THE EFFECT OF THE REGULAR PRACTICE OF THE TRANSCENDENTAL MEDITATION TECHNIQUE ON BEHAVIOR AND PERSONALITY

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Subjects practicing the Transcendental Meditation technique reduced their total drug use, which included marijuana, hashish, and alcohol; and they became warmer in their interpersonal relationships, more helpful, sympathetic, and protective, more assertive, influential, and powerful, more adventurous, more easy-going, and more tactful.—EDITORS

The Personality Research Form and a self-report questionnaire were administered to an experimental group of ten college students two days prior to their instruction in the Transcendental Meditation technique. Two control groups, each composed of ten college students, took the same tests at the same time. Eight weeks later all three groups were administered the same tests a second time. Change scores for the three groups were compared using analysis of variance. Increases in the scores of the experimental group were found to significantly exceed those of the control groups on the Personality Research Form scales of Affiliation (p = .023), Nurturance (p = .011), and Dominance (p = .005). Decreases in scores were found to be significantly greater for the experimental group than for the control groups on the Aggression (p = .039) and Harm Avoidance (p = .044) scales. Compared with control group subjects, the experimental group subjects showed a significantly greater decrease in enjoyment obtained from watching a sports event (p < .001) and from getting “high” on drugs with their friends (p = .030). The experimental subjects showed a significantly greater increase in how they rated their own sensitivity to other people (p = .039). Experimental subjects showed significantly greater decreases than control subjects in the use of marijuana and hashish (p = .043), in alcohol consumption (p = .008), and in total drug consumption (p = .007). These findings support the hypothesis that the regular practice of the Transcendental Meditation technique results in significant changes in personality and behavior in the direction of more effective psychosocial functioning.

INTRODUCTION

Psychologists and physiologists generally agree that three regularly occurring major states of consciousness exist: waking, dreaming, and deep sleep (17, 25). Considerable evidence suggests that dreaming and deep sleep are necessary prerequisites for efficient functioning in the normal waking state (3, pp. 58–83; 10; 18; 20; 29). Recently some scientists have asserted that the practice of the Transcendental Meditation (TM) technique produces a unique state of consciousness that is quantitatively and qualitatively different from these other states of consciousness (5, 26, 27). Numerous research reports indicate that the unique "restful alertness" provided by Transcendental Meditation effectively promotes improved physical and psychological functioning and imply that this restful state may be just as essential for fully normal functioning as the other three states of consciousness.

The purpose of this investigation was to obtain additional objective measures of the ways in which Transcendental Meditation influences behavior and personality. Since some of the research on Transcendental Meditation is directly relevant to this investigation, a brief review of this relevant research is given below.

The Transcendental Meditation technique is the meditative system that has been studied with the most exacting scientific and methodological procedures. In three comprehensive studies of individuals who regularly practiced Transcendental Meditation, it was found that during TM a sharp decrease in metabolic rate occurred—a 20 percent decrease in oxygen consumption, a sharp decrease in respiration rate, a significant decrease in carbon dioxide elimination, and an average decrease in heart rate of three beats per minute. Also reported were a 25 percent decrease in lactate concentration in the blood and an increase in skin resistance, which for some subjects was more than fourfold (26, 27, 28). Allison (1) reported that during Transcendental Meditation breath rate decreased sharply, and no compensatory over-breathing was evidenced after the subjects stopped meditating.
Electroencephalographic recordings of subjects while they were practicing the Transcendental Meditation technique showed a marked intensification of alpha-wave activity of increased regularity along with the occasional emergence of prominent theta-wave activity. No such phenomena were evidenced in the same subjects during control conditions (26, 27). Banquet (5) reported similar data. Brown, Stuart, and Blodgett (7) observed kapparhythm activity in subjects practicing Transcendental Meditation. These 8–12 cycles-per-second frontal rhythms were present in ten of 11 meditators, but were present only at low levels in just three of the 11 nonmeditators during resting conditions.

A rapid increase in forearm blood flow has been found during Transcendental Meditation. Wallace and Benson (27) observed a 32 percent increase, while Rieckert (22) observed a 300 percent increase.

Brown, Stuart, and Blodgett (7) compared people who practiced the Transcendental Meditation technique with control subjects on ability to determine psychophysical thresholds. They concluded that their study provides tentative evidence that Transcendental Meditation results in increased efficiency of performance on perceptual tasks.

Courses in the Transcendental Meditation technique were offered to students in the public school system in Eastchester, New York. It was found that meditating students improved their grades, improved their relationships with teachers, parents, and other students, and decreased their frequency of drug use (11).

Benson and Wallace (6) conducted a survey of 1,862 subjects practicing Transcendental Meditation. Seventy-eight percent had regularly used marijuana and hashish prior to learning TM, and 22.4 percent had been heavy users of these drugs. After subjects had been meditating regularly a mean of 22 months, the percentages fell to 12.2 and 0.1 percent, respectively. Winquist (31) reported that of 484 individuals who used drugs prior to starting Transcendental Meditation, 84 percent had stopped entirely, 14.5 percent had substantially decreased their use, and 1.5 percent had increased their use after three months of meditation.

Seeman, Nidich, and Banta (23) administered Shostrom’s Personal Orientation Inventory to eight males and seven females two days prior to their instruction in Transcendental Meditation. A control group of nonmeditators was tested at the same time. The two groups did not differ significantly on any of the test scales. On a posttest two months later, significant differences between the experimental and control groups were found on six of the 12 scales, all in the predicted direction of “self-actualization.” Differences were most significant on the Self-regard, Acceptance of Aggression, and Spontaneity scales. Hjelle (15) obtained similar results. The experimental group of meditators scored significantly higher than the control group of nonmeditators on seven of the 12 test scales.

Ballou (4) compared a control group of nonmeditators to an experimental group of meditators with regard to anxiety levels. The two groups did not differ significantly on measures of transitory and general anxiety at pretest. Scores on a series of posttests, administered after experimental subjects had been instructed in Transcendental Meditation, showed that TM significantly reduced anxiety levels and that they remained low over time. In a study by Ferguson and Gowan (14) comparing nonmeditating controls to a group of subjects about to learn Transcendental Meditation, it was found that after six weeks of meditation, the anxiety levels of the meditators were significantly reduced as compared to those of the control group.

Most of these investigations on the influence of the Transcendental Meditation technique on personality and behavior did not attempt to control for possible differences in motivational variables between meditators and nonmeditators. It is possible that prospective meditators, though exhibiting the same behavior as control subjects, were a highly motivated group looking for a vehicle through which they could bring about personal change. Further, the reliability, validity, and comprehensiveness of the test criteria selected to measure personality and behavioral changes may not have been, in many cases, the best available (8). Additional investigations are needed to obtain fully reliable measures of the ways in which Transcendental Meditation influences personality and behavior.

This experiment was an attempt to determine the effects of the regular practice of the Transcendental Meditation technique on those aspects of behavior and personality measured by a self-report questionnaire and the Personality Research Form, a comprehensive, well-constructed personality test with high degrees of reliability and validity (8). The Personality Research Form measured areas of personality not touched upon in previous research on Transcendental Meditation. An attempt was also made to control for possible motivational differences between meditators and nonmeditators.

Three hypotheses were considered. First, prior to learning Transcendental Meditation the experimental group would not score significantly differently from the control groups on the 15 scales of the Personality Research Form and on the measures on the self-report questionnaire. Second, after eight weeks of meditating 15–20 minutes twice a day, the experimental subjects would score significantly differently from the control subjects on some
or all of the measures of these two tests. Third, the significant changes for the experimental subjects in the scores on these two tests would be in the direction of better psychosocial functioning.

**METHOD**

SUBJECTS—The subjects were male and female undergraduate student volunteers from Eastern Kentucky University, the University of Kentucky, and Centre College. All subjects were between 18 and 25 years of age. Each of the following three groups contained ten subjects: Control Group I, composed of subjects chosen at random from the college population, who had received no formal presentation on any aspect of the Transcendental Meditation program; Control Group II, composed of subjects who had attended an introductory lecture on the Transcendental Meditation program but who had decided not to learn the technique; and the Experimental Group, composed of subjects who attended the introductory lecture, were instructed in the Transcendental Meditation technique by a qualified teacher, and meditated regularly for a period of eight weeks. None of the subjects had prior experience with any form of meditation.

MATERIALS AND PROCEDURE—The Personality Research Form (Form A, Research Psychologists Press, 1968) and a general self-report questionnaire were administered to all three groups. The Personality Research Form is a self-report personality inventory designed for use with normal individuals (16). The self-report questionnaire is a series of questions designed to elicit data about an individual’s day-to-day functioning. The questionnaire was developed to measure the frequency of specific behaviors, the strength of beliefs and attitudes, and the degree of enjoyment derived from various activities.

The first administration of the Personality Research Form and the self-report questionnaire took place one day after the introductory lecture on the Transcendental Meditation program. The second administration for all subjects took place two months after the date of original testing.

**RESULTS**

The pretest and posttest means of the scores for the Experimental Group (meditators) and both control groups (nonmeditators) on the 15 scales of the Personality Research Form are presented in table 1. An analysis of variance of the means for all 15 test scales showed that the three groups did not differ significantly on any of the scales at pretest. Mean change scores and an analysis of variance of changes in the scores from pretest to posttest for the three groups on all 15 test scales also appear in table 1. There was a significant increase in the scores of the Experimental Group as compared to the scores of the control groups on the Affiliation (p = .023), Nurturance (p = .011), and Dominance (p = .005) scales. There was a significant decrease in the scores of the Experimental Group as compared to the scores of the control groups on the Harm Avoidance (p = .044) and Aggression (p = .039) scales (figs. 1–5). No significant differences were found among the three groups on the other test scales.

An analysis of variance of pretest-posttest change was calculated for all the variables on the self-report question-
naire; several variables showed statistical significance. In rating how much they enjoyed a number of common activities, the experimental subjects showed a significantly greater decrease than control subjects in the enjoyment they obtained from watching a sports event ($p < .001$) and from getting "high" on drugs with their friends ($p = .030$). Table 2 shows the means, $F$, and $p$ values for these two measures. The Experimental Group showed an increase in their own rating of their sensitivity towards other people that was statistically significant ($p = .039$) as compared to the control groups (fig. 6). The means, $F$, and $p$ values appear in table 3.

Experimental Group subjects decreased in the frequency of their use of hemp-type drugs (e.g., marijuana and hashish) significantly more than subjects in the control groups ($p = .043$). The Experimental Group subjects also showed a significant decrease in the consumption of alcohol ($p = .008$) compared to subjects in the control groups. There were no significant differences in the changes in the use of tobacco, amphetamines, depressants, hallucinogens, aspirin, or poppy derivatives. However, when all these categories (tobacco, alcohol, hashish, marijuana, amphetamines, depressants, aspirin, hallucinogens, and poppy derivatives) are combined to give a measure of total drug use, subjects in the Experimental Group show a significantly greater decrease in the use of drugs ($p = .007$) than control subjects (fig. 7). Means, $F$, and $p$ values for these drug variables appear in

FIG. 1. CHANGE IN AFFILIATION SCORES FROM PRETEST TO POST-TEST. The figure shows the change from pretest (before TM) to posttest (eight weeks after TM) in scores on the Affiliation scale of the Personality Research Form for meditators (Experimental Group), students who were not interested in meditation (Control Group I), and students who were interested in TM but had not sought instruction in the technique (Control Group II).

FIG. 2. CHANGE IN NURTURANCE SCORES FROM PRETEST TO POST-TEST. The figure shows the change from pretest (before TM) to posttest (eight weeks after TM) in scores on the Nurturance scale of the Personality Research Form for meditators (Experimental Group), students who were not interested in meditation (Control Group I), and students who were interested in TM but had not sought instruction in the technique (Control Group II).

FIG. 3. CHANGE IN DOMINANCE SCORES FROM PRETEST TO POST-TEST. The figure shows the change from pretest (before TM) to posttest (eight weeks after TM) in scores on the Dominance scale of the Personality Research Form for meditators (Experimental Group), students who were not interested in meditation (Control Group I), and students who were interested in TM but had not sought instruction in the technique (Control Group II).
TABLE 2
TWO SIGNIFICANT ITEMS OF THE SELF-REPORT QUESTIONNAIRE
A COMPARISON OF PRETEST AND POSTTEST MEANS

<table>
<thead>
<tr>
<th>QUESTIONNAIRE ITEM</th>
<th>GROUP</th>
<th>PRETEST MEAN</th>
<th>POSTTEST MEAN</th>
<th>CHANGE</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experimental</td>
<td>3.0</td>
<td>2.0</td>
<td>-1.0</td>
<td>9.45</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Control I</td>
<td>3.3</td>
<td>3.4</td>
<td>0.1</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Control II</td>
<td>3.4</td>
<td>3.7</td>
<td>0.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>2.8</td>
<td>1.7</td>
<td>-1.1</td>
<td>4.00</td>
<td>0.030</td>
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<td></td>
<td>Control I</td>
<td>1.7</td>
<td>2.0</td>
<td>0.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control II</td>
<td>2.3</td>
<td>2.3</td>
<td>0.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** On the self-report questionnaire subjects rated how much they enjoyed these activities on a scale of 1 to 5: 1 = not at all; 2 = somewhat; 3 = moderately; 4 = much; 5 = extremely.

TABLE 3
SELF-RATING OF SENSITIVITY TOWARDS OTHERS
A COMPARISON OF PRETEST AND POSTTEST MEANS

<table>
<thead>
<tr>
<th>GROUP</th>
<th>PRETEST MEAN</th>
<th>POSTTEST MEAN</th>
<th>CHANGE</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity towards other people</td>
<td>Experimental</td>
<td>3.0</td>
<td>3.6</td>
<td>0.6</td>
<td>3.66</td>
</tr>
<tr>
<td></td>
<td>Control I</td>
<td>3.4</td>
<td>3.4</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control II</td>
<td>3.6</td>
<td>3.7</td>
<td>0.1</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** On the self-report questionnaire subjects rated their sensitivity on a scale of 1 to 5: 1 = never sensitive; 2 = seldom sensitive; 3 = moderately sensitive; 4 = very sensitive; 5 = extremely sensitive.

TABLE 4
FREQUENCY OF DRUG USE
A COMPARISON OF PRETEST AND POSTTEST MEANS ON ITEMS OF THE SELF-REPORT QUESTIONNAIRE

<table>
<thead>
<tr>
<th>DRUG</th>
<th>GROUP</th>
<th>PRETEST MEAN</th>
<th>POSTTEST MEAN</th>
<th>CHANGE</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>Experimental</td>
<td>2.9</td>
<td>2.2</td>
<td>-0.7</td>
<td>5.75</td>
<td>0.008</td>
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<td></td>
<td>Control I</td>
<td>2.7</td>
<td>2.7</td>
<td>0.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control II</td>
<td>2.9</td>
<td>2.7</td>
<td>-0.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobacco</td>
<td>Experimental</td>
<td>2.0</td>
<td>1.9</td>
<td>-0.1</td>
<td>&lt;1.0</td>
<td>NS*</td>
</tr>
<tr>
<td></td>
<td>Control I</td>
<td>2.3</td>
<td>1.9</td>
<td>-0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control II</td>
<td>1.7</td>
<td>1.8</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemp types</td>
<td>Experimental</td>
<td>3.0</td>
<td>1.9</td>
<td>-1.1</td>
<td>3.55</td>
<td>0.043</td>
</tr>
<tr>
<td></td>
<td>Control I</td>
<td>2.2</td>
<td>2.3</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control II</td>
<td>2.4</td>
<td>2.6</td>
<td>0.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poppy types</td>
<td>Experimental</td>
<td>1.0</td>
<td>1.0</td>
<td>0.0</td>
<td>&lt;1.0</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Control I</td>
<td>1.0</td>
<td>1.0</td>
<td>0.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control II</td>
<td>1.0</td>
<td>1.0</td>
<td>0.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amphetamines</td>
<td>Experimental</td>
<td>1.6</td>
<td>1.2</td>
<td>-0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control I</td>
<td>1.2</td>
<td>1.1</td>
<td>-0.1</td>
<td>&lt;1.0</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Control II</td>
<td>1.2</td>
<td>1.1</td>
<td>-0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressants</td>
<td>Experimental</td>
<td>1.4</td>
<td>1.0</td>
<td>-0.4</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Control I</td>
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<td>1.2</td>
<td>0.0</td>
<td>1.40</td>
<td>NS</td>
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<tr>
<td></td>
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<td>1.2</td>
<td>1.2</td>
<td>0.0</td>
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<td></td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>Experimental</td>
<td>1.7</td>
<td>1.2</td>
<td>-0.5</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Control I</td>
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<td>1.3</td>
<td>0.0</td>
<td>1.04</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Control II</td>
<td>1.2</td>
<td>1.1</td>
<td>-0.1</td>
<td></td>
<td></td>
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<tr>
<td>Aspirin</td>
<td>Experimental</td>
<td>2.1</td>
<td>2.3</td>
<td>0.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control I</td>
<td>2.4</td>
<td>2.6</td>
<td>0.2</td>
<td>&lt;1.0</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Control II</td>
<td>2.4</td>
<td>2.7</td>
<td>0.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total drug use</td>
<td>Experimental</td>
<td>2.0</td>
<td>1.6</td>
<td>-0.4</td>
<td>6.02</td>
<td>0.007</td>
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<tr>
<td></td>
<td>Control I</td>
<td>1.8</td>
<td>1.8</td>
<td>0.0</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Control II</td>
<td>1.8</td>
<td>1.8</td>
<td>0.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** On the self-report questionnaire subjects rated the frequency with which they used these drugs on a scale of 1 to 5: 1 = never; 2 = rarely (once or twice a year); 3 = occasionally (once or twice a month); 4 = often (3-4 times a week); 5 = very frequently (once a day or more).

*NS = not significant.
FIG. 4. CHANGE IN HARM AVOIDANCE SCORES FROM PRETEST TO POSTTEST. The figure shows the change from pretest (before TM) to posttest (eight weeks after TM) in scores on the Harm Avoidance scale of the Personality Research Form for meditators (Experimental Group), students who were not interested in meditation (Control Group I), and students who were interested in TM but had not sought instruction in the technique (Control Group II).

FIG. 5. CHANGE IN AGGRESSION SCORES FROM PRETEST TO POSTTEST. The figure shows the change from pretest (before TM) to posttest (eight weeks after TM) in scores on the Aggression scale of the Personality Research Form for meditators (Experimental Group), students who were not interested in meditation (Control Group I), and students who were interested in TM but had not sought instruction in the technique (Control Group II).

FIG. 6. CHANGE IN SENSITIVITY TOWARDS OTHER PEOPLE FROM PRETEST TO POSTTEST. The figure shows the change from pretest (before TM) to posttest (eight weeks after TM) in scores on the Sensitivity scale of the self-report questionnaire for meditators (Experimental Group), students who were not interested in meditation (Control Group I), and students who were interested in TM but had not sought instruction in the technique (Control Group II).

FIG. 7. CHANGE IN TOTAL DRUG USE FROM PRETEST TO POSTTEST. The figure shows the change from pretest (before TM) to posttest (eight weeks after TM) in scores on the Drug scale of the self-report questionnaire for meditators (Experimental Group), students who were not interested in meditation (Control Group I), and students who were interested in TM but had not sought instruction in the technique (Control Group II).
DISCUSSION

These results lead to the following conclusions with respect to the three original hypotheses. First, the experimental subjects did not differ significantly at pretest from control subjects on any of the test measures. Thus, the first hypothesis was confirmed. This result supports the assumption that the subjects in all three groups were from the same population, at least with regard to the measures used in this study. Since subjects were not randomly assigned in a strict way to the three groups, this finding provides an essential empirical baseline for comparing changes in the three groups.

It is possible that the subjects in the Experimental Group differed from the subjects in Control Group I in interest level and motivation to change. Differences of this type would not necessarily be apparent in the pretest scores. However, Control Group II at least partially controlled for these variables. The subjects in Control Group II and the subjects in the Experimental Group were alike in that they all attended the introductory lecture on the Transcendental Meditation program solely on their own initiative. It may be reasonable to assume, therefore, that the interest level and motivation to change were approximately the same for the subjects in both groups. Thus, the data for Control Group II help ensure that Transcendental Meditation, rather than extraneous variables such as motivation and interest level, was responsible for the significantly greater changes in the scores of subjects in the Experimental Group from pre- to posttest.

The significantly greater changes in the scores of subjects in the Experimental Group on five scales of the Personality Research Form and on six measures of the self-report questionnaire indicate that the Transcendental Meditation program influenced personality and behavior. Further, these changes were all in the predicted direction of better psychosocial functioning. Thus, the second and third hypotheses were confirmed.

PERSONALITY RESEARCH FORM—The descriptions of the scales of the Personality Research Form define in detail the nature of the improvement in the meditators' psychosocial functioning. Jackson (16) provides descriptions and trait adjectives for persons who score high and for persons who score low on the various scales. Scores above and below the normative mean of a scale constitute high and low scores, respectively (8). The more extreme a person's score is, the more the scale description will tend to characterize him (8).

The scores of the Experimental Group increased significantly more than the scores of the control groups on the Affiliation scale (fig. 1). People who score high on this scale enjoy being with friends and people in general, accept people readily, make efforts to win friendships, and seek to maintain associations with others. High scorers are described as neighborly, warm, good-natured, cooperative, friendly, and loyal. These descriptions indicate that compared to control subjects the meditators developed an increased tendency to move out toward and be comfortably involved with other people.

There was a significantly greater increase in Experimental Group scores as compared to control group scores on the Nurturance scale (fig. 2). Persons who score high on this scale have a strong need to give sympathy and comfort, assist others whenever possible, offer a helping hand to those in need, and readily perform favors for others. Such people are described as being sympathetic, helpful, caring, protective, comforting, supportive, and consoling. This description reveals that the meditators increased more than control subjects in their capacity to orient to the needs of others and experienced an increased ability to realize this capacity by providing help and assistance.

The third scale on which the experimental subjects demonstrated a significantly greater increase in scores than control subjects was the Dominance scale (fig. 3). High scorers on this scale attempt to be in command of their environment, influence and direct other people, express their opinions forcefully, enjoy the role of leader, and may assume this role spontaneously. They are characterized as commanding, influential, dominant, persuasive, forceful, leading, assertive, and powerful. This description indicates that the meditators increased more than the control subjects in their capacity to be influential leaders in interpersonal and social interactions.

The experimental subjects showed a significantly greater decrease on the Harm Avoidance scale than did control subjects (fig. 4). Those who score low on this scale seek out and enjoy exciting activities, are willing to enter situations that are somewhat dangerous and risky, are not overly preoccupied with the possibilities of incurring bodily harm, and do not place a high priority on continually maximizing personal safety. These people are characterized as brave, adventurous, exciting, risk-taking, and action-oriented. This description indicates that compared to control subjects the meditators became less hesitant to engage in and experience adventurous, exciting activities and encounters.

The Experimental Group decreased significantly more than the control groups on the Aggression scale (fig. 5). Individuals who score low on this scale tend to avoid combat and argument, seldom hurt people to get their own...
way, rarely become annoyed or irritated with others, are considerate and forgiving, and do not tend to act in a revengeful manner. These people are described as easy-going, friendly, calm, tactful, non-threatening, agreeable, and non-argumentative. This description indicates that the meditators decreased more than the control subjects in their need to enter into aggressive, competitive interactions with others, while increasing in their capacity for cooperative interpersonal functioning.

It is not a contradiction that the meditators' scores increased on the Dominance scale and decreased on the Aggression scale. Jackson (16) points out that each scale on the Personality Research Form taps a different area of personality. The Dominance scale measures the simple assertion of the self in social and interpersonal situations, while the Aggression scale measures the need to place the self in a conflictual, competitive position with others and society in general.

Based on his examination of a number of factor-analytic studies, Jackson (16) has combined a number of individual test scales into a larger unit that measures the degree and quality of the individual's interpersonal orientation. The optimal interpersonal orientation includes high scores on the Affiliation, Nurturance, and Exhibition scales together with a low score on the Aggression scale. Note that with the exception of the Exhibition scale the changes in the scores of the Experimental Group were in accord with Jackson's optimal measure. This finding strongly indicates that the practice of the Transcendental Meditation technique increases both the quantity and quality of interpersonal functioning.

Seeman, Nidich, and Banta (23) found that the regular practice of the Transcendental Meditation technique produced a significant increase in the capacity for intimate contact and in the tendency to develop warm interpersonal relationships. The greater tendency for meditators to establish optimal interpersonal relationships evidenced in the present study is entirely consistent with their findings. This consensus supports the position that the regular practice of the Transcendental Meditation technique results in improved interpersonal functioning.

SELF-REPORT QUESTIONNAIRE—The meditation group showed significantly greater changes than the control groups on six of the measures of the self-report questionnaire. Five of the six were in the predicted direction of improved psychosocial functioning. For the sixth, the decreased enjoyment derived from watching a sports event, no prediction was made. Four of the six measures that changed significantly involved drug use. Compared to control subjects meditators enjoyed getting "high" on drugs with their friends less and demonstrated a greater decrease in alcohol consumption and in the use of marijuana and hashish. There was no significantly greater decrease for experimental subjects than for control subjects in the use of tobacco, amphetamines, depressants, hallucinogens, aspirin, and poppy-type drugs. However, use of amphetamines, depressants, hallucinogens, and poppy-type drugs was very low at pretest. Moreover, the total drug consumption of the Experimental Group decreased significantly more than that of the control groups (fig. 7).

In order to learn the Transcendental Meditation technique a person must abstain from using nonprescription drugs for 15 days preceding the initial instructional period. It cannot be determined whether or not this forced abstinence influenced the greater decrease in drug use by meditators that was observed. Previous research on the Transcendental Meditation program and drug abuse (6, 31) suggests that Transcendental Meditation did play a part in influencing the decreases in drug consumption reported here. The accumulating experimental findings in this area suggest that the regular practice of the Transcendental Meditation technique may prove to be an effective means for combatting drug abuse.

The Experimental Group also showed a significantly greater increase than the control groups in their rating of their sensitivity to other people (fig. 6). This result fits into the emerging pattern of improved interpersonal functioning. It is consistent with the increases found on the Nurturance and Affiliation scales.

CONCLUSION

The results of this study indicate that the Transcendental Meditation program has a significant effect on the components of personality associated with interpersonal functioning. The increases in dominance, affiliation, and nurturance and the decreases in aggression and harm avoidance indicate basic changes in the ways in which the individual relates to other people. Subjects who practiced the Transcendental Meditation technique developed a greater ability to relate to their fellow man. They increased in their desire to care for others. They increased their ability to take command in group situations via rational rather than purely aggressive modalities. In addition, subjects practicing Transcendental Meditation increased enough in their feelings of security to take risks in moving outwards towards others.

These changes have profound implications. First, it is commonly held that once one enters late adolescence, personality is generally quite stable (12, 13). However, the fact that in a period of only two months the practice of Transcendental Meditation produced these basic changes suggests that the Transcendental Meditation program may prove to be an effective means for producing positive personality growth.
Second, in clinical psychology it is often maintained that interpersonal functioning is the true basis for psychological health (2, 9, 19). In accord with this, the Transcendental Meditation technique is seen to be a potentially potent means of reducing psychopathology and increasing effective psychological functioning.

The reduced drug consumption evidenced in this study is likewise an impressive finding. There has traditionally been little success in treating drug dependency (21, 24). This study and others (6, 30, 31) suggest that Transcendental Meditation is one of the best means available for combatting drug abuse.

In summary, this study provides initial evidence that the Transcendental Meditation program is a valid clinical tool for effecting personality change in the direction of more effective psychosocial functioning and for decreasing drug dependency.

This study and the previous research mentioned indicate that Transcendental Meditation is a potent source for bringing about constructive change in people. Subsequent research should thoroughly explore this potential and should confirm, modify, qualify, and add specificity to this initial evidence. If its present promise can be confirmed, the Transcendental Meditation program may become a major tool in a human technology designed to provide the individual with the skills needed for effective living.

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