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## A comparative study of kinaesthetic perception among district, state and national level of track and field athletes

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### Abstract

The purpose of the study was to compare the selected Kinaesthetic Perception of track and field athletes at different levels of achievement. It was hypothesized that there may be no significant difference in Kinaesthetic Perception of track and field athletes at different levels of achievement. For the purpose of the study, 90 male track and field athletes from Gujarat were selected as a subject. Thirty athlete (n=30) from district level and thirty athlete (n=30) from state level participated as subjects for the study. Hence, purposive sampling technique was considered for selection of subjects. The age of the subjects was ranged from 15-18 years. It is evident that significant difference was found between the Kinaesthetic Perception of District & State (-0.3933), District & National (-0.7400) and State & National level (-0.3467). The observed sequence of performance of Kinaesthetic Perception in three groups is National>State>District. It may be concluded that Kinaesthetic Perception is increased with level of performance.

**Keywords:** Kinaesthetic perception, field athletes, psycho-motor components

### 1. Introduction

The psycho-motor components are of great concern to physical educator and coaches. Most of the sports task requires a high degree of development of psycho-motor components and kinesthetic perception, as they are instrumental in producing the best performance. The psycho-motor domain is concerned with movement and other closely related factors that influence it. Through sports, exercise and dance as well as with work and locomotor skills, students overcome both their own forces and the forces universally found in nature such as the physical laws and principles governing forces, gravity, friction and motion. Movement is the key to life process while it is associated directly with muscular contraction and involve in its myriad functions (consisting of very great but indefinite number, innumerable); it is also associated with neural (related to or affecting a nerve or the nervous system) mechanism-hence psychomotor domain or sometimes neuromuscular domain, There are levels of utilization of the body's forces and there are many restrictions on movement in sports exercise and work skill. (Cratty, 1971)<sup>[1]</sup>.

The track and field players must concentrate on the development of psychomotor abilities along with other qualities. Psychomotor components have a very important association with the playing ability of the track and field players. The important component like reaction time, speed of movements, kinaesthetic perception, depth perception, etc. has a vital role in achieving high level of performance in track and field.

### 2. Methodology

**2.1 Objective of the study:** The purpose of the study was to compare the selected Kinaesthetic Perception of track and field athletes at different levels of achievement.

**2.2 Hypothesis:** It was hypothesized that there may be no significant difference in Kinaesthetic Perception of track and field athletes at different levels of achievement.

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<sup>1</sup> J. Bryant Cratty, Behavior and Motor Learning, (Philadelphia: Lea & Febiger, 1971), p.p.142

**2.3 Subjects:** For the purpose of the study, 90 male track and field athletes from Gujarat were selected as a subject. Thirty athlete (n=30) from district level and thirty athlete (n=30) from state level participated as subjects for the study. Hence, purposive sampling technique was considered for selection of subjects. The age of the subjects was ranged from 15-18 years.

**2.4 Administration of Tests: - Horizontal Space Test (Test of Horizontal Distance):** The objective of the test was administered to measure the kinaesthetic perception of the students. The following equipments were arranged by the researcher before commencement of the final test, Yard Stick, Blindfolds and a Chair. The yard stick was placed on the wall so that it was approximately at eye level while the subject was in the sitting position. The subject was asked to sit in the chair facing the yard stick and attempted to establish in his mid a

sense of its position. Then while blindfolded and without a practice trail he pointed the index finger of his right hand to the point indicated by the tester. The score was the deviation from the desired mark measured to the nearest centimetres. The final score was the total of the deviation on three trails.

**2.5 Statistical Analysis:** Descriptive statistics was used to process the data prior to employing inferential statistics. Analysis of Variance (ANOVA) was used to compare Kinaesthetic Perception of track and field players of different level on selected criterion variables separately. Level of significance was set at 0.05.

**3. Result:** The descriptive measure in terms significant difference of to compare Kinaesthetic Perception of track and field players of different level are shown in Table 1 & Table 2.

**Table 1:** Comparison of Kinaesthetic Perception among District, State and National level Track and Field Athletes (n=90)

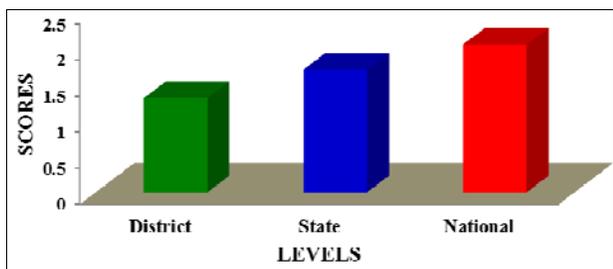
Levels	Mean (CM.)	S.D.	Analysis of Variance					
			Sum of Squares	Df	Mean Square	F	Sig.	
District (n=30)	1.3000	0.14384	Between Groups	8.225	2	4.112	144.812	0.000
State (n=30)	1.6933	0.16595	Within Groups	2.471	87	0.028		
National (n=30)	2.0400	0.19226	Total	10.696	89			
Total (N=90)	1.6778	0.34666						

Since significant differences was found among the District, State and National level athletes in related to Kinaesthetic Perception, LSD post hoc test was applied to compare Paried Means.

**Table 2:** LSD test for mean Comparison on Kinaesthetic Perception among District, State and National level Track and Field Athletes

(I) levels	(J) levels	Mean Difference (I-J)	Sig.
District	State	-0.3933	0.000
	National	-0.7400	0.000
State	National	-0.3467	0.000

- \* The mean difference is significant at the .05 level.
- It is evident from table-2 that significant difference was found between the Kinaesthetic Perception of District & State (-0.3933), District & National (-0.7400) and State & National level (-0.3467).
- The observed sequence of performance of Kinaesthetic Perception in three groups is National>State>District. It may be concluded that Kinaesthetic Perception is increased with level of performance.



**Fig 1:** Comparison of Mean Scores of Kinesthetic Perception among District, State and National Level of Track and Field Athletes

**4. Discussions**

There was a statistically significant difference between groups as determined by one-way ANOVA {F (2, 87) =144.812, p =0.000}. A LSD post-hoc test revealed that the distance to complete the kinaesthetic perception was statistically significant better in District (1.3000 ± -0.3933, p = 0.000), State athletes (1.6933 ± -0.7400, p = 0.000) and National Level (2.0400 ± -0.3467, p = 0.000). The statistical findings

revealed that F- value 144.81 which was significant at 0.05 levels. It indicates that there was a significant difference on kinaesthetic perception among district, state and national level track and field athletes. The LSD post hoc test also revealed the pairwise mean comparison among the district, state and national level athletes. It shows that the three participating group differs significantly. Also, the kinaesthetic perception of national level player was on higher side (2.04) than their other counterpart’s state level (1.69) and district level (1.3).

**5. Conclusions**

This could be attributed to the fact that the National level players are having better kinaesthetic sense than state and district players. These athletes are very refined and trained athletes in terms of skill and techniques. They have better sense of awareness of position and body parts around the area or space. They have also better sense of the environment in which they perform the work.

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