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# A study on effect of proprioceptive and yoga training programme on selected physical fitness variable among school level male soccer players

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**Abstract**
The purpose of this study was to investigate the effect of proprioceptive Training and yoga Training Programme on Selected Physical fitness variable among School level male soccer players. To achieve the purpose of the study thirty (N=30) male soccer players were randomly selected. The age group of the subject was 14 to 17 years. Selected subjects were equally divided into two groups an experimental group and a control group. Control group was not given any type of training. Experimental group was given proprioceptive training and yoga training for a period of six weeks. The pre-test and post-test data on agility was collected on both the groups before and after the experimental training collected data and the scores were meticulously recorded. Statistical analysis was performed with a predetermined level of significance set at 0.05 confidences. It was concluded that experimental group combined proprioceptive and yoga training group significantly ($p \leq 0.05$) improved the agility when compared to control group of the school level soccer players.

**Keywords:** Proprioceptive training, yoga training, agility and soccer players

## Introduction

Soccer is undoubtedly the most popular sport in the world. Soccer continues to emerge as a major sport in the United States of America, where it remains the fastest growing team sport. Currently, the Federation Internationale de Football Association (FIFA) continues to function as the governing body of soccer, unifying numerous national associations and representing more than 200 million active players, of which 20% are women.

Physical training is termed as the systemic use of the exercises to promote the body fitness and strength. Physical training helps to maintain the overall health and wellness. Physical training to prepare for athletics the focus was predominantly on agility, speed, strength, explosive power, and endurance.

Proprioception (sense of body positioning) is an important bodily neuromuscular sense. Proprioceptive signals from mechanoreceptors of the joints, muscles, tendons, and skin are essential for the intact neural control of movement. Proprioception is the reception of stimuli produced within an organism and it refers to the conscious and unconscious perception of postural balance, muscle sense and joint stability. Proprioception regards the human ability to perceive the position of the body, the speed of movement and the general or specific resistance.

The term "yoga" and the English word "yoke" are derived from Sanskrit root "yuj" which means union. Yoga is a psycho-somatic-spiritual discipline for achieving union & harmony between our mind, body and soul and the ultimate union of our individual consciousness with the Universal consciousness (Madanmohan, 2008).

Yoga is a method of learning that aims to attain the unity of mind, body, and spirit through these three main Yoga structures: Exercise, Breathing, and Meditation. The Breathing Techniques are based on the concept that breath is the source of life in the body (Mishra, Pandey, & Dubey, 2014).

Agility is defined simply as "the ability to change direction rapidly" or "the ability to change direction rapidly and accurately". Recent scientific papers try to complete the agility definition adding "whole body change of direction as well as rapid movement and changing direction of body parts". Others define agility as "the ability to maintain or control body position while quickly changing direction during a series of movements". Most researchers consider speed and agility complex psychomotor skills. Those skills imply moving the whole body as fast as possible, thus agility has an extra characteristic of changing direction.

## Objectives

The main objective of the study is to find out the effect of proprioceptive and yoga training programme on selected physical fitness variable among school level male soccer players.

## Methodology

The researcher employed a randomized design, which included both pre-tests and post-tests. A total of 30 male soccer players (N=30) were assigned into two equal groups, each consisting of 15 participants ($n$ = 15). These groups were designated as the experimental group ($n$ = 15) and the control group ($n$ = 15). Before the commencement of any training, a pre-test was administered to assess selected physical fitness variables, specifically agility for all 30 soccer players. Subsequently, the experimental group underwent a six-week regimen involving Proprioceptive training and Yoga training, while the control group did not partake in any training activities. After the completion of the

six-week training period, post-tests were conducted to measure the same dependent variables. The data obtained from these tests were subjected to statistical analysis using the dependent t-test to determine if any statistically significant improvements were observed. It is noteworthy that a level of significance was set at 0.05, ensuring a 95% confidence level for all analyses. Pre-test and post test data was collected on control group and experimental group before and after the six weeks of experimental training by using following authenticated tests, Agility-4 X 10 Mts. Shuttle run (Kolimechkov, S. 2019)

**Training schedule**

**Table 1:** Training Schedule

| Experimental Training Group | Name of the Exercise | Week / Sets | 1-2 / 2 | 3-4 / 2 | 5-6 / 2 |
|---|---|---|---|---|---|
| Proprioceptive Training (PTG) | 1. Single leg stance while swinging the raised leg (flexed knee)<br>2. Forward & Backward leg swing with knee extended on single leg stance.<br>3. Cross leg swings<br>4. Single foot side to side ankle hop Side to Side ankle hop<br>5. Runners Pose<br>6. Partial Squats<br>7. High Bench Step ups<br>8. Split squat jump<br>9. Double leg Stance on wobble board (Eyes open) | Reps. | 12 | 15 | 18 |
| | | Sets | 4 | 4 | 2 |
| Yoga Training (YTG) | 1. Vrikshasana<br>2. Vajrasana<br>3. Tadasana<br>4. Paschimouthanasana<br>5. Halasana<br>6. Bhujangasana<br>7. Dhanurasana<br>8. Naukasana<br>9. Sarwangasan<br>10. Bhunaman Vajrasana | Pose duration | 30 | 60 | 90 |

**Table 2:** Mean and Dependant 'T' – ratio for the Pre And Post Tests on Proprioceptive training and Yoga training Group and control Group on agility

| Group | Test | Mean | Standard deviation | Standard error mean | t- ratio |
|---|---|---|---|---|---|
| **Experimental group** | **Pre test** | 20.20 | 4.36 | 0.18 | 17.98* |
| | **Post test** | 23.46 | 4.20 | | |
| **Control group** | **Pre test** | 20.06 | 4.46 | 0.19 | 1.43 |
| | **Post test** | 20.40 | 4.22 | | |

*Significant level 0.05 level degree of freedom (2.14, 1 and 14)

Table II displays the computation of the 't' ratio comparing the means of pre-test and post-test agility scores for school-level soccer players. The mean agility values for the experimental group were 20.20 before training and 23.46 after, while the control group had means of 20.06 and 20.40 for the respective tests. The calculated 't' ratio of 17.98 exceeded the critical table value of 2.14, indicating statistical significance for 1 degree of freedom and 15 participants at a 0.05 level of confidence. This finding strongly suggests that the agility of the experimental group significantly improved due to the influence of in-and-outs Proprioceptive training and Yoga training. Conversely, the computed't' ratio of 1.43 fell short of the critical table value of 2.14, rendering it statistically non-significant for 1 degree of freedom and 15 participants at a 0.05 level of confidence. This result clearly demonstrates that the agility of the control group did not exhibit significant improvement following the intervention.

The bar diagram shows the mean values of pre test on agility of control group and experimental group.

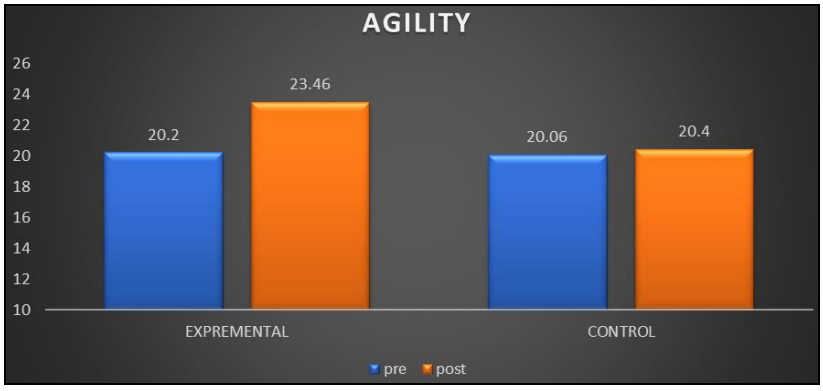


**Fig 1:** Bar diagram

**Discussion on finding**

The study's findings reveal a significant improvement in the selected variables, namely agility, within the experimental group, which consisted of individuals undergoing Proprioceptive training and Yoga training, in comparison to the control group. Further, the post test analysis shows that there was significant difference between the experimental groups, clearly indicating that combined proprioceptive and yoga training group was better result. The proprioceptive training and yoga training was improving the agility of the school level male soccer players.

The result of the study showed that there was a significant improvement in agility due to 6 weeks of training programme.

**Conclusions**

From the analysis of the data the following conclusions are

1. The experimental group, comprised of individuals who underwent proprioceptive and yoga training, achieved a notably significant improvement in physical fitness variables, specifically agility among school-level soccer players.
2. In contrast, the control group exhibited insignificant improvement in physical fitness variables, including agility among school-level soccer players.

**Recommendations**

1. Similar study may be conducted for various age groups.
2. The same study may be extended to further time period.
3. The present study is mainly focused on male school level soccer players only. The same study may be done on elite soccer players.

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