



ORIGINAL RESEARCH PAPER

Physical Education

EFFECTS OF PSYCHOMOTOR DRILLS WITH PRANAYAMA PRACTICES ON DEPTH PERCEPTION AND EYE HAND CO-ORDINATION AMONG HOCKEY PLAYERS

KEY WORDS: Psychomotor Drill, Pranayama Practice, Depth Perception and Eye Hand Co-ordination and ANCOVA.

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ABSTRACT

The purpose of the present study was to determine the effects of psychomotor drills with pranayama practices on depth perception and eye hand co-ordination among hockey players. To achieve the purpose of the present study, thirty hockey players were selected from the Bharathidasan University and Anna University BIT campus, Tiruchirappalli, Tamil Nadu, India. The subjects were randomly selected and their age ranged from 18-25 years. The selected groups were divided into two groups, experimental and control group. The experimental group consisted of fifteen Hockey players and they underwent the psychomotor drills with pranayama practices. Fifteen hockey players acted as the control group. The duration of the training period was restricted to six weeks and the session for six days in a week. Psychomotor drill with pranayama practices is considered as the independent variables. The depth perception and eye hand co-ordination were known as dependent variables. The statistical technique Analysis of Covariance (ANCOVA) was used to analyze the pre-test and post-test data of experimental group and control group. The results showed that the psychomotor drills with pranayama practice group had significant improvement ($P \leq 0.05$) in the level of the selected criterion variables such as depth perception and eye hand co-ordination compared to the control group.

INTRODUCTION

Psychomotor fitness plays an important role in everyday life activities of human being. It depends on mental processes as well as on peripheral elements of the movement system. Psychomotor fitness plays a significant role in hockey since during the game great changes in workload as well as frequent changes in game situations occur. In this form of fitness it is necessary to evaluate particular game situations thought fast, precise and valid cognition, reaction and anticipation of player's own activities with those of his partners and opponents. Psychomotor fitness is also necessary for information processing that enters the Central Nervous System and provides efficient decision making ability especially under conditions of increasing fatigue. The application for all these psychomotor abilities during a competitive game situation is related to optimal steering and regulation of motor activities of players.

The term "Psychomotor" is concerned with voluntary human movement, which is observable. Psychomotor variables are the variables bearing direct association with muscular skill, some manipulation of materials and objects and some act requiring neuromuscular coordination.

Pranayama from **prana** and **ayama** is the yoga science of breath control. The ancient yogis studied anatomy and discovered body and consciousness has reciprocal relationship between the emotions and breathing. It was found that when we are excited, our rate of respiration becomes faster. When we are composed, our breathing is slow, calm and rhythmical. The yogi seeks, by controlled and measured breathing, to influence consciousness itself. By control of the breath, the mind can be stilled and made one-pointed. Pranayama is a means to self - mastery and psychic powers.

Statement of the Problem

The purpose of the study was to find out the effects of psychomotor drills with pranayama practices on depth perception and eye hand co-ordination among hockey players.

Hypothesis

It was hypothesized that the psychomotor drills with pranayama practices would improve the selected criterion variables among hockey players.

Methodology

The purpose of the present study was to find out the effects of psychomotor drills with pranayama practices on depth perception and eye hand co-ordination among hockey players. To achieve the

purpose of this study, thirty hockey players were selected from the Bharathidasan University and Anna University BIT campus, Tiruchirappalli, Tamil Nadu, India. The subjects were randomly selected and their age ranged from 18-25 years. The selected subject was divided into two equal groups of fifteen each. Group I (PMDG) was considered as an experimental group who underwent for six weeks psychomotor drills with pranayama practices for six days in week and group II (CG) as a control group without any special training. Depth perception and eye hand co-ordination were selected as variable for the study. The Data was collected from the selected criterion variables before and after a training programme as pre and post test respectively. The analysis of covariance (ANCOVA) was used to find out the significant difference between the groups of selected criterion variable separately.

ANALYSIS OF THE DATA

The analysis of covariance on depth perception and eye hand co-ordination of psychomotor drills with pranayama practices group and control group have been analyzed and presented below.

Depth Perception

The analysis of covariance on depth perception of the pre and post test scores of psychomotor drills with pranayama practices group and control group have been analyzed and presented in Table I.

TABLE I ANCOVA FOR THE PRE AND POST TESTS SCORES ON DEPTH PERCEPTION AMONG PSYCHOMOTOR DRILLS WITH PRANAYAMA PRACTICES GROUP AND CONTROL GROUP

Test	PMDWP Group	Control Group	Source of Variance	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	1.054	1.043	Between	0.001	1	0.001	3.68
S.D.	0.016	0.030	Within	0.006	28	0.000	
Post Test							
Mean	1.331	1.095	Between	0.418	1	0.418	217.13
S.D.	0.013	0.052	Within	0.054	28	0.002	
Adjusted Post Test							
Mean	1.334	1.091	Between	0.392	1	0.392	207.86
			Within	0.051	27	0.002	

* Significant at .05 level of confidence.

(The table value required for significance at .05 level of confidence with df 1 and 28, 1 and 27 were 4.20 and 4.215 respectively).

The adjusted post-test means of psychomotor drills with pranayama practices group and control group are 1.334 and 1.091 respectively. The obtained "F" ratio of 207.86 for adjusted post-test means is greater than the table value of 4.215 for df 1 and 27 required for significance at .05 level of confidence on depth perception. The results of the study showed that there was a significant difference between the psychomotor drills with pranayama practices group and control group on depth perception. The mean values of the psychomotor drills with pranayama practices group and control group on depth perception were graphically represented in the figure-1.

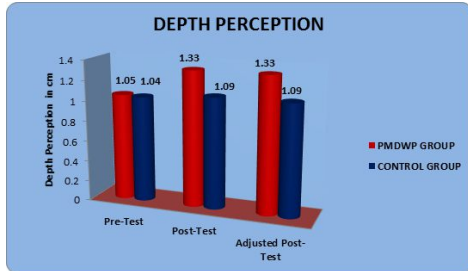


FIGURE 1: MEANS VALUES OF PRANAYAMA PRACTICES GROUP AND CONTROL GROUP ON DEPTH PERCEPTION

Eye Hand Co-ordination

The analysis of covariance on eye hand co-ordination of the pre and post test scores of psychomotor drills with pranayama practices group and control group have been analyzed and presented in Table II.

TABLE II ANCOVA FOR THE PRE AND POST TESTS SCORES ON EYE HAND CO-ORDINATION AMONG PSYCHOMOTOR DRILLS WITH PRANAYAMA PRACTICES GROUP AND CONTROL GROUP

Test	PMDWP Group	Contr ol Group	Source of Variance	Sum of Squares	Df	Mean Squar es	Obtaine 'F' Ratio
Pre Test							
Mean	12.20	12.11	Between	0.06	1	0.06	0.66
S.D.	0.32	0.45	Within	2.52	28	0.09	
Post Test							
Mean	7.63	10.40	Between	57.85	1	57.85	249.24*
S.D.	0.25	0.48	Within	6.50	28	0.23	
Adjusted Post Test							
Mean	7.59	10.44	Between	59.29	1	59.29	316.45*
			Within	5.06	27	0.19	

* Significant at .05 level of confidence.

(The table value required for significance at .05 level of confidence with df 1 and 28, 1 and 27 were 4.20 and 4.215 respectively).

The adjusted post-test means of psychomotor drills with pranayama practices group and control group are 7.59 and 10.44 respectively. The obtained "F" ratio of 316.45 for adjusted post-test means is greater than the table value of 4.215 for df 1 and 27 required for significance at .05 level of confidence on eye hand co-ordination. The results of the study showed that there was a significant difference between the psychomotor drills with pranayama practices group and control group on eye hand co-ordination. The mean values of the psychomotor drills with pranayama practices group and control group on eye hand co-ordination were graphically represented in the figure-2.

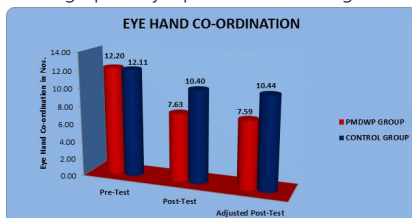


FIGURE 2: MEANS VALUES OF PSYCHOMOTOR DRILLS WITH PRANAYAMA PRACTICES GROUP AND CONTROL GROUP ON EYE HAND CO-ORDINATION

Discussion on Findings

The results of the study indicate that the psychomotor drills with pranayama practices were significantly improved the depth perception and eye hand co-ordination it may be due to the nature of the psychomotor drills with pranayama exercise which have influenced to increase the psychomotor variables level and performance of hockey players. The results of the study indicate that there is a significant improvement on depth perception and eye hand co-ordination of the psychomotor drills with pranayama practices group when compared to the control group. This study is supported by Wilkins and Gray (2015) who found the changes in psychomotor variables can be linked to sports skill performance and Wiggins et al. (2014) who found acquisition of psycho-motor skills are important predictor of skill acquisition. The findings were further in agreement with the findings of Sangeetha and Pushparajan (2014) who found perceptual training group (PTG) and perceptual training and yoga training group (PYTG) had shown significant improvement in (P<0.05) the selected psychomotor variables and skill variables.

Conclusions

The results of the study reveal that there is a significant improvement on depth perception and eye hand co-ordination in the psychomotor drills with pranayama practices group when compared to the control group. These changes are due to training as well as due to participating in psychomotor training. The training inspires changes in depth perception and eye hand co-ordination of the hockey players. The unique profile should be taken into consideration while administering training to the hockey players.

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