

Thought Field Therapy and QEEG Changes in the Treatment of Trauma: A Case Study

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As identified by quantitative electroencephalography, statistically abnormal brain wave patterns were observed when a person thought about a trauma when compared with thinking about a neutral (baseline) event. Reassessment of brain wave patterns (to the traumatic memory) immediately after thought field therapy diagnosis and treatment revealed that the previous abnormal pattern was altered and was no longer statistically abnormal. An 18-month follow-up indicated that the patient continued to be free of all emotional upset regarding the

treated trauma. This case study supports the concept that trauma-based negative emotions do have a correlated and measurable abnormal energetic effect. In addition, this study objectively identified an immediate energetic change after thought field therapy in the direction of normalcy and health, which has persisted.

Keywords: quantitative electroencephalography (QEEG); trauma; thought field therapy (TFT); traumatic memory; negative emotions; energetic changes

Introduction

Purpose of this Study

This study set out to investigate the impact of thought field therapy (TFT) on the brain wave patterns of a patient suffering from severe posttraumatic stress disorder (PTSD) with unrelenting flashbacks of abuse. The authors hypothesized that statistically aberrant brain wave patterns would be evident when thinking about the trauma compared with a nontraumatic event. It was further hypothesized that changes in brain wave patterns would be immediately discernable as neutralized (without statistical abnormality relative to the baseline) after successful treatment with TFT even while thinking about the abuse.

The authors were also interested in addressing collegial concern that there needs to be more evidence to support the effectiveness of TFT and the rapid rate in which negative emotions are relieved. The present study was intended to provide one step in the direction toward providing an objective basis regarding the effectiveness of TFT in a trauma case involving PTSD.

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This pilot study and article was completed in 2000 and revised in 2001.

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Thought Field Therapy

The psychotherapy approach known as thought field therapy originated in the work of clinical psychologist Roger J. Callahan, PhD (1985), who introduced his findings as the Callahan Techniques more than 20 years ago. Callahan's intriguing conceptualization about the nature of psychological problems, and the rapid alleviation of emotional distress, has increasingly caught the attention of psychotherapists pursuing more efficient and effective treatment methods.

Thought field therapy can be an extraordinarily precise psychotherapy that uses instant feedback from the patient's mind-body-energy system when employing muscle testing and the diagnostic component of TFT. The specifics of the TFT diagnostic and treatment procedure used with this case study will be described in the Methods section under the Procedure heading. In addition, an appendix is provided that gives more detailed information about TFT.

The psychological community has often viewed the manual muscle-testing procedure through skeptical eyes. The lack of evidence to support the validity, the reliability, and the proneness of the procedure to manipulation served to justify the skepticism of the untrained. However, it was concluded, in a landmark study by Monti, Sinnott, Marchese, Kunkel, and Greeson (1999), that "significant differences were

found in muscle test responses between congruent and incongruent semantic stimuli" (p. 1019) in this carefully controlled and electronically sophisticated research. Use of a dynamometer and specialized computer software permitted this study to control for potential examiner bias while acquiring precise information about the subject's muscle response.

Scientific research to better understand the neurophysiological mechanisms and observed effects of TFT was sparse at the time of this study. Callahan (1998) reported that rouleaux, the absence of healthy face color caused by red blood cell clumping, was completely alleviated in a flu-stricken woman after 8 min of TFT algorithm¹ treatment. The results were reported to correlate exactly with her report of distress, facial coloration, and percentage of red blood cell clumping as verified by microscope analysis. TFT algorithms have also had a marked and positive impact on heart rate variability measurements, when pre- and post-TFT treatment results were compared (Callahan, 2001). Heart rate variability technology is thought to yield information about the functioning of the autonomic nervous system by quantifying variations in the space between heartbeats, and is not allegedly affected by placebo. It appears that TFT enables a normalizing adjustment to take place in the mind–body–energy system affecting the functioning of the heart and the autonomic nervous system.

Electroencephalography

Brain activity has long been revered in science as holding keys to understanding human behavior and experience. Electroencephalography (EEG) is a method of measuring voltages on the scalp, which reflect brain activity. However, the exact meaning of the voltages, and how voltage originates in the brain, remains speculative. The primary medical use for EEG involves the study of human sleep cycles and to assist in the diagnosis of seizure disorders. A major drawback of EEG is that it does not precisely localize those parts of the brain that are having problems. Other brain imaging techniques (e.g., positron-emission tomography and magnetic resonance imaging) are better in this respect. However, the major advantage of EEG is that it is noninvasive, inexpensive, and more readily available than the other brain imaging techniques.

The potential of EEG to help in diagnosis and treatment has been enhanced by the advent of QEEG procedures. The Q stands for quantitative

aspects of EEG. With QEEG, EEG data are analyzed by computer software into evaluative properties. As with other medical and psychological tests, QEEG has norms that permit objective delineation as to whether a person's QEEG results fall within or outside of the normal range for a particular property. Statistical patterns of QEEG results, called discriminant functions, have been used in the diagnosis of closed head injury and in various psychiatric conditions. Hughes and John (1999) provide a good summary of the clinical work with conventional and quantitative EEG. QEEG has been used to guide neurofeedback. The general strategy is to provide neurofeedback training, which will have the impact of correcting the deviation from normal noted in the QEEG evaluation (Thatcher, 1999).

Method

Subject

The patient is a woman in her 30s. Her parents had frequently and severely abused her (physically and sexually) throughout her life. After leaving home, there was abuse from a male student/friend and then from a husband. She is bright and talented. She is a college graduate and had been able to function adequately in the work world until recently. When she began to experience frightening flashbacks of abuse there was a suicide attempt, which led to a psychiatric hospitalization and placement on disability. She was being seen in individual psychotherapy two times a week by the second author and took medications for anxiety and depression (Klonopin, 1 mg; Synthroid, 1 mg; Neurontin, 800 mg bid; Inderal LA, 80 mg; Effexor, 37.5 mg; Flonase, 2 puffs). At the time of this study, the diagnosis of dissociative identity disorder was suspected but not confirmed.

Research Design

The research design can be described as using six conditions: A1, A2, B3, C4, A5, and B6. The initial conditions, A1 and A2, were used as a measure of test–retest reliability using the QEEG methodology. With both A1 and A2, the patient was asked to clear her mind and think about neutral thoughts or memories while QEEG data were collected for 5 min while her eyes were closed for each of these two separate conditions. Both A1 and A2 served as pretreatment baseline measures.

A third pretreatment measure was Condition B3. This was a measure of brain wave activity while actively thinking about her traumatic, distressing memory involving 5 min of QEEG data collection. Again, her eyes were closed, and she stayed as motionless as possible. In addition, verbal reports and observational data were recorded.

On completion of the three pretreatment measures described above, the TFT treatment condition (C4) was implemented, which lasted for about 20 min.

Conditions A5 and B6 were posttreatment measures of brain wave activity involving 5 min of QEEG data collection for each condition. Condition A5 was a repeat measure of Conditions A1 and A2 as the patient was asked to think about neutral thoughts or memories as the data were collected. Condition B6 was a repeat measure of Condition B3 as the patient was again asked to think about the traumatic memory. The method of QEEG data collection remained the same throughout all data collection conditions.

QEEG Hardware, Software, and Procedures

EEG data were collected with a Lexicor NRS-24. The patient was fitted with a medium-sized electrocap. The patient sat in a recliner chair. The standard for electrode impedance was less than 5 kohm. The above system provides 19 channels of EEG data. There was an additional channel to monitor eye movement data for later editing purposes. After the EEG data were collected, they were edited to eliminate non-EEG artifacts. The artifact-free EEG data were sent through the NeuroRep software, which produced the QEEG reports.

Procedure

After the subject was properly fitted and connected to the QEEG apparatus, brain activity readings were obtained by the second author for Conditions A1, A2, and B3. The subject was then disconnected from the QEEG apparatus but leaving her electrocap on as not to disrupt the scalp contacts. The TFT diagnostic and treatment procedures, performed by the first author, were then engaged while the subject was standing and thinking about her trauma. The diagnostic procedure used was Thought Directed Diagnosis developed by the first author (Diepold, Britt, & Bender, 1998) to identify which acupuncture meridians were involved. Thought Directed Diagnosis allows for quick assessment of

meridian alarm points without the need for physical contact beyond the wrist (while manual muscle testing the arm [deltoid] as done in applied kinesiology). As each acupuncture meridian was diagnosed, treatments immediately followed by having the subject gently tap five to seven times on the designated meridian treatment points. All acupoints were treated bilaterally (either simultaneously or in sequence) as there was clinical evidence of dissociation (Diepold, 1998).

The subject chose only to disclose to the treating author that the traumatic event occurred when she was 12 years old. On a 0 to 10 scale reflecting the subject's subjective units of distress (SUD), where 0 is the absence of upset and 10 is the highest level of distress, the subject stated her level of distress to be "9." On commencement of treatment, the subject demonstrated a barrier to treatment whereby she muscle tested weak to the statement "I want to be happy." This was corrected by the subject gently rubbing a neurolymphatic reflex (NLR) area on the upper left chest while stating the affirmation "I deeply accept myself with all my problems and limitations." The correction was verified as she then muscle tested strong to the statement "I want to be happy" and weak to the statement "I want to be miserable." She also demonstrated another treatment barrier when she muscle tested weak to the statement "I want to be over this problem" and strong to the statement "I want to keep this problem." As correction of this barrier was ineffective using the small intestine treatment point, correction was again completed at the NLR area. The correction was verified via muscle testing as she now tested strong to wanting to be over the problem and weak to wanting to keep the problem.

All diagnosis and treatment was done while the subject was thinking about her trauma. The diagnostic procedures revealed three treatment clusters relative to her trauma. The first cluster contained the following meridians in need of treatment: bladder, stomach, kidney, and circulation-sex. After this sequence of acupoints was treated, a brief neurologic organizing procedure (9-Gamut²) was completed. Then this same sequence of acupoints was again treated in the same fashion. After this phase of treatment the subject reported that her SUD level had dropped to "6."

As treatment continued, the subject then demonstrated a belief-related barrier for treatment as evidenced by muscle testing weak to the statement "I want to be completely over this problem." Once again this

block to treatment was successfully alleviated at the NLR area after it failed to correct at the small intestine treatment site. This time, as the subject rubbed the NLR area, she stated the affirmation “I deeply accept myself even though I still have some of this problem.” After muscle test confirmation of the correction, she repeated treatment of the previously diagnosed sequence of treatment points, followed by the 9-Gamut, and the treatment sequence again. After this phase of treatment the subject reported her SUD level to be “4.”

The diagnostic and treatment procedures then continued to assess the next layer of trauma representation that was sustaining the balance of her subjective distress. This sequence of diagnosed meridians included stomach, spleen, kidney, heart, kidney, circulation-sex, kidney, large intestine, kidney, conception vessel, and governing vessel. The corresponding treatment point for each diagnosed meridian was treated in the same manner as previously reported. The 9-Gamut treatments as well as repeat treatment of this newly diagnosed meridian sequence then followed. The SUD level was now down to “2.” Another layer of trauma representation involving the stomach and kidney meridians was then diagnosed and treated as in the above procedures. On completion of this treatment sequence, the subject reported her SUD level to be “0,” indicating an absence of emotional distress when she thought about the flashback memory. Treatment was then completed with the floor to ceiling eye roll.³ The subject was then reconnected to the QEEG equipment for the posttreatment measurements.

Results

QEEG Baselines

After editing the baseline EEG data, 193 s remained. The QEEG results showed good test–retest reliability for all four measures (coherence, phase, asymmetry, and relative power) while the patient was thinking about neutral thoughts or memories. These results are based on the comparison between the first baseline condition (A1) and the second baseline condition (A2). The R^2 for average coherence was 97.5%; for average phase, the R^2 was 88.6%; for average asymmetry, the R^2 was 98.7%; for relative power, the R^2 was 94.5% for delta, 97.5% for theta, 97.4% for alpha, and 95.2% for beta.

Analysis of the baseline data involving Conditions A1 and A2 yielded the following:

1. The *coherence measure* showed 12 out of range values, all of which were in the direction of very high coherence. There were more out of range values in the left hemisphere when compared with the right (8 vs. 4, respectively). There were 7 out of range values in beta, 2 in alpha, 0 in theta, and 3 in delta.
2. The *phase measure* had 23 abnormal values. All of them were in the direction of too much delay. There were 10 in the left hemisphere and 13 in the right hemisphere. There were 13 in beta, 10 in alpha, 0 in theta, and 0 in delta.
3. The *asymmetry measure* showed 11 abnormal values. There were 9 in the right hemisphere and 2 in the left hemisphere. There were 4 in beta, 3 in alpha, 4 in theta, and 0 in delta.
4. The *relative power measure* was normal with no out of range values. The trend was for above average delta and theta z scores, below average alpha, and a mixture of above and below average beta.

In summary, the pretreatment (Conditions A1 and A2) baseline QEEG data while thinking about neutral thoughts or memories was normal in relative power but abnormal in coherence, phase, and asymmetry. However, these findings were consistent across both baseline assessments, suggesting a high degree of reliability for this patient. The patient was taking medication and this could have possibly influenced her QEEG findings to an unknown degree.

QEEG Patterns Before TFT Treatment

To study the effect of thinking of the trauma (attuning the problematic thought field) on brain wave patterns, comparative analyses were completed on the QEEG results of Conditions A2 and B3 before TFT treatment (C4). The results demonstrate statistically significant changes in brain wave activity when the patient was thinking about the trauma when compared with neutral thoughts or memories. The specific findings were as follows:

1. The *coherence measure* showed five statistically significant out of range values related to thinking about the trauma. All deviant values were in the beta range. Four were in the direction of a decrease in coherence, and one was in the direction of an increase in coherence. Four of the significant values were in the right hemisphere and one was between the left and right hemispheres.
2. The *phase measure* had three statistically significant out of range values related to thinking about the trauma. All were in the direction of a decrease in delay. All were in the right hemisphere.

3. The *asymmetry measure* was unaffected regarding statistically significant changes related to thinking about the trauma.
4. The *relative power* measure did not evidence significant changes related to thinking about the trauma. However, a trend was evident for an increase in alpha and beta over the entire scalp and for a decrease in theta and delta over the entire scalp.

While thinking of the trauma (Condition B3), the patient was observed to breathe faster, shorter, and with more effort. She later reported that she was having a hard time “staying grounded” (not dissociating). Accordingly, the observations and verbal reports of the patient support the QEEG data.

QEEG Changes After TFT Treatment

Comparative analyses were again completed to examine brain wave patterns when the patient was thinking of the trauma *after* the completion of the TFT treatment. This was accomplished by comparing the QEEG results of pretreatment conditions (A2 and B3) with posttreatment conditions (A5 and B6). The findings are as follows:

1. There were few statistically significant changes observed between QEEG readings of Condition A before treatment (A2) and after treatment (A5). Specifically, the brain wave patterns taken while thinking of things other than the trauma evidenced few changes when compared with pre- and post-TFT treatments. There were two significant findings in the phase results.
2. Several statistically significant changes were observed between QEEG readings of Condition B while thinking of the trauma before (B3) and after (B6) treatment. Specifically, the brain wave patterns taken while thinking of the trauma *after* TFT treatment (B6) revealed more normal QEEG results, and appeared more like thinking neutral thoughts (A5), when compared with pretreatment results. When Condition B was evaluated by property, pre- and posttreatment, the following changes were found:
 - i. The posttreatment *coherence measure* revealed no statistical abnormalities. This compares with five out of range values found in the pretreatment condition.
 - ii. The posttreatment *phase measure* had one out of range value compared with three out of range values in the pretreatment condition. This one deviant value, like the three pretreatment

deviant values, was in the direction of a decrease in delay, was in the right hemisphere, and was in the theta range.

- iii. The posttreatment *asymmetry measure* revealed no statistical abnormalities and was consistent with the pretreatment findings.
- iv. The posttreatment *relative power measure* revealed no out of range values. The trend, however, was for an increase in delta and theta and a decrease in beta and alpha. By comparison, the pretreatment trend was completely opposite.

Observing the patient thinking of the trauma posttreatment did not reveal the previously observed changes in breathing pattern. The patient did not report or seem as though she was struggling to stay grounded.

Eighteen-Month Follow-up

Follow-up inquiry found that the patient reported being completely free of all flashback memories of the treated traumatic event since being treated only once with the described TFT treatment. She also continued to be free of all emotional distress regarding the traumatic event, even when asked to think about it, more than 18 months after TFT treatment.

Summary

QEEG demonstrated reliability as a test–retest measure. The QEEG patterns when thinking of the trauma before TFT diagnosis and treatment were different when compared with the QEEG patterns when thinking of the trauma after TFT treatment. As identified by QEEG, statistically abnormal brain wave patterns were observed when this woman thought about a trauma when compared with thinking about a neutral (baseline) event. Reassessment of brain wave patterns (to the traumatic memory) immediately after TFT diagnosis and treatment revealed that the previous abnormal pattern was altered and was no longer statistically abnormal. An 18-month follow-up indicated that the patient continued to be free of all emotional upset regarding the treated trauma. This case study supports the concept that trauma-based negative emotions do have a correlated and measurable abnormal energetic effect as measured by brain wave activity. In addition, this study objectively identified an immediate energetic change after TFT in the direction of normalcy and health, which has persisted.

Discussion

In psychotherapy, the blend of healer-helper and scientist can be a strange mix. Both are necessary. However, there are seemingly different needs to be met before a new psychotherapy can join the mainstream of therapist utilization.

The practice of psychotherapy is ever changing. In some groups of the psychological community this change is welcomed and quickly integrated into practice. In other groups this change comes extraordinarily slowly. For some therapists, patient outcome reports and anecdotal case studies of treatment success are all that are needed to pursue training and begin employing a new psychotherapy intervention. For others, such reports by patients and therapists could never be enough because there is a lack of controlled science to evaluate efficacy in the early stages of development. For the former group, the patient results stand on their own merit. For the latter group, the need for statistical and biopsychological explanations and correlates are the deciding factors. Then there is the need for replication studies and the blind and double-blind studies across gender, generation, and culture. The scientific beat must go on. However, advancements in rapid psychotherapy interventions, to reduce the suffering of patients entrusted to our care, must also go on until science catches up. This report is intended to serve as a plank in the bridge connecting science with rapid psychotherapeutic changes involving TFT and the treatment of trauma.

The results are consistent with two hypotheses, which are fundamental in TFT. The first one involves the concept of a thought field as represented or reflected by brain wave activity. When the patient was thinking of the trauma, there was a measurable change in the EEG pattern when compared with thinking of a neutral event. This would support the requirement in TFT that all diagnosis and treatment be conducted while the person is attuned to his or her problem. The second hypothesis involves the impact of TFT on the individual's emotional and physiological states. This patient reported complete elimination of emotional upset when thinking about a trauma even though the memory for the trauma remained intact. Furthermore, her changed EEG patterns and behaviors posttreatment reflected her subjective experience of being free of the emotional turmoil. It is now quantifiably evident that TFT has a simulta-

neous mind–body–emotion effect that is stable over time regarding the healing from traumatic experience. These findings and observations are consistent with the multitude of anecdotal clinician and patient reports regarding the quick and effective impact of TFT.

The fact that there is a measurable change in the QEEG patterns when thinking about a trauma is interesting. Although the TFT treatment procedures involved peripheral treatment points on the body, there was a central brain change reflected in QEEG. Furthermore, there were changes in the coherence property, which is usually thought of as being a rather stable QEEG property.

In that the QEEG measurements were taken while she was thinking of a particular trauma, it is not possible to say whether the EEG changes observed were specific to the content of that particular trauma or a reflection of a general EEG pattern for the patient when thinking about any trauma. Future research is encouraged to help make this determination, as it would be useful in furthering our understanding of trauma and individual differences.

The patient was also asked to give SUD ratings for other traumas. These untreated traumas remained high in her report of experienced distress. This points to the specificity of the TFT treatment as all procedures were completed while she was thinking about the specific trauma. Although there was relief from the specific trauma worked on, there was an absence of relief on the others. If general stress reduction were the only thing at work, one would not expect such specificity.

The TFT diagnosis and treatment took only 20 minutes. The patient had suffered from this trauma all of her life and ultimately contributed to a serious suicide attempt and hospitalization. In conventional therapy, this trauma was discussed for at least two sessions before the TFT treatment. She would cry and found it hard to even calm herself down when discussing it during these sessions. The swiftness of the reduction in the SUD level after treatment with TFT, and the duration of the relief, is remarkable when compared with traditional psychotherapeutic methods.

Much therapy work remains to be done with this patient. TFT will serve as a powerful and humane therapeutic tool to reduce her intense negative emotions associated with other past traumas and ongoing life challenges. By using TFT, the patient will no longer be pushed to her limit of coping. As a result,

she will be less likely to inflict self-harm and progress more quickly through her life difficulties and associated negative emotions. She will be better able to discuss and process traumatic events without emotional upset as there is cognitive clarity that accompanies successful TFT. This should also help her move toward spontaneous integration of the resource/alter identities, which emerged as a result of her early traumatic experiences.

This article reported a follow-up at 18 months posttreatment that the patient had continued to be symptom free regarding the targeted trauma. As of January 2008, approximately 8 years later, the patient continues to enjoy the same symptom-free experience regarding the treated trauma.

It is the authors' hope that this research case study, along with future larger studies that will follow, will encourage even the skeptical psychologist colleagues to embrace TFT as a viable psychotherapy worthy of learning, research funding, and professional continuing education credits.

Appendix

Additional Information Regarding TFT

This appendix is offered for the interested reader to provide additional information about TFT and its underlying developmental and theoretical components. Since this study was conducted in 2000, there have been procedural and conceptual modifications as this mode of treatment has become more widespread. This appendix provides a historical perspective as originally set forth by Roger Callahan as well as some changes and modifications by the first author that may or may not be acknowledged or accepted by Roger Callahan.

With roots in clinical psychology, applied kinesiology, and traditional Chinese medicine, TFT uses imagery and/or cognitions, affect, and the acupuncture meridians as gateways to neutralize emotional disturbance. TFT also incorporates information and theory from quantum physics and biology in building a unique theoretical base that serves to speculate on the cause of psychological problems and the rapid healing and changes that occur. The resulting therapeutic effects are remarkably quick, fundamentally thorough, and challenge the paradigms of traditional psychotherapy.

Thought field therapy can be defined as an integrated, meridian-based, mind–body–energy psychotherapy, which includes diagnostic and treatment procedures performed while the patient is thinking about his or her problem. In TFT, the negative emotions are alleviated through gentle activation of designated acupuncture points, which serves to neutralize or eliminate the emotions of the experienced

problem and result in brain wave changes as evident with QEEG measures. TFT involves a conceptual paradigm shift compared with traditional psychotherapy, yet this approach blends easily with mainstream interventions. The systematic use of the body's acupuncture meridian system with thought and emotion, and the rapid rate in which emotional problems resolve, warrants further psychological investigation.

Callahan (1996) originally theorized from the work of Bohm and Hiley (1993) that perturbations in a person's thought field contain active, energetic information that influences or causes the experience of emotional disturbance. The absence of perturbations (a disruptive influence) would therefore suggest an absence of negative emotion. Negative emotion can be operationally defined as upsetting and/or unwanted emotion about which the person attributes no beneficial purpose. Successful psychotherapy thus results from the neutralization and/or shifting of these hypothetical disruptive influences, which underlie the emotional distress. Perturbations, in Callahan's theory, are isolable and subtle aspects of an individual's thought pattern, which can be recognized via a systematic diagnostic procedure involving acupuncture meridians. Once identified, perturbations can be eliminated and/or neutralized by activating designated acupuncture meridian point(s) on the body. One might liken a thought field to a freshly ironed tablecloth, and ensuing wrinkles as perturbations. Ironing the wrinkles away is analogous to successful treatment whereby the perturbations are subsumed and no longer disruptive. Callahan further speculated that because TFT operates at a microstate of energetic influence, changes at this level are more fundamental than (and thus influence) the body's biochemistry, neuroelectrical activity, cognition, affect, and behavior. Callahan speculated that resulting changes in the body's energy system are primary, and thus account for the quick and robust results. If brain wave activity is an indication of primary human functioning and experience, then this study provides some evidence to support this speculation.

A procedure known as manual muscle testing or muscle checking is a part of advanced training and treatment when employing TFT and was used in this case study. Historically, Chiropractor George Goodheart, the originator of applied kinesiology, observed that an individual would manual muscle test strong when thinking about something pleasant and weak when thinking about something unpleasant (Walther, 1988). The same phenomenon holds true when thinking about something true compared with false. Goodheart related this interesting phenomenon to changes brought about in the body's energy system, which he connected to the acupuncture meridian system. This observation caught the interest of psychiatrist John Diamond, who studied with Goodheart. Muscle testing provided an expression of "life energy" for Diamond, and he thus used the patient's muscle responses as helpful and

Appendix (continued)

guiding information in doing psychotherapy. Of interest was Diamond's observation that some individuals would muscle test in a reversed fashion: testing weak to a pleasant or positive statement and strong to an unpleasant or negative statement. Diamond (1988) called this phenomenon a "reversal of the body morality." He observed that under this condition healing could not occur because life energy was not being properly directed and recommended, for example, the patient routinely take brain RNA with choline to correct this anomaly. In other words, Diamond observed that individuals can evidence a barrier to psychological treatment that can be recognized via muscle testing that involves a mind-body interaction, which must be corrected.

Callahan (1981) similarly observed the same reversed muscle-testing phenomena, and described it as "psychological reversal." Callahan has described psychological reversal (PR) as a state of being for the individual such that when they are thinking about an upsetting issue they experience a polarized energy reversal or a block/barrier to treatment. The condition of PR is postulated to block both natural healing and effective psychological treatment. Callahan has also referred to PR as a type of self-sabotage reflected in self-defeating attitudes and behaviors. After the block/barrier is corrected using an acupuncture meridian-assisted treatment, the stage is set for psychological (and physical) healing to occur. Caution is warranted, however, as such disruptions should not be considered as a form of "secondary gain," or of conscious intent.

In addition to the Monti et al. (1999) study, the conceptual use of muscle checking in psychotherapy has support in hard science and medicine. Emeritus physicist William Tiller has studied and written extensively about human energy and energy fields. Among his many findings he concludes that humans are electromagnetic beings and thus evidence body polarity (Tiller, 1997). In electricity, polarity can be described as the condition of being positive or negative in relation to a magnetic pole. The flow of energy in the desired direction can become disrupted, and even reversed. The dedicated works of orthopedic surgeon Robert Becker (1990) and Becker and Seldon (1985) clearly demonstrate how disruption and reversal of electric energy flow in the human body, indicated by measures of polarity, can prevent healing. It appears that the same also holds true for psychological healing. TFT is a psychotherapy intervention that does systematically address and use these energetic aspects.

Regarding treatment when using TFT, Callahan has used tapping on meridian points as the primary modality and therefore tapping was used in this study. However, a "touch-and-breathe" method has been in use as an alternative to tapping and has become the preferred/exclusive meridian treatment method of the first author (Diepold, 2000; Diepold, Britt, & Bender, 2004). There are also abbreviated or recipe-like TFT protocols that are known

as algorithms that are less dependent on muscle-testing feedback (Callahan, 2001). Algorithms make use of a pre-determined set of treatment points, are more situation and/or emotion based, and require less training and expertise on the part of the therapist when compared with diagnostic approaches.

Notes

1. TFT algorithms consist of recipe-like acupoint treatment sequences for specified incidents and/or emotional issues (e.g., trauma, anxiety, anger, and depression). The algorithms were reportedly determined via the causal diagnostic procedures used by Callahan.

2. The 9-Gamut procedure originates in the Callahan Techniques whereby the subject gently taps on the triple-heater acupoint (TH3) and does the following: close eyes, open eyes, look down right, look down left, whirl eyes in full circle, whirl eyes again in opposite direction, hum a tune for several seconds, count aloud 1 to 5, and hum again.

3. The eye roll treatment in TFT involves gently tapping the triple-heater acupoint (TH3) and doing the following: close eyes, open eyes, look straight down to floor, and slowly roll eyes toward the ceiling.

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