



Pilot Studies and Clinical Evaluations

EBT Program Graduates Improve Health and Well-being

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EBT is a new paradigm in healthcare: equip people the skills to switch off the stress response and activate optimal states of well-being, which confers both immediate improvements in quality of life and as stress is the root cause of our epidemics of anxiety, depression, diabetes, obesity, cancer, heart disease, and autoimmune disease.

The EBT Program trains participants in the resilience tools to change the brain circuits that cause chronic stress and reactivity. Participants progress through courses online through self-study, peer support groups, and remote and onsite groups to raise the set point or "stress habit" of the brain for sustained improvements in health and well-being.

The recent COVID pandemic has alerted people to optimize their own physiology as the foundation of their healthcare. EBT is designed to be a program that enables them to accomplish that more easily. This study was conducted by a University of Illinois at Chicago researcher. It is relevant now even though it reflects participation in a previous iteration of the EBT program because of increased concern about promoting sustained resilience and health behavior changes in a time of widespread stress overload.

Methods

A questionnaire was developed by Dr. Nancy Bates in consultation with researchers at the University of Illinois at Chicago and the University of California San Francisco and the research was approved by the Human Subjects Institute Review Board at the University of Illinois at Chicago. The questionnaire was sent by mail to eligible program participants in June of 2002, returned to Dr. Bates by August 15, 2002, and then analyzed by her staff. The Institute for Health Solutions and EBT, Inc. had no access to these data but were provided a summary of the findings that are described below. All the changes were highly statistically significant, at the $p = 0.000$ level.

EBT Program Graduates Study

Retrospective, pre-test design, using a mailed survey by University of Illinois at Chicago researcher.

Participants were recruited from records showing completion of four or more courses from the EBT program with an 86% response rate.

N = 134

95.9% white, 98.7% female

Age range: 28 to 70 years, Mean age 49.59 (SD = 8.3).

Of the 155 individuals who were sent questionnaires, 134 returned them, a response rate of 86 percent. Respondents were largely middle-aged white women. Mean age was 49 years and 75 percent of respondents were 40 to 60 years of age. Ninety-eight percent were female, which reflects the past gender composition of program groups at the time this study was conducted. Ninety-five percent of respondents were Caucasian, which is consistent with the trends nationally for group health promotion interventions at the time this study was conducted. Since this time, participation in the program by men and minorities has increased.

Forty-four percent of respondents had completed four EBT courses in the EBT Program and 46 percent had completed five or more courses. The courses are the intervention, with participants can choose various forms of support to complete them. Forty-three percent had completed at least a year of telegroup support (teleconferencing group with a Certified EBT Provider). Thirty-three percent had completed at least one year of in-person support (in-person group with an EBT Provider). Seventeen percent completed the program through self-study or with self-help peer group circles. At the time of questionnaire completion, respondents had used the method for an average of about 2.5 years and all respondents had used the method for at least one year.

Weight, height, and physical activity were self-reported. Respondents were asked to report their weight and height at the beginning of the program and at the time of the survey. Physical activity was reported as an average number of minutes of exercise per week. Participants were asked if they were exercising more, less, or the same as when they started

the program. They reported their blood pressure at the beginning of the program and at the study time, and their overall program evaluation.

Results

Participant satisfaction in the program was high with 96 percent rating the program as excellent or good and 91 percent responding that they would recommend the program to someone they cared about. Perceptions of improvements in health, happiness, and a range of related variables were also high:

Perceptions of improvement in health and quality of life

- 68 percent reported improved health
- 91 percent reported improved happiness
- 83 percent reported improved personal relationships
- 58 percent reported improved work relationships
- 76 percent reported improved coping with work stress
- 56 percent reported improved work productivity
- 69 percent reported improved exercise

Stress triggers strong drives to repeat maladaptive responses that are intractable and refractory. The majority of respondents engaged in the “external solutions” of overeating, rescuing, and obsessive thinking, and only a minority of them reported excesses of drinking, smoking, spending, working, distancing, and people pleasing. We considered a participant to have an external solution in a particular area if they indicated on the questionnaire that they engaged in it often or almost always. If they indicated that they engaged in it never, rarely, or sometimes, they were not considered to have an external solution.

Of particular interest to us was the percentage of respondents who reported an external solution at baseline but no longer did after using the method. This finding of resolving these stress-induced, maladaptive responses turned out to be remarkably high and reasonably consistent regardless of external solution. The percentage of respondents who no longer had this external solution was:

Stress-induced Excess	Resolved
• overeating	92%
• excessive drinking	88%
• smoking	83%
• overspending	90%
• excessive working	82%
• rescuing	97%
• distancing	86%
• rescuing	72%
• obsessive thinking	86%

The table shown below presents the responses of subjects to questions about how often they engaged in maladaptive behavior prior to starting their EBT training and after receiving the training. There was a trend toward improvement in all rewards and all excesses. Participant’s responses were highly significantly different before and after the training.

This report was positive regarding participant satisfaction with the method and perceived improvements in variables related to health and happiness. There are limitations to the reliability and generalizability of this survey.

First, a retrospective pretest method was used, which means that at one point in time, participants were asked about how they were before and after the program. Although it would have been better to ask participants these questions before the program and after the program, two issues made this difficult. First, we wanted to ask program completers what their experience had been rather than use a prospective model, which would have delayed the study by one to two years. Second, the questionnaire used terminology that has specific meanings learned in the program. For example, it is possible that asking someone before they started the program how often they experienced vibrancy and they might initially report often. Still, after they were in the program and experienced a deeper vibrancy, they might realize that they really hadn’t experienced true vibrancy before they started the program.

Second, when looking at the effects of an intervention, comparing the results of the participants to non-participants gives a better sense of whether the general public is

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Health Indices	Mean \pm SD ^b at RPT	Mean \pm SD ^b at Post	Mean change \pm SD ^b	p^c
Behaviors				
Overeating	1.45 \pm 0.63	2.93 \pm 0.76	-1.48 \pm 0.87	0.000
Drinking Too Much Alcohol	3.53 \pm 0.78	3.88 \pm 0.38	-0.34 \pm 0.62	0.000
Smoking Cigarettes	3.81 \pm 0.63	3.97 \pm 0.21	-0.17 \pm 0.66	0.000
Overspending	2.93 \pm 0.97	3.60 \pm 0.54	-0.67 \pm 0.77	0.000
Overworking	2.37 \pm 1.04	3.40 \pm 0.62	-1.03 \pm 0.93	0.000
Blood Pressure				
Systolic BP (mmHg)	121.83 \pm 15.73	120.57 \pm 17.08	1.26 \pm 16.43	0.603
Diastolic BP (mmHg)	76.96 \pm 11.62	75.02 \pm 11.14	0.038 \pm 6.02	0.038
Weight and Exercise				
Weight (#)	212.01 \pm 58.21	193.69 \pm 46.10	-18.32 \pm 26.32	0.000
Physical Activity (# min/week)	120.96 \pm 130.03	229.61 \pm 138.33	108.64 \pm 149.8	0.000
Psychological Rewards				
Sanctuary	3.70 \pm 0.60	1.95 \pm 0.84	1.75 \pm 0.98	0.000
Integration	3.56 \pm 0.66	1.85 \pm 0.72	1.72 \pm 0.90	0.000
Vibrancy	3.20 \pm 0.70	2.07 \pm 0.85	1.14 \pm 0.99	0.000
Balance	3.61 \pm 0.61	1.92 \pm 0.74	1.69 \pm 0.99	0.000
Intimacy	3.62 \pm 0.64	2.29 \pm 0.74	1.33 \pm 0.88	0.000
Spirituality	2.91 \pm 0.85	2.04 \pm 0.85	0.89 \pm 0.88	0.000
^a Item responses ranged from 1 (Almost Always) to 4 (Rarely or Never) ^b SD = standard deviation, ^c Paired samples t-test, two tailed				

changing or whether the change can be attributed to the intervention. Although we could not use a control group in this survey, the dramatic changes seen in rewards and excesses seem unlikely to be happening in the general population. Third, we have not tested the validity of the survey, nor how well it measures what we want to measure.

Finally, generalizability, or the confidence that we would see the same results in other groups of people, is limited to white women. We would expect that other white women would have similar results, but we don't know if women of color or men of all races/ethnicities would respond differently.

Despite the study's limitations, the results from this report were similar to the results reported at two years in the six-year follow-up studies of the method. This observation strengthens our confidence in the generalizability of our findings.

Conclusions

Stress-related health indices improved participants. There was a large sample size and a high response rate. Future research should replicate the current study with longitudinal, control group design, and research should use non-self-reported data and involve men and minority populations.

An important strength of these findings is that the results are consistent with results reported at two-year and six-year follow-ups of the method and consistent with the conceptual basis of the method.