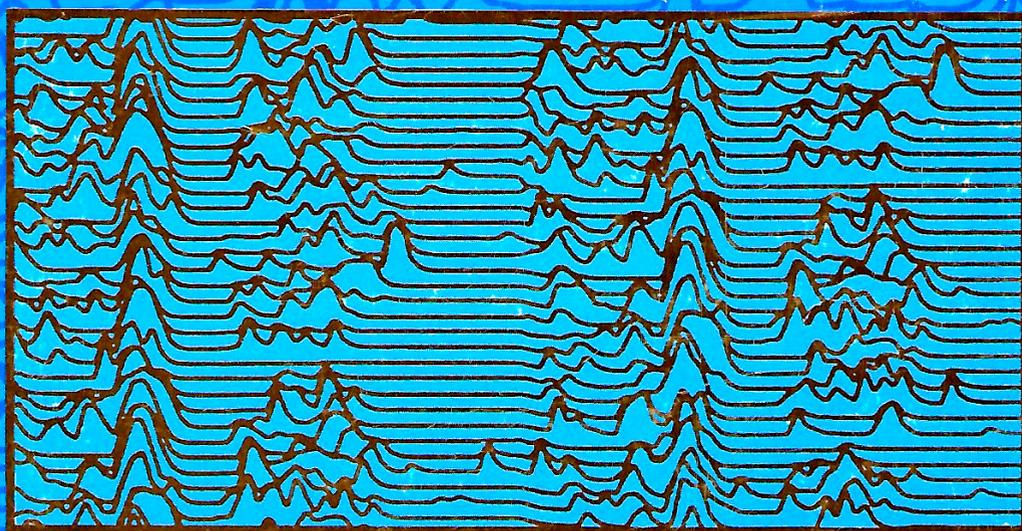


**SCIENTIFIC RESEARCH
ON THE
TRANSCENDENTAL
MEDITATION PROGRAM**

COLLECTED PAPERS, VOLUME I



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STUDY OF PERSONALITY CHANGES RESULTING FROM THE TRANSCENDENTAL MEDITATION PROGRAM: FREIBURGER PERSONALITY INVENTORY

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In comparison to norms, subjects practicing the Transcendental Meditation technique were found to be less nervous, less aggressive, less depressed, less irritable, more sociable, more self-confident, less domineering, less inhibited, more emotionally stable, and more self-reliant; and they were about as extroverted as norms. — EDITORS

The Freiburger Personality Inventory (FPI) was administered to 49 people practicing the Transcendental Meditation technique. Their scores on the 12 scales of the FPI were compared with a comparison group constructed from available age and sex norms for each scale. The meditators differed significantly from the normative comparison group on ten of the 12 scales, all in the direction of more healthy, balanced psychological functioning. Moreover, the meditators did not differ significantly from the comparison group on the scale of Openness, which gives an indication of the extent to which people are attempting to respond in a socially desirable manner. When the Transcendental Meditation group was divided into two groups based on the length of time they had been practicing the technique, it was found that long-term meditators differed from the normative comparison group on nine scales, whereas the short-term meditators differed on two scales. These results suggest that the Transcendental Meditation program produces continuous, balanced psychological growth. A longitudinal follow-up study is now in progress to verify these conclusions.

INTRODUCTION

The Transcendental Meditation (TM) technique, as taught by Maharishi Mahesh Yogi, is an easily learned technique for the development of the individual. Regular practice of this technique (15–20 minutes twice daily) is claimed to produce balanced and integrated psychological growth, characterized especially by increased stability and more dynamic and harmonious social interaction. Physiological research has shown that during the actual practice of Transcendental Meditation the nervous system assumes a unique style of functioning that is characterized by profoundly deep rest with concurrent wakefulness (3). The purpose of the present pilot study was to assess objectively the long-term effects of the Transcendental Meditation program on psychological development.

As an instrument for psychological assessment, the Freiburger Personality Inventory (FPI) was selected. It was hypothesized that the scores of people who regularly practiced TM would differ significantly from suitable norms on the scales of the FPI in the direction of psychological health. It was further hypothesized that long-term meditators would exhibit significantly greater differences from the norm than short-term meditators, in support of

the thesis that the observed differences accrue as the result of the practice of the TM technique and that the benefits of the practice are cumulative.

METHOD

INSTRUMENT—The Freiburger Personality Inventory was published in its present form in 1970 (1). The inventory includes 212 items that are grouped into nine independent scales. The items of each scale pertain to a specific personality factor, e.g., nervousness. Each item is analyzed for one factor only, resulting in the mathematical independence of the factors, which, however, correlate partially with regard to content, e.g., nervousness and depression. The nine scales are Nervousness, Aggressiveness, Depression, Irritability, Sociability, Placidity, Tendency to Dominate, Inhibition, and Openness. Moreover, three additional scales have been developed that do not possess mathematical independence from the other scales. These are defined by regrouping the items of the nine basic scales. These additional scales are Extraversion vs. Introversion, Neuroticism vs. Emotional Stability, and Self-reliance (Masculinity) vs. Dependency (Femininity). According to the FPI manual, "Individual

TABLE 1
CHARACTERISTICS OF THE TM GROUP
(N = 49)

VARIABLE	NUMBER OF SUBJECTS	
	Males	Females
Age		
15-30	14	10
31-50	8	9
Over 50	4	4
Education		
Secondary school	3	
High school	14	
College	32	
Occupation		
Professionals	7	
Managers of firms	6	
Officials, clerks	12	
Housewives	7	
High school students	1	
University students	14	
Renters, pensioners	1	
No statement	1	
Length of time practicing TM		
0-2 years	4	
2-4 years	16	
4-6 years	9	
6-8 years	2	
8-10 years	7	
10-12 years	11	

differences in the magnitude of these nine (respectively twelve) test values represent differences among individuals in the realization of the relevant [personality] factors. The quantitative values so obtained allow us to arrange the individuals in order of precedence with respect to the various quantities" (1).

The Openness scale can be regarded as a scale of honesty. It gives information about possible tendencies to attempt to respond to the items in the most socially desirable manner and so allows the estimation of the reliability of the other scores. For the present study, such a scale seemed desirable. It was hypothesized that the meditators would not differ significantly from the comparison group on this scale. Investigations of the reliability of the FPI so far have yielded good results (2).

SUBJECTS—For the purpose of this pilot study, it was convenient to use participants in a conference for teachers of TM as subjects. The conference was held at the Akademie für Persönlichkeitsentfaltung in Bremen; all were from the Federal Republic of Germany. These subjects of course practiced the TM technique. Table 1 presents some characteristics of the group.

PROCEDURE—The procedure for the examination was as follows: The subjects were first asked to participate in a scientific study to determine the effects of TM on personal development. Instructions were then read aloud from the

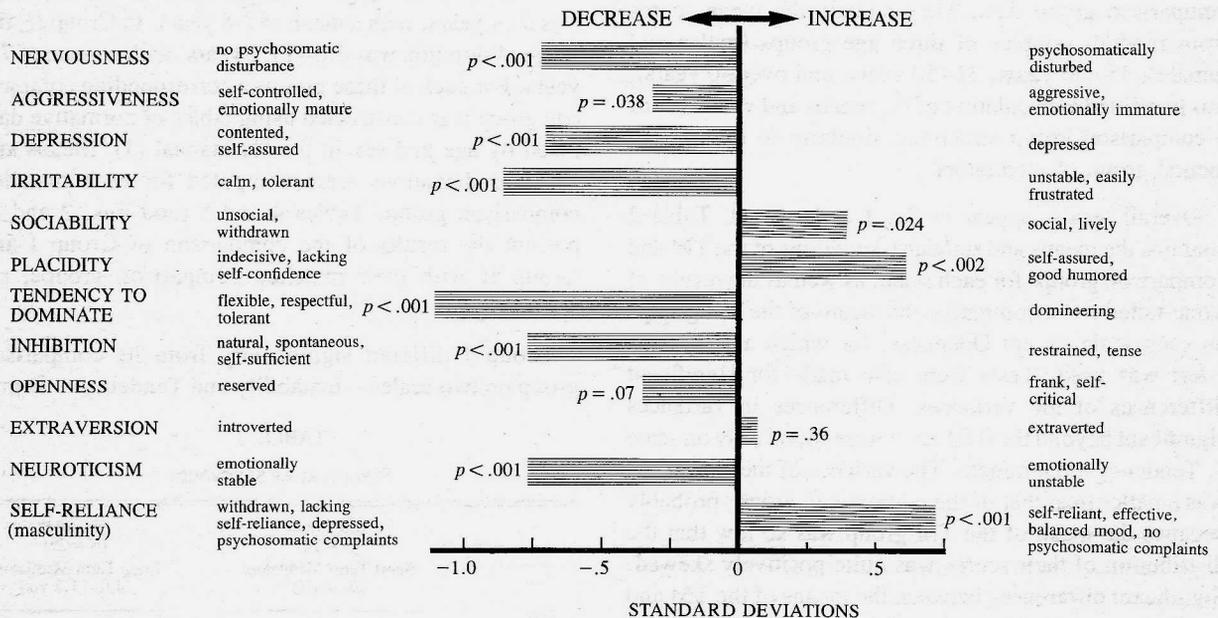


FIG. 1. DIFFERENCES BETWEEN THE TM GROUP AS A WHOLE AND A NORMATIVE COMPARISON GROUP. The differences between the mean scores on each FPI scale for the meditators and the normative group (meditation group - normative group) are shown. The unit is the standard deviation of the normative group's scores on that scale.

TABLE 2

COMPARISON OF TRANSCENDENTAL MEDITATION GROUP AND COMPARISON GROUP ON THE FPI

SCALE	TM GROUP		COMPARISON GROUP		<i>t</i> *	<i>p</i>
	Mean	S.D.	Mean	S.D.		
1. Nervousness	7.26	4.94	11.91	6.44	3.99	<0.001
2. Aggressiveness	5.88	3.37	7.31	4.36	1.81	0.038
3. Depression	7.78	5.71	12.31	6.39	3.69	<0.001
4. Irritability	5.41	4.01	9.66	4.92	4.69	<0.001
5. Sociability	16.35	5.09	14.18	5.50	2.03	0.024
6. Placidity	13.09	4.00	10.58	4.10	3.06	<0.002
7. Tendency to Dominate	3.37	2.52	7.72	3.93	6.52	<0.001
8. Inhibition	6.29	3.90	9.60	4.29	3.99	<0.001
9. Openness	8.57	2.36	9.51	2.71	1.83†	0.070
Extraversion vs. Introversion	11.63	4.42	11.30	4.58	0.36	0.360
Neuroticism vs. Emotional Stability	7.72	5.35	11.87	5.38	3.83	<0.001
Self-reliance vs. Dependency	15.07	3.95	12.29	3.84	3.54	<0.001

*One-tailed *t*-test for independent means.†Two-tailed *t*-test for independent samples.

first page of the questionnaire. No further statements were made regarding the testing procedure or the component parts of the examination. Questions concerning the meaning of the instructions were answered. The group then filled out the questionnaires. Subjects were given the option either to remain anonymous or to state their names.

RESULTS

Raw scores were used for the evaluation of the results. The standard tables of the FPI manual were used to obtain comparison group data. They contain the mean scores from random samples of three age groups (males and females: 15–30 years, 31–50 years, and over 50 years); this permitted a calculation of the means and variances of a comparison group structured similarly to the experimental group of meditators.

Overall results appear in fig. 1 and table 2. Table 2 contains the means and standard deviations of the TM and comparison groups for each scale, as well as the results of a one-tailed *t*-test comparing the means of the two groups on each scale except Openness, for which a two-tailed *t*-test was used. Tests were also made for significant differences of the variances. Differences in variances significant beyond the 0.01 level were found only on scale 7, Tendency to Dominate. The variance of the TM group was smaller than that of the comparison group, probably because the mean of the TM group was so low that the distribution of their scores was quite positively skewed. Significant differences between the means of the TM and comparison groups were found on ten of the 12 scales: Nervousness, Aggressiveness, Depression, Irritability, Sociability, Placidity, Tendency to Dominate, Inhibition, Neuroticism vs. Emotional Stability, and Self-reliance vs. Dependency.

To investigate whether these differences could be attributed to TM, the TM group was divided with reference to the length of time that subjects had been practicing TM regularly. If the differences resulted from the practice of TM, it would be reasonable to assume that those who had practiced TM for a longer period of time would show greater differences in comparison to the norm than those who had not meditated for as long a period. Therefore, the TM group was divided into two groups. Table 3 presents a breakdown of the two groups by age and sex.

In Group I, the range of duration of the practice of TM was 0–4 years, with a mean of 2.8 years. In Group II, the range of duration was 4.0–11.2 years, with a mean of 7.8 years. For each of these groups a corresponding comparison group was constructed using tables of normative data listed by age and sex in the FPI manual (1). Means and standard deviations were computed for each matched comparison group. Tables 4 and 5 (and figs. 2 and 3) present the results of the comparison of Group I and Group II with their matched comparison groups, respectively.

Group I differed significantly from its comparison group on two scales—Irritability and Tendency to Dominate.

TABLE 3
STRUCTURE OF SUBGROUPS

AGE	GROUP I (N = 20) Short-Term Meditators (0–4 yrs)		GROUP II (N = 29) Long-Term Meditators (4.0–11.2 yrs)	
	Males	Females	Males	Females
	15–30	8	6	6
31–50	3	2	5	7
>50	1	...	3	4

TABLE 4
COMPARISON OF SHORT-TERM MEDITATORS (0-4 YEARS) WITH COMPARISON GROUP

SCALE	TM GROUP		COMPARISON GROUP		<i>t</i> *	<i>p</i>
	Mean	S.D.	Mean	S.D.		
1. Nervousness	8.95	4.63	11.38	6.27	1.40	0.089
2. Aggressiveness	6.75	3.75	8.26	4.77	1.11	0.137
3. Depression	9.35	6.40	12.53	6.44	1.57	0.066
4. Irritability	6.10	4.35	9.59	4.94	2.37	0.014
5. Sociability	14.55	5.54	14.42	5.46	0.08	0.469
6. Placidity	12.06	4.32	10.50	4.04	1.18	0.122
7. Tendency to Dominate	3.40	2.80	7.87	4.04	4.06	<0.001
8. Inhibition	7.40	4.57	9.55	4.06	1.57	0.066
9. Openness	8.80	2.38	9.97	2.65	1.46†	0.144
Extraversion vs. Introversion	10.90	4.46	11.78	4.58	0.62	0.269
Neuroticism vs. Emotional Stability	9.05	6.06	11.96	5.32	1.62	0.061
Self-reliance vs. Dependency	13.95	4.42	12.83	3.80	0.86	0.197

*One-tailed *t*-test for independent samples.

†Two-tailed *t*-test for independent samples.

TABLE 5
COMPARISON OF LONG-TERM MEDITATORS (4.0-11.2 YEARS) WITH COMPARISON GROUP

SCALE	TM GROUP		COMPARISON GROUP		<i>t</i> *	<i>p</i>
	Mean	S.D.	Mean	S.D.		
1. Nervousness	6.11	4.95	12.31	6.52	4.07	<0.001
2. Aggressiveness	5.28	3.00	6.65	4.10	1.45	0.078
3. Depression	6.69	5.03	12.18	6.35	3.65	<0.001
4. Irritability	4.93	3.85	9.73	4.91	4.15	<0.001
5. Sociability	17.49	4.81	14.00	5.53	2.57	0.008
6. Placidity	13.79	3.72	10.62	4.13	3.08	0.002
7. Tendency to Dominate	3.34	7.46	7.62	3.86	5.09	<0.001
8. Inhibition	5.52	3.10	9.63	4.36	4.14	<0.001
9. Openness	8.42	2.35	9.20	2.76	1.16†	0.246
Extraversion vs. Introversion	12.13	4.42	11.04	4.57	0.92	0.181
Neuroticism vs. Emotional Stability	6.79	4.72	11.78	5.39	3.75	<0.001
Self-reliance vs. Dependency	15.82	3.57	11.91	3.85	4.01	<0.001

*One-tailed *t*-test for independent samples.

†Two-tailed *t*-test for independent samples.

nate—whereas Group II differed significantly from its comparison group on nine scales—Irritability and Tendency to Dominate, as in Group I, and also Nervousness, Depression, Sociability, Placidity, Inhibition, Neuroticism vs. Emotional Stability, and Self-reliance vs. Dependency. A direct comparison between the short-term and long-term meditators was not performed because the average age of the two groups was quite different, and these personality factors tend to change with age.

DISCUSSION

The results of the comparison of the meditating group as a whole with the normative group can be expressed according to the categories of description in the FPI test manual. Compared with suitable norms, people who regularly practiced TM showed the following:

Less nervousness, less psychosomatic disturbance

Less aggressiveness and emotional immaturity, more self-control

Less depression, more self-confidence and contentment

Less irritability, more tolerance and calm in frustrating situations

Greater sociability, liveliness, and friendliness

Greater self-assuredness, self-confidence, and good humor

Less tendency to dominate, more tolerance, cordiality, and flexibility

Less inhibition, greater spontaneity, naturalness, and readiness for activity

Less neuroticism, less tension, and greater emotional stability

Greater self-reliance and self-confidence, more vigor, and more balanced mood

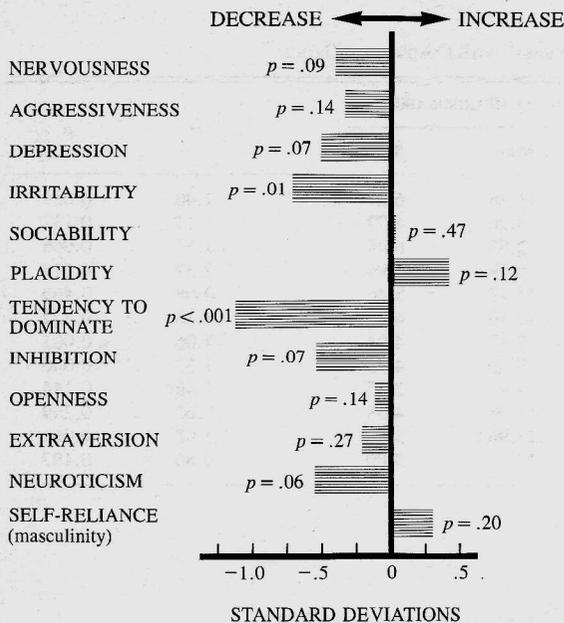


FIG. 2. DIFFERENCES BETWEEN THE SHORT-TERM MEDITATORS AND A NORMATIVE COMPARISON GROUP. The differences between the mean scores on each FPI scale for the short-term meditators (0–4 years) and the normative group (meditation group – normative group) are shown. The unit is the standard deviation of the normative group's scores on that scale.

At the same time, the meditators showed no significant difference from the normative comparison group on the Openness scale. Since this scale measures the extent to which people are attempting to respond in a socially desirable way on all the scales, these results indicate that the meditators were not attempting to respond in a socially desirable manner to a greater degree than the comparison group. Therefore, it seems that the more positive and healthy scores of the meditators on the FPI cannot be explained by the argument that the meditators were trying to appear better than they really were.

Furthermore, comparisons of the differences between the short-term and long-term meditators and normative comparison groups showed that the short-term meditators differed significantly from the comparison group on two scales, though differences on four other scales approached significance, whereas the long-term meditators differed from the normative group on nine scales. Therefore, the effects of practicing the Transcendental Meditation technique seem to grow over time.

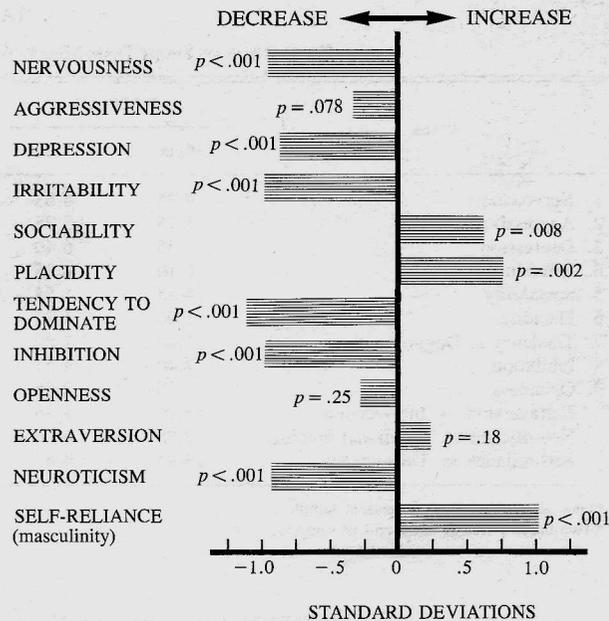


FIG. 3. DIFFERENCES BETWEEN THE LONG-TERM MEDITATORS AND A NORMATIVE COMPARISON GROUP. The differences between the mean scores on each FPI scale for the long-term meditators (4–11.2 years) and the normative group (meditation group – normative group) are shown. The unit is the standard deviation of the normative group's scores on that scale.

Though conclusive evidence of the cumulative effects of TM on the traits measured by the FPI cannot be obtained from a cross-sectional study such as this, these results suggest that the TM program produces significant reductions in negative personality traits and improvements in positive traits, resulting in a continuous, balanced, holistic growth of the entire personality. A longitudinal study is now in progress to test more rigorously the findings of this study.

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