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, Tiruchirapalli, 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 drill with pranayama practice group had significant improvement (P ≤ 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 begin. 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 incresasing fatigue. The application for all these psychomotor abilities during a competitive game situation is related to optimal steering and regulation of motor activates 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 controlling and measured breathing, to influence consciousness itself. By control of the breath, the mind can be stillled 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, Tiruchirapalli, 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 AND EYE HAND CO-ORDINATION**

<table>
<thead>
<tr>
<th>Test</th>
<th>PMDWP Group Mean</th>
<th>Control Group Mean</th>
<th>Source of Variance</th>
<th>Sum of Squares Df</th>
<th>Mean Squares</th>
<th>Obtain ed 'F' Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Test</td>
<td>1.054</td>
<td>1.043</td>
<td>Between</td>
<td>0.001</td>
<td>0.006</td>
<td>3.68</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.016</td>
<td>0.030</td>
<td>Within</td>
<td>0.006</td>
<td>0.006</td>
<td>28.000</td>
</tr>
<tr>
<td>Post Test</td>
<td>1.331</td>
<td>1.095</td>
<td>Between</td>
<td>0.418</td>
<td>0.054</td>
<td>217.13*</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.013</td>
<td>0.052</td>
<td>Within</td>
<td>0.054</td>
<td>0.002</td>
<td>28.000*</td>
</tr>
<tr>
<td>Adjusted Post Test</td>
<td>1.334</td>
<td>1.091</td>
<td>Between</td>
<td>0.392</td>
<td>0.051</td>
<td>207.86*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Within</td>
<td>0.392</td>
<td>0.002</td>
<td>28.000*</td>
</tr>
</tbody>
</table>

* 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 4.00 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.

**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**

<table>
<thead>
<tr>
<th>Test</th>
<th>PMDW Group</th>
<th>Control Group</th>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>Obtained ‘F’ Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Test</td>
<td>12.20</td>
<td>12.11</td>
<td>Between</td>
<td>0.06</td>
<td>1</td>
<td>0.06</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.32</td>
<td>0.45</td>
<td>Within</td>
<td>2.52</td>
<td>28</td>
<td>0.09</td>
</tr>
<tr>
<td>Post Test</td>
<td>7.63</td>
<td>10.40</td>
<td>Between</td>
<td>57.85</td>
<td>1</td>
<td>57.85</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.25</td>
<td>0.48</td>
<td>Within</td>
<td>6.50</td>
<td>28</td>
<td>0.23</td>
</tr>
<tr>
<td>Adjusted Post Test</td>
<td>7.59</td>
<td>10.44</td>
<td>Between</td>
<td>59.29</td>
<td>1</td>
<td>59.29</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.06</td>
<td>0.19</td>
<td>Within</td>
<td>5.06</td>
<td>27</td>
<td>0.19</td>
</tr>
</tbody>
</table>

* Significant at .05 level of confidence.

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.

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

**Eye Hand Co-ordination**

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 exercises 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 administrating training to the hockey players.

**References**

6. Wiggins, MW., et. al. (2014), "Trait-based cue Utilization and initial skill acquisition: implications for models of the progression to expertise", Front Psychol.3:5-541.