

INFLUENCE OF CORE BOARD TRAINING ON SELECTED MOTOR FITNESS VARIABLES AMONG SCHOOL BOYS

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Abstract: The purpose of the study was find out the influence of core board training on selected motor fitness variables among school boys. To achieve the purpose of this study, 30 school boys were randomly selected as subjects from the Kamarajar Higher Secondary School, Pettai, Tirunelveli, Tamil Nadu, India. Their age were ranged from 16 to 18 years. The selected participants were randomly divided into two groups such as group 'A' core board training group (n=15) and group 'B' acted as control group (n=15). Group 'A' underwent core board training for three alternative days per week and each session lasted for an hour for twelve weeks. Control group was not exposed to any specific training but they were participated in regular activities. The balance was assessed by stock balance test (in seconds) and leg strength was assessed by wall sit test (in seconds) were selected as variables. The pre and post tests data were collected on selected criterion variables prior and immediately after the training program. The pre and post-test scores were statistically examined by the Analysis of co-variance (ANCOVA). The level of significant was fixed at 0.05 level. It was concluded that the core board training group had shown significantly improved on balance and leg strength. However the control group had not shown any significant improvement on balance and leg strength.

Index Terms: Core Board Training, Balance, Leg Strength, School Boys

I. INTRODUCTION

Physical activity plays a vital role in the health and well-being of people of all ages, and is associated with positive outcomes relating to body adiposity/weight status, cardio metabolic markers, chronic disease prevention, and mental health ^[1].

Fitness is the ability of an individual to live a full and balanced life. It involves physical, mental, emotional, social and spiritual factors and a capacity for their wholesome expression ^[2].

Physical fitness can be described as a condition that helps us for better look, feel better and perform up to our potentials; more specifically physical fitness can be defined as the ability to perform daily tasks vigorously and alertly, with energy left over for enjoying leisure-time activities and meeting emergency demands ^[3].

In general, physical fitness tests within the school educational system are an important tool to measure the achievements of the learning standards associated with physical education ^[4].

Young children are leading increasingly sedentary lives, with physical activity frequently displaced by television viewing, Internet surfing, and video gaming ^[5]. Much concern has surfaced for this lifestyle change as childhood obesity has risen greatly in the last 10 years ^[6]. Within the school context, incorporating physical activity or fitness training is a likely means to improve the physical health status of children ^[7] as well as cognitive performance and attention and concentration ^[8].

Physical fitness is usually determined in school-aged children using health-related physical fitness batteries (i.e., field tests). Compared to more sophisticated laboratory-based test equipment, field tests are easy-to-administer, involve minimal equipment and personnel, demonstrate good validity and reliability and a large number of subjects can be tested in a relatively small amount of time. Normative data derived from field tests have previously been used to identify subjects for health talent promotion or to provide current objective recommendations for the assessment of physical fitness during physical education ^[9].

II. PURPOSE OF THE STUDY

The purpose of the study is to find out the influences of core board training on selected motor fitness variables among school boys.

III. METHODOLOGY

To achieve the purpose of this study, 30 school boys were randomly selected as subjects from the Kamarajar Higher Secondary School, Pettai, Tirunelveli, Tamil Nadu, India. Their age were ranged from 16 to 18 years. The selected participants were randomly divided into two groups such as group 'A' core board training group (n=15) and group 'B' acted as control group (n=15). Group 'A' underwent core board training for three alternative days per week and each session lasted for an hour for twelve weeks. Control group was not exposed to any specific training but they were participated in regular activities. The balance was assessed by stock balance test (in seconds) and leg strength was assessed by wall sit test (in seconds) were selected as

variables. The pre and post tests data were collected on selected criterion variables prior and immediately after the training program. The pre and post-test scores were statistically examined by the Analysis of co-variance (ANCOVA). The level of significant was fixed at 0.05 level.

IV. ANALYSIS OF DATA

4.1 Balance

Table-4.1: Computation of ‘t’ - ratio between pre and post test means of core board training and control groups on balance (in seconds)

Criterion variables	Test	Core Board Training Group Mean	Control Group Mean
Balance (in Seconds)	Pre test	24.93	24.80
	Post test	30.80	24.86
	‘t’ test	8.61*	0.09

*Significant at 0.05 level. (Table value required for significance at .05 level for ‘t’-test with df 14 is 2.14)

The table 4.1 shows that the pre-test mean value of core board training and control groups are 24.93 and 24.80 respectively and the post test means are 30.80 and 24.86 respectively. The obtained dependent t-ratio values between the pre and post test means of core board training and control groups are 8.61 and 0.09 respectively. The table value required for significant difference with df 14 at 0.05 level is 2.14. Since, the obtained ‘t’ ratio value of core board training group was greater than the table value, it was understood that core board training group had significantly improved the balance. However, the control group has not improved significantly. The ‘obtained t’ value is less than the table value, as they were not subjected to any specific training.

Table-4.2: Mean scores of adjusted post test mean and analysis of covariance of core board training and control groups on balance

Adjusted Post Test Means		Source of variance	Sum of squares	df	Mean square	F - ratio
Core Board Training Group	Control Group	Between	265.89	1	265.89	102.66*
30.80	24.86	Within	69.94	27	2.59	

* Significant at 0.05 level. Table value for df 1, 27 was 4.21

Table-4.2 indicates that the adjusted post test means values on dynamic balance. The obtained f- ratio of 102.66 for adjusted post test mean is greater than the table value 4.21 with df 1 and 27 required for significance at 0.05 level of confidence. The results of the study indicate that there is a significant mean difference exist between the adjusted post test means of core board training and control groups on balance. The bar diagram shows the mean values of pretest, post test and adjusted post test on balance of core board training and control groups.

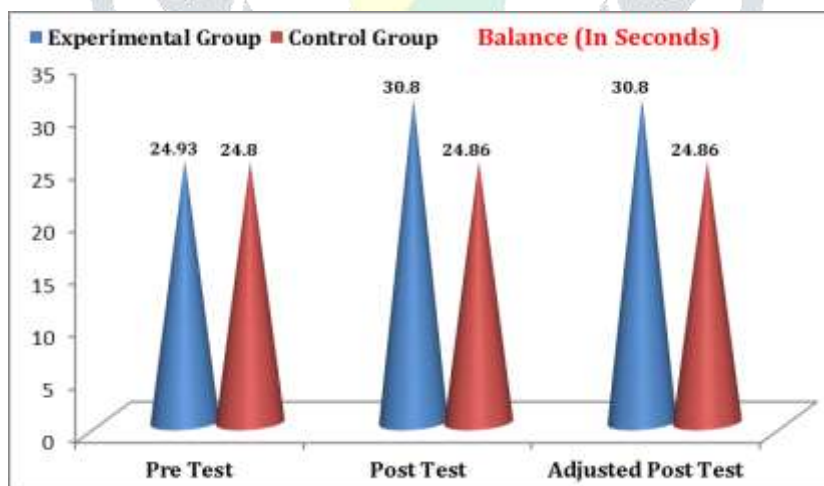


Figure 1: Mean values of pretest, post test and adjusted post test on balance of core board training and control groups

4.2 Leg Strength

Table-4.3: Computation of 't' - ratio between pre and post test means of core board training and control groups on leg strength (in seconds)

Criterion variables	Test	Core Board Training Group Mean	Control Group Mean
Balance (in Seconds)	Pre test	55.66	55.60
	Post test	60.20	55.93
	't' test	4.55*	0.35

*Significant at 0.05 level. (Table value required for significance at .05 level for 't'-test with df 14 is 2.14)

The table 4.3 shows that the pre-test mean value of core board training and control groups are 55.66 and 55.60 respectively and the post test means are 60.20 and 55.93 respectively. The obtained dependent t-ratio values between the pre and post test means of core board training and control groups are 4.55 and 0.35 respectively. The table value required for significant difference with df 14 at 0.05 level is 2.14. Since, the obtained 't' ratio value of core board training group was greater than the table value, it was understood that core board training group had significantly improved the leg strength. However, the control group has not improved significantly. The 'obtained t' value is less than the table value, as they were not subjected to any specific training.

Table-4.4: Mean scores of adjusted post test mean and analysis of covariance of core board training and control groups on leg strength

Adjusted Post Test Means		Source of variance	Sum of squares	df	Mean square	F - ratio
Core Board Training Group	Control Group	Between	124.78	1	124.78	57.23*
60.20	55.93	Within	58.97	27	2.18	

* Significant at 0.05 level. Table value for df 1, 27 was 4.21

Table-4.4 indicates that the adjusted post test means values on dynamic balance. The obtained f- ratio of 57.23 for adjusted post test mean is greater than the table value 4.21 with df 1 and 27 required for significance at 0.05 level of confidence. The results of the study indicate that there is a significant mean difference exist between the adjusted post test means of core board training and control groups on leg strength. The bar diagram shows the mean values of pretest, post test and adjusted post test on balance of core board training and control groups.

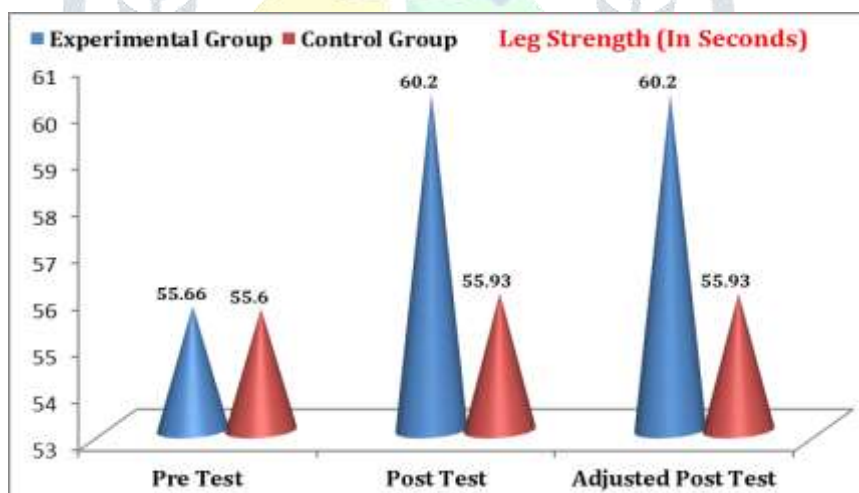


Figure 1: Mean values of pretest, post test and adjusted post test on leg strength of core board training and control groups

V. DISCUSSION AND FINDINGS

Mahishale & Motimath (2015) compared the effect of multidirectional balance board training program and bosu ball training program on dynamic balance in football players. As seen by difference in the SEBT and VJT scores pre and post training with 4 weeks balance training using BOSU and multidirectional balance board is effective in improving dynamic balance and vertical jump performance in football players and also can be used as a component of multifaceted training to improve dynamic balance and game skills.

Women & Sonapat (2014) effected of wobble board balance training program on static & dynamic balance & on triple hop distance in male collegiate basketball athletes. This study concluded that wobble board balance training program is an effective mean for improvement of static & dynamic balance in male collegiate basketball athletes.

Coskun & Sahin (2014) effected of different strength training in trained period and untrained period. Strength training was applied for 6 weeks. The study results show that there were significant differences in leg strength and repetition of push-up

between trained with elastic bands group and body weight after training group. The time-dependent significant differences were found in push-ups, leg strength and sit-up.

Arumugam, S. (2016) conducted study on impact of specific balance training on static balance and dynamic balance among hearing impaired students. He concluded his study on specific balance training improvement on balance variables among hearing impaired students.

VI. CONCLUSION

1. There was significant improvement on balance due to the influence of core board training on motor fitness variables such as balance and leg strength among school boys.
2. There was significant improvement on leg strength due to the influence of core board training on motor fitness variables such as balance and leg strength among school boys
3. However the control group had not shown any significant improvement on any of the selected motor fitness variables.

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