Post-Earthquake Rehabilitation of Clinical PTSD in Haitian Seminarians

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Abstract

Following the 2010 earthquake, 77 male Haitian seminarians were assessed for posttraumatic stress disorder (PTSD) using the PTSD Checklist (PCL). Forty-eight (62%) exhibited scores in the clinical range (> 49). The mean score of the entire sample was 54. Participants received 2 days of instruction in Emotional Freedom Techniques (EFT). Following the EFT training, 0% of participants scored in the clinical range on the PCL. A paired *t*-test analysis of the pre–post PCL scores indicated a statistically significant decrease ($p < .001$), to a mean of 27 at the posttest. Posttest PCL scores decreased by an average of 72%, ranging between a 21% reduction and a 100% reduction in symptom severity. These results are consistent with other published reports of EFT's efficacy in treating PTSD symptoms in traumatized populations, such as war veterans and genocide survivors.

Keywords: Haiti, posttraumatic stress disorder, PTSD, EFT, Emotional Freedom Techniques

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The 7.0-magnitude earthquake that struck Haiti on the afternoon of January 12, 2010, left an estimated 200,000 or more people dead and 1.5 million homeless (Doc Zone, 2011). With half of Haiti's population children under the age of 18 (Doc Zone, 2011), a proportionate number of those made vulnerable by the earthquake were children, many of whom lost a parent or guardian in the disaster. Prior to the earthquake, estimates of the number of orphans in Haiti ranged between 350,000 (Arce & O'Brien, 2011; Balsari, Lemery, Williams, & Nelson, 2010) and 380,000 (Belkin, 2010; Friends of the Orphans, n.d.; Seabrook, 2010; Wylie, 2011); following the earthquake, those numbers swelled to as many as a million children (Arce & O'Brien, 2011; Seabrook, 2010; Sequera & Fox, 2010). Reliable estimates are complicated by the widespread presence of unregulated and unsupervised orphanages, which account for 80% of Haiti's orphanage system (Doc Zone, 2011; Panorama, 2010); poor or nonexistent record-keeping mechanisms in the immediate aftermath of the earthquake, which may have led to inflated estimates of orphaning among children temporarily separated or displaced from their families in the upheaval (Balsari et al., 2010); and the extreme poverty endemic to much of Haiti's population, which can lead parents unable to afford to care for their children to temporarily place them in the custody of "orphanages" (Balsari et al., 2010; UNICEF, 2010).

From early media reports in the aftermath of the disaster to retrospective reports casting a broader look at the earthquake's long-term impact and recovery efforts, the trauma experienced by these children has received attention throughout. Two weeks after the earthquake, the *New York Times* noted, "Many children … bore direct witness to horror or survived destruction that killed their relatives, their schoolmates and their teachers. … Many children are struggling to make sense of what they are experiencing" (Sontag, 2010). Six months later, a UNICEF report recorded poignantly that there were

> children who still talk superstitiously of *le grand serpent*—the great snake—that slithered angrily underground, bumping up against their homes and schools, reducing them to dust and rubble. Even now streets remain littered with the debris of destroyed buildings, making it difficult for children to find a visual escape from their memories of disaster. (UNICEF, 2010, p. 2)

On the first anniversary of the earthquake, UNICEF (2011) reported that nearly 1,300 of the "orphans" it had registered had been reunited with a parent or caregiver. It can be assumed, then, that a large population of children were still without permanent family care and still reeling from the effects of displacement and trauma.

Those caring for the orphans were likely to be under considerable stress themselves. An article written for the *New England Journal of Medicine* placed the plight of the orphans in context: "The earthquake occurred against a background of economic extremity driving family separation, aggressive trafficking networks, inadequate law enforcement, and a growing global demand for adoptive children" (Balsari et al., 2010, p. e25). International adoption procedures and the lack of regulation and oversight at many of Haiti's orphanages came under scrutiny in the weeks and months following the earthquake. Balsari et al. (2010) argued that

> all aid workers, including voluntary health care professionals, should receive training in child-protection norms and be sensitized to the prevalence of child abandonment, abduction, and trafficking. Child-protection basics, including identification procedures and record keeping, reestablishment of educational opportunities, creation of child-friendly spaces (set up specifically for children in crises to address their physical and psychosocial needs in a stable, trustworthy environment), and health interventions, must be ramped up rapidly. (p. e25)

Orphanage workers, in addition to responding to the effects of their own experiences of the earthquake, were thus under added pressure to expand and improve the supportive care they provide to the orphaned children.

It was against this backdrop that a delegation from Energies Psy Sans Frontières (EPSF; or Energy Psychology Without Borders) traveled to Port-au-Prince, Haiti, in March 2011 to train groups of seminarians whose duties included serving adult and orphan parishioners in the techniques of Emotional Freedom Techniques (EFT). Falling under the rubric of energy psychology (EP), EFT has been described as "acupressure assisted psychotherapy" (Lane, 2009, p. 40). This simple psychophysiological intervention, developed by Craig (2010), pairs a negative cognition with a self-acceptance statement, which the individual repeats while tapping 12 specific points on the body, assessing distress before and after "rounds" of tapping and repeating the process until distress is reduced. EFT has broad application: It has been shown to reduce symptoms of a range of psychological disorders, including phobias, anxiety, and depression (Church & Brooks, 2010; Rowe, 2005; Wells, Polglase, Andrews, Carrington, & Baker, 2003); to reduce text anxiety for students at both the high school (Sezgin & Özcan, 2009) and college levels (Benor, Ledger, Touissant, Hett, & Zaccaro, 2009); to improve confidence and reduce anxiety associated with sports performance (Church & Downs, 2010); and to reduce physical symptoms of fibromyalgia (Brattberg, 2008). Most important for the present context, however, is EFT's utility in treating traumatic stress (for reviews, see Craig, 2009; Feinstein, 2008b, 2010).

EFT and PTSD

Evidence for the efficacy of EFT in treatment of populations experiencing posttraumatic stress disorder (PTSD) has been accumulating in recent years. In a series of investigations, Church and colleagues (Church, 2010; Church, Geronilla, & Dinter, 2009; Church et al., 2010) have shown, for example, that EFT interventions can lead to long-term reductions of symptoms of PTSD in combat veterans. Church et al. (2009) conducted a pilot study testing the effects of EFT on seven veterans (four Iraq War veterans, two Vietnam War vets, and one a veteran who experienced PTSD following sexual assault) and found that following six sessions of EFT focusing on combat and other traumatic memories, severity of symptoms had decreased by 46% ($p < .001$) and PTSD scores had decreased by 50% ($p < .016$). These gains were maintained at 3-month follow-up. Church (2010) carried out a similar pilot investigation, this time including both veterans and their family members

(N = 11, nine of whom had been diagnosed with PTSD; two exhibited symptoms of PTSD). Following 10–15 hr of EFT therapy spread across a 5-day treatment period, scores on the military version of the PTSD Checklist (PCL–M) were significantly reduced ($p < .01$); these improvements held at 1-month, 3-month, and 1-year follow-ups.

These findings were corroborated in a larger sample (N = 59) with a randomized controlled trial (RCT) conducted by Church et al. (2010). Of the 54 veterans who completed the study, 29 had been assigned to an EFT treatment group and 25 to a waitlist control group. Pretreatment assessments indicated that the mean score on the PCL–M was 61.4 for the treatment group and 66.6 for the waitlist group (the cutoff for PTSD is 50). After six hour-long EFT sessions, the treatment group's score had decreased significantly to a mean of 34.6 ($p < .0001$), while the control group remained nearly unchanged (M = 65.3) a month after initial testing. Breadth and severity of psychological distress as measured by the Symptom Assessment 45 had also diminished significantly by the end of treatment for the treatment group (ps < .0001) while remaining unchanged for the control group.

In an RCT pilot focusing on abused adolescents, Church, Piña, Reategui, and Brooks (2012) explored the effects of EFT on 16 boys (age range = 12–17 years) living in a residential treatment facility for children with a history of sexual, physical, or psychological abuse or neglect. The PTSD components of intrusive memories and avoidance symptoms were assessed on the Subjective Units of Distress Scale (SUD) and the Impact of Events Scale (IES). Participants were randomly assigned to either an experimental group (n = 8) receiving a single 1-hr session of EFT or to a waitlist control group (n = 8) receiving no treatment. Scores on the SUD and IES were recorded before the intervention and 30 days following. No improvement occurred for the control group. For the experimental group, total scores on the IES declined significantly ($p < .001$) to the point that participants no longer had PTSD scores in the clinical range.

There is some suggestion, from analogous EP modalities, that EFT may be used to treat residual effects of PTSD years after the experienced trauma. Sakai, Connolly, and Oas (2010) studied the use of Thought Field Therapy (TFT), which uses an acupoint tapping method similar to that of EFT, in a sample of 50 adolescents who had been orphaned by the 1994 genocide in Rwanda. Following a single session of TFT, these children's scores on both a self-report inventory and a PTSD checklist completed by caregivers at the orphanage had decreased significantly ($p < .0001$). These improvements were maintained at the 1-year follow-up. Connolly and Sakai (2011) then extended these findings in an RCT with 145 adult survivors of the Rwandan genocide. Participants were assigned to either a TFT treatment group or to a waitlist control, and PTSD symptoms were assessed using the Trauma Symptom Inventory (TSI) and Modified PTSD Symptom Scale (MPSS). Following the intervention, significant differences ($p < .001$) were found between groups on 9 of 10 subscales of the TSI and for both severity and frequency on the MPSS. Importantly, reductions in symptoms were maintained at the 2-year follow-up.

Collectively, these studies suggest that the effects and symptoms of PTSD can be reliably attenuated through intervention with EP methods, particularly EFT. But what is only alluded to in the above summaries is worth underlining here: EFT has repeatedly been proved efficacious in even very brief interventions. As researchers (e.g., Church, 2010; van der Kolk, McFarlane, & Weisaeth, 1996) have raised concerns about the potentially retraumatizing effects on vulnerable populations asked to recall trauma, this makes exploration of the effects of EFT of particular interest in a population that has only very recently witnessed mass casualty and destruction, such as those Haitians who survived the 2010 earthquake. Representatives of EPSF who traveled to Haiti in March 2011 to train seminarians in EFT were asking participants to address trauma that was still relatively recent in a population considered at very high risk for the effects of PTSD.

The Present Study

Though many seminarians were and will in future be engaged in offering counseling to others, a striking finding of this study was that many of these caregivers were themselves exhibiting symptoms of PTSD. This should not have come as a surprise given the participants' own proximity to the trauma: Whether or not they had experienced the loss of family or friends directly—and given the breadth of the destruction, it would be difficult to find one who had not—all were witnesses to the devastation the earthquake had wrought. Moreover, there is a growing literature acknowledging

the potential for stress, burnout, and diminished psychological health in those working in the mental health field (see, e.g., Jenkins & Elliott, 2004; Rössler, 2012) and, in particular, for the development of symptoms of PTSD, depression, and anxiety among frontline personnel and aid workers responding to large-scale humanitarian disasters (e.g., Lopes Cardozo et al., 2012; Soffer, Wolf, & Ben-Ezra, 2011; Van der Velden, van Loon, Benight, & Eckhardt, 2012; Wang, Zhang, Zhou, Shi, & Liu, 2010). In other words, there exists the possibility that counselors themselves need counseling. This is what the current study sought to do. The impact of EFT on the PTSD symptom levels of study participants is summarized below.

Method

Participants

A convenience sample was used for the current study. Drawn from a larger group of 275 seminarians who had volunteered to undergo training in EFT, the sample group consisted of 77 men ranging in age from 22 to 25 years old, with a mean age of 23. Permission for the study was obtained from the director of the seminary, and all participants provided informed consent. The intervention was conducted by the first author, a French trainer certified by EFT Universe, and conducted in the participants' native French. Training took place in a large tent outdoors, because many of the participants were so traumatized that they had been unable to enter a building since the earthquake, or were unable to stay inside a building for very long without becoming agitated. The sample was smaller than the total group since PCL scores were available for only 150 participants; 112 filled out both pre- and posttest questionnaires, and of those, 77 were complete. All analysis was performed on this subsample.

Measures

PCL. PTSD was assessed using the civilian version of the PCL, sometimes also referred to as the PCL-C (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996; Weathers, Litz, Huska, & Keane, 1994). The PCL is one of the most commonly used self-report measures for screening of PTSD (Elhai, Gray, Kashdan, & Franklin, 2005; Wilkins, Lang, & Norman, 2011). With 17 Likert items that map onto PTSD diagnostic criteria as defined by the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.), respondents rate the degree to which they were bothered by a particular symptom in the preceding month (1 = *not at all*; 5 = *extremely*). Three versions of the PCL exist—Military, Civilian, and Specific (S)—and the anchor event and wording vary according to version used. McDonald and Calhoun (2010, p. 976) underscored the utility of the PCL in screening for PTSD and suggested that it be supplemented with a second-tier diagnostic test, such as a standardized interview. Wilkins et al. (2011) expanded on this research to conclude that the PCL has good test–retest reliability and validity. The French-language version of the PCL has been validated (Ventureyra, Yao, Cottraux, Note, & De Mey-Guillard, 2002; Yao et al., 2003). Additionally, the PCL has been frequently used to screen survivors of natural disasters for symptoms of PTSD (see, e.g., Vera-Villarroel, Zych, Celis-Atenas, Córdova-Rubio, & Buela-Casal, 2011; Zhang, Wang, Shi, Wang, & Zhang, 2012).

Procedure

Participants received 2 days of EFT training (7 hr per day) by the first author of this article. EFT was administered with fidelity to the French translation of *The EFT Manual* (Craig, 2012). During training, participants were asked to pair the memory of a traumatic event that occurred during the earthquake with a statement of self-acceptance. EFT calls this type of pairing the "setup statement." This conjunction is expressed in setup statements such as "Even though [brief description of traumatic event], I deeply and completely accept myself." While the form of the setup statement may vary, it must invariably contain two components, exposure and cognitive acceptance. These are stated side by side, that is, "Even though [exposure], I deeply and completely accept myself [cognitive acceptance]." Actual examples from the training are as follows:

- "Even though my young sister was killed right beside me, I deeply…"
- "Even though I was shocked to discover that my best friend was dead, I deeply…"
- "Even though I lost my leg when the roof collapsed on me, I deeply…"
- "Even though I do not understand why I am still alive, I deeply…"

"Even though I'm still too afraid to enter a building, I deeply…"
"Even though I have nightmares every night, I deeply…"
"Even though I can still hear the screams of my brother, I deeply…"

Participants repeat the statement while stimulating the first of EFTs prescribed acupoints with self-tapping. They use a reminder phrase such as "nightmares" to maintain exposure while tapping the remaining points. The full EFT procedure is found in *The EFT Manual* (Craig, 2010).

Before and after each round of tapping, participants rated their emotional distress on the SUD, a Likert-type scale ranging from 0 (*no distress*) to 10 (*highest distress possible*). SUD scores were not recorded for the purposes of the present study, but were instead used as a process variable, as a way for participants to observe their individual levels of distress as the intervention progressed. The aim of EFT is to continue rounds of tapping until a participant's SUD levels are significantly diminished.

On the first day, the trainer worked with three individuals in front of the group for the purpose of demonstrating EFT. While observing the demonstrations, the whole group self-applied EFT. This method is called "Borrowing Benefits" and is described in *The EFT Manual* (Craig, 2010). On the second day, participants learned the "Tell the Story" technique described in *The EFT Manual* (Craig, 2010) and also practiced together in pairs for 45 min.

Participants completed the PCL both at the start of the 2 days of EFT training and at the end. PCLs were administered by the second author, a licensed psychotherapist, and analyzed by an independent biostatistician.

Statistical Analysis

We conducted paired *t* tests to compare the pre–post PCL scores.

Results

As noted above, the sample consisted of 77 male seminarians ranging in age from 22 to 25 years old (M = 23 years). The average pretest PCL score was 54.4 (range = 20–79). Scores 50 and above are considered in the clinical range for PTSD. Prior to the workshop, 48 of the 77 participants (62.3%) met the cutoff for clinical PTSD.

Table 1: *Pre–Post Change on PCL–C scores.*

Time	*M*	*SD*
Pretest	54.4	13.4
Posttest	27.2	6.4

Paired *t* tests were conducted on the PCL pre–post scores. There was a statistically significant decrease in PCL scores, $t(76) = 19.9$, $p < .001$ (see Table 1). None of the participants met the clinical cutoff for PTSD following the workshop.

The percent change between the pre- and posttest PCL scores was calculated by subtracting the minimum PCL score (17) from the pre- and posttest scores and calculating the percentage change between the two adjusted scores. Posttest PCL scores decreased an average of 72%, ranging from a 21% reduction to a 100% reduction in symptom severity.

No adverse events were noted. There were no dropouts between the first and second assessments. A situational stimulus at the workshop provided an unforeseen clinical test. Early in the afternoon of the first day, an airplane passed just over the tent where the training was being held. About 20% of the participants dropped to the floor in fright. The trainer worked on this event with the group. Near the end of a second day, another airplane passed over. This time, none of the participants had a visible stress reaction.

Discussion

The present study adds to the burgeoning evidence not only of EFT's capacity for the often rapid reduction of symptoms across a number of applications but in particular in populations experiencing PTSD. Seminarians who were being trained in the methodology of EFT for use as a supplemental therapy for their parishioners in the aftermath of the earthquake, themselves showed symptoms of PTSD at the start of the training: Approximately 62% met the clinical cutoff for PTSD before the workshop; following 2 days of training, none of them did. This corroborates the frequently dramatic and rapid reduction in psychological symptoms reported by other studies of EFT across a number of conditions (Benor et al., 2009; Brattberg, 2008; Church, 2010; Church &

Brooks, 2010; Church & Downs, 2010; Church et al., 2009, 2010, 2012; Rowe, 2005; Sezgin & Özcan, 2009; Wells et al., 2003).

The current study has a number of limitations. For one, it used a convenience sample and did not test an experimental group against a control. The study sample was composed of participants who had volunteered to train in the EFT method, and expectancy effects are likely to have contributed to the reported results. Only one assessment, the PCL, was used, rather than a battery of assessments. No observer-rated measure such as the CAPS (Clinician-Administered PTSD Scale) was used to corroborate the self-rated PCL results, and thus a categorical diagnosis of PTSD among study participants cannot be made.

However, the reductions on a measure of PTSD (here, the PCL) were comparable to those reported in RCTs studying the effects of EFT on traumatized populations (e.g., with combat veterans and abused adolescents, both ps < .001; see Church et al., 2010, 2012, respectively), and although the results of this particular group cannot be generalized, we note that they do follow the pattern of other, controlled, examinations of the effects of EFT and other tapping therapies (e.g., Connolly & Sakai, 2011) on PTSD.

This is one of the first studies to use the civilian version of the PCL to measure the effects of EFT on PTSD symptoms. Both Church (2010) and Church et al. (2010) used the military version of the PCL as their screening measure for PTSD in veterans. Folkes (2002) used the civilian version of the PCL in a study of the effects of TFT on 29 low-income refugees and immigrants living in the United States. Participants in that study showed significantly less avoidance behavior, intrusive thoughts, and hypervigilance (all ps < .05) following the intervention. Wilkins et al. (2011) found that the specific version of the PCL was better able than the military and civilian versions to discriminate PTSD symptoms from similar symptoms of other disorders and speculated that this was because the PCL–S anchored to a specific trauma. However, the civilian version of the PCL has been in common use in recent studies that screen for PTSD in the aftermath of natural disasters (e.g., Vera-Villarroel et al., 2011; Zhang et al., 2012). Given these qualifications and the measure's growing use, we suggest that more exploration is needed to measure the relative suitability of these two assessments.

Another limitation of this study is the lack of long-term follow-up. Participants' symptoms of PTSD were measured immediately pre- and postintervention, across a 2-day time frame. Again, in analogous interventions, improvements have been shown to hold at the 1-year (Church, 2010; Sakai et al., 2010) and even the 2-year mark following the intervention (Connolly & Sakai, 2011). In a review of EP research, Feinstein (2008a) observed that therapeutic gains were maintained to a statistically significant degree in all studies that recorded follow-up scores for periods of up to a year. Feinstein (2008b), meanwhile, noted the success of single-session interventions. However, in conditions as unstable as those in Haiti following the 2010 earthquake, where relief efforts and rebuilding were often a slow process, there exists the possibility of reexposure and retraumatization. Whether these reductions in PTSD can hold in such an environment would be worth exploring in future studies.

This is one of several studies in which the effects of group application of EFT have been assessed. In a study of 216 healthcare workers such as psychotherapists, nurses, physicians, chiropractors, and alternative medicine practitioners, similar effects were found (Church & Brooks, 2010). The healthcare workers received a 1-day EFT workshop that included 2 hr of tapping. Their psychological symptoms, such as anxiety and depression, decreased by 45%, with much of the gain being maintained on follow-up (p < .0001). A study of 218 veterans and their spouses identified a similar pattern (Church & Brooks, 2012). Participants attended a 1-week healing retreat that included an EFT component to reduce PTSD symptoms. The study also used the PCL and found significant symptoms reductions in both veterans and spouses, with symptom levels dropping even further on follow-up. The group effects of EFT have been noted by others (Palmer-Hoffman & Brooks, 2011; Rowe, 2005). The ability to improve mental health when offered in a group setting makes EFT an efficient and cost-effective remedy.

Finally, although this study expands the evidence for the use of EFT in populations experiencing PTSD, it does not add to our understanding of the mechanisms underlying its efficacy. Feinstein and Church (2010) proposed a model for tapping therapies (i.e., EFT, TFT) that suggested that "Exposure [and] acupoint treatments modulate, with unusual speed and power, gene expression for

specific as well as systemic therapeutic gains" (p. 292), such as the reduction of somatic anxiety. Church et al. (2012) noted that EFT draws on elements of eye movement desensitization therapy and reprocessing, cognitive–behavior therapy, and exposure therapy, all of which have been shown to reduce PTSD symptoms (Benedek, Friedman, Zatzick, & Ursano, 2009; Bradley, Greene, Russ, Dutra, & Western, 2005; Institute of Medicine, 2006; Institute of Medicine, Committee on Treatment of Posttraumatic Stress Disorder, 2007; National Institute for Clinical Excellence, 2005; Seidler & Wagner, 2006; van Etten & Taylor, 1998). Looking specifically at the rapid and significant reductions that tapping therapies have been reported to have on PTSD symptoms, Feinstein (2010) speculated that "adding acupoint stimulation to brief psychological exposure is unusually effective … because deactivating signals are sent directly to the amygdala, resulting in the rapid attenuation of threat responses to innocuous stimuli" (p. 385). Unfortunately, the present study cannot contribute new information to the testing of this model, though it does add yet another example to the abundant evidence linking EFT interventions with reductions in psychological stress.

These caveats aside, we offer the following strengths as implications of our research. EFT continues to be shown to be a relatively low-cost treatment with the ability to be delivered effectively in a group setting and to lead to the rapid diminishment of the symptoms of traumatic stress. In the widely devastated landscape of the aftermath of natural disaster, EFT offers an opportunity to reach a wide swath of a population in crisis, reducing the effects of trauma among the precariousness of unforeseen events. With the recent scenes from Hurricane Sandy a reminder that these events recur, an intervention whose efficacy is proven, fast, and long-lasting is invaluable. More research is needed to extend the generalizability of this study, but initial evidence suggests that EFT holds promise as an efficacious and cost-effective intervention.

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