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Comparative Study on Kinesthetic Perception Between High Academic Achievement Group and High Sports Performance Group

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ABSTRACT

Objective: The objective of this study was to determine kinesthetic perception of high academic achievement group and high sports performance group and to compare with each other.

Methodology: Thirty (N=30) young healthy boys were selected as subjects for the present study from North 24 Paraganas district of West Bengal. The age of the subjects were ranged from 16 to 22 years. They were selected randomly from a large population on the basis of the following two criterion i) The subjects for High Academic Achievement Group (HAAG) were selected on the basis they had at least 80% and above marks in Madhyamik examination (School Final, 10 grade) and ii) The subjects of High Sports Performance Group (HSPG) were selected on the basis that they had at least one state level participation in their respective events/game. Kinesthetic perception was the only variable studied in the project and it was measured by Shuffleboard Distance Perception test. T- Test were performed for justifying significance of means at $p<0.05$ level of confidence. For statistical calculations Excel Spread Sheet of windows version 7 was used.

Results: It was found that kinesthetic perception between HAAG and HSPG were significantly different. It was also found that HAAG was significantly superior to HSPG.

Conclusion: Participation in regular exercise and games & sports enhance kinesthetic perception.

KEYWORDS: Kinesthetic Perception, High Academic Achievement Group and High Sports Performance Group.

INTRODUCTION

The coordinated activity of an organism relies upon a continuous input of information from the internal and external environment. If this information leads to a change in activity or behaviour of the animals, it is stimulus. The specialised reasons of the body detecting the stimulus are known as sensory receptor. The most complex receptors are related to five sensory organs viz. eye, ear, tongue, nose and skin. The co-ordinated activity of all these five organs plays a vital role to perceive an external stimulus in our daily life like temperature, smell, colour, taste of a food to take or the sound of a radio to hare. Apart from these five, there exists another sense which gives one greater feelings and that makes someone able to identify and predict accurately that who is standing behind him without the help of different (five) sense organ called sixth sense or technically kinesthetic sense.

In this context, a story from The Mahabharata can be mentioned. Mahaboli Bhima, the 2nd Pandav, was fond of food from his very childhood. One day he was eating Dadhi (concentrated milk) at an extremely dark night. Arjuna was present there and being astonished he asked to his elder brother Bhima that how he could able to take Dadhi even in such a dark night-impossible to see anything. Bhima replied, "Don't you know that we have eyes in our hand?" The answer tricked Arjuna and he became overwhelmed. Suddenly he started to shoot arrows by making the perception of that particular target previously set at the top of the tree in that dark night. Hearing the sound of Gandib (The bow of great 3rd Pandab -Arjuna), gurudev Dronacharya came out from his room and being conquered while discovered that each and every arrows of his dearest student was hitting exactly to the target. What power was responsible behind this - the special sixth sense - which had had helped Arjuna to be able to hit the target? In relation to the key of the story – the sixth sense – is obviously responsible in all the field of games and sports to perceive the position of one's body segments, positions of the implements and positions of the team mates or even the position of the opponents while performing a complex motor task during the game. Not only in the field of games and sports it has an wide application in almost all fields of knowledge like it helps the mathematicians to make sense about the right direction while selecting procedure to be followed for solving a complex calculations or to giving a compact definition of anything in the field of study. It is known as kinesthetic perception.

So kinesthetic perception is of real concern to the physical Educators, coaches and players because the sportsman having better sixth sense can perform the motor task accurately and timely which is the presupposition for superior performance. Thus, while forming a team combination the coaches or trainers must select those players having kinesthetic sense or motor intelligence in sufficiently good amount.

Probably this sense is related with fieldwork outs of sports movement. On the other hand better academic achievement depends on cognition. And cognition is the total mental ability of the person which covers intelligence, conceptualizing, imagery, reasoning, memorising capacity etc. Perception and sensation which are most important factors of kinaesthetic sense and intelligence quality which are closely related with brain process (nervous system). This school of thought make interested the investigator to take up the present study. It was a sincere attempt on the part of the investigator to compare between high academic achievement group and high sports performance group in relation to possession of kinesthetic perception. Thus, It was hypothesised that the kinaesthetic perception of high sports performance group would be better than that of high academic achievement group. Hence, the purpose of the study was to observe kinesthetic perception of high academic achievement group and high sports perception group and to compare with each other.

METHODOLOGY

Subjects: For the study 15 boys, securing 80% or more marks in the Madhyamik Examination (School final) were selected as Academically High Achievement group and 15 more boys representing their district in the Inter District Competition (in any event) were selected to comprise the High Sports Performance Group. The age of the subjects ranged from 16 years to 22 years.

Criterion Measure: To gain Excellency in any matter the individual requires a high quality in perception. He/she must understand what he/she has to do, how it must be done, in which way it is to be done in respect of other competitors, implements movement of the body segment during some motor action. Keeping that in mind the investigator liked to assess the kinesthetic perception of two groups of students and that was measured by "Shuffleboard Distance Perception test".

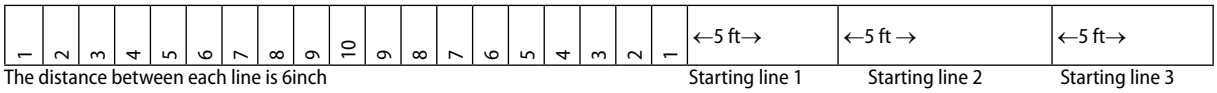

Figure-1: Floor marking of Shuffleboard Distance Perception test

Administration of Shuffleboard distance Perception Test: Equipment and floor marking: Disc, chalk, measuring tape, blindfolds etc. were used for collection of data. The floor was marked as shown in figure-1. There were three phases of the test each from a distance between each scoring zone is 6inches. Direction: The subjects were thoroughly oriented and were given four to five practice trials without a blindfold. They were then blindfolded and positioned behind the line 1(5ft from beginning of target zone) and asked to sense the distance to the 10 points target zone. Ten trials were allowed from each of three starting lines (shown in fig-1). On each occasion the subjects were allowed to see where the disc came to rest. The blindfold was then repositioned. After 10 trials at the first starting line he was then moved to starting line 2 and after 10 trials at that point moved to the starting line 3. Scoring: The zone in which the disc stopped was recorded as the score for each trial. Whenever the disc was pushed on the demarcation line of two zones the higher score of the two zones were assigned to the trial. The total points from the three distance i.e. sum of 30 trials were recorded as the test score.

Statistical analysis: In the present study for the sake of analysis of data mean and standard deviation of the variables were calculated. To test the difference between mean t-test were performer. The level of significance was set at $p<0.05$ level of confidence. For statistical calculations Excel Spread Sheet of windows version 7 was used.

RESULT AND DISCUSSION

Table-1 shows the distribution of mean values and standard deviations of kinesthetic perception of the subjects. The Mean ± SD of kinesthetic perception of High Academic Achievement Group (HAAG) and High sports performance Group (HSPG) were 243.40 ± 6.103 and 252.40 ± 11.185 respectively.

TABLE- 1: Mean and SD of the groups

GROUPS	MEAN	SD
High Academic Achievement Group	243.4	6.103
High Sports Performance Group	252.4	11.185

From table 1 it was evident that High Sports Performance Group was superior to High Academic Achievement Group in respect of kinesthetic perception.

TABLE- 2: Mean difference and t-ratio between the two groups

GROUPS	MEAN	Mean Diff.	SE	't' ratio
High Sports performance Group	252.4	9.00	3.28	2.74*
High Academic Achievement Group	243.4			

***Significant at 0.05 level of confidence. T (0.05)28=2.05**

From table- 2 it was observed that there was significant difference between the two groups in respect of kinaesthetic perception.

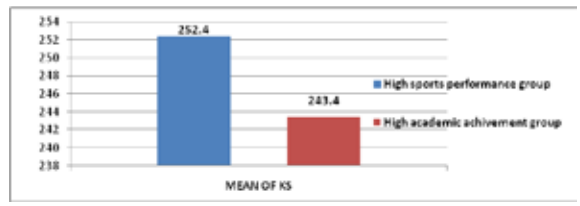

Fig. 2: Kinesthetic perception of high sports performance group and high academic achievement group

From the obtained data and its statistical analysis it was found that kinesthetic perception between high academic achievement group and high sports performance group were significantly different. It was also found that high sports performance group was significantly superior to high academic achievement group.

The subjects of high sports performance group were from those activities, which are considered as team games require good amount of perception regarding the perception of the ball ; position the teammates; position of the opponent; amount of force applied to the ball etc. For competing in higher grade for going up to the high academic achievement groups the learners have to perceive the ability of his/her co-learner in different subjects.

Through practice the kinesthetic perception ability can be developed in training session. A sports man works hard during training and repeats the movements' several times with progressive difficulties and different variations which helps greatly in understanding the nature of movement; the force to be applied; the position of the discipline that scope is not available though he/she also has to work diligently to achieve a high grade that requires brain work. But not any vigorous motor action is involved. That is the cause behind the superiority of high sports performance group over the high academic achievement group in relation to kinesthetic perception.

CONCLUSION

Through practice and participation in different games and sports in regular basis the kinesthetic perception ability can be developed due to the training effect. That is why the kinesthetic perception of a sports man is always superior to an academician.

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