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Effect of selected yogic exercise on eye-hand coordination of Vidyasagar University sports persons

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Abstract

The present study was selected to investigate the effect of selected yogic exercise on eye-hand coordination of university's male sports persons (Ave. age 21-23 Yrs.) To conduct the study 200 inter collegiate coming under the jurisdiction of Vidyasagar University West Bengal were selected as sample. These selected subjects then divided into two group i.e. experiment and control group with equal number of subjects assigned randomly in each group. The subjects of experimental group received six months of yoga exercise training program while subjects grouped into control group did not receive such programme. To determine eye- hand coordination of the selected subjects, Mirror Drawing Test was used. Result indicates that six months yogic exercise regime has been instrumental in improving the eye-hand coordination of university's male sports persons belonging to experimental group. Therefore it may be concluded that yogic exercises are good medium to improve eye-hand coordination of university's male sports persons

Keywords: Yogic exercise, eye-hand coordination, Vidyasagar University, sports persons

Introduction

Psychomotor abilities are skills such as eye-hand coordination, balance, and reaction time that arise from a unity of cognitive and physical function. In other words abilities that influence the capacity to manipulate and control objects are called psychomotor abilities. They are arm leg steadiness, control precision, finger and manual dexterity, multi limb coordination reaction time, response orientation and eye leg coordination etc.

In sports setting psychomotor abilities plays an important role as far as sports performance is concerned. Researchers like Hughes *et al.* (1993) [8], Kioumourtzoglou *et al.* (1998) [7], Shim *et al.* (2005) [2], Gibbet and Benton (2007) [9] have also established positive relationship between psychomotor abilities and sports performance.

It is also been scientifically opined that yoga exercises enhance flow of blood to the brain and stimulate the brain cells. Malhotra *et al.* (2002) [6], Malti and Parulkar (1989) [5] in their studies also reported the beneficial effects of yoga in terms of peripheral and central neuronal processing which is important for smooth conduction of psychomotor tasks.

In sporting scenario so many researchers like Williams (1993), Sharma (2000) [3], Donohue (2006) [10], Archery (2010) [12], Singh *et al.* (2011) [11] studied the effect of yoga on physiological as well as some psychological qualities of sports persons but so far no study has been conducted in which effect of short duration yoga exercises has been observed on eye-hand coordination of university's male sports persons, hence the present study was planned.

It was hypothesized that six months yoga exercise programme will result in enhanced eye-hand coordination of university's male sports persons.

Methodology

The following methodological steps were taken to the study.

Sample

To conduct the study, 200 inter collegiate university's male sports persons (Ave. age 21-23 yrs.) from various collages coming under the jurisdiction of Vidyasagar University West Bengal was selected as sample. These selected subjects then divided into two group i.e. experiment and control group with equal number of subjects assigned randomly in each group.

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Tools

Eye-hand coordination of the subjects was assessed by mirror drawing test. This was done by digital mirror drawing apparatus. In this test, error while drawing is recorded and fewer errors indicate good eye-hand coordination.

Procedure:

Eye-hand coordination test was performed by each subject from experimental and control group before the start of study period. Then university’s male sports persons from experimental group were subjects which includes 01 hour of yogic exercise which induces chanting of OM, Suryanamaskar, Varian, makarasana, Shavian and Anulomvilom for two to five minutes of duration. Subjects from

control group were not subjects to any other programme apart from their usual exercise routine. After study period subjects from both groups once again were subjects to mirror drawing test. Errors made while drawing a figure was recorded for each subjects twice i.e. pre-test and post-test. Gain score (post-pre-test) was computed for experimental as well as control group to find out the changes in scores on eye-hand coordination during study period. The obtained gain scores for both the group were then compared with the help of paired sample test. The results are presented in table no. 1 and 2 respectively.

Analysis of Date

Table 1: Pre and Post-Test Statistics of Eye-hand coordination Scores in selected University’s male sports persons belonged to Experimental and Control Group

Groups	Before Study Period Mean+- S.D.	After 03 months Mean +-S.D.	Mean Difference	‘t’
Experimental (N=100)	18.79(+6.95)	17.09(+6.86)	1.70	4.03**
Control (N=100)	19.86(+5.08)	0.21	0.21	0.90 (NS)

**Significant at .01 levels; NS- Not significant

Statistical entries depicted in table 1 indicate no significant change in eye- hand coordination of university’s male sports persons belonging to control group ($t=0.90, p>.05$) but the eye-hand coordination of university’s male sports persons have improved significant (less error in post-test as compared to pre-test) after 06 months of yoga exercise programme ($t=4.03, P<.01$).

Change in eye-hand coordination score in experimental and control group is again tested with gain scores. The same is presented in table no.2.

Table 2: Comparison of Gain Score on Eye-hand Coordination Test between Experimental and Control Group

Experimental Group (N=100) Mean+-S.D.	Control Group (N=100) Mean+-S.D.	‘t’	Sig
Gain Score			
-1.70(+4.22)	-0.21(+2.310)	3.01	.01

A perusal of entries reported in table 2 indicate that errors made by university’s male sports persons on eye-hand coordination test belonging to experimental group $M=-1.70$) have decreased significantly as compared to university’s male sports persons of control group ($M=-0.21$). $t=3.01, P<0.1$

Results

On the basis of statistical analysis it was observed that eye-hand coordination of university’s male sports persons belonging to experimental group in which six months of yogic exercises programme was imparted, have improved significantly during study period as compared to university’s male sports persons of control group.

Discussion

The results clearly indicate a beneficial effect of yogic exercise on eye- hand coordination of university’s male sports persons. Similar findings have been reported by Bahrain (2003) and Noorjehan (2012) [4] but not concerning universities sports persons. The reason behind this may be the improved functioning of central nervous system and beneficial effect of yoga on concentration, this improved concentration negates the influence of external stimuli which in better eye-hand coordination.

Conclusion

It was concluded that eye-hand coordination of university’s male sports persons can be improved through scientific implementation of yogic exercises of certain duration.

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