



Effect of Various Yogic and Fitness Training Programme on Health Related Physical Fitness of School Children

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Abstract

The purpose of the study is to investigate the effect of yogic and fitness training on selected strength parameter such as Muscular strength and Flexibility underwent school boys students in the age group of 13 to 16 on health related physical fitness. To achieve this purpose, 30 male school students were randomly selected as subjects from St. Claret's Hr. Sec. School, Karumathur, Madurai, studying in various classes. The age of the subjects were ranged from 13 to 16 years. The subjects were formed a two group of 15 subjects each, in which group - I underwent yogic training programme for three days per week for eight weeks and group - II acted as control group who were not undergo any type of training programme. The selected criterion variables such as Muscular Strength and Flexibility were assessed before and after the training period. The collected data were statistically analysed by using Analysis of Covariance (ANCOVA). From the results of this study it was found that there was a significant improvement on Muscular Strength and Flexibility for yogic and fitness training group when compared with the control group.

Keywords: Yogic training, Fitness training, Muscular strength, Flexibility and School students.

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Introduction

Physical education and recreation are among the oldest arts in the humanities. Physical education is a fundamental mode of human expression and it is an essential form of nonverbal communication like, music, art, literature and dance. In the contemporary scenario, studies have been conducted for analyzing the merits of various physical fitness training programmes. National and state governments have realized the importance of including the dimension of physical fitness in to the school and college curriculum. Physical Education in Schools was earlier considered to be an extracurricular activity and was pushed to the back seat, where as now it is accepted as a co-curricular activity. This indicates that education has to take the responsibility of all-round development of the students by means of physical activity and the teachers have to make use of it to develop and maintain a physically fit body, a sound mind and a socially desirable outlook of the students. One of the major drawbacks of our education system is that we do not pay much attention towards the development of physical capabilities of the student. With the increasing attention given to academic pursuit, there has been a decline in proper attention to the inherent physical virtues. As a result, the students face problems such as

obesity, poor health, and postural deformities.

Health-related physical fitness consists of those components of physical fitness that have a relationship with good health. The components are commonly defined as flexibility and muscular strength. Prior to the last forty years the distinction between health related physical fitness and skill related physical fitness was not typically made. When tests of physical fitness are administered in school, medical and other settings should be arranged for measuring the health related physical fitness components. Lab and field tests of health related physical fitness involve some type of performance such as running, stretching, or doing a specific muscle exercise. Because body composition (also referred to as relative leanness) is not a performance measure, some questions its inclusion as a component of health-related physical fitness. Possessing good health-related fitness is related to lower risk of illness and improved quality of life. Health Related Physical Fitness serves several purposes including educating students about various component of physical fitness. Tremendous changes in the field of health related fitness has been made in the present century, due to the modern techniques and technology it helps to provide students, parents and teachers with information concerning the fitness of children and youth, providing a basis for the development of personal exercise programme and motivating the students to improve their fitness levels and exercise habits.

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Health Related Physical Fitness of High School children are significantly associated with certain physical activity behaviors of their childhood and their parent's attitude towards physical activity. In the modern lifestyle, most of the children spend their leisure time with television and computer. Some of the modern cultured parents will not allow their children to spend time in play ground. They tightened their schedule hard for tuition and studies.

Dependent Variables

Health Related Physical Fitness Components

1. Muscular Strength
2. Flexibility

Independent Variables

1. Yogic training

Methodology

The purpose of the study is to investigate the effect of yogic and fitness training on selected parameter such as Muscular strength and Flexibility underwent school boys students in the age group of 13 to 16 on health related physical fitness. To achieve this purpose, 30 male school students were randomly selected as subjects from St. Claret's Hr. Sec. School, Karumathur, Madurai, studying in various classes. The age of the subjects were ranged from 13 to 16 years. The subjects were further classified at random into two equal groups of 15 subjects each in which group - I underwent yoga

training and fitness training programme for three days per week for eight weeks and group - II acted as control who were not undergo any special training programme. The selected criterion variables such as Muscular strength and flexibility were assessed before and after the training period. The collected data were statistically analysed by using Analysis of Covariance (ANCOVA). From the results of the study it was found that there was a significant improvement on Muscular strength and flexibility for yogic training and fitness training group when compared with the control group. All students in experimental group, the yogic training and fitness training programme were fixed accordingly. Then the experimental group underwent yogic training and fitness training programme for 3 days per week for 8 weeks. The control group did not participate in any special training programme on strenuous physical activities and yoga training apart from their day to day activities. The experimental group underwent their yogic and fitness training under the instruction and supervision of the investigator. The data were collected on selected criterion variables such as Muscular strength was measured by using back lift with the dynamometer and flexibility was measured by sit and reach test with centimeter at before and after the eight weeks of yogic and fitness training as pre and post-test. Analysis of covariance (ANACOVA) was applied to find out significant difference if any between the experimental and control group.

Results and Discussion

Table I. Summary statistics for the pre and post-tests on sit-ups of control group and experimental group

Test	Control Group	Yoga Group
Pre-Test Mean $\pm$ SD)	19.29 $\pm$ 2.65	21.68 $\pm$ 3.74
Post-Test (Mean $\pm$ SD)	21.35 $\pm$ 2.03	24.34 $\pm$ 4.58
't' test	0.90	11.28*

* Significant at 0.05 level.

It is an important component of health related physical fitness. The research scholar analyzed the effect of various yogic and fitness training programmes to health related physical fitness components. The mean and standard deviation of yoga in pre-test was 21.68 and 3.74. After the training post-test was taken, the result shows that it is increased to 24.34 and 4.58 respectively. The mean and standard deviation of control group in pre-test was 19.29 and 2.65. After the training post-test was taken, the result shows that it is increased to 21.35 and 2.03 respectively. This illustrates the improvement of abdominal muscular strength of the subjects. It also shows an improvement. The above result indicates that there is an improvement in the abdominal

musculoskeletal strength (abdominal muscular strength endurance) due to the practice of yogic and fitness training. As compared to control group and yogic group and fitness group. Yogic and fitness group is more effective and gives better results for the improvement of abdominal strength endurance. The dependent t-test values between pre-test and post-test means of control group and yogic and fitness group sit-ups were 0.90 and 11.28 respectively. Since the obtained t-value of experimental groups are greater than the table value. The Analysis of Covariance on sit-ups of control group and yogic and fitness group have been analyzed and presented in table-II.

Table II. Analysis of covariance on sit-ups of control group and yogic and fitness training group

Adjusted post-tests means		Sources of variance	Sum of Squares	df	Mean of Squares	'F' Value
Control Group	Yoga Group					
		Between	860.44	2	430.22	
21.67	26.54					6.87*
		Within	1753.32	28	62.61	

* Significant at .05 level of confidence

From the table-II, the adjusted post-test mean values of sit-ups for control group and yogic and fitness group are 21.67 and 26.54 respectively. The obtained 'F'-ratio for adjusted post-test mean is 6.87 which are

more than the table value 2.64 at 0.05 level of confidence. Hence the obtained 'F' ratio is significant at 0.05 level of confidence.

Table III. The summary results for the pre and post tests on sit and reach of control group and experimental groups

Test	Control Group	Yoga Group
Pre-Test Mean $\pm$ SD)	20.45 $\pm$ 3.64	21.81 $\pm$ 4.42
Post-Test (Mean $\pm$ SD)	22.02 $\pm$ 3.54	26.33 $\pm$ 4.55
't' test	1.38	13.12*

* Significant at 0.05 level.

It is another component of health related physical fitness. In the case of sit and reach, the mean and standard deviation of pre-test values of yogic and fitness group is 21.81 and 4.42. After training, post-test results shows that the mean and standard deviation of yogic and fitness training group is increased to 26.33 and 4.55 respectively. This indicate that there is an improvement in sit and reach due to the yogic and fitness group. As compared to control group, there is an increase in performance in experimental groups. The result shows that yogic and fitness training group is better than control group. It indicates that yoga training helps to improve flexibility (extensibility) of the low-back and posterior thighs. Thus it helps to the improvement of health related physical fitness. The analysis of dependent t- test on the

data obtained for sit and reach of the pre-test and post-test of control group and yogic and fitness group have been analyzed and presented in Table III. From the Table III, the dependent t-test values between pre-test and post-test means of control group and yogic and fitness group on sit and reach were 1.38 and 13.12 respectively. Since the obtained t-value of experimental groups are greater than the table value 1.672 with df 28 at 0.05 level of confidence. It is concluded that yogic and fitness group had significant improvement in the performance of sit and reach. However, the control group has no significant improvement on the performance of sit and reach. The analysis of covariance on sit and reach of control group and yogic and fitness group have been analyzed and presented in table IV.

Table IV. The analysis of covariance on sit and reach of control group and yogic and fitness group

Adjusted post-tests means		Sources of variance	Sum of Squares	df	Mean of Squares	'F' Value
Control Group	Yoga Group					
		Between	797.930	2	398.97	
21.22	25.43					15.24*
		Within	733.080	28	26.181	

* Significant at .05 level of confidence

From the Table IV the adjusted post-test mean values of sit and reach for control group and yogic and fitness group are 21.22 and 25.43 respectively. The obtained 'F'-ratio for adjusted post test mean is 15.24,

which is more than the Table value 2.645 with df 2 and 28 required for significance at 0.05 level of confidence. Hence the obtained 'f' ratio is significant at 0.05 level of confidence.

Discussion on Findings

The result of this study reveals the benefits of various yogic and physical fitness training programme which are suitable for each and everyone who were lacking these components of physical fitness like musculoskeletal strength endurance and flexibility. In this study, yogic and fitness training programme are included to measure the health related physical fitness components. The result of the test items can be a significant aid in the prescription of exercise programmes for the development of physical fitness. Attained scores of various items can be used to identify strength and weakness within students. Those who are weak in each test items should receive special attention and be strongly encouraged to improve the specific components through the selected fitness training programme. Every physical education programme should have an established set of reasonable fitness objectives for the students. Test results can help to determine the degree to which those objectives are being met. The very process of administering a fitness test to students communicates the nature and importance of fitness along with its components. The components are measured and emphasized as being worthy of special consideration on individuals lifestyle. The testing process should be an integral part of the student's educational experience in health and fitness. It should never be allowed to become a separate entity. The test result can also be used to determine whether physical education programmes are achieving the desired goal. The above table the sit and reach test was used to evaluate the flexibility of the low back and posterior thighs. Since the obtained t-value of experimental groups are greater than the table value 1.672 with df 28 at 0.05 level of confidence. It is

concluded that yogic and fitness training group had significant improvement in the performance of sit and reach and the control group has no significant improvement on the performance of sit and reach. The study reveals that yogic and fitness training group was better than that of control groups. Therefore yogic and fitness training was more effective to improve the abdominal muscular strength and flexibility.

Conclusion

The following conclusions were drawn from the results of the study. This study reveals that the abdominal strength and flexibility has significantly improved due to the influence of the yogic and fitness training programs among school children.

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