STAR Research Journal

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PHYSICAL EDUCATION

EFFECT OF PRANAYAMA AND MEDITATION ON SELECTED MOTOR FITNESS VARIABLES AMONG SCHOOL STUDENTS

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Abstract

The purpose of the study was to find out the effect of pranayama and meditation on selected motor fitness variables among school students. To achieve this purpose of study, sixty school boys of were selected. To achieve this purpose of study, sixty different School boys of higher secondary school from Perambalur District, Tamil Nadu, India were put under test. They were in the age group of 12 to 16 years & were selected as subjects at random. They were divided into three equal groups of each twenty subjects. They were to conduct different yogic practices. There are different types of schools for yogic practices namely Thanthai Hans Roever Residential School of yogic practice group and Dhanalakshmi Srinivasan School of yogic practice group and control group. The group I Pranayamas Group, group II Meditation Group worked for five days per week for six weeks and group III acted as control who did not participate any special yogic practice apart from their regular day-today activities. The following variables namely Speed and Explosive Power were selected as criterion variables. The Speed was assessed by Scores in 50m dash and Explosive Power was assessed by using Scores in Vertical Jump. All the subjects of three groups were tested on selected criterion variables at prior to and immediately after the training programme as pre and post test selection. Analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the groups on each selected criterion variables separately. In all the cases, .05 level of confidence was fixed to test the significance, which was considered as an appropriate. The results of the study revealed that there was a significant difference between Pranayamas group and Meditation group and control group on selected criterion variables such as Speed and Explosive Power. There was an improvement as per the selected criterion variables namely Speed and Explosive Power according to Pranayamas practice and Meditation practice.

Keywords: Pranayama, Meditation, School Students.

INTRODUCTION

Life is a characteristic of organisms that exhibit certain biological processes such as chemical reactions or other events that results in a transformation. Living organisms are capable of growth and reproduction, some can communicate and many can adapt to their environment through changes originating internally. Fitness is a key to enjoy life. Exercise is an important of a total fitness programme. Modern living has taken all the exercise out of our lives and so in order to get fit and have to put it back again, regular exercise is necessary to develop and maintain an optional level of health, performance and appearance. It makes feel good, both physically and mentally. It gives psychological lift and strengthens a sense of accomplishment. Looking young is a reflection of good health. Regular physical exercise enhance the function of the joints; increase the sense of physical well-being and promotes a sense of feeling good; increases physical working capacity by increasing cardiorespiratory fitness, muscle strength and endurance and decreases the risk of serious diseases that could lead to early disability and death.

Yoga means the experience of oneness or unity with inner being. This unity comes after dissolving the duality of mind and matter into supreme reality. It is a science by which the individual approaches truth. The aim of all yoga practice is to achieve truth where the individual soul identifies itself with the supreme soul or God. Yoga has the surest remedies for man's physical as well as psychological ailments. It makes the organs of the body active in their functioning and has good effect on internal functioning of the human body. Yoga is a re-education of one's mental process, along with the physical. Yoga has been practiced in India for over two millennia. Stories and legands from ancient times testify to the existence of yoga, and to the practitioners and divinities associated with it. India literature is a storehouse of knowledge about yoga covering every convering conceivable level. Roughly in chronological order are the vocals (books of scriptural knowledge), the Upanishada (Philosophical cosmologies), and their commentaries; then the Puranas (ancient

cosmologies), and the two epics, the Ramayana and the Mahabharatha. The Mahabharatha contains within itself that master piece of Indian scripture the Bagawad Gita. Towards the end of Vedic period comes the aphoristic literature, with the "yoga Aphorisms" of Patanjali of special interest to yoga students. Besides, whole bodies of works both ancient (Pre-Christian) and more modern with various aspects of yoga and yoga philosophy, testifying to the continued relevance of yoga as a discipline (Mira Mehta, 1998).

In other systems of physical exercises, the internal organs of the body mostly do not get proper exercises, while yogic practices gives sufficient exercises to the internal organs of the body. Yoga practices have a greater impact on the mind and control the senses. Yogic practices make possible not only physical and mental development but also intellectual and spiritual development. Yoga practices are called a 'non-violent activity' (Sharma, 1984).

METHODOLOGY

The purpose of the study was to find out the effect of pranayama and meditation on selected motor fitness variables among school students. To achieve this purpose of study, sixty school boys of were selected. To achieve this purpose of study, sixty different School boys of higher secondary school from Perambalur District, Tamil Nadu, India were put under test. They were in the age group of 12 to 16 years & were selected as subjects at random. They were divided into three equal groups of each twenty subjects. They were to conduct different yogic practices. There are different types of schools for yogic practices namely Thanthai Hans Roever Residential School of yogic practice group and Dhanalakshmi Srinivasan School of yogic practice group and control group. The group I Pranayamas Group, group II Meditation Group worked for five days per week for six weeks and group III acted as control who did not participate any special yogic practice apart from their regular day-today activities. The following variables namely Speed and Explosive Power were selected as criterion variables. The Speed was assessed by Scores in 50m dash and Explosive Power was assessed by using Scores in Vertical Jump. All the subjects of three groups were tested on selected criterion variables at prior to and immediately after the training programme as pre and post test selection. Analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the groups on each selected criterion variables separately. In all the cases, .05 level of confidence was fixed to test the significance, which was considered as an appropriate.

TRAINING PROGRAMME

During the training period, group I underwent Pranayamas practice, group II underwent Meditation practice, for three days per week for twelve weeks in addition to their regular physical education activity, every day workout lasted about 45-60 minutes including warm-up and warm down exercises. Group III acted as control who did not participate any specific training, however, they per-form regular physical education programme.

STATISTICAL ANALYSIS

The data was collected from three groups at prior to and after completion of the training period on selected criterion variables, were statistically examined for significant difference if any, by applying analysis of covariance (ANCOVA). The Scheffe's post hoc test was applied to know the significant difference between groups, if they obtained 'F' ratio was significant. In all cases .05 level of confidence was utilized to test the significance.

SPEED

The analysis of covariance of the data obtained for speed of pre-test and post-test of Pranayamas practice group, Meditation practice group and control group have been presented in Table I.

TABLE I
ANALYSIS OF COVARIANCE FOR THE PRE AND POST TEST ON SPEED OF PRANAYAMAS PRACTICE, MEDITATION PRACTICE AND CONTROL GROUPS (In Seconds)

	PRANAYAMAS PRACTICE GROUP	MEDITATION PRACTICE GROUP	CONTROL	SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	OBTAINED F
Pre Test Mean	7.03	7.08	7.10	Between	0.05	2	0.02	0.40
				Within	3.51	57	0.06	
Post Test Mean	6.95	7.19	7.07	Between	0.54	2	0.27	3.87*
				Within	3.95	57	0.07	
Adjusted Post Test Mean	6.99	7.18	7.05	Between	0.37	2	0.18	8.11*
				Within	1.27	56	0.02	
Mean Diff	-0.07	0.11	-0.02					

* Significant at .05 level of confidence.
(The table values required for significance at .05 level of confidence for 2 and 57 and 2 and 56 are 3.159 and 3.162 respectively).

Table I shows that the pre test mean values on speed of Pranayamas practice group, Meditation practice group and control groups are 7.03, 7.08 and 7.10 respectively. The obtained 'F' ratio of 0.40 for pre test scores is lesser than the table value of 3.159 for df 2 and 57 required for significance at .05 level of confidence on speed. The post test mean values on speed of Pranayamas practice group, Meditation practice group and control groups are 6.95, 7.19 and 7.07 respectively. The obtained "F" ratio value of 3.87 for post test scores is greater than the table value of 3.159 for df 2 and 57 required for significance at .05 level of confidence on speed. The adjusted post test mean values on speed of Pranayamas practice group, Meditation practice group and control groups are 6.99, 7.18 and 7.05 respectively. The obtained "F' ratio value of 8.11 for adjusted post test scores is greater than the table value of 3.162 for df 2 and 56 required for significance at .05 level of confidence on speed. The results of the study indicated that there was a significant difference among the adjusted post test means of Pranayamas practice group, Meditation practice group and control groups on Speed. To determine the significance difference among the three paired means, the Scheffe's test was applied as post hoc test and the results are presented in table II -A.

TABLE II -A
THE SCHEFFE'S TEST FOR THE DIFFERENCE BETWEEN PAIRED MEANS ON SPEED

MEANS			MEAN DIFFERENCE	REQUIRED . C I
PRANAYAMAS PRACTICE GROUP	MEDITATION PRACTICE GROUP	CONTROL		
6.99	7.18		0.19*	0.12
6.99		7.05	0.06	0.12
	7.18	7.05	0.13*	0.12

*Significant at .05 level of confidence.

The table II-A shows that the mean difference values between Pranayamas practice group and Meditation practice group, Pranayamas practice group and control group, Meditation practice group and control group 6.99, 7.18 and 7.05 respectively on speed which were greater than the required confidence interval value 0.12 at .05 level of confidence. The results of this study showed that Pranayamas practice group has significantly differed on speed when compared to Meditation practice group and control group. Meditation practice group also significantly differed on speed when compared to control group.

EXPLOSIVE POWER

The analysis of covariance of the data obtained for Explosive Power of pre-test and post-test of Pranayam as practice group, Meditation practice group and control group have been presented in Table III.

TABLE III
ANALYSIS OF COVARIANCE FOR THE PRE AND POST TEST ON EXPLOSIVE POWER OF PRANAYAMAS PRACTICE, MEDITATION PRACTICE AND CONTROL GROUPS (In Centimeters)

	PRANAYAMAS PRACTICE GROUP	MEDITATION PRACTICE GROUP	CONTROL	SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	OBTAINED F
Pre Test Mean	47.25	47.85	49.85	Between	74.13	2	37.07	0.76
				Within	2770.85	57	48.61	
Post Test Mean	56.05	50.80	48.65	Between	579.63	2	289.82	6.62*
				Within	2494.70	57	43.77	
Adjusted Post Test Mean	56.94	51.19	47.37	Between	906.81	2	453.40	44.00*
				Within	577.06	56	10.30	
Mean Diff	8.80	2.95	-1.20					

* Significant at .05 level of confidence.
(The table values required for significance at .05 level of confidence for 2 and 57 and 2 and 56 are 3.159 and 3.162 respectively).

Table III shows that the pre test mean values on Explosive Power of Pranayamas practice group, Meditation practice group and control groups are 47.25, 47.85 and 49.85 respectively. The obtained 'F' ratio of 0.76 for pre test scores is lesser than the table value of 3.159 for df 2 and 57 required for significance at .05 level of confidence on Explosive Power. The post test mean values on Explosive Power of Pranayamas practice group, Meditation practice group and control groups are 56.05, 50.80and 48.65 respectively. The obtained "F" ratio value of 6.62 for post test scores is greater than the table value of 3.159 for df 2 and 57 required for significance at .05 level of confidence on Explosive Power. The adjusted post test mean values on Explosive Power of Pranayamas practice group, Meditation practice group and control groups are 56.94, 51.19 and 47.37 respectively. The obtained "F' ratio value of 44.00 for adjusted post test scores is greater than the table value of 3.162 for df 2 and 56 required for significance at .05 level of confidence on Explosive Power. The results of the study indicated that there was a significant difference among the adjusted post test means of Pranayamas practice group, Meditation practice group and control groups on Explosive Power. To determine the significance difference among the three paired means, the Scheffe's test was applied as post hoc test and the results are presented in table IV -A.

TABLE IV-A
THE SCHEFFE'S TEST FOR THE DIFFERENCE BETWEEN PAIRED MEANS ON EXPLOSIVE POWER

MEANS			MEAN DIFFERENCE	REQUIRED . C I
PRANAYAMAS PRACTICE GROUP	MEDITATION PRACTICE GROUP	CONTROL		
56.94	51.19		5.75*	2.55
56.94		47.37	9.56*	2.55
	51.19	47.37	3.81*	2.55

*Significant at .05 level of confidence.

The table IV-A shows that the mean difference values between Pranayamas practice group and Meditation practice group, Pranayamas practice group and control group, Meditation practice group and control group 56.94, 51.19 and 47.37 respectively on Explosive Power which were greater than the required confidence interval value 2.55 at .05 level of confidence. The results of this study showed that Pranayamas practice group has significantly differed on Explosive Power when compared to Meditation practice group and control group. Meditation practice group also significantly differed on Explosive Power speed when compared to control group.

CONCLUSIONS

Within the limitations of this study, the

following conclusions are drawn.

1. It was concluded that speed was improved significantly due to pranayama and meditation practices of college students.
2. It was concluded that pranayama practices were better than meditation pratices in improving speed of college students
3. It was concluded that explosive power was improved significantly due to pranayama and meditation practices of college students
4. It was concluded that pranayama practices were better than meditation in improving explosive power of college students

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