimental group at pretest was 60.

The screening assessment was the pretest, while the posttest assessment consisted of the assessment at the completion of the 6-session EFT treatment course for the treatment group versus the 30-day assessment at the end of the waiting period for the WL group. The group by time interaction was significant for all three variables: GSI ($F(1,6)=7.949, p<.030$), the PST

($F(1,6)=7.207$, $p<.036$), and PCL-M ($F(1,6)=17.963$, $p<.005$). Posthoc Tukey tests were conducted on the significant findings. In all cases, the EFT treatment group posttest was significantly lower than the WL posttest and the EFT treatment group pretest.

Table 1. GSI, PST, and PCL-M Pre-Post Means and Standard Errors by Group

Variable	Group	N	Norm	Pretest	Posttest	F(1, 6)	Sig
				Mean \pm SE	Mean \pm SE		
GSI	WL	5	38	74.15 \pm 2.41	72.77 \pm 3.00 ^b	7.95	.030
	EFT	4		69.81 \pm 2.73 ^b	56.29 \pm 3.40 ^a		
PST	WL	5	36	73.53 \pm 2.08	74.91 \pm 3.39 ^b	7.21	.036
	EFT	4		71.08 \pm 2.36 ^b	57.87 \pm 3.84 ^a		
PCL-M	WL	5	<50	60.62 \pm 4.93	65.36 \pm 7.45 ^b	17.96	.005
	EFT	4		54.97 \pm 5.59 ^b	34.30 \pm 8.45 ^a		

Posthoc Tukey tests a<b, $p<.05$

*Norm for the GSI and PST represent the best possible score. Scores above 60 are considered in the clinical range. Scores on the PCL-M greater than 50 are considered a clinical diagnosis of PTSD according to military standards.

Treatment change over time

A General Linear Model (GLM) repeated measures analysis of variance was conducted on the SA-45 global scales, General Symptom Index (GSI) and Positive Symptom Total (PST), and the PCL-M. This model examined change over time between the pretest, after 3 EFT sessions, and after 6 EFT sessions. The screening assessment was the pretest for the EFT group, while the 30-day assessment at the end of the waiting period was used as the pretest for the WL group. The time effect was significant for all three variables: GSI ($F(2,6)=9.258$, $p<.015$), the PST ($F(2,6)=9.798$, $p<.013$), and PCL-M ($F(2,6)=12.542$, $p<.007$). The time by group interaction was non-significant in all 3 analyses. Posthoc Tukey tests were conducted on the significant time effects. The GSI after 6 treatment sessions assessment was significantly lower than both the pretest and 3-session assessments. In contrast for the PST, only the after 6 treatment sessions assessment was significantly lower than the pretest assessment. For the PCL-M the pretest was significantly higher than both the 3- and 6-session assessments. There was no difference between the 3- and 6-session assessments on the PCL-M.

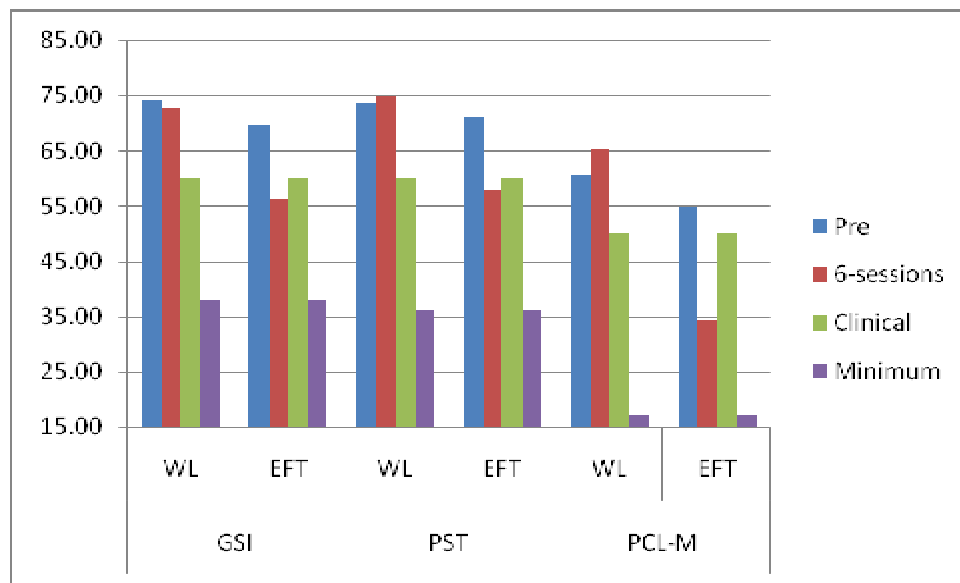
Table 2. GSI, PST, & PCL-M Pre-During-Post Treatment Means & Standard Errors

Variable	Norm*	Pretest	After 3 sessions	After 6 sessions	F(2, 6)	Sig
		Mean ±SE	Mean ±SE	Mean ±SE		
GSI	38	71.25 ±1.73 ^b	66.28 ±3.27 ^b	58.83 ±3.74 ^a	9.26	.015
PST	36	72.70 ±2.08 ^b	67.18 ±2.83	60.25 ±3.87 ^a	9.80	.013
PCL-M	<50	59.98 ±4.19 ^b	46.20 ±5.73 ^a	37.35 ±6.10 ^a	12.54	.007

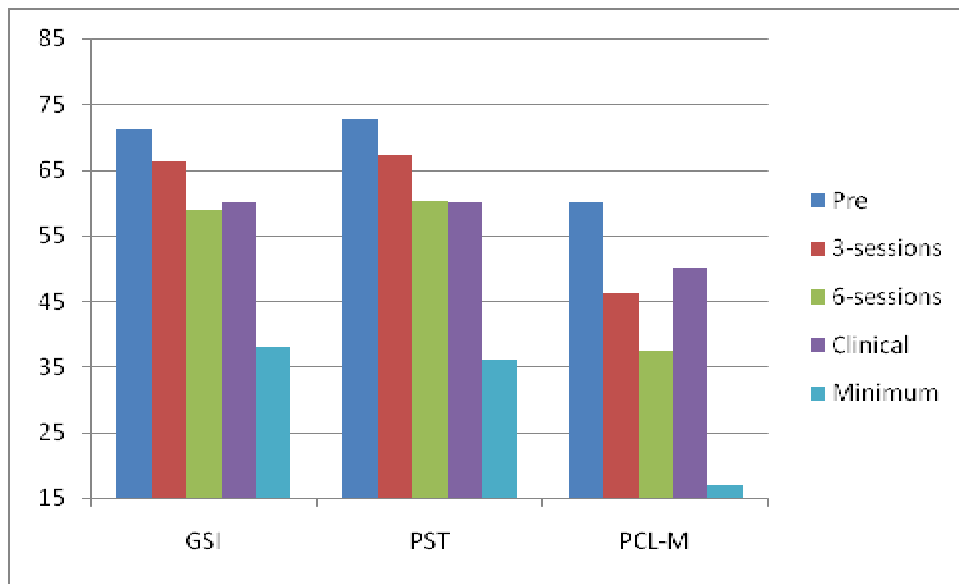
Posthoc Tukey tests a<b, p<.05

*Norm for the GSI and PST represent the best possible score. Scores above 60 are considered in the clinical range. Scores on the PCL-M greater than 50 are considered a clinical diagnosis of PTSD according to military standards.

Figure 1. GSI, PST, and PCL-M Pre-Post Means by Group



- Minimum values for the GSI, PST, and PCL-M are the symptom-free or best score. Clinical cut-off scores represent the criterion for a clinical diagnosis. Score above 60 are considered in the clinical range for the GSI and PST. Scores of at least 50 are considered in the clinical range for PTSD on the PCL-M according to military standards.

Figure 2. GSI, PST, and PCL-M Pre-During-Post Treatment

* Minimum values for the GSI, PST, and PCL-M are the symptom-free or best score. Clinical scores represent the criterion for a clinical diagnosis. Score above 60 are considered in the clinical range for the GSI and PST. Scores of at least 50 are considered in the clinical range for PTSD on the PCL-M according to military standards.

Case Histories

The following informal anecdotal accounts represent a range of the experiences encountered by the investigators, and treated with EFT, in the course of the present study.

Case History 1: Vietnam Nurse

Subject's body was so sensitive that she was unable to tolerate EFT tapping on any part of it without getting violently nauseous. Subject reported many incidents of physical abuse starting in early childhood, and was so physically sensitive that she was easily triggered by physical stimuli. She couldn't wear socks or shoes, and couldn't tolerate physical touch by others. Her companion, reporting that their life situation was "unbearable," and that she was "in complete desperation," arranged for coaching.

Subject's intolerance to touch presented a challenge to finding a way to let her apply EFT. She found that she was able to tolerate tapping between her eyebrows, so that was the only point used in the first session, which focused on fear and safety issues.

Half way through the second session, she noticed that she could now tap on every EFT point, including the collar bone point, which had previously been her most sensitive spot. During this and subsequent sessions, the client worked with three specific war memories, and two physical symptoms, among other issues.

(1) Subject had rescued some Vietnamese village people, elderly and children and was treating them in her field hospital. A US Army sergeant came in and ordered her to discharge them immediately because the space was required to treat American service personnel. The subject outranked the sergeant, and refused. At that point, he withdrew his service revolver from its holster and put the barrel to her head. He said he was going to kill the villagers one way or the other, and her only choice was whether or not she was going to die first.

Realizing the rage he was in, she knew she had no choice, and rescuing the villagers was completely out of her control. She knew that the only thing she could do was to allow for them to go in peace and with dignity, with no fear or panic, in the tradition of their culture. To insulate them to the violence of the sergeant, she very gently pulled the IVs out of their arms, allowed the children to gather around the elders for support, and encouraged them to leave the hospital as a group. Once outside, they were shot by the sergeant.

The nurse never recovered emotionally from the experience. She blamed herself for being responsible for the killing. She continued to have nightmares about the incident even decades later.

During the EFT session, subject tapped on the separate scenes of this traumatic event. She began to feel a sense of connection with the villagers, and come to an understanding that they were actually grateful for her. They had witnessed the gun at her head and they knew that there was nothing more she could do. They didn't blame her but appreciated that she did the best she could. After this cognitive shift, the nightmares about the incident did not recur.

(2). The subject lives close to a military base. Helicopters frequently fly overhead, and she would go into involuntary panic at the sound. After several rounds of EFT, subject said that she now simply noticed the sound of the helicopters, without panic or agitation.

(3). One of the subject's most traumatic memories was of an incident in which the hospital she was working in was bombarded by friendly fire and collapsed on her. At the time the bombardment began, she had been walking down a corridor. Two children were present, and she grabbed them and threw herself over them, protecting them with her body while the

hospital roof collapsed. She was the only person pulled out alive from the rubble. She spent many months in hospital and rehabilitation following the incident. She had frequent nightmares about the scene. After EFT, the memory no longer held emotional triggers. She was able to recount the incident calmly, without the emotional upheaval that she reported before.

(4) Subject had an allergic reaction whenever she consumed ice cream. She self-applied EFT for the substance itself, and for her symptoms. Subject recounted that, in Vietnam, there were two things that wounded men requested: steak, and ice cream. Both were difficult to obtain, and represented the comforts of home. When subject would eat ice cream, she was connecting with the pain she had seen. After EFT, the allergy subsided.

(5) Subject had a hearing impairment, due to scar tissue from various injuries. She identified shutting off her hearing as a defense mechanism, and repeated application of EFT was required. After EFT, her hearing improved to the point where she could hear the clicking of the keys on her computer keyboard.

Case History 2: Vietnam Combat Veteran

Subject had a violent, alcoholic father. He was drafted to Vietnam. He worked on two specific memories, among others:

(1). The first night in Vietnam, he woke up horror, realizing he was in imminent danger, when an enemy artillery bombardment began at 2:30 am. The camp was completely unprepared, with plywood floors and no security, and the draftees had not yet been issued weapons with which to defend themselves. Their anger at the army for not being prepared for them and keeping them safe was enormous. The subject remembered drinking a bottle of scotch whiskey and smoking a pack of cigarettes the first night, while a friend of his, newly married, sobbed helplessly. The recruits slept uneasily under their beds. The artillery fire resumed every night at 2:30 am. Before the first EFT session, subject would wake up every morning at this time. After EFT, he was able to sleep through the night.

(2). Some of the workers in the camp were Vietnamese. They pretended to be friendly, but their families were connected to the enemy, and the subject discovered that they were secretly passing information about the base to the Vietcong. So he and the other recruits were never safe. Subject felt a sense of betrayal, and being unsafe, ever since, and was able to reduce his SUD score around these issues with EFT.

Other Combat Memory Examples

EFT is effective at reducing SUD score for specific memories rather than global issues. The following are examples of specific memories on which EFT reduced SUD scores to 0:

(1) An Iraq veteran described an incident in which the Humvee in which he was a passenger hit an Improvised Explosive Device or IED. His best friend was the driver, and was unable to extricate himself. He burned to death. The veteran used EFT for the incident. He then began to spontaneously recall the funerals of other people who had loved him. After reducing his SUD score for each one, he began to relax.

(2) Another Iraq veteran was the driver of a transport truck, and in charge of transporting the men inside safely. At night, he had a very limited field of vision through the vehicle's armor. The lack of peripheral vision made the drive very stressful for him. His passengers yelled at him for his inadequate driving, and he felt overwhelming anger for their resentment while he was so stressed, and trying to do a good job. He performed EFT for these memories, as well as for finding forgiveness, and tapped while imagining the other soldiers asking for forgiveness, using phrases like, "Sorry man for yelling at you. It wasn't personal," coupled with the EFT self-acceptance statement.

(3) A black former Vietnam officer described ongoing threats from his subordinates. He described huge tension between white and black soldiers. He had stood up for a Vietnamese woman who was about to be raped, and prevented the rape by white comrades. As a result, he was harassed by his compatriots for months.

One of his soldiers went into a rage after drinking heavily and picked a bar room fight with him. The officer handcuffed his opponent outside the bar until he sobered up. From that moment on, the soldier tried to shoot the officer wherever his back was turned. The black officer did not have a safe moment until the white subordinate was killed in a firefight.

(4) Another Veteran shot a 9 year old girl who was pointing a rifle on him. He said, "I only saw the rifle! I was trained to shoot when somebody point a rifle at me! I found out later that it wasn't loaded. She is always with me, smiling, and she never says a word. I have asked for forgiveness, I have asked my life to be taken for hers, but it hasn't. I have to live with this memory every day, and I always see her. I wish I'd never come back from Vietnam." His SUD score dropped to 0 after using EFT.

Most veterans report severe childhood trauma in addition to combat trauma. Issues include sexual abuse, parental alcoholism, physical abuse, poverty, and neglect. Some reported that releasing childhood trauma was more effective than releasing war memories in producing a reduction in emotional distress levels.

Discussion

A six session protocol of EFT, as well as other brief treatment protocols, has been efficacious in previous trials with statistically significant results (Church, Geronilla & Dinter, 2009, Church 2008). The present report is part of a larger randomized clinical trial of EFT with combat veterans. The RCT will also gather three month and six month follow-up data, which will demonstrate if beneficial effects hold over time. The final RCT report will also analyze data for which the current sample is too small, such as sleep, alcohol and prescription drug use, pain, and the SA-45 subscales such as depression and anxiety, in addition to the two global scales presented here.

The RCT has currently enrolled some 40 participants. Preliminary data is consistent with the current report. No adverse events, or increase in participant distress, has been reported. Some of the discrete elements of EFT, such as cognitive restructuring, and exposure to traumatic memories, have been shown to be efficacious in other examinations of combat stress (Bradley, 2005). To this foundation, EFT adds the somatic signal of tapping. This signal is incongruous with a hyperarousal of fight-or-flight physiology. It pairs the traumatic memory with a physiologically incongruous input of tapping, sending a confounding signal to the body. Current research in the mechanisms of memory retrieval during stress suggest that memories are reconsolidated in conjunction with proximate cues from the current environment (Davis, Bozon & Larouche, 2003; LaDoux, 2002). In the language of evolutionary biology, “you would not be tapping if you were being chased by a tiger.” This interrupts activation of the body’s HPA stress axis. EFTs pairing of a combat trauma with a self-acceptance statement plus a physiological stimulus indicating safety is hypothesized to reconsolidate the memory in such a way to as render it non-traumatic.

The lack of follow up data, and the small sample size, make it impossible to generalize the results of the present study, or determine whether participant gains hold over time. Also, the lack of a diagnostic test for PTSD according to DSM-IV criteria limits the ability to conclude that participants began with clinical levels of PTSD. However, clinicians using EFT in

outpatient facilities and veterans administration hospitals report drops in patient distress that are consistent with the current study (Iraq Vets Stress Project, 2009). In all studies of energy psychology that included long term follow-up, results held over time (Feinstein, 2008a). Long term improvements were also observed in trauma victims in disaster areas (Feinstein, 2008b), and in healthcare workers who self-applied EFT (Church & Brooks, 2009). Besides the long-term improvements found in previous EFT studies noted above, Rowe (2005) found that participant gains were maintained over time in a general population, and Wells (2003) found that phobias, after being extinguished by a single EFT treatment, remained so on follow-up.

Unresolved emotional trauma correlates highly with physical diseases, including cancer, heart disease, diabetes, and hypertension. These risk factors are not alleviated by the passage of time (Felliti, et. al. 1998). A study of health Vietnam veterans found that anger, depression and hostility predicts a rise in protein risk markers for cardiovascular disease (Boyle, et. al. 2007). Dysregulation of the autonomic nervous system has been linked to both psychological and physiological disorders; Thayer (2005) regards it as “the final common pathway linking negative affective states and conditions to ill health.” Treating Iraq war veterans with PTSD effectively pays for itself in under two years (Tanielan, et. al. 2008). EFT warrants study as a cost-effective treatment for returning veterans.

Conclusions

The current study utilized a randomized controlled design, contrasting a wait list control group with a group treated with six sessions of EFT (Emotional Freedom Techniques) coaching. The wait list group’s results were unchanged over time, while the EFT group demonstrated statistically significant drops in PTSD, from clinical to subclinical scores, as well as improvement in the severity and breadth of a range of comorbid psychological problems such as depression and anxiety. A high degree of statistical significance in a small number of participants (n=9) indicates a robust effect. The results of the present study are consistent with previous within-subjects trials showing that brief EFT treatments produce large drops in PTSD as well as co-occurring conditions. While the data does not indicate if the positive results of EFT coaching hold over time, EFT warrants focused examination as a potentially efficacious treatment for returning veterans.

Acknowledgments

The authors thank the many volunteers in the Iraq Vets Stress Project, especially Crystal Hawk for study coordination, Deburah Tribbey for data entry, and Audrey Brooks for data analysis.

References

- Boston University (2008, March 28). PTSD associated with more, longer hospitalizations, study shows. *ScienceDaily*. Retrieved March 31, 2008, from <http://www.sciencedaily.com/releases/2008/03/080327172124.htm>
- Boyle, S. H., Kalezhan, M., Sund, B., Ficek, S. K. F., Schatzberg, A. F. (2001). Hostility, anger and depression predict increases in C3 over a 10-year period. *Brain, Behavior and Immunity*, 21(6).
- Bradley, R., Greene, J., Russ, E., Dutra, L., & Western, D. (2005). A multidimensional meta-analysis of psychotherapy for PTSD. *American Journal of Psychiatry* 162, 214-227
- Breslau, N., Davis, G. C., Andreski, P., Peterson, E. (1991). Traumatic events and posttraumatic stress disorder in an urban population of young adults. *Archives of General Psychiatry* 48, 216-222.
- Brown, K., (2008). EMDR versus EFT versus waiting list control in PTSD. Clinical trial underway at Forth Valley NHS hospital, Britain.
- Callahan, R. (2000). *Tapping the Healer Within: Using Thought Field Therapy to Instantly Conquer Your Fears, Anxieties, and Emotional Distress*. New York: McGraw-Hill.
- Carbonell, J. L., & Figley, C. (1999). A systematic clinical demonstration project of promising PTSD treatment approaches. *Traumatology* 5(1), 4.
- Church, D. (2009). *The Genie in Your Genes* Santa Rosa: Energy Psychology Press, 223.
- Church, D. (2008a). The treatment of combat trauma in veterans using EFT (Emotional Freedom Techniques): A pilot protocol. Presented at the annual meeting of the Association of Comprehensive Energy Psychology ACEP, Albuquerque, May 17. Submitted for publication.
- Church, D. & Brooks, A. (2009). The effect of a brief EFT (Emotional Freedom Techniques) self-intervention on anxiety, depression, pain and cravings in healthcare workers. Presented at the American Academy for Anti-Aging Medicine (A4M), Orlando, April 23. Submitted for publication.
- Church, D., Geronilla, L. & Dinter, I., (2009). Psychological symptom change in veterans after six sessions of EFT (Emotional Freedom Techniques): an observational study. *International Journal of Healing and Caring*, January, 9:1.
- Clancy, C. P., Graybeal, A., Tompson, W. P., Badgett, K. S., Feldman, M. E., Calhoun, P. S., et. al. (2006). Lifetime trauma exposure in veterans with military-related posttraumatic stress disorder: association with current symptomatology. *Journal of Clinical Psychiatry*. Sep;67(9):1346-53.
- Craig, G. (2008). *The EFT Manual*. Santa Rosa: Energy Psychology Press.
- Craig, G. (2009). *EFT for Traumatic Stress*. Santa Rosa: Energy Psychology Press.
- Davis, S., Bozon, B., & Laroche, S. (2003). How necessary is the activation of the immediate early gene zif268 in synaptic plasticity and learning? *Behavioral Brain Research*, 142, 17-30.

- Davison, M. L., Bershadsky, B., Bieber, J., Silversmith, D., Maruish, M. E., Kane, R. L. (1997). Development of a brief, multidimensional, self-report instrument for treatment outcomes assessment in psychiatric settings: Preliminary findings. *Assessment*, 4, 259–275.
- Defense Health Board Task Force on Mental Health (2007). An achievable vision: Report on the department of defense task force on mental health, June, <http://www.ha.osd.mil/dhb/mhtf/MHTF-Report-Final.pdf>. Retrieved April 24, 2008.
- Diepold, J. H., Goldstein, D. (2008). Thought Field Therapy and qEEG changes in the treatment of trauma: A case study. *Traumatology*, 15, 85-93.
- Feinstein, D. (2008a). Energy psychology: a review of the preliminary evidence. *Psychotherapy: Theory, Research, Practice, Training*, 45(2), 199-213.
- Feinstein, D. (2008b) Energy psychology in disaster relief. *Traumatology* 141:1, 124-137.
- Feinstein, D., Eden, D., Craig, G. (2005). *The Promise of Energy Psychology*. New York: Tarcher Putnam.
- Felliti, V. J., Koss, M. P., Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) study. *American Journal of Preventive Medicine*, May 14: 4, 245.
- Felmingham, K., Kemp, A., Williams, L. (2006). Changes in anterior cingulate and amygdala after cognitive behavior therapy of posttraumatic stress disorder. *Psychological Science*, 18:2, 127-129.
- Institute of Medicine (2006). *Posttraumatic Stress Disorder: Diagnosis and Assessment*. Washington DC: Institute of Medicine, June 16.
- Iraq Vets Stress Project, (2008). Energy Psychology therapists in the VA system. Retrieved April 10 from <http://www.StressProject.org>.
- Lamarche, L. J., De Koninck, J (2007). Sleep disturbance in adults with posttraumatic stress disorder: a review. *Journal of Clinical Psychiatry*, Aug 68(8), 1257-70.
- LeDoux, J. (2002). *Synaptic self: How our brains become who we are*. New York: Penguin.
- Lane, J. (2006). Wolpe not woo woo; counterconditioning not charlatanism: A biochemical rationale for using acupuncture desensitization in psychotherapy. Paper presented at ACEP (Association for Comprehensive Energy Psychology) annual conference, Virginia, May.
- Maruish, M. E. (1999). Symptom Assessment-45 Questionnaire (SA-45). In M E Maruish (Ed.). *The Use of Psychological Testing, Treatment Planning and Outcomes Assessment* (2nd ed.) Mahwah, NJ: Lawrence Erlbaum Associates.
- Mollon, P. (2008). *Psychoanalytic Energy Psychotherapy*. London: Karnac.
- National Center for PTSD (2008). www.ncptsd.va.gov/ncmain/ncdocs/assmnts/ptsd_checklist_pcl.html. Retrieved April 22.
- Oschman, J. (2006). Trauma energetics. *Journal of Bodywork and Movement Therapies*, 10, 21.
- Rowe, J. (2005). The effects of EFT on long-term psychological symptoms. *Counseling and Clinical Psychology Journal*, 2(3):104.
- Sabban, E. L., & Kvetnanasky, R. (2001). Stress-triggered activation of gene expression in catecholaminergic systems: Dynamics of transcriptional events. *Trends in Neurosciences*, 24, 91-98.
- Schulz, P. (2008). Therapists' views on integrating energy psychology in work with survivors of childhood sexual abuse. In Mollon, P., *Psychoanalytic Energy Psychotherapy*. (London: Karnac).

- Swingle, P., Pulos, L., & Swingle, M. K. (2000). Effects of a meridian-based therapy, EFT, on symptoms of PTSD in auto accident victims. Paper presented at the annual meeting of the Association for Comprehensive Energy Psychology, Las Vegas, NV. May.
- Tanielian, T., Jaycox, L. H. (Eds). (2008). Invisible wounds of war: psychological and cognitive injuries, their consequences, and services to assist recovery. Santa Monica: Rand Corp. MG-720-CCF.
- Thayer, J. (2000). A model of neurovisceral integration in emotion regulation and dysregulation. *Journal of Affective Disorders*, 61, 201-216.
- van der Kolk, B. A., McFarlane, A. C., Weisaeth, L. (1996). *Traumatic stress: the effects of overwhelming experience on mind, body, and society*. New York: Guilford Press.
- Weathers, F., Litz, B., Herman, D., Huska, J., & Keane, T. (1993). The PTSD Checklist (PCL): Reliability, validity, and diagnostic utility. Paper presented at the Annual Convention of the International Society for Traumatic Stress Studies, San Antonio, TX. October.
- 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*, 59:9, 943-966.
- Wolpe, J. (1973). *The Practice of Therapy* (2nd Ed). New York: Pergamon Press.