

## PAPER 145

### THE INFLUENCE OF TRANSCENDENTAL MEDITATION ON ANXIETY

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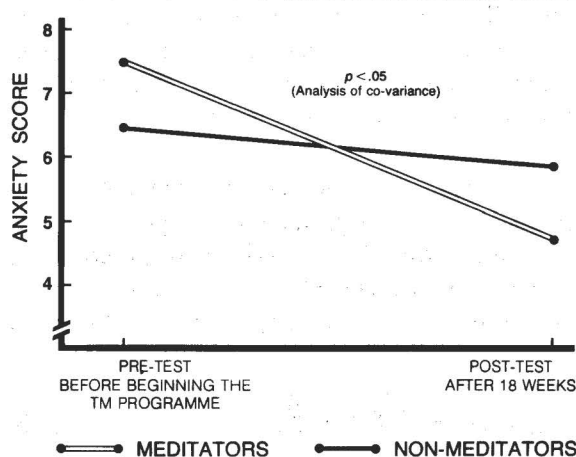
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The Transcendental Meditation programme was found to reduce anxiety.

The following figure has been prepared for illustrative purposes.—EDITORS

FIG. 1. DECREASED ANXIETY IN MEDITATORS. The figure shows the change in anxiety, measured on the Taylor Manifest Anxiety Scale, in meditators from before learning Transcendental Meditation to 18 weeks after, as compared to controls over the same period.



The following is an abbreviated version of the first author's original master's thesis presented to the Graduate Faculty of the Department of Psychology, North Texas State University, in partial fulfilment of the requirements for the degree of Master of Science.

*This study was concerned with the degree to which the practice of Transcendental Meditation (TM) aids in the long-term reduction of anxiety. The Taylor Manifest Anxiety Scale (TMAS), short form, was given to 16 subjects about to learn the TM technique and to 16 control subjects. Eighteen weeks later, the TMAS was again administered to both groups. A significant difference was found in TMAS score reduction between the two groups, with the meditation group showing the greater reduction. These findings lend support to the hypothesis that TM aids in the long-term reduction of anxiety. It is recommended that further research in this area be undertaken to further validate the results of this study.*

Techniques of reducing anxiety have been examined and compared to the effects produced by Transcendental Meditation (TM). Campbell (4) has reported differential effects during TM as compared to both autosuggestion and sleep. Vanselow (9) concluded that TM is more effective in reducing stress and tension than autogenic training, suggestive therapy, and analytic treatment.

Much of the research done on TM has dealt with the state of the organism during meditation. Of particular interest are physiological studies whose supposed psychological concomitant is closely associated with anxiety. Wallace et al. (10) found a decrease in oxygen consumption and blood lactate level, and an increase in skin resistance during meditation. Allison (1) observed a significant decrease in breath rate with no evidence of compensatory over-breathing after meditation had terminated. Orme-Johnson (7) found that meditators achieved habituation to noxious tones in fewer trials than did nonmeditators.

Exploratory studies dealing with the short-term effects of TM with diverse populations have generated interesting results. Fehr et al. (5) observed a reduction in nervousness, irritability, and emotional instability in teachers of TM as compared with the average population. A significant reduction in both momentary and general anxiety was found by Ballou (2) in a study of state prisoners who practiced TM as compared with those who acted as controls. Ferguson and Gowan (6) found a decrease in anxiety and neuroticism in university students who practiced TM.

It may be argued that TM does not necessarily have a long-term effect on anxiety, but, at most, only a temporary effect. In light of this argument, the present study was undertaken to investigate the long-term effect of TM on anxiety. It was hypothesized that, on a relatively enduring basis, Transcendental Meditation is an effective technique which aids in the reduction of anxiety.

## METHOD

**SUBJECTS**—Eighty-two subjects were tested initially, 35 subjects in the meditation group and 47 subjects in the control group. The meditation group consisted of subjects who had never had experience

with TM and who enrolled with the Students International Meditation Society for instruction in TM. The control group consisted of volunteers from undergraduate psychology classes at North Texas State University. Because of attrition and failure to meet meditation requirements (12 times a week), only 16 subjects in the meditation group were retested. No significant difference was found between groups on the basis of sex, age, or scale score.

**INSTRUMENT**—The short form of the Taylor Manifest Anxiety Scale (8), as suggested by Bendig (3), was employed. Several items, unrelated to anxiety, were added. An instruction sheet was attached to each of the two forms (pretest and posttest). It should be noted that both forms incorporate the same scorable items, only in a slightly different order.

**PROCEDURE**—The Taylor Manifest Anxiety Scale was administered to the experimental group prior to their learning to meditate and to the control group during this same time period. Following a period of 18 weeks, matched subjects were retested, using the same scale. During retesting, subjects in the meditation group were asked to estimate the number of times a week they had meditated since their initial learning of the technique. Also during retesting, all subjects in both groups were asked if they had been involved in therapy, counseling, or yoga since their initial testing. Meditators who did not meet the meditation requirement of 12 sessions per week (five subjects) and subjects who had been involved in therapy, counseling, or yoga (one subject in the experimental group and one subject in the control group) were excluded from this study.

This experiment was designed to test the effects of meditation on anxiety as measured by the Taylor Manifest Anxiety Scale. A comparison between the two groups with respect to the differential change in anxiety scores within each group provided a test of the hypothesis.

## RESULTS

With the pretest scale score as the covariable, analysis of covariance was employed to determine if meditation had a differential effect on the final scale score. Results of analysis of covariance revealed a significant difference between the two groups. As seen in table 1, the scale score reduction was the greatest for the meditation group.

TABLE 1  
SUMMARY OF AGE, TMAS SCORES, AND  $F^*$  FOR THE  
MEDITATION GROUP AND THE CONTROL GROUP

|                     | MEDITATION GROUP | CONTROL GROUP |
|---------------------|------------------|---------------|
| Number of subjects  | 16               | 16            |
| Mean age            | 27.3             | 21.5          |
| Mean pretest score  | 7.5              | 6.5           |
| Mean posttest score | 4.75             | 5.9           |

\* $F = 4.79$  ( $p < .05$ ).

## DISCUSSION

On the basis of the obtained results, and since the pretest mean anxiety score is higher than the posttest mean anxiety score, it was concluded that the research hypothesis was confirmed. Specifically, it was concluded that Transcendental Meditation is a technique which effectively aids in the reduction of anxiety on a relatively enduring basis.

The results of this study may have been anticipated by projections of several short-term studies (2, 6). However, such projections may lead to severe problems of overgeneralization. In addition to supporting these short-term studies, this study also tends to eliminate factors attributable to the individual's enchantment with a new technique and not due to the effects of the technique itself.

With the limitations of the study in mind, suggestions for future studies may be advisable. The use of a placebo or pseudo treatment control group may be valuable. It may be beneficial to assess and account for subjects who terminate the practice of TM. The pretest anxiety scores for many subjects in both groups were quite low. The utility of lowering a prevailing low anxiety score is debatable. The therapeutic utility of TM may be challenged by the use of clinical subjects.

The most tenable explanation of the finding of

this study is that Transcendental Meditation does aid in the reduction of anxiety. However, with reference to the cited limitations of this study and with respect to the limited literature to support this hypothesis, generalization of the results must be made with caution.

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