THE TRANSCENDENTAL MEDITATION PROGRAM AND PROGRESSIVE RELAXATION: COMPARATIVE EFFECTS ON TRAIT ANXIETY AND SELF-ACTUALIZATION

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In a comparison of the effects of the Transcendental Meditation technique and another relaxation technique on anxiety and self-actualization, the more comprehensive positive changes were found to occur in those practicing the Transcendental Meditation technique.—EDITORS

Spielberger's State-Trait Anxiety Inventory (STAI) and Shostrom's Personal Orientation Inventory (POI) were completed by three groups of undergraduates at the University of New England at Armidale, Australia, a few days prior to either beginning a program of Transcendental Meditation (TM group, N = 25), a parallel program of progressive relaxation (PR group, N = 40), or acting as controls (N = 27). Seven weeks later both inventories were readministered to all groups. Only the subjects who regularly practiced the Transcendental Meditation technique showed a significant reduction in trait anxiety scores compared with control subjects (p < .05), while subjects who regularly practiced either Transcendental Meditation or progressive relaxation showed a significant improvement in self-actualization scores compared with control subjects (p < .05). Results confirm previous findings on Transcendental Meditation; the comparison with the widely used therapeutic technique of progressive relaxation gives further indication of the greater efficacy of the Transcendental Meditation program in psychotherapy and personal development.

INTRODUCTION

Research on physiological and biochemical changes associated with the Transcendental Meditation (TM) technique has consistently revealed a marked reduction of metabolic rate and a profound state of relaxation concurrent with steady alertness during the meditation period (11, 15, 16). Furthermore, the indices suggest a state that contrasts with normal relaxed waking, dream, or deep sleep states (5, 16). Outside the meditation period (TM is practiced 15–20 minutes twice a day) meditators have been found to have a reduced level of trait anxiety (4) as measured by Spielberger’s State-Trait Anxiety Inventory (STAI) and Cattell’s IPAT Anxiety Scale. Reduced anxiety in meditators is also indicated by their demonstrating fewer spontaneous skin resistance responses and fewer multiple responses to stressful stimuli (11). Other studies have shown an accompanying improvement in self-actualization as measured by the Personal Orientation Inventory (POI) (10, 12).

Improvements on a number of other indices of psychological health have been reported in meditators (4, 8), but trait anxiety and self-actualization are of particular importance for psychotherapy and growth psychology. “It is widely recognized that anxiety is the most pervasive psychological phenomenon of our time and that it is the chief symptom in the neuroses and in the functional psychoses” (6, p. v). Self-actualization, on the other hand, is a concept developed to describe the total growth or evolution of personality toward maturity and full functioning. It can be considered a broad index of psychological health, just as anxiety is an index of psychological ill health. A primary purpose of this study, then, is to test the hypothesis that a few weeks of regular practice of TM leads to reduced trait anxiety and improved self-actualization, as measured by Spielberger’s STAI (14) and Shostrom’s POI (13).

However, it is critically important to test whether these effects are unique to the TM program, or whether they would equally follow from, say, a systematic program of relaxation for a similar period twice each day with similar expectations of reduced anxiety and improved psychological functioning as are commonly associated with TM. Techniques of progressive relaxation (7, 17) are widely used in counseling and psychotherapy and have been adapted by Meares (9) for use in counseling programs. If the benefits arising from TM are also found to follow from relaxation programs, then TM would appear to have little special advantage to offer in this field. Hence the second hypothesis tested is that a few weeks of regular practice of
progressive relaxation (PR) lead to reduced trait anxiety and improved self-actualization in an amount equal to TM.

METHOD

SUBJECTS—All subjects were full-time undergraduates at the University of New England at Armidale, Australia (age range 17 to 23 years, except one PR subject of 28 years). Twenty-five volunteered for the TM group (14 males, 11 females; mean age 19.6 years); 40 for the PR group (ten males, 30 females; mean age 18.9 years); and 27 for the control group (seven males, 20 females; mean age 18.9 years). Of these, six TM subjects (four males, two females; mean age 19.8 years) and 21 PR subjects (five males, 16 females; mean age 19.0 years) met the criterion of regular practice by averaging at least three sessions every two days throughout the experimental period. A majority of subjects in all groups were enrolled in an introductory psychology course and could earn up to eight hours of credit toward a course requirement for experimental work for time spent in the program. (There was no obligation for any subject to complete the program.)

TESTING MATERIALS AND PROCEDURE—The POI and STAI were completed by all subjects about four days before the TM and PR groups were instructed in their techniques and again approximately seven weeks after instruction.

The TM subjects were individually instructed in Transcendental Meditation according to a standard procedure by a teacher qualified by Maharishi Mahesh Yogi to teach TM.* The practice of the TM technique itself is well standardized and is easily learned by anyone. It involves sitting comfortably with eyes closed for 15–20 minutes twice a day; it does not involve the acceptance of any belief or way of life and does not necessitate other practices outside the meditation period.

*The Transcendental Meditation technique is taught by the Students International Meditation Society and the International Meditation Society. The Australian national center is located at 107 Jersey Road, Woollahra, Sydney, N.S.W.

The PR subjects were introduced to the technique by the experimenter in groups of about six in a comfortable, carpeted room on campus. Following an introductory talk on the principles of PR and the benefits to be expected from regular practice (analogous to that given within the TM program), subjects were “talked through” their first session. Both introductory talk and instructions for relaxation were based on Meares’s (9, pp. 77–108) approach. After further discussion as necessary, subjects were asked to practice PR at home twice a day for about 15 minutes each time (Meares suggests ten minutes twice a day, but the breathing exercise suggested by him was extended over an extra five minutes). Subjects were also encouraged to attend a weekly group session (analogous to the group sessions available in the TM program), in which the experimenter talked subjects through as in the first session and discussed their progress.

RESULTS

Scores for Trait Anxiety (STAI A-Trait scale) and Self-actualization (POI) for controls and for regular and irregular TM and PR subjects before and after seven weeks’ practice of TM or PR are presented in table 1 and figs. 1 and 2. The combined score on the Inner-Directed Support scale and the Time Competence scale of the POI is reported to be the best overall measure of self-actualization (2, 3, 13). The pre-post change scores of the control group were compared with those of each experimental group using t-tests for independent means.

There were no significant differences among groups in initial scores, except that TM subjects were more self-actualized than others (p < .05). However, after seven weeks’ practice, regular TM subjects reduced their Trait Anxiety scores and increased their Self-actualization scores significantly more than control subjects. Regular PR subjects significantly increased their Self-actualization scores but failed to significantly reduce their Trait Anxiety scores, compared with control subjects. Irregular TM and irregular PR subjects (each group averaging nearly one session per day) did not improve significantly more or less than control subjects, except

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<thead>
<tr>
<th>TABLE 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STAI AND POI MEAN SCORES AND DIFFERENCES FOR ALL GROUPS</strong></td>
</tr>
<tr>
<td><strong>BEFORE AND AFTER THE SEVEN-WEEK EXPERIMENTAL PERIOD</strong></td>
</tr>
<tr>
<td><strong>GROUP</strong></td>
</tr>
<tr>
<td>Control</td>
</tr>
<tr>
<td>Regular TM</td>
</tr>
<tr>
<td>Regular PR</td>
</tr>
<tr>
<td>Irregular TM</td>
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<tr>
<td>Irregular PR</td>
</tr>
</tbody>
</table>

| **POI (INNER-DIRECTED SUPPORT AND TIME COMPETENCE SCALES)** |
| **Before** | **After** | **Diff.** | **p** |
| Control | 95.4 | 100.1 | 4.7 | NS |
| Regular TM | 101.2 | 111.3 | 10.1 | <0.05 |
| Regular PR | 93.6 | 103.2 | 9.6 | <0.05 |
| Irregular TM | 101.3 | 105.8 | 4.5 | NS |
| Irregular PR | 96.3 | 101.5 | 5.2 | NS |

*NS = not significant.
that the reduction in Trait Anxiety scores for irregular TM subjects reached the 0.10 level of significance.

Improvements on four of the 12 POI subscales were substantially greater for both regular TM and regular PR subjects compared with controls, while there were no similar improvements for irregular subjects. For regular TM subjects, changes in scores on the Inner-Directed Support and the Feeling Reactivity scales were significantly greater than for controls ($p < .05$), and changes in scores on Capacity for Intimate Contact and Acceptance of Aggression scales reached the 0.10 level in comparison with controls. Among regular PR subjects changes on the Inner-Directed Support and Capacity for Intimate Contact scales were significantly greater than among controls ($p < .05$), and changes on the Self-acceptance and Existentiality scales approached being significantly greater among regular PR subjects than among controls ($p < .10$).

**DISCUSSION**

The first hypothesis, that regular practice of TM leads to reduced trait anxiety and increased self-actualization, was supported, while the second hypothesis, that these effects would equally follow from the regular practice of PR, received only partial support.
The important difference found in this study between the techniques of TM and PR appears to lie in the relative effects each has on trait anxiety. Even the irregular TM subjects showed a substantially reduced level of anxiety, while PR subjects improved virtually no more than controls.

The apparent superiority of TM over more conventional methods of relaxation in reducing anxiety is supported by Boudreaux's report (1) that the use of TM led to a client's rapid recovery from extreme claustrophobia, where systematic desensitization with relaxation as the inhibitor had led to no improvement. Further, Gellhorn and Kiely (5) report a larger group of similar drug-abusing youngsters treated by Meditation, an easily learned technique in contrast to the tension states, anxiety, and phobic reactions . . . and a number of other psychosomatic practices, . . . much improved clarity in cognitive functions and in emotional behavioral integration. A much larger group of similar drug-abusing youngsters treated by more conventional psychiatric methods, including psychoactive drugs, has failed to demonstrate much benefit.” These authors characterize the meditative state as a shift in autonomic tuning involving a dominance of the parasympathetic system (balanced with sufficient sympathetic arousal to maintain alertness). Such shifts have not been replicated with autogenic training, progressive relaxation, systematic desensitization, or hypnosis, and thus may well account for the superiority of TM in reducing trait anxiety.

Gellhorn and Kiely (5) conclude that “Transcendental Meditation, an easily learned technique in contrast to the rigorous training involved in Zen and Yoga exercises, may be useful clinically in the treatment of psychosomatic tension states, anxiety, and phobic reactions . . . and a number of other psychosomatic disorders.” The present study gives evidence of the greater efficacy of the TM technique over conventional methods of relaxation, suggesting its suitability for wider application for the enhancement of psychological health and personal development.

REFERENCES