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A comparative study of orientation ability 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 Orientation Ability of track and field athletes at different levels of achievement. It was hypothesized that there may be no significant difference in Orientation Ability 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. Descriptive statistics was used to process the data prior to employing inferential statistics. Analysis of Variance (ANOVA) was used to compare Orientation ability of track and field players of different level on selected criterion variables separately. Level of significance was set at 0.05. It is evident that significant difference was found between the Orientation Ability of District & State (1.9550), District & National (2.9983) and State & National level (1.0433). The observed sequence of performance of Orientation Ability in three groups is District>State>National. It may be concluded that Orientation Ability is the district level athletes are more conscious in their approach while performing the skills and techniques of the event than state and national level athletes who are already trained athletes and are use to such movement and need not requires any very conscious approach.

Keywords: Parental attitude, participation, sports, girls

1. Introduction

Many members of the physical education profession today are of the opinion that testing and measuring are vital parts of a program and must be included in a sound curriculum. On the other hand, there are some that believe testing is a meaningless waste of time. In any field of teaching there must be definite goals and there must be means of measuring the degree to which the goals have been achieved. This measuring of achievement provides a basis for judging teaching methods, and teaching methods themselves are improved when measurement becomes a part of the method. No physical educator is today adequately prepared for his profession unless he recognizes the advantages and evils that exist in the measurement program. The teacher will need to know how to evaluate tests, know what tests are available to him, and know how to use tests and their results in his teaching. The skill test has its greatest value when the results are used to improve instructions. It is concerned mainly for level of performance. With the aid of skill testing, prospective athletes may be discovered in a physical education class as well as, isolate the player's existing skill problems. Significantly to physical education is the ability to analyze and compare human ability. If crucial factors can be isolated, it might be possible to predict performance levels, select individuals with potential for skilled performance, or improve performance through special training (Klass, 1977) ^[1]

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¹ Robert Allen Klass, The Validation of a Battery of Reaction Time Tests to Predict Racquetball Ability for College Men, Doctorate Degree Thesis; Faculty of the Graduate College of the Oklahoma State University,(1977) p.p. 1-2

The coordinative abilities in different sports by using a well standardized validated test. In the year 1985 Prof. Peter Hirtz developed a test battery in Germany to measure the coordinative abilities for the school children. ‘Peter Hirtz’ suggests that coordinative abilities consist of the following abilities: reaction ability, orientation ability, differentiation ability, balance ability, rhythm ability; and to assess these abilities in different sports he suggested some of the tests. The reliability and validity of these tests were established by ‘Peter Hirtz’ in Germany on the school children.

But now, days in India, the same tests are used by many Researchers for measuring coordinative abilities of college level players/athletes in different sports, but the test was developed for the school children and reliability and validity of these tests were established in Germany.

2. Methodology

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

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

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: Numbered Medicine Ball Run Test. The objective of the test was administered to measure the ‘Orientation ability’ of the subjects. The following equipments were arranged by the researcher before commencement of the final test, Five medicine balls each weighing three kg, one medicine ball weighing four kg, stopwatches, five metallic numbered plates, clapper, pencils, papers, and clip-board. All the medicine balls weighing 3kg were arranged on an even ground in a semi-circle. The sixth medicine ball weighing 4kg was kept 3m away from these medicine balls. Behind all the medicine balls of 3kg weight, metallic number plates of one square foot size, was kept from one to five, before the start of the test, the subjects were asked to stand behind the sixth medicine ball facing towards the opposite direction, on signal, the subject turned and run towards the particular ball number called by the tester and touched the medicine ball run towards the sixth medicine ball following which another number was called immediately. A total of three numbers were called by the tester and the subjects were performed accordingly without any break in between. Before the actual test was administered one practice trial was given to all the subjects.

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 Orientation ability 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 Orientation ability of track and field players of different level are shown in Table 1 & Table 2.

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

Levels	Mean (Second)	S. D.	Analysis of Variance					
			Sum of Squares	Df	Mean Square	F	Sig.	
District (n=30)	12.6067	0.72275	Between Groups	139.006	2	69.503	204.652	0.000
State (n=30)	10.6517	0.57946						
National (n=30)	9.6083	0.40088	Total	168.552	89			
Total (N=90)	10.9556	1.37617						

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

while performing the skills and techniques of the event than state and national level athletes who are already trained athletes and are use to such movement and need not requires any very conscious approach.

Table 2: LSD test for mean Comparison on Orientation Ability among District, State and National level of Track and Field Athletes

(I) levels	(J) levels	Mean Difference (I-J)	Sig.
District	State	1.9550	0.000
	National	2.9983	0.000
State	National	1.0433	0.000

* The mean difference is significant at the 0.05 level.

- It is evident from table-2 that significant difference was found between the Orientation Ability of District & State (1.9550), District & National (2.9983) and State & National level (1.0433).
- The observed sequence of performance of Orientation Ability in three groups is District>State>National. It may be concluded that Orientation Ability is the district level athletes are more conscious in their approach

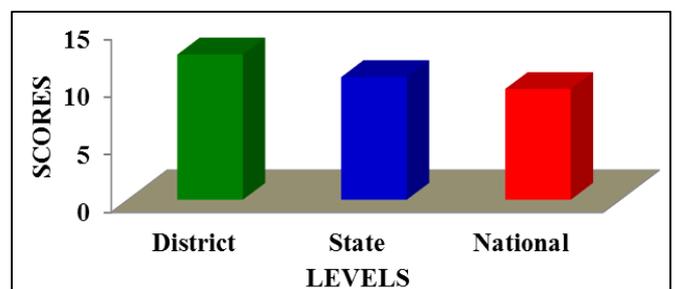


Fig 1: Comparison of Mean Scores Orientation Ability among District, State and National Level of Track and Field Athletes

4. Discussions

There was a statistically significant difference between groups as determined by one-way ANOVA {F (2, 87) =204.652, p=0.000}. A LSD post-hoc test revealed that the

seconds to complete the orientation ability was statistically significant better in district (12.6067 ± 1.9550 , $p=0.000$), state (10.6517 ± 2.9983 , $p=0.000$) and national level athletes (9.6083 ± 1.0433 , $p=0.000$). The analysis of data revealed the fact that F- value was 204.65 which is significant at 0.05 levels which indicates that there is significant difference on orientation ability of district, state and national level athletes.

The LSD post hoc mean comparison also revealed the fact that the district level athletes have better orientation ability than state and national level. Orientation ability is the ability to analyze and change the position and movement of the body in space and time related to define action.

5. Conclusions

The reasons for such findings could be that the district level athletes are more conscious in their approach while performing the skills and techniques of the event than state and national level athletes who are already trained athletes and are use to such movement and need not requires any very conscious approach.

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