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## Effects of vision training with skill practices on selected motor fitness components among inter collegiate male football players

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### Abstract

The purpose of the study is to find out the effects of vision training with the skill practices on selected motor fitness components among the inter - collegiate male football players. To achieve the purpose of the study, thirty six male intercollegiate football players were selected from the Christ College, Irinjalakuda, Sri Krishna College Guruvayur, Kerala. The selected subjects (N-36) were divided into two (n-18) equal groups. Group I named as a Vision Training with Skill Practice (VTSPG) and Group II acted as a Control Group (CG). All the selected subjects were tested on the selected motor fitness components of Speed, Agility and Leg explosive strength. The experimental group I was treated by vision training with the skill practice three days a week for a period of 12 weeks. No treatment was given to the control group. After completion of 12 weeks of training both the groups were tested again on the selected motor fitness components and the scores were recorded in their respective units as their post-test scores. The pre and post test scores were taken for the appropriate statistical analysis. Further, the group means were gained and recorded by the various groups in the pre-test and post-test were tested for the significance by applying paired 't' test.

**Keywords:** Vision training, speed, agility and leg explosive power

### Introduction

Fitness is a condition in which an individual has a sufficient energy to avoid fatigue and enjoy the life. Physical fitness is divided into four health and six skill-related components. Skill- or performance-related fitness involves skills that will enhance one's performance in athletic or sports events. Health-related fitness involves skills that enable one to become and stay physically healthy. The difference between a good player and a great player is simply the effectiveness of their visual skills in the playing field. Teaching a player with his vision, depth perception and peripheral vision is an important task for improving their visual awareness. In current scenario, the sports vision or sensory training as well as football specific brain-jogging is absolutely essential for achieving the top performance levels in football. The physical conditioning, technical mastery and proper diet make all the difference, particularly when there is so little to choose between in competition. In recent years, there has been a growing acceptance that perceptual skills precedes and determines skilful actions in sport and other contexts Harris and Jenkin, (1998) [5], In particular, the visual system plays a crucial role in guiding the player's search for essential information underlying in the skilful behavior. One of the best explanations of what "visual search strategies" entails is that it can be said that visual search strategies refers to the way that the eyes move around the field in an attempt to direct the visual attention towards the relevant sources of information. Since almost 80% of the entire input that goes to the brain, comes from the eyes, it can be said that the vision is one of the most important factors playing a role in the sport Hodge *et al.*, (1999) [6]. Even mental toughness is a skill that can be trained and enhanced. At an elite level in soccer, there may be only five to fifteen percent difference between winning and losing, and this is where the mental toughness accounts for five to fifteen percent difference. Psychological skills develop through the basic skill learning, fine-tuning and repetitive practice, which take the determination and discipline Hodge *et al.*, (1999) [6].

Moreover, in our knowledge, no study is yet done in the exercise and cognition area has for evaluating the physical fitness, motor fitness and sport skills interactively and contribute to the executive function efficiency in the adolescence. Indeed from a sport psychological perspective, there is intriguing evidence that in adult athletes, physical fitness and sport expertise may interactively benefit executive function. Chan *et al.* (2011) [11] performed a cross-sectional analysis of the inhibitory efficiency in the open skill sports as a function of physical fitness level and sport-related cognitive expertise. Research on the cognitive benefits of Physical Activity (PA) and fitness underwent a huge growth in the last decades (McMorris, in press; McMorris *et al.*, 2009) [12].

**Statement of the Problem**

The purpose of the study is to find out the effects of the vision training with the skill practices on the selected motor fitness components among inter collegiate male football players.

**Hypothesis**

It was hypothesized in the following ways

1. Vision Training with skill practices will bring the significant improvements on the selected motor fitness components among the inter collegiate male football players.
2. The Control Group will not show any significant improvements on the selected motor fitness components among the inter collegiate male football players.

**Methodology**

The purpose of the study is to find out the effects of the vision training with skill practices on the selected motor fitness components among the inter collegiate male football players. To achieve the purpose of the study, thirty six men intercollegiate football players were selected from the Christ College, Irinjalakuda, Sri Krishna College Guruvayoor,

Kerala. The selected subjects (N-36) were divided into two (n-18) equal groups. Group I named as Vision training with Skill Practice (VTSPG) and Group II acted as a Control Group (CG). All the selected subjects were tested on the selected motor fitness components of Speed, Agility and Leg explosive power. The experimental group I was treated by the vision training with skill practice, three days a week for a period of 12 weeks. No treatment was given to the control group.

**Criterion Measures**

S. No	Criterion Variables	Test Items	Unit of Measurement
1	Speed	50 meter Dash	In Seconds
2	Agility	4x10 Shuttle run	In Seconds
3	Leg explosive power	Standing broad jump	In Centimeter

**Training Programme**

GROUP I	Vision Training With Skill Practices	For 12 Weeks
GROUP II	Control Group	They are not compel for any specific training
Training Period	12 Weeks	
Frequency	3 Days per Week, Monday, Wednesday and Friday	
Morning Section	6.30 am to 8.00 am, 90 minutes per day	
Evening Section	90 Minutes, Warm – Up and Match Practices	

**Analysis of Data and Results of the Study**

For testing the hypotheses of homogeneity of the group mean gains, as well as the significance of differences in the pairs of group means, the level of significance was set at 0.05 level of confidence, which was considered adequate for the purpose of the study.

**Table 1:** Computations of Pre and Post Test of the Vision Training With Skill Practice on the Selected Motor Fitness Components Among the Inter Collegiate Male Football Players

Variables	Pre test mean ±SD	Post test mean ± SD	M. D	SEM	‘t’-ratio
Speed	7.02 ± .32	6.60 ± .33	0.42	0.06	6.88*
Agility	11.08 ±.39	10.55 ± .35	0.47	0.06	7.61*
Leg explosive power	2.35 ± .19	2.59 ± .16	0.24	0.02	8.76*

\*Significance at 0.05 level

Table-1 indicates that the obtained‘t’ ratio were 6.88 (speed), 7.61 (agility) and 8.76 (leg explosive power). The obtained‘t’ ratios on selected motor fitness components were greater than the critical value of 2.10 for the degrees of freedom 1, 17. It was observed that the mean gains and losses made

from the pre-test and post-test were statistically significant and resulting the twelve weeks practice of vision training produced, significant improvement in speed (6.88  $p<0.05$ ), agility (7.61 $<0.05$ ), and leg explosive power (8.76  $p<0.05$ ) from the performance of baseline to post - test.

**Table 2:** Computations of Pre and Post Test of the Control Group on the Selected Motor Fitness Components Among the Inter Collegiate Male Football Players

Variables	Pre test mean ±SD	Post test mean ± SD	M. D	SEM	‘t’-ratio
Speed	7.33 ± .44	7.32 ± .45	0.01	0.05	0.20
Agility	11.37 ± .38	11.28 ±.42	0.09	0.04	1.78
Leg explosive power	2.24 ± .18	2.25 ± .17	0.01	0.01	1.28

Table-2 indicates that the obtained 't' ratio were 0.20 (speed), 1.78 (agility) and 1.28 (leg explosive power). The obtained 't' ratios on the selected motor fitness components were lesser than the critical value of 2.10 for the degrees of freedom 1, 17. It was observed that the mean gains and losses were made from the pre and post-test statistically insignificant, resulting that they did not make any significant change from the baseline performance to post test.

### Results

The results of the study were as follows

1. Vision Training with skill practice group showed significant improvement on speed (7.02 - 6.60), agility (11.08 - 10.55) and leg explosive power (2.35 - 2.59) from pre to post test.
2. The Control Group would not show any significant improvement on the selected motor fitness components such as speed (7.33 - 7.32), agility (11.37 - 11.28) and leg explosive power (2.24 - 2.25) from pre to post test.

### Discussion on Findings

Based on the result of the study it was found that the vision training was the superior training to develop speed, agility and leg explosive power of intercollegiate football players. The reason for specific improvement was systematic scientifically structured vision training programme. Training of visual skills for sports performance is becoming more and more important in training the individual in sports. The latest trend to improve the performance level of the players in football through the vision training methods was the appropriate one. The role of the vision training on motor fitness components such as speed, agility and leg explosive power. The impact of vision training and its influence were studied by the various researchers. The real worth of vision training was discussed here.

Motor skill instruction has began to benefit from a recent area of sport science research focusing on what is called sports vision. Sports vision is an area of study that combines the vision science, motor learning, biomechanics, sport psychology, and neuro anatomy as they relate to the visual and perceptual motor performance. There is a wealth of literature on how vision is used in many sports like baseball Burroughs (1984) <sup>[4]</sup>, basketball Vickers (1996) <sup>[7]</sup>, golf, Vickers, (1992) <sup>[10]</sup>, soccer Williams, Davids, Burwitz and Williams (1994) <sup>[8]</sup>, and tennis Abernethy and Wollstein (1989) <sup>[1]</sup>, Buckolz, Prapavesis and Fairs (1988) <sup>[3]</sup>, Unfortunately, there is less number of research on the effectiveness of various vision training exercises have been developed Abernethy (1986) <sup>[2]</sup>, (1996). Research has been conducted on some commercial programs for training the DVA like Eye aerobics Dynavision (Klavora, Gaskovski and Forsyth (1995) <sup>[9]</sup>).

### Conclusions

Based on the findings and within the limitations of the study the following conclusions were drawn.

1. The Vision Training with Skill Practices Group (VTSPG) showed a significant improvement over the period of twelve weeks training on speed, agility and leg explosive power among the inter collegiate male football players.
2. The Control Group (CG) did not show any significant improvement over the period of twelve weeks on speed,

agility and leg explosive power among the inter collegiate male football players.

3. It was concluded that the Vision Training was the suitable training to develop speed, agility and leg explosive power among the inter collegiate male football players.

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