The practice of Transcendental Meditation was found to result in cumulative benefits for psychological health. By comparison, the effects of Autogenic Training were, in general, less substantial and not sustained.—EDITORS

The following is an English summary, prepared in conjunction with the author, of her original Diplomarbeit to obtain the degree of Diplompsychologe, University of Göttingen, West Germany. The findings were previously published in full in the book Transzendentale Meditation und Autogenes Training—Ein Vergleich, Kindler Verlag, Munich, in the series “Geist und Psyche”, 1979.

The Freiburger Personality Inventory (FPI), the Saarbrücker List, and the Giessen Test were used to evaluate changes in personality resulting from the practice of Transcendental Meditation (TM) and Autogenic Training (AT) in comparison to a no-treatment control group, and furthermore to evaluate differences in the effectiveness of the two techniques studied.

Tests were administered to 99 students of the University of Kiel prior to instruction in either Transcendental Meditation or Autogenic Training. After pre-testing, subjects were randomly assigned to one of three matched groups: one learned Transcendental Meditation, another learned Autogenic Training, and a third served as a no-treatment control group which was delayed from learning either technique. The three tests were readministered 7 to 8 weeks after instruction to a reduced sample of the three groups (TM group, N=24; AT group, N=20; control group, N=18). The FPI and the Saarbrücker List were also subsequently readministered 14 to 16 weeks after instruction to a further reduced sample (TM group, N=16; AT group, N=12; control group, N=9).

After 7 to 8 weeks the Transcendental Meditation group showed significant reductions in nervousness (p<.0005), depression (p<.01), emotional lability (p<.05), and manifest anxiety (p<.005). The Autogenic Training group exhibited significant reductions in nervousness (p<.05), irritability (p<.05), and inhibition (p<.05), and an increase in masculinity (p<.005). The control group showed significant increases in depression (p<.05) and manifest anxiety (p<.05).

After 14 to 16 weeks results indicated cumulative benefits for the Transcendental Meditation group in terms of reduced nervousness (p<.05), reduced depression (p<.01), reduced emotional lability (p<.01), and reduced manifest anxiety (p<.01). Scores for the Autogenic Training group, however, showed a return towards pre-instruction levels, with the sole exception of inhibition (p<.05).

Results of correlation analyses revealed that the more regular the practice of Transcendental Meditation, and the more precisely an individual followed the instructions regarding duration of practice, the more psychosomatically and emotionally stable, and the less anxious, depressed, excitable, and introverted he would be. Correlation analyses on the Autogenic Training group showed contradictory results in this respect. Very few significant correlations were found between pre-instruction levels of expectation regarding Transcendental Meditation or Autogenic Training and changes on test scores.
The findings of this study indicate that the practice of Transcendental Meditation leads to cumulative benefits for personality. By contrast, the results of Autogenic Training were, in general, found to be less substantial and not lasting in their nature.

INTRODUCTION

More and more people today are looking for techniques to achieve relaxation, to bring relief from problems, and to develop their personality. It is the task of clinical psychology to perform research in order to evaluate the effectiveness of such techniques when used both within and outside the context of psychological treatment.

The purpose of this study was to determine the nature and extent of psychological changes occurring in students practising either Transcendental Meditation (TM) (Maharishi Mahesh Yogi, 1966) or Autogenic Training (AT) (Schultz, 1972) in comparison to a no-treatment control group, and furthermore to evaluate differences in the effectiveness of the two techniques studied.

METHOD

SUBJECTS—The original sample in this study consisted of 99 students of Kiel University who had attended a series of lectures on the theory and practice of various methods of self-treatment at the University of Kiel Psychiatric and Neurological Hospital. Participation was voluntary and anonymous.

TESTS—A battery of personality questionnaires and control questions was utilized to evaluate changes in personality resulting from the practice of either Transcendental Meditation or Autogenic Training. Tests used were:

1. The Freiburger Personality Inventory (FPI) 
   (Fahrenberg et al., 1973)
2. The Saarbrücker List 
   (Spreen, 1961a and 1961b)
3. The Giessen Test 
   (Beckmann and Richter, 1972).

In order to evaluate the degree to which pre-instruction attitudes influence changes on test scores, at pre-testing all subjects were also asked a question on their level of expectation regarding the practice of either Transcendental Meditation or Autogenic Training. Answers to the question were to be given in terms of a five-point scale ranging from no expectation to high expectation.

PROCEDURE—The three questionnaires were administered to all subjects (N = 99) before instruction in either Transcendental Meditation or Autogenic Training. After pre-testing, subjects were randomly assigned to one of three groups matched for sex, age, and pre-test manifest anxiety score on the Saarbrücker List: one group learned Transcendental Meditation, another group learned Autogenic Training, and a third group served as a no-treatment control group which was delayed from learning either technique until a later date.

The three tests were readministered 7 to 8 weeks after instruction to reduced samples of each group: for the Transcendental Meditation group, N = 24 (9 men, 15 ladies; mean age 23.8; age range 20–34); for the Autogenic Training group, N = 20 (6 men, 14 ladies; mean age 22.9; age range 21–31); and for the no-treatment control group, N = 18 (6 men, 12 ladies; mean age 24.0; age range 18–30).

The Freiburger Personality Inventory and the Saarbrücker List were also subsequently readministered 14 to 16 weeks after instruction to a smaller number of subjects (TM group, N=16; AT group, N=12; control group, N=9). Since the members of the control group had by this time learned either Transcendental Meditation or Autogenic Training data from their 14- to 16-week testing could not be used for comparison.

ANALYSIS OF DATA—Data were analysed according to the following statistical methods:

1. For independent means —
   (a) When the variances were homogeneous—
      The t-test for independent samples (one- or two-tailed).
   (b) When the variances were not homogeneous —Welch’s t-test (one- or two-tailed).

2. For dependent means —The t-test for dependent samples (one- or two-tailed).
Since data from the ‘M’ and ‘E’ scales (adjustment scales) of the Giessen Test are not normally distributed, the following procedures were used:

1. For independent samples—The Wilcoxon-White test.
2. For dependent samples—The Wilcoxon test.

For evaluation of correlations between the variables assessed and pre-instruction levels of expectation, and regularity and duration of practice of Transcendental Meditation and Autogenic Training, the product-moment correlation coefficient was used. Significance of the correlation coefficients was derived using Fisher’s t-test for small and medium samples (Clauss and Ebner, 1968; Mittenecker, 1968).

RESULTS

1. FREIBURGER PERSONALITY INVENTORY

(A) After 7 to 8 Weeks. Scores on the FPI revealed that the practice of Transcendental Meditation over a 7- to 8-week period resulted in a very marked reduction in nervousness, indicating decreased psychosomatic disturbance \( t(23) = 4.06, p < .0005 \); a substantial reduction in depression, indicating more balanced mood, increased contentment, and greater self-confidence \( t(23) = 2.63, p < .01 \); and decreased emotional lability, indicating reduced neuroticism \( t(23) = 1.73, p < .05 \).

Subjects who had learned Autogenic Training showed reductions in: nervousness \( t(19) = 1.83, p < .05 \), irritability, indicating more calmness and tranquillity \( t(19) = 2.23, p < .05 \), and inhibition, indicating greater spontaneity and improved ability to communicate \( t(19) = 2.10, p < .05 \); and a substantial increase in masculinity, indicating increased self-reliance, greater vigoroussness, and more balanced mood \( t(19) = 3.22, p < .005 \).

The only significant change reported in the control group was an increase in depression \( t(17) = 2.36, p < .05 \).

A comparison between groups revealed that subjects practising Transcendental Meditation experienced significantly greater reductions in nervousness \( t(42) = 1.86, p < .05 \) and depression \( t(42) = 1.92, p < .05 \) than subjects practising Autogenic Training. Furthermore, the TM group showed a substantially greater gain than the AT group on extraversion, indicating greater openness to interpersonal relationships, greater friendliness, spontaneity, and liveliness \( t(35) = 3.68, p < .0005 \).

By comparison with the control group the TM group showed greater reductions in nervousness \( t(40) = 3.64, p < .0005 \), depression \( t(40) = 3.31, p < .001 \), and emotional lability \( t(40) = 2.09, p < .05 \).

Subjects practising Autogenic Training showed greater reduction than the control group in nervousness \( t(36) = 1.94, p < .05 \), irritability \( t(36) = 1.77, p < .05 \), inhibition \( t(36) = 2.58, p < .01 \), emotional lability \( t(36) = 2.09, p < .05 \), and masculinity \( t(36) = 2.64, p < .01 \).

(B) After 14 to 16 Weeks. Analysis of scores on the FPI after 14 to 16 weeks indicated cumulative benefits from the practice of Transcendental Meditation in terms of reduced nervousness \( t(15) = 2.57, p < .05 \), reduced depression \( t(15) = 2.81, p < .01 \), and reduced emotional lability \( t(15) = 2.74, p < .01 \).

By contrast, subjects practising Autogenic Training showed a cumulative benefit only on the variable \( t(11) = 2.70, p < .05 \), while the remaining improvements reported after 7 to 8 weeks had returned towards their initial pre-instruction values and were no longer significantly different from pre-instruction levels.

2. SAARBRÜCKER LIST

(A) After 7 to 8 Weeks. Subjects practising Transcendental Meditation showed a significant reduction in manifest anxiety after 7 to 8 weeks \( t(23) = 2.86, p < .005 \). No significant change was seen in the Autogenic Training group. The control group, on the other hand, showed a significant increase in manifest anxiety \( t(17) = 2.17, p < .05 \).

A comparison between groups revealed a significantly greater reduction of manifest anxiety in the TM group than in the control group \( t(40) = 3.89, p < .0005 \). The difference between changes in the AT group and the control group was also significant \( t(36) = 2.28, p < .05 \).

(B) After 14 to 16 Weeks. Scores on the Saarbrücker List after 14 to 16 weeks indicated a sus-
tained reduction in manifest anxiety in subjects practising Transcendental Meditation ($t(15) = 2.81, p < .01$).

Subjects practising Autogenic Training who participated in the 14- to 16-week testing showed levels of manifest anxiety which were the same as their pre-instruction levels.

3. **Giessen Test**—Results on the Giessen Test after 7 to 8 weeks indicated that, in their self-concept, subjects practising Transcendental Meditation were more open, closer to others, and more trusting of others (GT5) ($t(40) = 1.69, p < .05$), and less depressed, less anxious, and more independent (GT4) ($t(40) = 1.68, p < .05$) than control subjects.

The AT group was seen to be more open, closer to others, and more trusting of others (GT5) ($t(36) = 2.04, p < .05$), and more sociable, less restricted, and more imaginative (GT6) ($t(25) = 2.05, p < .05$) in their self-concept than controls.

4. **Expectation**—An analysis of answers to the pre-instruction question on levels of expectation showed that levels of expectation regarding Autogenic Training were in general higher than regarding Transcendental Meditation.

No significant differences were found between groups in the pre-instruction distribution of expectation levels regarding the practice of Transcendental Meditation and Autogenic Training.

5. **Correlation Analyses**

(A) Analyses of correlations between the success of the respective treatments in the variables assessed and regularity and duration of practice revealed the following results:

1. Greater regularity in the practice of Transcendental Meditation was inversely correlated with nervousness ($r = -.50, p < .05$), neuroticism ($r = -.43, p < .05$), and manifest anxiety ($r = -.49, p < .05$).

2. Greater precision in following instructions regarding the duration of practice of Transcendental Meditation was inversely correlated with nervousness ($r = -.67, p < .01$), irritability ($r = -.45, p < .05$), depression ($r = -.56, p < .05$), and manifest anxiety ($r = -.61, p < .05$), and was positively correlated with greater vitality, stamina, and sociability ($r = .52, p < .05$).

3. Greater regularity in the practice of Autogenic Training was inversely correlated with irritability ($r = -.74, p < .01$), but also with placidity ($r = -.57, p < .05$).

4. Longer duration of the respective exercises of Autogenic Training according to the instructions was inversely correlated with irritability ($r = -.44, p < .05$). However, this variable was also inversely correlated with placidity ($r = -.61, p < .05$) and positively correlated with manifest anxiety ($r = .59, p < .05$).

(B) Analyses of correlations between pre-instruction levels of expectation and changes in the variables assessed revealed the following results:

1. Lower levels of expectation in the TM group regarding the practice of Transcendental Meditation were inversely correlated with irritability ($r = -.71, p < .01$).

2. Higher levels of expectation in the AT group regarding the practice of Autogenic Training were inversely correlated with nervousness ($r = -.59, p < .05$).

**DISCUSSION AND CONCLUSION**

The findings of this study indicate that the practice of Transcendental Meditation results in cumulative benefits for personality. Scores on the psychological tests used show a marked improvement during the first 7 to 8 weeks of practice which was subsequently seen to have increased after 14 to 16 weeks of continued practice.

By contrast, the initial improvements reported after 7 to 8 weeks by subjects who had learned Autogenic Training were found, after 14 to 16 weeks, to have reverted towards their pre-instruction levels, with only one exception.

The no-treatment control group reported either no significant change, or even change in a negative direction.

It is interesting to note that superior benefits were found to result from the practice of Transcendental Meditation even though pre-instruction levels of expectation were in general lower regarding Transcendental Meditation than regarding Autogenic Training.
The marked reductions in nervousness and depression seen in subjects practising Transcendental Meditation are of particular importance since these two variables represent essential elements in the emotional stability/lability (neuroticism) dimension. The improvement in factors related to neuroticism is supported by results on the Saarbrücker List showing a reduction of manifest anxiety in the TM group.

The close relationship between the practice of Transcendental Meditation and the benefits reported is further emphasized by the results of the correlation analyses which indicate that the more precisely an individual follows the instructions regarding regularity and duration of practice of Transcendental Meditation the more psychosomatically and emotionally stable, and the less anxious, depressed, excitable, and introverted he will be. Correlation analyses on the Autogenic Training group, however, showed contradictory results regarding the relationship between change on the variables assessed and regularity and duration of practice.

The results of this study thus demonstrate that the practice of Transcendental Meditation leads to cumulative improvements in psychological health, and indicate that, by comparison, the results of Autogenic Training are in general less substantial and not lasting in their nature.

REFERENCES


