



Category: science of sports training



EFFECT OF SPECIFIC TRAINING ON SELECTED PHYSICAL FITNESS PHYSIOLOGICAL PSYCHOLOGICAL AND SKILL VARIABLES OF HIGH SCHOOL MALE KHO-KHO PLAYERS

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INTRODUCTION

The term “Kho” is derived from the Sanskrit verb “syu” (get- up/ go). Sometimes the word “Mahapranocchar” in yoga is used as equivalent to “Kho”. Therefore, every chaser as an ignition point to start fast movement utters the sound “Kho”. The game is played in different parts of country with some variations. Kho-kho game, as it is seen today, has undergone a tremendous state of development since its birth in Maharashtra during 17th Century. Further, Maharashtra Sports Organizer “Nurulkar” modified the game as a recreational activity; however, byelaws were constituted by the office –bearers of two gymnasiums in Maharashtra during the year 1910. The Deccan Gymkhana of Poona first formulated the rules of the game in 1914 and revised in 1919 and 1928, though they were not published at that time. It was Maharashtra Physical Education Association, which published its rules in book form, for the first time in 1935. In 1938, the second edition was published with certain modification.

Gradually, the next edition was published in 1943. Further, “Akhil Maharashtra Sareerika Sikhshan Mandal” published the new edition of the rules in the year 1949. In 1959, just after the National games at Calcutta, the “kho-kho Federation of India” was formed and the first National Championship was held at Vijayawada, Andhra Pradesh in 1960. After that it was held in all categories in national and Interuniversity levels. The Federation amended the rules in 1961 and also started National Competition for Women in Kolhapur. Since then the Nationals in kho-kho are held every year at some or other place in India. It was decided at Indore in 1964 to give National Awards to the best kho-kho players – “Ekavya” for men and “Rani Mahalakshimbai” for women. Since 1971, 16 years old boys are also given National Awards overall in India for this game:

STATEMENT OF THE PROBLEM

The present study was to find out the effect of specific training on the selected physical fitness, physiological, psychological and skill variables of male high school kho-kho players.

DELIMITATIONS

The following delimitations are considered for the study

1. This study is confined to thirty school male kho-kho players from Ramakrishna Mission Vidyalaya Swami Sivananda Higher Secondary School, Coimbatore, Tamilnadu.
2. The subjects were selected only from the age group of 11 and 14 years.
3. Only selected physical fitness physiological psychological and skill variables were chosen for this study
4. The duration of the experimental period was for six weeks.
5. The study is confined only to the selected specific training.



LIMITATIONS

The following limitations are considered for the study.

1. The factors like personal habits, life style, routine, diet, climatic conditions and environmental factors which might have had an effect on the results of this study could not be taken into consideration.
2. Hereditary, social and other psychological factors could not be controlled.

HYPOTHESES

1. It was hypothesized that there may be significant differences due to specific training on the selected physical fitness variables namely speed, endurance and agility.
2. It was hypothesized that there may be significant differences due to specific training on the selected physiological variable namely vital capacity.
3. It was hypothesized that there may be significant differences due to specific training on the selected psychological variable namely stress.
4. It was hypothesized that there may be significant differences due to specific training on the selected skill variables namely pole dive and covering.

SIGNIFICANCE OF THE STUDY

1. The study will be helpful to know the effect of specific training on selected physical fitness physiological psychological and skill variables of high school male kho-kho players
2. The study will be helpful to prepare training schedule to improve the effect of specific training on the selected physical fitness, physiological, psychological & skill variables of high school male kho-kho players
3. The study will be helpful to realize kho-kho players and coaches for their coaching purpose.

METHODOLOGY

SELECTION OF SUBJECTS

The purpose of the study was to find out the effect of specific training on the selected physical fitness, physiological, psychological and skill variables of male high school kho- kho players. For this purpose, 30 students were selected as subjects from Sri Ramakrishna Mission Vidyalaya Swami Shivananda Higher Secondary School, SRKV post, Periyanaickenpalayam, Coimbatore, Tamil Nadu by applying random sampling method. The age of the subjects ranged from 11 to 14 years.

SELECTION OF VARIABLES

Based on the relevant literature that are viewed and in accordance with the views of the professional physical education personalities, the importance of variables at the high level performance, feasibility aspect of testing, the following variables were selected for this study, namely physical fitness, physiological, psychological and skill variables. They are speed, endurance, agility, vital capacity, stress, pole dive and covering. A specially prepared group of exercises was used for training and is considered as independent variable in this study.

INDEPENDENT VARIABLE

Specific group of exercises

DEPENDENT VARIABLES

- **PHYSICAL FITNESS VARIABLES**
 1. Speed
 2. Endurance
 3. Agility
- **PHYSIOLOGICAL VARIABLE**
 1. Vital capacity



- **PSYCHOLOGICAL VARIABLE**

1. Stress

- **SKILL VARIABLES**

1. Pole dive

2. Covering

TABLE -1

SELECTION OF TESTS AND UNIT OF MEASUREMENTS

Variables	Name of the test	Unit of measurements
Speed	30 Meters dash	seconds
Agility	6 X10 Meters Shuttle run	seconds
Endurance	One Mile run	Minutes and seconds
Vital capacity	Digital spirometer	Liters
Stress	Everdly and Girdando's Questionnaire	points
Pole-Dive	Subjective rating	points
Covering	Subjective rating	points

EXPERIMENTAL DESIGN

The selected subjects (N=30) were divided into two groups each consisting of fifteen. The experimental group underwent the specific training for three days in a week for one hour from 4.30 pm to 5.30 pm for six weeks in total and the control group was not involved in any specific training but were of the investigator in engaged in their usual activities.

STATISTICAL TECHNIQUES

The following statistical procedures were employed to estimate the effect of specific training on the selected physical fitness, physiological, psychological and skill variables of high school male kho-kho players. 't' ratio was calculated to findout the significance difference between the mean of pre and post test of the group

Formulae

$$\text{Mean} = \frac{\sum X}{N} \quad 't' = \frac{DM}{\sigma DM}$$

DM – difference between the mean

σDM – standard error of the difference between means

TABLE-VIII

TABLE SHOWING MEAN DIFFERENCE STANDARD DEVIATION

AND 't' VALUE OF EXPERIMENTAL AND CONTROL

GROUPS IN SPEED

Group	Mean	Md	Std.deviation	Std.error of the mean	't'	Table value
Experimental pre-test	5.55	0.12	0.25	0.65	12.35*	2.14
Experimental post test	5.43		0.23	0.60		
Control pre test	5.65	0.04	0.35	0.91	1.43	2.14
Control post test	5.61		0.34	0.90		

*significant at 0.05 level

FIGURE-1: BAR DIAGRAM SHOWING PRE AND POST TEST MEAN VALUE OF EXPERIMENTAL GROUP AND CONTROL GROUP IN SPEED

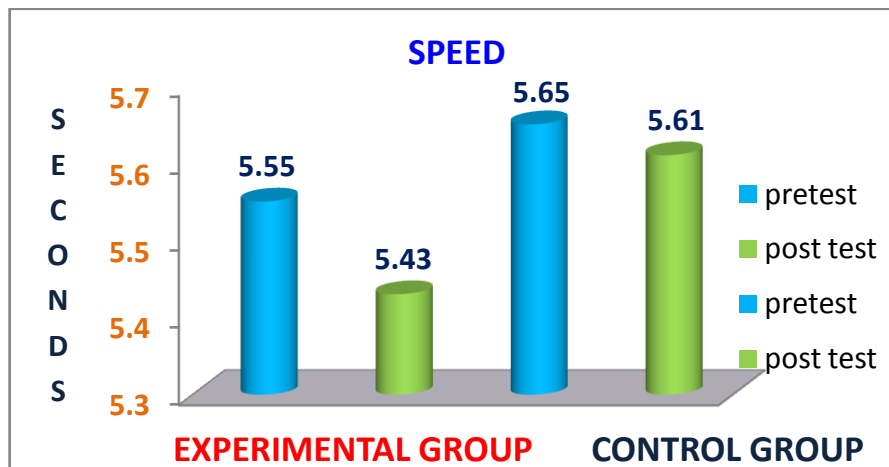


TABLE-IX: TABLE SHOWING MEAN DIFFERENCE STANDARD DEVIATION AND 't' VALUE OF EXPERIMENTAL AND CONTROL GROUPS IN AGILITY

Group	Mean	Md	Std.deviation	Std.error of the mean	't'	Table value
Experimental pre-test	18.42	0.21	0.42	0.10	12.18*	2.14
Experimental post test	18.21		0.44	0.11		
Control pre test	18.53	0.03	0.67	0.17	1.83	2.14
Control post test	18.50		0.66	0.17		

*significant at 0.05 level

FIGURE-2: BAR DIAGRAM SHOWING PRE AND POST TEST MEAN VALUE OF EXPERIMENTAL GROUP AND CONTROL GROUP IN AGILITY

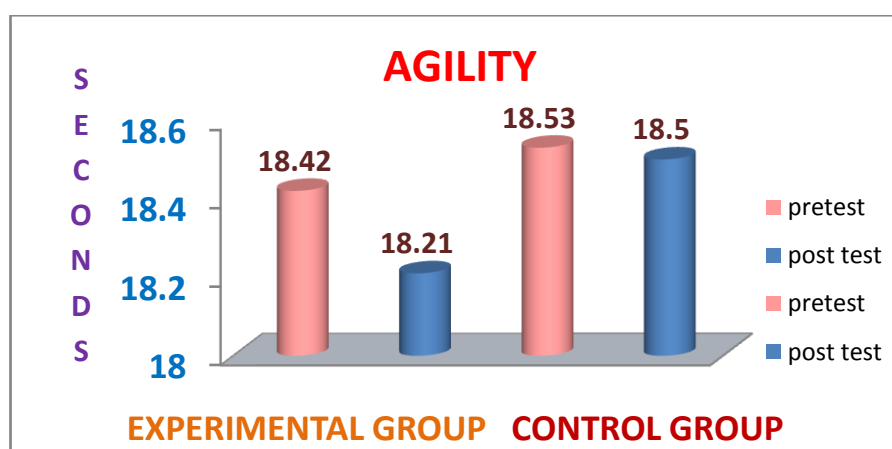




TABLE-X: TABLE SHOWING MEAN DIFFERENCE STANDARD DEVIATION AND 't' VALUE OF EXPERIMENTAL AND CONTROL GROUPS IN ENDURANCE

Group	Mean	Md	Std.deviation	Std.error of the mean	't'	Table value
Experimental pre-test	5.16	0.22	0.38	0.99	9.97*	2.14
Experimental post test	4.94		0.41	0.10		
Control pre test	5.32	0.03	0.17	0.43	0.93	2.14
Control post test	5.29		0.16	0.42		

*significant at 0.05 level

FIGURE-3: BAR DIAGRAM SHOWING PRE AND POST TEST MEAN VALUE OF EXPERIMENTAL GROUP AND CONTROL GROUP IN ENDURANCE

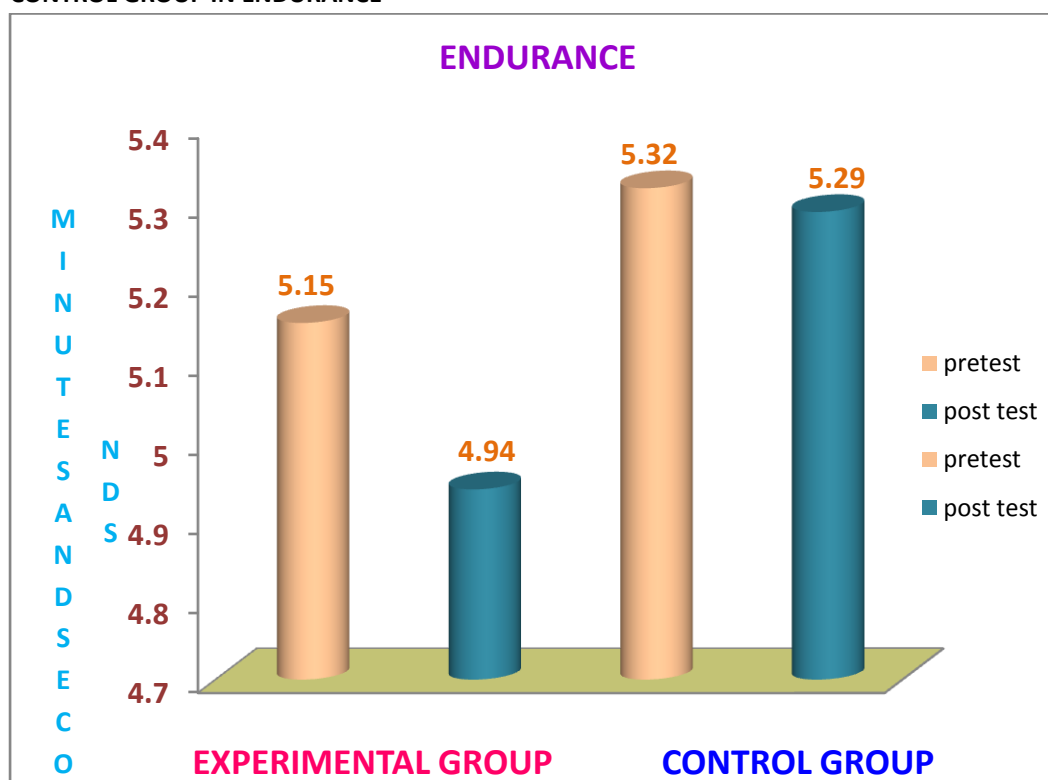


TABLE-XI: TABLE SHOWING MEAN DIFFERENCE STANDARD DEVIATION AND 't' VALUE OF EXPERIMENTAL AND CONTROL GROUPS IN VITAL CAPACITY

Group	Mean	Md	Std.deviation	Std.error of the mean	't'	Table value
Experimental pre-test	1.87	0.13	0.19	0.05	14.10*	2.14



Experimental post test	2.00		0.18	0.04		
Control pre test	1.84	0.02	0.35	0.09	1.82	2.14
Control post test	1.86		0.33	0.08		

*significant at 0.05 level

FIGURE- 4: BAR DIAGRAM SHOWING PRE AND POST TEST MEAN VALUE OF EXPERIMENTAL GROUP AND CONTROL GROUP IN VITAL CAPACITY

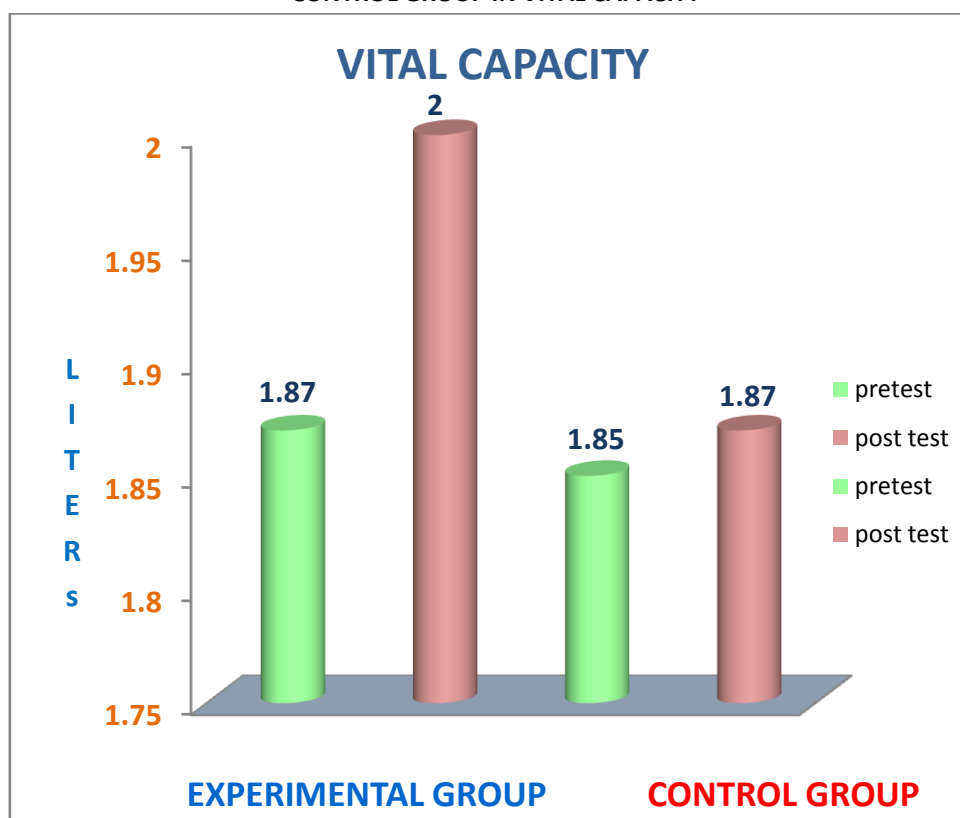


TABLE-XII: TABLE SHOWING MEAN DIFFERENCE STANDARD DEVIATION AND 't' VALUE OF EXPERIMENTAL AND CONTROL GROUPS IN STRESS

Group	Mean	Md	Std.deviation	Std.error of the mean	't'	Table value
Experimental pre-test	27.73	1.46	0.88	0.22	6.21*	2.14
Experimental post test	26.26		1.22	0.31		
Control pre test	28.06	0.20	0.88	0.22	0.76	2.14
Control post test	28.26		0.79	0.20		

*significant at 0.05 level

FIGURE-5: BAR DIAGRAM SHOWING PRE AND POST TEST MEAN VALUE OF EXPERIMENTAL GROUP AND CONTROL GROUP IN STRESS

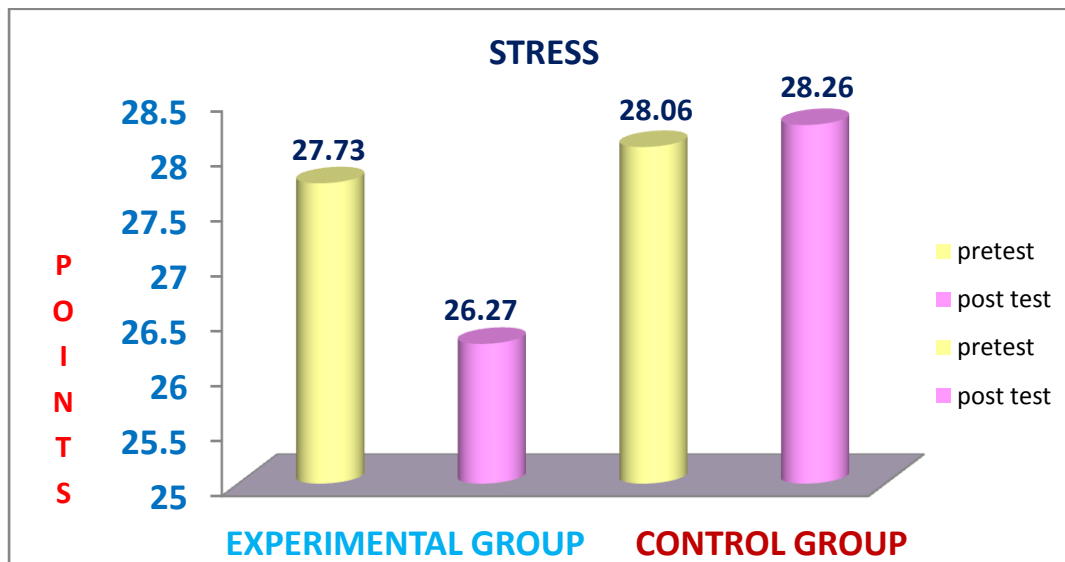


TABLE-XIII: TABLE SHOWING MEAN DIFFERENCE STANDARD DEVIATION AND 't' VALUE OF EXPERIMENTAL AND CONTROL GROUPS IN POLE DIVE

Group	Mean	Md	Std.deviation	Std.error of the mean	't'	Table value
Experimental pre-test	6.20	1.40	0.77	0.20	10.69*	2.14
Experimental post test	7.60		0.51	0.13		
Control pre test	6.13	0.07	0.83	0.21	0.56	2.14
Control post test	6.20		0.77	0.20		

*significant at 0.05 level

FIGURE-6: BAR DIAGRAM SHOWING PRE AND POST TEST MEAN VALUE OF EXPERIMENTAL GROUP AND CONTROL GROUP IN POLE DIVE

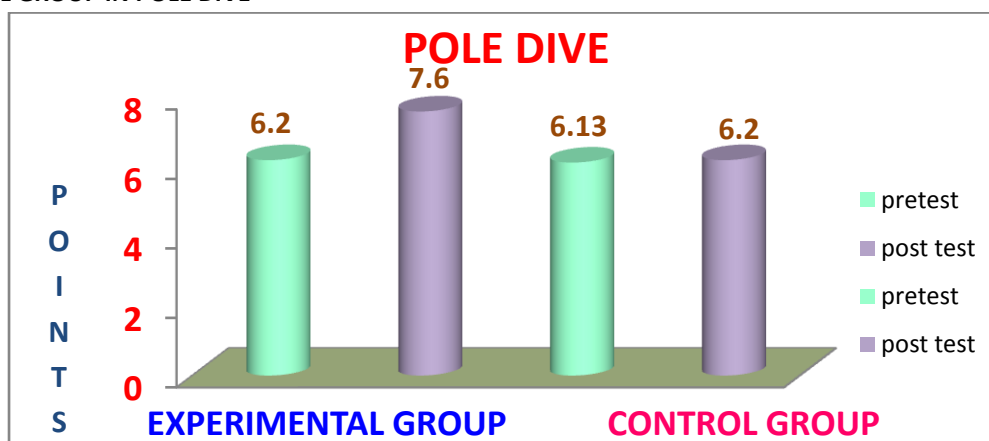


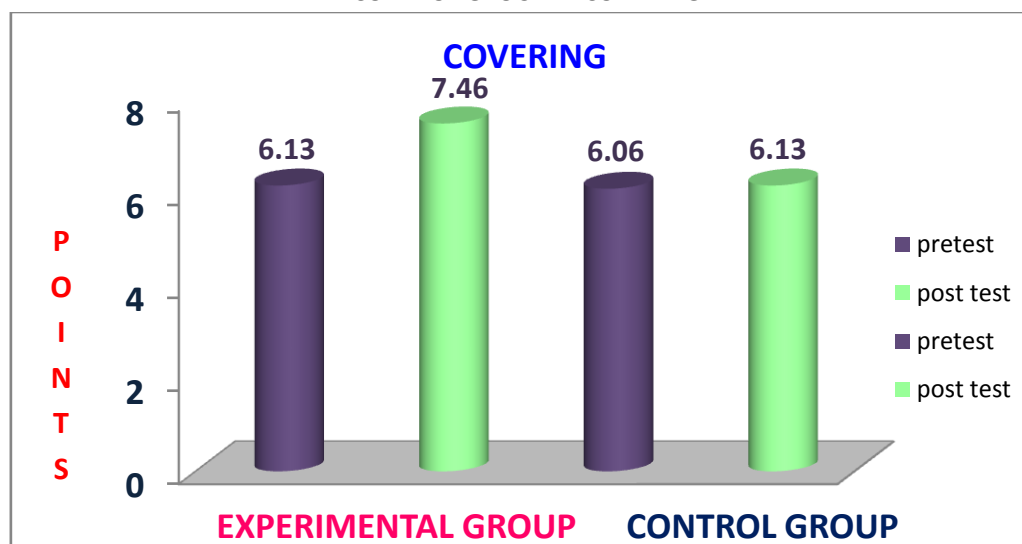


TABLE-XIV: TABLE SHOWING MEAN DIFFERENCE STANDARD DEVIATION AND 't' VALUE OF EXPERIMENTAL AND CONTROL GROUPS IN COVERING

Group	Mean	Md	Std.deviation	Std.error of the mean	't'	Table value
Experimental pre-test	6.13	1.33	0.74	0.19	10.58*	2.14
Experimental post test	7.46		0.63	0.16		
Control pre test	6.06	0.6	0.79	0.20	0.56	2.14
Control post test	6.13		0.74	0.19		

*significant at 0.05 level

FIGURE-7: BAR DIAGRAM SHOWING PRE AND POST TEST MEAN VALUE OF EXPERIMENTAL GROUP AND CONTROL GROUP IN COVERING



DISCUSSION ON FINDINGS

The result of the study shows that the experimental group that had undergone specific training and improved physical fitness variables namely speed, agility and endurance, Physiological variable namely vital capacity, Psychological variable namely stress and skill variables namely pole dive and covering. This may be due to the effect of specific training.

From the result of the present study, it is concluded that the experimental group improved in physical fitness, physiological, psychological and skill variables.

CONCLUSIONS

Based on the statistical analysis and the limitation of the study, and results the following conclusions are drawn.

- It was concluded that experimental group significantly improved on physical fitness variables namely speed, agility and endurance.
- It was concluded that experimental group significantly improved on physiological variable namely vital capacity.

International Journal of Law, Education, Social and Sports Studies (IJLESS)

A Peer Reviewed (Refereed) International Research Journal

Homepage: www.ijless.kypublications.com

Vol. 2. Supplementary issue 3.2015 (October)



- It was concluded that experimental group significantly decreased on psychological variable namely stress.
- It was concluded that experimental group significantly improved on skill variables namely pole dive and covering.
- Further it was concluded that the control group shows insignificant improvement on physical fitness physiological psychological and skill variables.

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