



COMPARISON OF FLOOR EXERCISE ROUTINES IN MALE GYMNASTS WITH LEFT AND RIGHT BRAIN HEMISPHERE DOMINANCE

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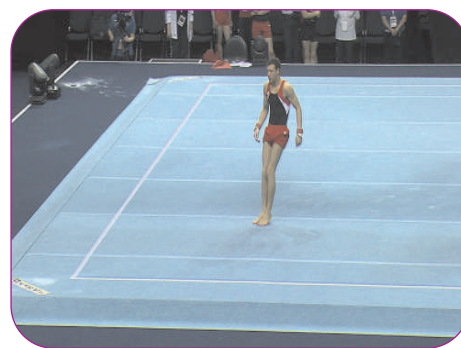
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ABSTRACT :

In this study performance of left and right handed male artistic gymnasts on floor exercise routine was compared. To conduct the study, 60 male gymnasts (Ave. age 21.62 yrs) who took part in inter-university artistic gymnastic competition were selected as sample. Out these 60 male gymnasts, 30 comprise of gymnasts with left brain hemisphere dominance while the rest have right brain hemisphere dominance. The selection of subjects on the basis of their left/right handedness was done with the help of Brain Hemisphere Domination Test (B.H.D.T.) prepared by Agashe and Helode (2007). To assess performance of gymnasts on floor exercise routine, scores were recorded from official score book. Comparison of scores on floor exercise reveal no statistically significant difference between left and right handed male gymnasts although male gymnasts with right brain hemisphere preference showed better performance on floor exercise than male gymnasts with left brain hemisphere dominance. On the basis of results it was concluded hemispheric preference unable to predict the performance of male artistic gymnast on floor exercise routine.



KEYWORDS : Brain hemisphere domination, artistic gymnastics, floor exercise routine.

INTRODUCTION

A specially prepared exercise surface denoted as floor in gymnastics is also considered as apparatus. The competitive event on such floor is termed as floor exercises. The floor exercise routine has duration is 90 seconds in which pre choreographed acrobatic and dance elements are performed by the gymnasts. The floor exercise routine generally consists of four tumbling lines, dance elements, turns and leaps. In international competitions it should have connection of two dance elements with one of 180 degree split, forward, backward and sideways, double saltos, Dismount and saltos with a minimum of one full twist.

Floor exercise routine in gymnasts is a set of complex motor skills which require balance, coordination, agility, fine motor skills etc. In order to perform certain motor skills in floor exercise both sides i.e. left/right of the body are equally importance. This is where question of brain dominance arises. Brain dominance is based on two hemisphere of brain i.e. left and right. The left hemisphere is responsible for movements of right side of the body and right hemisphere is for movements of left side of the body. The smooth conduction of movement of human body is achieved by coordination between two hemispheres. In the context of brain hemisphere dominance a human-being can be classified as left handed, right handed and ambidextrous. In sporting context left handed and right handedness has given importance and researches highlighted the fact that left handed sportspersons are more successful in sports because of visuo-motor and spatial motor skill performance zone is situated in right

brain hemisphere (Holzen, 2000; Gursov, 2007). It has also been argued that left handedness is not the only criteria of success in sports and it may be sports specific. It may be even so in sport like artistic gymnastic where players perform separately. Baker and Schorer (2013) in their study also found that success in mixed martial art is not dependent on brain hemisphere dominance. Surprisingly no study has been conducted in artistic gymnastic in which scores on basic routine i.e. floor exercise of left and right handed gymnasts has been compared. In view of these contrary findings and keeping in mind no study on this topic yet to be conducted, the researcher decided to compare performance of left and right handed gymnasts on floor exercise routine.

OBJECTIVES

The objective of the present study is to compare performance of left and right handed male artistic gymnasts on floor exercise routine.

HYPOTHESIS

Significant differences will be observed in performance of left and right handed male artistic gymnasts on floor exercise routine.

METHODOLOGY:-

The following methodological steps were taken in order to conduct the present study.

Sample:-

To conduct the study, 60 male gymnasts (Ave. age 21.62 yrs) who took part in inter-university artistic gymnastic competition were selected as sample. Out these 60 male gymnasts, 30 gymnasts with left brain hemisphere dominance and 30 gymnasts with right brain hemisphere dominance were selected purposively.

Tools:

To assess domination of left and right brain, Brain Hemisphere Dominance Test (B.H.D.T.) prepared by Agashe and Helode (2007) was used. It consists of 12 multiple choice questions. This test validity is 0.82 and reliability is 0.78.

To assess performance of gymnasts on floor exercise routine, scores obtained by each gymnasts were scored from official score book.

Procedure:

Brain Hemisphere Domination Test prepared by Agashe and Helode (2007) was administered to selected subjects participating in inter-university artistic gymnastic competitions. Subjects with left and right brain dominance was ascertained as per author's manual. In all 30 left handed and 30 right handed male gymnasts were selected through purposive sampling method. Scores on floor exercise routine for each selected subjects was noted from official score book. Finally the data were tabulated in their respective groups. Independent sample 't' test was used to compare mean scores on floor exercise between two groups comprising of left and right handed male gymnasts. The result is depicted in table 1.

RESULTS

Table no. 1
Comparison of Performance of Left and Right Handed Male Gymnasts on Floor Exercise Routine

Variable	Male Artistic Gymnasts				t	Level of Significance
	Left Handed (N=30)		Right Handed (N=30)			
	M	S.D.	M	S.D.		
Floor Exercise Routine	5.91	4.45	5.52	4.62	0.30	NS

A perusal of table 1 reveal that mean scores on floor exercise routine in a group of gymnast with left brain hemisphere dominance (M=5.91) and with right brain hemisphere dominance (M=5.52) did not differ significantly with each other. This was also verified by calculated 0.30 with statistically non significant probability as acceptable level.

RESULT AND DISCUSSION

Result clearly indicate slight but non significance difference in floor exercise routine performed by male gymnasts with left and right brain hemisphere dominance i.e. right and left handed male gymnasts. It was also noticeable that floor exercise performance of left handed gymnast was slightly superior to the right handed male gymnasts. Since people with right brain hemisphere dominance i.e. left handed seems to perform task with right hand or right side of body with relatively efficiently as compared to people with left brain hemispheric dominance i.e. right handed people are not that adapt at performing tasks from other side of their body. Hence it can be said that not only racquet sport but sport like gymnastics brain hemisphere domination influence performance because of better spatial and motor ability of left handed gymnasts.

CONCLUSION

On the basis of results it was concluded that left handed male gymnasts enjoy superiority in performance on floor exercise routine as compared to right handed male gymnasts but not to a significant extent.

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