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ASSESSMENT OF DEXTERITY ON SPORTS PERSONS AND NON-SPORTS PERSONS USING MMDT

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Abstract

Aim of the study was to assess the level of eye and hand coordination (dexterity) between sports person and non-sportsperson, the college students of average 26years age were take part in this study. The researcher randomly selected sports person (intercollegiate sports participants) and non-sports persons for the study. Same number of subjects for both groups were taken to the experiment. Dexterity refers to the ability to perform activity using small muscle groups. The quality of performance in daily living skills, work-related functioning, and recreational activities is determined to a large degree by hand function and manual dexterity. The dexterity is more important to perform in sports activities. The coordination between eye and hand determines the level of performance. To analyse the data t test is administered. The result shown that there is no difference in eye and hand coordination (dexterity) between sportsperson and non-sportsperson.

Keywords: Dexterity, Coordination, Sportsman, Minnesota.

Introduction

Dexterity is the coordination of small muscles, in movements- usually involving the synchronization of hands & fingers with the eyes. Dexterity is the ability of a person to coordinate their movements very gracefully. Co-ordination is the ability to integrate muscles movements into an efficient movement. Good coordination of muscles leads to good performance. Good physical performance is the outcome of good coordination of muscles in particular physical activity. The quality performance in daily living activities, work related activities, recreational activities or sports activities are determined to a large degree of coordination of muscles or dexterity.

Countless physical activities involve co-ordination of the eyes with hands. The ability of the vision system to coordinate the information received through the eyes to control, guide, and direct the hands in the performing of a given task, such as handwriting or working with computer and mobile, catching a ball, punching or defending in combat sports computer gaming, copy-typing, and even tea-making are the result of eye hand coordination. It is part of the mechanisms of performing everyday tasks. The absence of eye hand coordination, most people would be unable to carry out even the simplest of actions in daily life.

Eye-hand coordination also known as hand-eye coordination is the coordinated control of movement of eye with movement of hands and the processing of visual input to guide reaching and grasping along with the use of proprioception of the hands to guide the eyes. Eye coordination is the ability of both eyes to work together as a team. Each of your eyes sees an ever so slightly different image and your brain, by a process called fusion, blends these two images into one three- dimensional picture. Good eye coordination keeps the eyes in proper alignment.

When eyes and hands are used for exercises, the eyes generally direct the movement of the hands to targets. Eyes provide initial information of the object, including its size, shape, and possibly grasping sites that are used to determine the force the fingertips need to exert to engage in a task. The players in Cricket, Volleyball, Basketball and handball do require eye- hand co-ordination when they exhibit their skills for successful performance.

Earlier some studies were recorded on eye and hand coordination of different individuals. Gaurav Pant (2007) conducted a study to determine the eye and hand coordination ability between Attackers and Blockers in Volleyball and resulted that there was no significant difference in the mean value of eye-hand coordination between central blockers and counter attackers in volleyball. Significant difference was not found in case of eye-hand coordination between blockers and attackers.

Dr. Triloki Yadav and others (2017) revealed that Volleyball players better Eye Hand Coordination in comparison to Basketball players. It understood that the eye hand coordination (dexterity) differs from one activity to another activity. The activity influence on one's dexterity or performance.

Paul Maman and others (2011) concluded their study that visual training program improves the basic visual skills, which in turn are transferable into sports specific performance.



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As a sportsperson the investigator tried to assess the eye and hand coordination between the person who involved in sports and who not involved.

Methodology

For evaluating the eye and hand coordination (dexterity), researcher randomly selected same number of sports persons and non-sports persons at who were studying at college level. Data was collected through Minnesota manual dexterity test board. The Minnesota Manual Dexterity Test (MMDT) is a frequently administered, standardized test for the evaluation of a subject’s ability to move small objects various distances. Placing series and turning series of Minnesota rate of manipulation test administered on both the groups. Appropriate statistical tools and techniques has been used as, mean, standard deviation and t test were incorporated and analysed.

Analysis

The study was conducted with the aim to compare the eye-hand co-ordination (dexterity) between who involved in sports regularly and who not involved. In this study the data were collected through the administration of the standard test, on twenty sports persons and twenty non sportspersons. Further, the results were interpreted by using descriptive research to reach at a definite conclusion.

Table 1. Comparison of eye and hand coordination (dexterity) between sports persons and non-sports persons (Minnesota rate of manipulation test placing series)

Subjects	Mean	Standard Deviation	‘p’ value
Sports persons	3.20	0.70	0.84
Non-sports persons	3.07	0.51	

Significance at 0.05 level

Above table revealed that there is no significant difference between sports person and non-sports person in eye and hand coordination. In Minnesota rate of manipulation test (placing series) the ‘p’ value is 0.84 and no difference is found in eye and hand coordination is between sports persons and non-sports person in placing series.

Table 2. Comparison of eye and hand coordination (dexterity) between sports persons and non-sports persons (Minnesota rate of manipulation test turning series)

Groups	Mean	Standard Deviation	‘p’ value
Sports Persons	4.56	0.95	0.72
Non-Sports Persons	4.36	0.87	

Significance at 0.05 level

Above table shows that no significant difference between sports person and non-sports person in eye and hand coordination. In Minnesota rate of manipulation test (turning series) the ‘p’ value is 0.72, it is higher than significant level of difference. So, it is understood that no difference in eye and hand coordination is better in sports persons than non-sports person.

Discussion and conclusion

When comparing the scores of placing series and turning series score of Minnesota rate of manipulation test, the t value shows there is no significance difference in in eye and hand coordination is better in sports persons than non-sports person who were subjects in this study. Results may treat as the sports persons and non-sports persons are similar in eye and hand coordination.

Similar result was found by Manojdas (2020) on same study and it was revealed that there is no significant difference in eye and hand coordination between games and non-gamers.



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It is observed that the sports persons have involving sports activities regularly and these participation keeps the person to be fit and engage in fitness activities. The non-sports persons are may not participate in competitive sports activities but they may get involved recreational activities regularly. These factors may influence on result of the study.

Hence the study is concluded that there is no significant difference between sports person and non-sports persons in eye and hand coordination.

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