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## Effects of transcendental meditation and heart rhythm meditation on selected physiological variable

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### Abstract

The purpose of the study was to find out the effects of different types of meditations namely Transcendental Meditation and Heart Rhythm Meditation on selected physiological variable namely breath holding time among college men students. To achieve this purpose of the study, sixty men students studying bachelor's degree in and around Colleges nearby Tiruvannamalai District, Tamil Nadu, India were randomly selected as subjects. The age, height and weight of the selected subjects were ranged from 18 to 24 years, 158 to 171 cm and 56 to 69 kilogram respectively. The selected subjects were divided into three equal groups of twenty subjects each at random. Group I underwent Transcendental Meditation, Group II underwent Heart Rhythm Meditation and Group III acted as control. All the subjects of three groups were tested on selected dependent variable at prior to and immediately after the training programme. The collected data were analyzed statistically by using ANCOVA (analysis of covariance) to find out the effects of different types of meditations on selected physiological variable. Whenever, the obtained 'F' ratio for the adjusted post test mean was found to be significant, the Scheffe's test was applied as post hoc test to determine the paired mean differences, if any. The .05 level of confidence was fixed to test the level of significance which was considered as an appropriate.

**Keywords:** Different types of meditations, transcendental meditation, heart rhythm meditation, control group, physiological variable, Breath holding time

### Introduction

In the few decades, sports gained tremendous popularity all over the globe. The popularity of sports is still increasing at a factor pace. Sports have become an important social and culture activity of the modern world, which is being given the right place it deserve by the nations and societies of the world. Sports contribute towards the all-round development of personality, and enhances the horizons of awareness among competing sportsmen. Performance sports aims at higher sports performance and for that the physical and psychological capacities of sportsman are developed extreme, limits.

Physical education is the way of education through motor activity and related experiences and its matter is primarily ways of behaving physical training refers to the process used in order to develop the components of physical fitness.

### Breath holding

Breath holding time is the time taken by the subject to hold his breath as long as he can. During voluntary breath holding, tissues continue to utilize oxygen and liberate carbon dioxide.

The physiology of breath holding is complex, and voluntary breath-hold duration is affected by many factors, including practice, psychology, respiratory chemo reflexes, and lung stretch.

### Transcendental Meditation

Though Transcendental Meditation is not a mantra-based meditation in the sense that its main core and direction is oriented towards transcending, it does involve use of mantras.

Maharishi Mahesh Yogi, the great teacher from India who introduced the Transcendental Meditation technique to the wider world, said: "Mantra is a specific thought which suits us, a suitable sound for us which we receive from a trained teacher of Transcendental Meditation.

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## Heart Rhythm Meditation

Heart Rhythm Meditation is a method of meditation that has been expanded and developed by Puran Bair and Susanna Bair of the Institute for Applied Meditation. The method was described in the 1998 book *Living from the Heart*, by Puran and Susanna Bair (3rd Edition Published in 2019) and in the 2007 book *Energize Your Heart in 4 Dimensions*, by Puran and Susanna Bair. The application of Heart Rhythm Meditation to the development of spiritual maturity is described in the book, *Follow Your Heart*, by Puran and Susanna Bair, edited and illustrated by Asatar Bair published in 2011. The practice originates from the Jesus Prayer and the teachings of Inayat Khan, who founded the Sufi order and is credited with bringing Sufism to the Western world. Puran and Susanna Bair were disciples of Inayat Khan's eldest son and successor Vilayat Inayat Khan. The HRM founders claim that their approach is non-religious, practical, and scientific.

## Materials and Methods

### Statistical technique

The collected data were analyzed statistically by using ANCOVA (analysis of covariance) to find out the effects of different types of meditations namely Transcendental Meditation and Heart Rhythm Meditation on selected physiological variable. Whenever, the obtained 'F' ratio for the adjusted post test mean was found to be significant, the Scheffe's test was applied as post hoc test to determine the

paired mean differences, if any. The .05 level of confidence was fixed to test the level of significance which was considered as an appropriate.

### Selection of subjects

To achieve this purpose of the study, sixty men students studying bachelor's degree in and around Colleges nearby Tiruvannamalai District, Tamil Nadu, India were randomly selected as subjects. The selected subjects were divided into three equal groups of twenty subjects each at random. Group I underwent Transcendental Meditation, Group II underwent Heart Rhythm Meditation and Group III acted as control.

### Selection of variable

Physiological variable namely Breath holding time was selected as criterion variable. The Transcendental Meditation and Heart Rhythm Meditation were selected as independent variables. The selected criterion variable was measured by taking Holding the Breath for Time.

### Analysis of the Data

#### Breath Holding Time

The analysis of covariance on breath holding time of the pre and post test scores of transcendental meditation group, heart rhythm meditation group and control group have been analyzed and presented in Table 1.

**Table 1:** Analysis of covariance of the data on breath holding time of pre and post tests scores of transcendental meditation, heart rhythm meditation and control groups

Test	Transcendental meditation Group	Heart rhythm meditation Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
<b>Pre Test</b>								
Mean	42.60	42.90	37.95	Between	308.1	2	154.05	2.39
S.D.	8.45	8.53	7.01	Within	3673.6	57	64.45	
<b>Post Test</b>								
Mean	50.25	52.30	38.95	Between	2067.4	2	1033.70	16.70*
S.D.	8.98	7.97	6.44	Within	3526.9	57	61.88	
<b>Adjusted Post Test</b>								
Mean	48.91	50.69	41.90	Between	798.8	2	399.40	54.49*
				Within	410.5	56	7.33	

(The table values required for significance at .05 level of confidence for 2 and 57 and 2 and 56 are 3.15 and 3.15 respectively).

The table 1 shows that the pre-test mean values on breath holding time of transcendental meditation group, heart rhythm meditation group and control group are 42.60, 42.90 and 37.95 respectively. The obtained "F" ratio of 2.39 for pre-test scores is less than the table value of 3.15 for df 2 and 57 required for significance at .05 level of confidence on breath holding time. The post-test mean values on breath holding time of transcendental meditation group, heart rhythm meditation group and control group are 50.25, 52.30 and 38.95 respectively. The obtained "F" ratio of 16.70 for post test scores is greater than the table value of 3.15 for df 2 and 57 required for significance at .05 level of confidence on breath holding time.

The adjusted post-test mean values on breath holding time of

transcendental meditation group, heart rhythm meditation group and control group are 48.91, 50.69 and 41.90 respectively. The obtained "F" ratio of 54.49 for adjusted post-test means is greater than the table value of 3.15 for df 2 and 56 required for significance at .05 level of confidence on breath holding time.

The results of the study indicated that there was a significant difference among the adjusted post-test means of transcendental meditation group, heart rhythm meditation group and control group on breath holding time.

Since three groups were compared, whenever the obtained 'F' ratio for adjusted post test was found to be significant, the Scheffe's test was used to find out the paired mean differences and it was presented in Table 2.

**Table 2:** The Scheffe's Test for the Differences between Paired Means on Breath Holding Time

Transcendental meditation group	Heart rhythm meditation group	Control Group	Mean Differences	Confidence Interval
48.91	50.69	-	1.78	2.18
48.91	-	41.90	7.01*	2.18
-	50.69	41.90	8.79*	2.18

\* Significant at .05 level of confidence.

The table 2 shows that the mean difference values on breath holding time between transcendental meditation group and control group and heart rhythm meditation group and control group are 7.01 and 8.79 respectively which were greater than the required confidence interval value 2.18 for significance at .05 level of confidence. It further shows that the mean difference values on breath holding time between transcendental meditation group and heart rhythm meditation group 1.78 which was lesser than the required confidence interval value 2.18 for significance at .05 level of confidence. The results of the study showed that there was a significant difference between transcendental meditation group and control group and heart rhythm meditation group and control group on breath holding time. It further showed that there was no significant difference between transcendental meditation group and heart rhythm meditation group on breath holding time.

### Conclusions

Based on the results of the study, the following conclusions were drawn.

1. There was a significant differences exist among transcendental meditation group, heart rhythm meditation group and control group on selected physiological variable namely breath holding time.
2. There was significant change on selected physiological variable namely Breath holding time due to transcendental meditation and heart rhythm meditation after twelve weeks of training period.
3. Significant differences were found between transcendental meditation group and heart rhythm meditation group on selected physiological variable namely Breath holding time after twelve weeks of training period.

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