

# Effects of Emotional Freedom Techniques (EFT) on the Reduction of Chronic Pain in Adults: A Pilot Study

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## Abstract

This pilot study examined the effects of Emotional Freedom Techniques (EFT) on pain reduction in adults with chronic pain. A brief exposure therapy that combines cognitive and somatic elements, EFT has previously been found to be effective in the treatment of a number of psychological conditions, including depression, anxiety, phobia, and posttraumatic stress disorder. Research into EFT's effect on the treatment of physical pain and somatic complaints is less well established. In the present study, 50 adults with chronic pain participated in a 3-day workshop to learn how to use EFT. Pain was measured on the Pain Catastrophizing Scale (PCS) and the Multidimensional Pain Inventory (MPI) immediately before and after treatment and at 1-month and 6-month follow-ups. Significant reductions were found on each of the PCS item scores (rumination, magnification, and helplessness) and on the PCS total

score ( $-43\%$ ,  $p < .001$ ). On the MPI, significant improvements were observed in pain severity, interference, life control, affective distress, and dysfunctional composite. At 6-month follow-up, reductions were maintained on the PCS ( $-42\%$ ,  $p < .001$ ) but only on the life control item for the MPI. Findings suggest that EFT helps immediately reduce pain severity while also improving participants' ability to live with their pain. Although reductions in pain severity were observed at 1-month follow-up but not maintained in the long-term, participants continued to report an improved sense of control and ability to cope with their chronic pain. The results of this pilot study are consistent with the literature and suggest directions for further research.

**Keywords:** Emotional Freedom Techniques, EFT, chronic pain, catastrophizing, group therapy

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that chronic pain costs the economy \$635 billion a year and comprises fully 14% of Medicare expenditures. Pain, in the IOM's assessment, is a significant public health challenge. The mechanisms contributing to chronic pain are complex and poorly understood. Experiences of pain and the management of pain are often unique to an individual, and there are significant barriers to treatment and management in primary care (IOM, 2011). Citing findings that people with chronic pain are often frequent users of complementary and alternative medicine (CAM; IOM, 2011, p. 93)—an indication, perhaps, that conventional medical interventions have failed them—the IOM report recommends further research into the mechanisms responsible for the efficacy of CAM interventions (p. 261).

In 2011, the Institute of Medicine (IOM) estimated that there are approximately 100 million Americans living with chronic pain, a number that exceeds the combined totals affected by heart disease, cancer, and diabetes. In medical treatment and lost productivity, it is estimated

Grounded in the principles underlying Thought Field Therapy (Callahan, 2001) but further developed by Gary Craig (Craig, 2010; Craig & Fowlie, 1995), Emotional Freedom Techniques (EFT) has emerged as one of the most widely used interventions in the field of energy psychology (EP). EP is a collective of CAM modalities that combine well-established evidence-based methods, such as exposure and cognitive restructuring, for the treatment of psychological conditions with techniques from non-Western approaches to healing, such as the stimulation of acupuncture points, or acupoints (Feinstein, 2012). In EFT, participants pair a negative cognition (exposure) with a self-acceptance statement (cognitive restructuring) while stimulating acupoints by tapping on specific parts of the body, the combination of which “quickly and permanently reduces maladaptive fear responses to traumatic memories and related cues” (Feinstein, 2010, p. 385). By the standards of Division 12 of the American Psychological Association for “empirically supported treatments” (Chambless et al., 1996, 1998; Chambless & Hollon, 1998; Task Force on Promotion and Dissemination of Psychological Procedures, 1995), EFT has been found effective in the treatment of anxiety, depression, posttraumatic stress disorder (PTSD), and phobias (as summarized in Church, Feinstein, Palmer-Hoffman, Stein, & Tranguch, 2014). It has, moreover, been found effective in a seemingly disparate number of populations—college students preparing for a test (Jain & Rubino, 2012; Sezgin & Özcan, 2009), individuals with public speaking anxiety (Jones, Thornton, & Andrews, 2011), veterans (Church & Brooks, 2014, Church, 2014; Church et al., 2013), hospital patients with PTSD (Karatzias et al., 2011), and health care providers at risk for job burnout (Church & Brooks, 2010)—and in a variety of delivery formats (e.g., in office, telephone-delivered, group therapy, and online therapy: Brattberg, 2008; Hartung & Stein, 2012; Stapleton et al., 2013).

EFT has also been used to treat a number of somatic symptoms and pain conditions such as migraines, facial neuralgia, back pain, and fibromyalgia (Brattberg, 2008). Brattberg (2008), for example, compared an 8-week Internet-based EFT treatment group ( $n = 26$ ) with a waitlist control group ( $n = 36$ ) in a sample of women diagnosed with fibromyalgia and on sick leave for at least 3 months. Results showed that pain catastrophizing measures, including rumination, magnification, and helplessness—markers of participants’ ability

to cope with pain—were significantly improved in the treatment group ( $p < .01$ ) as were measures of pain, anxiety, and depression ( $p < .05$ ). Brattberg’s study highlighted important considerations in the way chronic pain is conceptualized and measured in the biopsychosocial model: as a complex interplay of biological, psychological, behavioral, and social-cultural factors (Gatchel, Peng, Peters, Fuchs, & Turk, 2007). Brattberg (2008, p. 30) speculated that EFT’s utility for chronic pain sufferers is that it targets and helps reduce the “distressing and disabling influences of pain by moving the patient to a more peaceful place of acceptance.”

Church and Brooks (2010) measured psychological distress, emotional distress, and self-rated pain in a sample of 216 health care workers attending five professional conferences over a 1-year period. Attendees were assessed before and after a 1-day instructional workshop on self-application of EFT and 90 days after the workshop. Although data on the longevity of participants’ pain were not collected (i.e., this study did not specifically measure chronic pain), immediate effects were observed on the reduction of self-assessed pain, in the form of a 68% drop in physical pain ( $p < .001$ ). Severity of psychological symptoms, as measured on the SA-45, the short form of the Symptom Checklist-90 (Davison et al., 1997), was significantly improved following EFT treatment ( $p < .001$ ), and the majority of these gains were maintained at follow-up. It should be noted that this study was uncontrolled, although results were replicated across multiple conferences and health care provider samples.

Bougea and colleagues (2013) conducted a randomized controlled trial (RCT) with a sample of patients being treated for tension-type headache (TTH) in an outpatient headache clinic in Athens, Greece. Patients who met International Headache Society guidelines for frequent TTH were randomly assigned either to an EFT treatment group ( $n = 19$ ) or to a treatment-as-usual control group ( $n = 16$ ). The study found that both headache frequency and intensity dropped by more than half for participants in the EFT group and that other physical symptoms improved ( $p < .001$ ).

Finally, both Church (2014) and Church and Palmer-Hoffman (2014) reported findings related to pain in an RCT studying the effects of EFT on veterans with PTSD. Church (2014) found not only that veterans experienced significant drops ( $p < .0001$ ) in physical pain after EFT compared with a waitlist control group, but also that these reductions

remained significant at 3- and 6-month follow-ups. Church and Palmer-Hoffman (2014) retrospectively analyzed these data for reductions in somatoform symptoms of traumatic brain injury and found that symptoms were reduced by 41% ( $p < .0021$ ). Again, data on chronic pain were not specifically gathered in either study, although it should be noted that, by definition, a PTSD diagnosis is not made unless criteria symptoms persist for more than a month (American Psychiatric Association, 2013) and the majority of participants were veterans from the Vietnam War era and were thus likely to have been living with their symptoms for years.

As previously summarized, evidence for the use of EFT in treating chronic pain is not as well established as it is for several psychological conditions. The current study thus sought to add to the accumulating evidence for its efficacy.

## Method

### Participants

In this study, 50 subjects were recruited to participate in an EFT tapping training session for pain reduction. Participants were recruited via advertisement to subscribers of the Tapping Solution's e-mail list or had been forwarded the information by a subscriber to this list. There was a cost to participate in the 3-day workshop, and the only criterion for inclusion was self-reported chronic pain, as defined by the participant. Chronic pain is typically defined as pain lasting longer than several months, with baselines ranging from a minimum of 3 to 6 months (IOM, 2011, p. 33). Participants were accepted into the study on a first-come, first-serve basis, until a total of 50 were signed up. Additional participants were present at the workshop, but only the first 50 people who expressed an interest in participating in the study were assessed on pain measures.

### Measures

Participants' pain was assessed using the Pain Catastrophizing Scale (PCS; Osman et al., 2000; Sullivan, Bishop, & Pivik, 1995) and the Multidimensional Pain Inventory (MPI; Kerns, Turk, & Rudy, 1985). Both are well-validated, reliable, and widely used instruments, as evidenced by their translation and adaptation into various countries in Europe (e.g., Germany: Verra et al., 2012; Sweden: Jakobsson, 2009; Italy: Monticone et al., 2012; Norway: Fernandes, Storheim, Lochting, & Grotle,

2012; and France: Laliberté et al., 2008), Asia (Taiwan: Lai et al., 2009; Korea: Cho, Kim, & Lee, 2013), and South America (Brazil: Sehn et al., 2012).

The PCS, measuring participants' ability to cope with pain, consists of 13 statements that subjects are asked to rate on a scale of 1–5, corresponding to their agreement with the statement when they are experiencing pain. Ratings range from 0 (*not at all*) to 5 (*all the time*). Statements are evaluated as an overall score and also categorized into three areas: rumination, magnification, and helplessness.

The MPI is based on the biopsychosocial model of pain (McKillop & Nielson, 2011) and consists of 28 questions. Some of the questions are answered on a scale of 0 (*not at all or no change*) to 6 (*extremely well or extreme change*), and some questions are answered on a scale of 0 (*never*) to 3 (*often*). Questions are categorized into 11 categories: pain severity, interference, life control, affective distress, support, punishing responses, solicitous responses, distracting responses, general activity, dysfunctional composite, and interpersonally distressed composite.

The PCS and the MPI were administered to participants before and after treatment and at follow-ups of 1 and 6 months posttreatment.

### Procedure

The author, a certified EFT practitioner, demonstrated the intervention to the participants as a group during the course of a workshop spread over three 8-hour days. The intervention was demonstrated with fidelity to *The EFT Manual* (Craig, 2010). Participants self-applied EFT in the course of the workshop, and certain participants volunteered as demonstration subjects receiving EFT sessions in front of the group. Trained volunteers were also available for individual tapping sessions if participants requested individual coaching in the technique.

Following *The EFT Manual* (Craig, 2010), participants were asked to first identify the site of the pain in their body. Participants created an affirmative and self-accepting statement that related to this pain—for example, “Even though I have this pain in my back, I deeply and completely accept myself.” In EFT, this type of statement is referred to as the “setup statement.” Participants repeated this setup statement three times to begin, then continued repeating a reminder phrase (e.g., “pain in my back”) as they tapped five to seven times on each of 12 specific acupoints on the body, which correspond to the end points of the meridians identified in traditional

Chinese medicine. Before and after each round of tapping, participants self-assessed their pain on the Subjective Units of Distress (SUD) Scale (Wolpe, 1973), a Likert-type scale ranging from 0 (*no distress or pain*) to 10 (*highest distress/pain possible*). Rounds of tapping continued until participants had reduced their pain to 0 or near 0 on the SUD Scale.

Following the workshop, participants were encouraged to continue using EFT for pain management. Data were not collected on what percentage of participants continued to use EFT or with what frequency they did so. A workbook summarizing the techniques presented at the workshop was given to participants for their reference. Participants were also given the opportunity to arrange three phone calls with the author for additional tapping sessions, which would then be audio-recorded and made available to the participant. Few participants utilized this option, and data were not collected about their usage. Finally, the author also provided participants with audio recordings of two approximately 7-minute-long meditative tapping sessions for their individual use.

### Statistical Analysis

Matched *t* tests were used to compare scores on the PCS and MPI before and after training, at 30-day follow-up, and at 6-month follow-up. A Bonferroni-corrected alpha level of 0.0036 was used to adjust for multiple testing. Cronbach's alpha was calculated as a measure of internal consistency. All statistical tests were run using SPSS Version 17.

## Results

### Participant Characteristics

Demographic data for 50 participants are summarized in Table 1. Subjects had a mean age of 57, with a range of 35 to 72 years. Most of the subjects were women (86%). The majority were employed and had completed undergraduate college studies. A majority of the participants reported that they exercised regularly. Some subjects reported sleep disturbances due to pain, but the average number of reported hours of sleep per night was 6.8 hours. Participants were asked to rate their pain on a scale of 0–10. The average pain scale rating was 8, indicating severe pain.

### Changes in Test Scores

Statistically significant score reductions were found in each of the PCS item scores (rumination,

**Table 1:** Participant Characteristics (N = 50)

Characteristics	<i>M</i> ± <i>SD</i> (Range)	<i>n</i> (%)
Age	57 (35–72)	
Gender		43 (86%)
Employment status		
Employed or self-employed		29 (58%)
Unemployed or disabled		5 (10%)
Not in workforce or retired		14 (30%)
Years of education	17 ± 3.6	
Any exercise		43 (86%)
Average sleep hours	6.8 ± 1.3	
Pain rating (1–10)	8 ± 1.6	

magnification, and helplessness) and the PCS total score ( $p < .001$ ). These results are summarized in Table 2. The subscore for helplessness had the largest reduction. Only six subjects did not have a reduction in total PCS score. The PCS total score had a Cronbach's alpha of 0.76, indicating a high level of internal consistency for this sample.

For the MPI, significant improvements were noted in pain severity, interference, life control, affective distress, and dysfunctional composite (see Table 3). Scores for support, punishing responses, solicitous responses, distracting responses, general activity, and interpersonally distressed composite were unchanged.

### Follow-up Changes

Nine subjects did not complete the PCS at the 1-month follow-up, leaving 41 subjects. Between 1 month and 6 months, an additional 7 subjects were lost to follow-up, leaving 34 subjects for analysis.

Follow-up evaluations determined that participants maintained significant improvements in PCS scores at 1-month and 6-month follow-ups (see Table 4), with the exception of magnification at 1-month follow-up. The reduction in magnification score at 1-month follow-up was lower on average than the baseline but not statistically different.

When posttest scores were compared with follow-up at 1 month or 6 months, no significant changes were noted, indicating that score changes were maintained over the duration of the follow-up period.

**Table 2:** Pain Catastrophizing Scale (PCS) Pretest versus Posttest Scores (N = 50)

Score	Pretest ( <i>M</i> ± <i>SD</i> )	Posttest ( <i>M</i> ± <i>SD</i> )	Change in <i>M</i> ± <i>SEM</i>	<i>t</i>	<i>p</i>
Rumination	9.8 ± 4.2	6.0 ± 4.6	3.8 ± 0.6	6.5	<.001*
Magnification	5.3 ± 2.8	3.5 ± 2.5	1.7 ± 3.1	4.0	<.001*
Helplessness	11.7 ± 6.5	6.0 ± 5.0	5.7 ± 0.8	7.4	<.001*
Total	26.5 ± 11.6	15.5 ± 10.9	11.0 ± 10.6	7.3	<.001*

\*Significant after Bonferroni correction.

At 1-month follow-up, 10 subjects did not complete the MPI, leaving 40 subjects. Between 1 month and 6 months, an additional six subjects were lost to follow-up, leaving 34 subjects for analysis.

As shown in Table 5, a statistically significant improvement in life control was noted at 6-month follow-up but not 1-month follow-up. The change in life control between the 1-month follow-up and the 6-month follow-up was significant. Interference and pain severity decreased significantly after treatment and remained significantly reduced at 1 month. However, at 6 months, the difference was no longer significant after Bonferroni correction. Affective distress was reduced after treatment but was not found to be significantly reduced at 1-month or 6-month follow-ups.

## Discussion

The present study found improvements on measures of pain severity, pain catastrophizing, and the impact of pain on an individual's life and general activity following a 3-day workshop teaching participants to use self-applied EFT. Reductions in pain catastrophizing, a maladaptive response that may contribute to the chronicity of pain (Sehn et al., 2012) and has been found to be a key predictor of disability (Fernandes et al., 2012), were maintained at both 1- and 6-month follow-ups, as was improved life control on the MPI at the 6-month follow-up, suggesting that following EFT, participants were better able to cope with their chronic pain. This is noteworthy given that

**Table 3:** Multidimensional Pain Inventory (MPI) Pretest versus Posttest Scores (N = 50)

Score	Pretest ( <i>M</i> ± <i>SD</i> )	Posttest ( <i>M</i> ± <i>SD</i> )	Change in <i>M</i> ± <i>SEM</i>	<i>t</i>	<i>p</i>
Pain Severity	53.1 ± 18.0	41.8 ± 13.8	11.3 ± 1.8	6.3	<.001*
Interference	55.6 ± 13.6	48.9 ± 14.3	6.8 ± 1.1	6.1	<.001*
Life Control	55.0 ± 14.1	63.2 ± 14.3	-8.1 ± 2.0	-4.1	<.001*
Affective Distress	49.7 ± 13.0	40.6 ± 14.7	9.1 ± 1.9	4.7	<.001*
Support	54.2 ± 17.9	53.8 ± 21.4	0.42 ± 1.4	0.3	.77
Punishing Responses	28.7 ± 29.2	27.6 ± 24.8	1.1 ± 2.2	0.5	.60
Solicitous Responses	48.0 ± 18.6	48.4 ± 18.9	-0.4 ± 1.2	-0.4	.72
Distracting Responses	49.1 ± 22.5	49.3 ± 23.5	-0.14 ± 2.27	-0.1	.95
General Activity	56.8 ± 5.9	56.2 ± 6.7	0.56 ± 0.63	0.9	.39
Dysfunctional Composite	48.4 ± 10.2	41.4 ± 9.2	7.03 ± 1.0	6.8	<.001*
Interpersonally Distressed Composite	44.6 ± 12.0	45.5 ± 11.5	-0.9 ± 0.7	-1.2	.23

\*Significant after Bonferroni correction.

**Table 4: PCS with Follow-up**

Score	Pretest ( <i>M</i> ± <i>SD</i> )	Posttest ( <i>M</i> ± <i>SD</i> )	1-month follow-up ( <i>M</i> ± <i>SD</i> )	6-month follow-up ( <i>M</i> ± <i>SD</i> )	<i>p</i> <sup>§</sup>
Rumination	9.8 ± 4.2	6.0 ± 4.6	6.7 ± 4.7	5.9 ± 3.9	<.001*
Magnification	5.3 ± 2.8	3.5 ± 2.5	4.0 ± 2.8	3.4 ± 2.5	<.001*
Helplessness	11.7 ± 6.5	6.0 ± 5.0	6.7 ± 5.1	6.5 ± 5.0	<.001*
Total	26.5 ± 11.6	15.5 ± 10.9	17.4 ± 11.3	15.6 ± 10.0	<.001*

\*Significant after Bonferroni correction.

<sup>§</sup>*p* values are given for pretest versus 6-month follow-up.

reductions in pain severity, observed immediately and 1 month after the intervention, were not maintained over the long-term.

These results should be interpreted with caution. This study used a convenience sample composed of participants enrolled in a paid workshop to learn EFT for pain management and therefore could be assumed to be highly motivated participants. The same degree of motivation is unlikely to be found in the larger population pain patients. Attrition (approximately 20% at 1 month and 32% at 6 months) may have skewed the results. This study lacked a comparison or control group, did not collect data on the length or source of the

chronic pain participants experienced, and did not track participants' subsequent use of EFT following the workshop. Future controlled studies should be designed to address these limitations. Nonetheless, the symptom improvements found in the current study closely track those reported in RCTs conducted by Brattberg (2008), Church (2014), and Bougea et al., (2013) in participants experiencing chronic pain associated with fibromyalgia and tension-type headache, and with veterans.

If these results can be replicated in an RCT for individuals suffering from chronic pain and it can furthermore be demonstrated that participants maintain their gains over time (limitations that

**Table 5: MPI with Follow-up**

Score	Pretest ( <i>M</i> ± <i>SD</i> )	Posttest ( <i>M</i> ± <i>SD</i> )	1-month follow-up ( <i>M</i> ± <i>SD</i> )	6-month follow-up ( <i>M</i> ± <i>SD</i> )	<i>p</i> <sup>§</sup>
Pain Severity	53.1 ± 18.0	41.8 ± 13.8	40.9 ± 18.4	50.8 ± 17.5	.18
Interference	55.6 ± 13.6	48.9 ± 14.3	43.6 ± 17.4	52.8 ± 12.3	.01
Life Control	55.0 ± 14.1	63.2 ± 14.3	56.7 ± 20.3	71.1 ± 16.9	<.001*
Affective Distress	49.7 ± 13.0	40.6 ± 14.7	44.8 ± 15.9	46.9 ± 12.7	.03
Support	54.2 ± 17.9	53.8 ± 21.4	54.8 ± 16.5	61.5 ± 14.0	.07
Punishing Responses	28.7 ± 29.2	27.6 ± 24.8	25.8 ± 27.2	31.0 ± 29.3	.80
Solicitous Responses	48.0 ± 18.6	48.4 ± 18.9	48.6 ± 16.7	52.7 ± 15.6	.85
Distracting Responses	49.1 ± 22.5	49.3 ± 23.5	46.0 ± 24.4	52.9 ± 19.3	.63
General Activity	56.8 ± 5.9	56.2 ± 6.7	57.1 ± 5.5	56.1 ± 6.0	.77
Dysfunctional Composite	48.4 ± 10.2	41.4 ± 9.2	46.0 ± 24.4	52.9 ± 19.3	.32
Interpersonally Distressed Composite	44.6 ± 12.0	45.5 ± 11.5	46.2 ± 9.5	41.6 ± 9.6	.75

\*Significant after Bonferroni correction.

<sup>§</sup>*p* values are given for pretest versus 6-month follow-up.

prevent the generalization of results from Bougea et al., [2013] and Brattberg, [2008]), the implications would be considerable. Among its recommendations, the IOM (2011) highlights promotion of self-management of pain and the reduction of barriers to pain care as strategies to address the “public health challenge” of chronic pain. Whereas chronic pain currently costs the U.S. economy an estimated \$638 billion a year, EFT is low-cost; can be delivered in group format (Church & Brooks, 2010, 2014), via the Internet (Brattberg, 2008), and over the phone (Hartung & Stein, 2012); and can also be self-administered (Brattberg, 2008). Particularly when there are barriers to accessing primary-care resources for pain treatment and management, EFT presents a relatively low-cost and straightforward alternative to conventional medical interventions for chronic pain, offering individuals improved feelings of control and the ability to cope with their pain. Additional controlled studies in populations with chronic pain should explore this potential.

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