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Naturally Thin You

Weight Loss and Psychological Symptoms After a Six-Week Online Clinical EFT (Emotional Freedom Techniques) Course

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Abstract

Background/Objective: Traditional methods of delivering therapeutic interventions have increasingly been supplemented by online courses. The current study investigated the effects of Clinical EFT (Emotional Freedom Techniques) in 76 participants enrolled in a six-week online course called Naturally Thin You. Weight, restraint, the power of food in the external environment, happiness, and post traumatic stress (PTSD) symptoms were assessed before and after the course and at one year follow-up. Method: Participants received six live group teleclasses, access to online course materials and a private social media group, and a year of monthly support teleclasses. No particular diet was recommended; the course focused instead on controlling emotional eating, and using EFT to treat the emotional triggers associated with food. Clinical EFTs Borrowing Benefits protocol, in which the group facilitator works with a single participant while others simultaneously self-apply EFT, was used during the teleclasses. Results: Repeated measures ANOVA compared scores pre to 12-month followup, and significant improvements were found for body weight (p < .001), depression symptoms (p=0.010), restraint (p=0.025) and the subjective power of food in the external environment (p=0.018). Weight decreased an average of 1 lb/week during the course, and 2 lb/month between pretest and one-year follow-up. On follow-up, no change was observed in PTSD symptoms measured by a brief civilian trauma checklist, or anxiety, and increases in happiness were non-significant. The results indicate Clinical EFTs utility to address the influence of food in the external environment and assist weight loss, and to promote beneficial long-term change when delivered in an online format.

Keywords emotional freedom techniques, EFT, online, psychological symptoms, weight loss

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Introduction

It is well documented that being overweight and obese increases cardiovascular disease risk factors, Type 2 Diabetes, and overall mortality (1). Current approaches to addressing this epidemic have included combined dietary and physical activity approaches and behavioral strategies to influence the weight loss process (2, 3). However, reviews and meta-analyses of the literature show that only a very small fraction of those who lose weight succeed in keeping it off permanently. A review of 31 longitudinal studies found that two years after successful weight loss, most participants had regained more weight than they had originally lost (4). While studies have examined factors that contribute to longer term weight maintenance, they still continue to highlight aspects relating to individual willpower and self-control (e.g. low-energy, low-fat and high carbohydrate diets; high intensity and frequent physical exercise, and self-weighing).

It seems there may be a missing link in the weight loss/obesity field; that of recognizing the complex psychological factors involved (5), and therefore the need for comprehensive psychological treatment in conjunction with physical and dietary approaches. Goodspeed Grant's (5) recent study investigated the psychological, cultural and social contributions to overeating in obese people, and found that eating for comfort for the morbidly obese is rooted in using food to manage experiences of emotional pain and difficult family and social relationships. Participants reported that what had been missing from all treatment programs they had tried was the *opportunity to work on the psychological issues concurrently with weight loss* (5).

Emotional Freedom Techniques (EFT) is a therapeutic method that combines elements of established treatments such as exposure and cognitive therapy with the novel ingredient of acupressure (pressure on acupuncture points). It has been the subject of over 100 studies, reviews, and meta-analyses, and a current bibliography of the published literature can be found at Research. EFT universe. com. Several reviews and meta-analyses have compared EFTs evidence base with the standards published by Division 12 (Clinical Psychology) of the American Psychological Association (6). They find that EFT is an empirically validated therapy for depression, anxiety, phobias and PTSD (7-9). A meta-analysis of 14 randomized controlled trials (RCTs) which included a measure for anxiety found that EFT had a large treatment effect of d = 1.21 (10). A meta-analysis of 20 studies assessing the use of EFT for depression also found a large effect, with d = 1.31 (11). A third meta-analysis, this time of EFT for PTSD, noted a very large treatment effect size of d = 2.96 (12). Dismantling studies show that the somatic element of EFT, which includes fingertip percussion of 12 acupressure points, confers a treatment effect beyond that which can be explained by EFTs cognitive and exposure elements (13-15).

Studies of the physiological mechanisms of action of EFT find that it reduces levels of the stress hormone cortisol (16); regulates inflammation and immunity genes (17); alters the expression of a variety of genes implicated in cell repair, the immune response, tumor suppression, neural plasticity, and neurological signaling (18), and regulates the autonomic nervous system as measured by EEG (19, 20)

EFTs affect-regulation capability has also been assessed as a treatment for food cravings and the power of food in the external environment. An original 4-week EFT group program for overweight and obese adults (21, 22) found EFT was associated with significant improvements in food cravings, the subjective power of food, and craving restraint, from baseline to immediately post-intervention when compared to a waitlist control. Improvements

were maintained at 6- and 12-month follow-up. An extension of that trial that increased the intervention period to 8-weeks, and compared EFT to a gold standard (Cognitive Behavioral Therapy, CBT) demonstrated that EFT and CBT had comparable efficacy in reducing food cravings, the responsiveness of participants to food in the environment (power of food; POF), and dietary restraint. Results also revealed that both EFT and CBT were capable of producing treatment effects that are clinically meaningful, with reductions in food cravings, the power of food, and dietary restraint normalizing to the scores of a non-clinical community sample (23). A study of the effects of EFT in a population of 216 healthcare workers such as psychotherapists, physicians, nurses and chiropractors included a thirty-minute treatment for food cravings (24). A clinically and statistically significant reduction in cravings was found (-83%; p < .0001).

However, these treatments are typically delivered in person, often in a group format, so participants must attend in person. Web-based technologies however, offer enormous potential for increasing public access to evidence-based health and wellbeing services, as well as offering therapists increased choice and flexibility in delivering services to populations where previous access has been poor. The broadest and most comprehensive meta analytic study of the efficacy of internet supported therapeutic interventions revealed moderate to large effect sizes in targeted cognitions, emotions and/or behaviors (25).

The efficacy of using EFT for weight and eating issues has been established in overweight and obese adults (21, 22, 23) and its utility for reducing immediate cravings and impacting the power of food in the external environment has been demonstrated. In addition, the data on the efficacy of online delivery applications most strongly supports using the Internet to describe behavioral assignments, to obtain social support from peers, to deliver psychoeduction, and to receive feedback and support from therapists in the form of email or chatroom communications (25) Therefore, the present study combined the two. The aim was

to assess the effectiveness of an online treatment program using EFT for weight loss and psychological symptoms.

The study was designed as a naturalistic outcome study rather than a randomized controlled trial (RCT). Several RCTs of EFT for weight loss have already been conducted (reviewed above), and investigators and reviewers have argued (30) that once this level of evidence has been met, outcome studies provide more useful clinical insight. Roth and Parry (30) characterize RCTs as "one part of a research cycle" (p. 370), and that once that cycle has been completed (31), naturalistic studies showing which populations benefit from the intervention, how best to deliver treatment, and how to maximize client benefits are of greater clinical utility. In addition, naturalistic outcome studies often give rise to new research questions that inform future investigations. Finally, in the meta-analyses of EFT described above, no significant difference has been found in the outcomes from RCTs versus non-RCTs.

Method

Ethical approval was provided by the National Institute for Integrative Healthcare. Participants were recruited via online e-lists. The inclusion criterion consisted of participation in a six-week online course called *Naturally Thin You*. The cost of the course was between \$247 and \$297. A total of 212 participants responded and completed the pretest measures, however did not all go on to complete the study. There were 76 participants who started the course and 56 who completed the 12-month follow-up. The course consisted of a web site, EFT4WeightLoss.com, and a private Facebook group. The instructor was certified in Clinical EFT, as well as being a registered dietician and certified nutritionist. EFT was delivered with fidelity to *The EFT Manual* (26), with monitoring of teleclasses by the primary investigator. Teleclasses occurred weekly for six weeks and participants were provided ongoing access to

the Facebook group. Teleclass content consisted of psychoeducation by the instructor as well as live treatment sessions. Sessions followed the Borrowing Benefits protocol described in *The EFT Manual* (26), in which the practitioner works with one participant while the other participants self-apply EFT. Other material from *EFT for Weight Loss* (27) was used, especially the techniques for reducing immediate cravings developed for the healthcare workers study (24), and the six common behaviors of those who succeed at long-term weight loss (28).

Following the end of the course, participants were invited to a monthly support teleclass as well as posting on Facebook. These forms of contact were designed to keep participants actively engaged in their weight loss program for the year following the course so that their transitory experience in the course would be translated into durable behavior change, since long term weight loss is possible and if individuals successfully maintain loss over 2-5 years, the chance of longer term success increases (28). Self-measured weight has also been found to correlate with observer-assessed weight (29). A total of 76 participants were involved in this aspect, gave informed consent and completed the posttest measures. Final analysis was performed on this group only.

Participants

A power analysis using G*Power (32) indicated a minimum of 34 participants per intervention group to detect medium effect size with 87% power (α = .05; 32). Table 1 presents the baseline characteristics of study participants at recruitment. The majority of participants were women (91%), over 50 years of age.

Insert Table 1

Measures

The Power of Food Scale (33) specifically measures the psychological influence of available food and has been found to be internally consistent. It is a 21-item scale designed to measure appetite for, rather than consumption of, palatable foods. The authors suggest that the POF may identify a pre-existing tendency toward heightened appetitive responses to food that could contribute to the development of obesity and some forms of disordered eating. Higher scores indicate a greater responsiveness to the food environment.

The Revised Restraint Scale (RRS; (34)) is valid in normal-weight samples and has high test-retest reliability, and sound internal consistency. People with high restraint have more "external" regulation, and the presence of food cues, once restraint has been abandoned, serves to trigger additional eating. High scores indicate chronic dieting in which the individual is constantly cycling on and off the diet, typically without any substantial weight loss. Scores range from zero to four, with a total of 40 and high scores indicate chronic dieting.

The Hospital Anxiety Depression Scale (HADS; (35)) is a self-assessment scale, developed to detect states of depression, anxiety and emotional distress amongst patients who were being treated for a variety of clinical problems. Responses are scored on a scale of 0-3 (3 indicates higher symptom frequencies) and scores for each subscale (anxiety and depression) range from 0 to 21 with scores categorized as follows: normal 0-7, mild 8-10, moderate 11-14, and severe 15-21. Scores for the entire scale (emotional distress) range from 0 to 42, with higher scores indicating more distress.

Participant happiness was assessed using a single item scale (36). The PTSD measure is a validated two item abbreviated version of the Post Traumatic Stress Checklist Civilian version (PCL-C), which has demonstrated convergent validity with the full 17-item

instrument (37). Sums of the two PCL-C items were used for the PTSD score. All assessments are valid and reliable (37).

Item totals were used as scores for the POF and RRS. Scores for the HAD scale were calculated for anxiety (HADSa) and depression (HADSd) separately.

Statistical Approach

The self-report data were analyzed using SPSS (Version 23). An alpha level of .05 was utilized to determine the statistical significance of all results. To test whether the effect of EFT was sustained at the follow-up point, repeated measure ANOVAs were used to measure the effect of three levels of the repeated measure variable of time (pre-treatment, post-treatment and 12-month follow-up). Preliminary analysis revealed the Shapiro-Wilk's test was significant for weight-post, happiness-12-month follow-up, depression-pre-and post, anxiety-pre-and post, however, review of the histograms indicated no extreme outliers as assessed by inspection of a boxplot. Significance testing was conducted at an alpha of p < .05 and the results of the repeated measures ANOVAs for weight, RRS, POFS, happiness, and PTSD, were assessed using the Greenhouse and Geisser (1959) correction, as Mauchly's Test of Sphericity for these measures was violated. Follow-up pairwise linear contrast were conducted to assess for significant differences between the three time points at an alpha of p < .05 using least significant difference.

Results

Participants' weights at the different time points of the EFT program were statistically significantly different, F(1.417, 77.919) = 20.696, p < .001, partial $\eta^2 = .273$. Pairwise comparison revealed there was a significant decrease in weight of 7.929 pounds from pre-to-post intervention, p = .002, 95% CI (3.081, 12.776) and the pounds decrease of 16.875 from post-intervention to 12-month follow-up was significant, p < .001, 95% CI (8.312, 25.438).

RRS was statistically significant at the different time points of the EFT intervention F(1.749, 96.197) = 3.729, p = .033, partial $\eta^2 = .063$. Pairwise comparison revealed there was a significant decrease in RRS scores of 0.857 from pre-to-post intervention, p = .017, 95% CI (0.156, 1.558) however, the mean difference decrease of 0.286 for RRS scores between post-intervention and 12-month follow-up was non-significant, p = .527.

Scores over time on the POFS were found to be statistically significant, F(1.517, 83.446) = 4.692, p = .019, partial $\eta^2 = .079$. Pairwise comparison revealed there was a significant decrease in POFS scores of 6.911 from pre-to-post intervention, p < .001, 95% CI (3.210, 10.611), however although POFS scores reduced between post-intervention and 12-month follow-up by 0.911, the difference was not statistically significant, p = .771.

The ANOVA for happiness revealed the difference over time points was not statistically significant, p = .086. The finding indicated the increases in happiness of 0.184, 0.469, and 0.286 from pre-to-post, pre-to-12-month follow-up, and post-to 12-month follow-up, respectively, were not statistically significant.

The omnibus test for PTSD revealed the difference over time points was not statistically significant, p = .512. The finding indicated the means of PTSD at preintervention (5.00), post-intervention (5.133), and 12-month follow-up (4.689) from pre-to-post, pre-to-12-month follow-up, and post-to 12-month follow-up were not significantly different.

Scores for depression over time were found to be statistically significant, F(1.959, 113.600) = 3.994, p = .022, partial $\eta^2 = .064$. Pairwise comparison revealed there was a significant decrease in depression scores of 1.034 from pre-to-post intervention, p = .022, 95% CI (0.156, 1.912). An improvement in depression scores of 1.034 from post-

intervention to 12-month follow-up was also statistically significant, p = .010, 95% CI (-1.816, -0.252).

The ANOVA for anxiety revealed the difference over time points was not statistically significant, p = .086. The finding indicated the means for pre-to-post, pre-to-12-month follow-up, and post-to 12-month follow-up were not significantly different. See Table 2 for all results.

Insert Table 2

Participant Involvement

The degree of engagement on the Facebook group was high (over 80% participating), with daily and weekly reminders to participants of their weight goals and the practices that support those goals. Not only were participants highly engaged with the instructor, they were highly engaged with each other, often responding to each other's posts and offering support, encouragement and personal anecdotes even before the instructor could respond.

Discussion

The present study contributes to the growing body of literature on EFT in the treatment of weight issues and psychological symptoms. It extends the existing research by delivering the intervention in an online format. The results indicate that participants experienced significant decreases in body weight, the power of food over their choices, and depression during the treatment program, and an increase in restraint ability. These changes are consistent with previous research examining the immediate effect of EFT for food issues and psychological symptoms when adults attend in person (21, 23, 38, 39).

One-year follow-up showed that participants continued to lose weight after the end of the six-week program. They lost weight at a safe and sustainable rate, with a mean weight loss of 2 lb/month. They also maintained their gains for POF, restraint and depression. These results are similar to participants in an in-person weight loss program (21, 38). Changes in PTSD symptoms were not significant; however, pre-scores did indicate the presence of clinical symptomatology so therefore, may not have been impacted. Earlier studies of EFT and weight did not include a PTSD measure however recent literature links obesity with PTSD, led us to include such a measure here (40).

The uniqueness of the present trial was the online delivery mode. A clinically important factor supporting weight loss between posttest and one-year follow-up was the Facebook group and the monthly teleclasses in which participants engaged. They were not on their own during this period; they received social support from each other and from the instructor through these two media. Also, the instructor was highly trained in both conventional weight loss techniques and Clinical EFT, and demonstrated a very high level of personal commitment to the success of participants throughout the one-year follow-up period. Given the established importance of repeated follow-up over time for weight loss (41), our guess is that it is unlikely that ongoing weight loss would have occurred without this high level of engagement in a community committed to long-term lifestyle change. Our hypothesis is that this yearlong engagement explains the greater degree of weight loss found in this study than in earlier EFT studies.

Limitations

The study did have a number of limitations. As a within-subjects study, participants served as their own controls; there was no randomization into a control or comparison group. Improvements could have been due to demand and expectancy effects. Of those who completed the pretest (n=212), only a third completed the posttest (n=76) but only 75% (n=56) finished the 12-month follow-up, reducing the sample size and thus power of the

study. Possible reasons include the lack of incentive to respond to investigator emails a year after the program, and the large volume of email received daily; the average person has 5,542 unread emails in their inbox (42). Other EFT research has noted the difficulty of follow-up after successful interventions as participants "feel fine" and perceive no need to re-engage with the issues that brought them into treatment (9). It is also important to note that those who completed the 12-month follow-up were potentially the ones who were benefitting the most from the technique and thus may present as bias in the results.

Factors mitigating these limitations are that there is no evidence in the literature that expectancy effects or demand characteristics result in continuing weight loss. The opposite phenomenon, in which participants gain the weight back after treatment despite demand and expectancy effects, is more usually noted (4). Level of intrinsic motivation was not measured in the current study but may have played a role in the positive outcomes and cannot be discounted.

Further replication and longitudinal follow-up studies are required to confirm and validate the efficacy of EFT in the treatment of weight issues, especially for online delivery, however this study has demonstrated that EFT may add to the range of management tools in the battle against obesity worldwide.

Conclusions

The results of the current study are consistent with reports of the enduring treatment effects of EFT for weight issues already found in the literature. Participants lost weight during the six-week class, and continued to lose weight in the ensuing year, indicating long-term treatment effects as well as durable lifestyle change. The outcomes appear promising and in line with those measured in earlier trials of four and eight-week programs in which EFT was delivered in person. This trial also provides evidence for the suitability of EFT

when delivered in an online format, with additional therapist support. No particular diet was recommended; the focus of treatment was on the emotional contributors to weight, and the external power of food in the environment. The results indicate that these emotional factors in particular were successfully treated, and highlights the need for a client's weight loss journey to include more than increased physical activity and reduced caloric intake. Ongoing support is paramount for weight loss and maintenance success.

Table 1

Baseline characteristics of study participants at recruitment

	Participants	Male	Female		
N	76	7 (9.0 %)	69 (91.0 %)		
Age					
Mean	56.7	57.6	56.6		
Standard deviation	8.7	7.8	8.9		
Min	34	42	34		
Max	71	63	71		
Weight (lbs)					
Mean	207.1	229.6	204.9		
Standard deviation	42.9	40.3	42.8		
Min	140	195	140		
Max	328	314	328		

Table 2

Associated Means and Standard Deviations at Pre-Intervention, Post-Intervention, and 12Month Follow Up

	Pre-EFT			Post-EFT		12-month	
	N=76		N=76		N=56		
Measure	M	SD	M	SD	M	SD	
Weight in Pounds	207.13	42.91	201.04	38.70*	188.28	36.20**	
Revised Restraint Scale	34.79	4.42	33.93	4.32*	33.64	4.05	
Power of Food Scale	67.04	23.18	60.13	25.90**	59.21	21.60	
Happiness	7.43	1.84	7.61	2.15	7.90	2.06	
PTSD	5.00	2.03	5.13	2.25	4.69	2.07	
Depression	15.56	3.14	14.53	2.92*	15.56	2.16*	
Anxiety	16.13	2.79	15.73	3.15	17.17	1.84	

^{*}p<0.05

^{**}p<0.001

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