

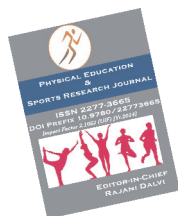
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SIGNIFICANT DIFFERENCE IN THE COORDINATIVE ABILITIES AMONG SCHOOL BOYS WITH DIFFERENT AGE GROUPS



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Abstract :

Childhood is considered one of the most important rhythmic control, balance and spatial orientation stages in man's life. During this stage, a child's coordinative abilities serve the formation of develop and his talents mature and children gets manageable overall movement from partial movements in a consistent and docile. This makes the early years crucial for his/her and coordinated way. If these movements are future as they have a profound effect on his/her lifelong coordinated, we can achieve the highest level of general formation. This also makes the attention paid to childhood

motor coordination needed for the performance of motor one of the most important criteria against which the skills, as they are considered general motor and progress of any society is measured.

KEYWORDS: *Coordinative Abilities, orientation ability, differentiation ability, coupling ability, rhythmic ability, balance ability and reaction ability*

INTRODUCTION:

Psychological conditions for sports achievement through training of youngsters is of great importance in which an individual can control motor performance in all an indispensable requirement for achieving future sports activities. Therefore, all potential repertoires must available for motor orientation, which are components to be detected when preparing this stage and must be coordinative abilities, have important aspects for effectively made use of in the sports training process to physical-sports achievement ability. That through raise sports achievement level having a wide motor coordinative base, the high Complex coordinative abilities represent one of the functioning of the body organs, the nervous system and key physical abilities which affect the speed of sports muscles and the multiple motor experiences, specially in performance development. These complex abilities must be the first years of life, technical performance can be learned and addressed along with other physical abilities, faster and more



effectively.

❖ **Coordinative Abilities**

Modern scientific methods of training players or team place greater responsibility on the coaches and physical educators. They are also responsible for the selection of team taking into consideration the physical and physiological qualities essential for the game.

In technical sports, beautiful and graceful movements are a product of well developed technical skills and coordinative activities. The coordinative abilities, to a great extent, determine the maximum limits to which sport performance can be improved in several sports, especially the sports which depend largely on technical and tactical factors. There are seven identified coordinative abilities, namely i) orientation ability, ii) differentiation ability, iii) coupling ability, iv) adaptation ability, v) rhythmic ability, vi) balance ability and vii) reaction ability.

All the coordinative abilities are important for learning of sport techniques and for their continuous refinement and modifications during the long term training process (Singh, 1991).

Coordinative abilities are primarily dependent on the motor control and regulation process of the central nervous system. For each coordinative ability the motor control and regulation process function in a definite pattern; when a particular aspect of these functions is improved then the sports person is in a better position to carry out a certain group of movements which for their execution depends on the Central Nervous System functioning pattern (Singh, 1991).

Coordinative abilities play an important role in quick changing of the body position during game. In sports, coordination ability or the combination of various coordination abilities play a vital role for the execution of any skill or movement. The combination of various coordinative abilities is helpful for the execution of any movement or skill.

Coordination is important for exhibiting top class performance in games and sports. The coordinative ability play a significant role in learning consolidation and mastery of skills.

Coordination has been one of the key factor in terms of performance skill in a efficient manner. It is generally seen that top level player possess abundance of coordination for developing skill in variety of ways.

The results pertaining to the significant differences in the mean scores of selected coordinative abilities such as differentiation, coordination and orientation abilities of school boys among different age groups (10 to 11, 12 to 13 and 14 to 15 years) by using the One-way Analysis of Variance was presented in the following tables.

1. Differentiation Ability

Table-1

Analysis of Variance for Differentiation Ability of school boys among different age groups.

Variable	Source of Variation	df	Sum of Squares	Mean Squares	F Ratio and Level of Significance	P Value
Differentiation Ability	Between Groups	2	239.687	119.843	8.865	0.000
	Within Groups	897	12126.903	13.519		
	Total	899	12366.590			

* P < 0.05 Table F, df (2,897) (0.05) = 3.000

Table-1 a shows that the obtained F-ratio of 8.865 which is higher than the table value 3.000

with df (2, 897) required for significance at 0.05 level ($P < 0.05$) indicating that it is significant at 0.05 level. Hence the stated null hypothesis is rejected and an alternative hypothesis has been accepted that is “there is a significant difference in the Differentiation Ability of school boys among 10 to 11, 12 to 13 and 14 to 15 years age groups.”

To find out the paired mean differences on Differentiation Ability of school boys, where F ratio is significant, the Scheffe’s Post Hoc Test was used and the data pertaining to this is presented in the following table.

Table-2 : Scheffe’s Post-Hoc Test for significant difference in the Differentiation Ability of school boys among different age groups.

Age Group			Mean Difference and Significance Level	Critical Difference
10 to 11 years	12 to 13 years	14 to 15 years		
7.520	7.726		0.206	0.731
	7.726	6.543	1.183*	
7.520		6.543	0.977*	

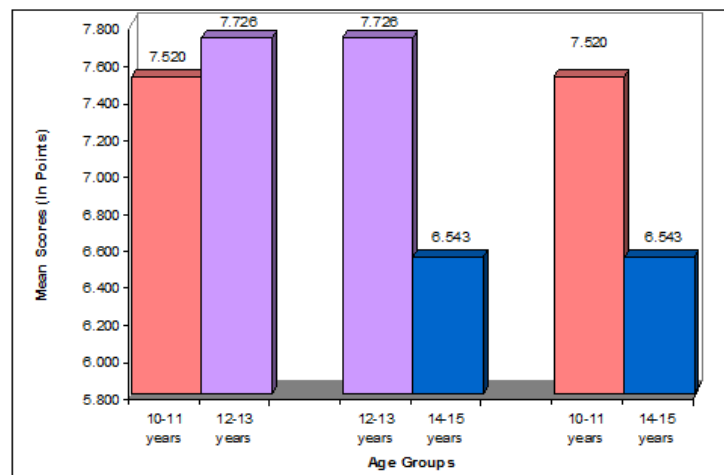
*Significant at 0.05 level

Table-2 shows that no mean differences on differentiation ability of school boys between 10 to 11 and 12 to 13 years age group and the value 0.206 which is less than the critical difference value of 0.731 at 0.05 level of confidence and the mean differences on the differentiation ability of school boys between 12 to 13 and 14 to 15 years, and 10 to 11 and 14 to 15 years age groups have significant paired mean differences, and the values are 1.183 and 0.977 respectively which are greater than the critical difference value of 0.731 at 0.05 level of confidence. Hence it is significant.

The results of the study shows that no significant difference exists in differentiation ability between 10 to 11 and 12 to 13 years age groups; and significant difference exists in the 12 to 13 and 14 to 15 years and 10 to 11 and 14 to 15 years age groups. The 12 to 13 years age group is better differentiation ability than 10 to 11 and 14 to 15 years age groups. It concludes that the differentiation ability of the school boys was increasing with the advancement of age except differentiation ability of 14 to 15 years age group boys.

The comparison mean scores of differentiation ability of the school boys among different age groups are given in the graphical presentation in Fig.1.

Fig.1 : Bar graph shows comparison mean scores of Differentiation Ability of school boys among different age groups.



2. Coordination Ability

Table-3

Analysis of Variance for Coordination Ability of school boys among different age groups.

Variable	Source of Variation	df	Sum of Squares	Mean Squares	F Ratio and Level of Significance	P Value
Coordination Ability	Between Groups	2	49.229	24.614	1.016	0.362
	Within Groups	897	21724.970	24.220		
	Total	899	21774.199			

* $P < 0.05$ Table F, df (2,897) (0.05) = 3.000

Table-3 shows that the obtained F-ratio is 1.016 which is less than the table value 3.00 with df (2, 897) required for significance at 0.05 level indicating that it is not significant even at 0.05 level. Hence the stated null hypothesis that is “there is no significant difference in the Coordination Ability of school boys among different age groups” is accepted.

3. Orientation Ability

Table-4

Analysis of Variance for Orientation Ability of school boys among different age groups.

Variable	Source of Variation	df	Sum of Squares	Mean Squares	F Ratio and Level of Significance	P Value
Orientation Ability	Between Groups	2	39.262	19.631	4.055	0.018
	Within Groups	897	4342.253	4.841		
	Total	899	4381.516			

* $P < 0.05$ Table F, df (2,897) (0.05) = 3.000

Table-4 shows that the obtained F-ratio of 4.055 which is higher than the table value 3.000 with df (2, 897) required for significance at 0.05 level ($P < 0.05$) indicating that it is significant at 0.05 level. Hence the stated null hypothesis is rejected and an alternative hypothesis has been accepted that is “there is a significant difference in the orientation ability of school boys among 10 to 11, 12 to 13 and 14 to 15 years age groups.”

To find out the paired mean differences on orientation ability of school boys, where F ratio is significant, the Scheffe’s Post Hoc Test was used and the data pertaining to this is presented in the following table.

Table-5

Scheffe’s Post-Hoc Test for significant difference in the Orientation Ability of school boys among different age groups.

Age Group			Mean Difference and Significance Level	Critical Difference
10 to 11 years	12 to 13 years	14 to 15 years		
13.780	14.173		0.393	0.440
	14.173	13.693	0.480*	
13.780		13.693	0.086	

*Significant at 0.05 level

Table-5 shows that no mean differences on orientation ability of school boys between 10 to 11 and 12 to 13 years and 10 to 11 and 14 to 15 years age groups and the value 0.393 and 0.086 which are less than the critical difference value of 0.440 at 0.05 level of confidence and the mean difference on

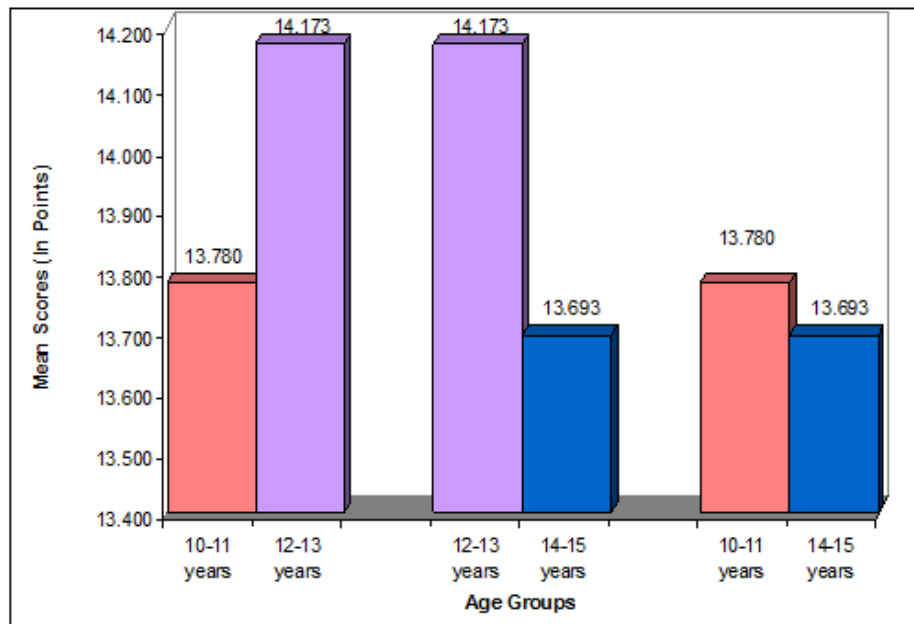
the orientation ability of school boys between 12 to 13 and 14 to 15 years age group has significant paired mean difference and the values are 0.480 which is greater than the critical difference value of 0.440 at 0.05 level of confidence. Hence it is significant.

The results of the study shows that no significant difference exists in orientation ability between 10 to 11 and 12 to 13 years; and 10 to 11 and 14 to 15 years age groups and significant difference exists in the 12 to 13 and 14 to 15 years age group. The 14 to 15 years age group is better orientation ability than 10 to 11 and 12 to 13 years age groups. It concludes that the orientation ability of the school boys was increasing with the advancement of age.

The comparison mean scores of orientation ability of the school boys among different age groups are given in the graphical presentation in Fig.2.

Fig.2

Bar graph shows comparison mean scores of Orientation Ability of school boys among different age groups.



CONCLUSION :

There was significant difference between urban and rural school boys in their differentiation, coordination and orientation abilities of different age groups. The rural school boys of all age groups had better differentiation, coordination and orientation abilities than urban school boys. The rural school boys of 10 to 11 years age group had better differentiation and orientation abilities than 12 to 13 and 14 to 15 years age group but in orientation ability 12 to 13 years age had better than 14 to 15 and 10 to 11 years age group. The urban school boys of 12 to 13 years age group had better differentiation ability than 10 to 11 and 14 to 15 years. The urban school boys of 14 to 15 years age group had better coordination ability and lesser orientation ability than 12 to 13 and 10 to 11 years age group.

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