



Short Communication

A Comparative Study of Psycho-Motor Abilities of Tribal and Non-tribal Gymnasts

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Available online at: www.isca.in, www.isca.me

Received 20th November 2014, revised 15th January 2015, accepted 18th February 2015

Abstract

The main aim of the present study is to compare selected psycho-motor abilities of male Indian gymnasts of tribal and non tribal origin. To conduct the study, 100 gymnasts, who took part in state level gymnastic championships held in various parts of India, were selected as sample. Out of these 100 selected subjects, 50 have tribal origin (Av. age 18.22 yrs) and the same number i.e. 50 have non tribal origin (Av. age 17.91 yrs). To determine hand-eye coordination of the selected subjects, Mirror Drawing Test was used. Simple reaction time of the selected male gymnasts was assessed by Nelson Test. The results reveal no significant difference in selected psycho-motor abilities of male gymnasts with tribal and non-tribal origin. It was concluded that psycho-motor abilities of male gymnasts did not differ significantly on the basis of their tribal, non-tribal origin.

Keywords: Tribal, Non-tribal, Psycho-motor abilities, gymnasts.

Introduction

Psychomotor abilities are skills such as hand-eye coordination, balance, and reaction time that arise from a unity of cognitive and physical functions. In other words abilities that influence the capacity to manipulate and control objects are called psychomotor abilities. They are: Arm-hand steadiness, control precision, finger and manual dexterity, multilimb coordination, reaction time, response orientation and eye hand coordination etc. A relationship between psychomotor abilities and sports performance are scientifically established by many researchers such as Hughes et al.¹, Kioumourtzoglou et al.², Shim et al.³, Gabett and Benton⁴. The studies in this regard established the fact that psychomotor abilities do play a significant role as far as sports performance is concerned.

The very nature of the "Activity of Gymnastics" involves physical abilities and psychomotor abilities. Studies by researchers like Kinser et al.⁵, Zissi et al.⁶, Marinsek et al.⁷ on gymnasts covered subjects like skills, motor and perceptual abilities and other allied factors whereas in India Walia⁸, Walia⁹ Bawa and Debnath¹⁰ conducted studies on gymnasts. It is noticeable in literature review that studies related with the different psychomotor abilities of Indian gymnasts have not been conducted by the researchers in the light of their tribal and non-tribal belongingness. So in this sense this study is useful because both tribal and non-tribal take part in competitive gymnastics in India and it is also believed that tribals possess better psycho-motor abilities due to environmental and demographic conditions. In view of above, the researcher compared selected psychomotor abilities of tribal and non tribal Indian gymnasts.

Hypothesis: Psychomotor abilities of male gymnasts will differ significantly on the basis of tribal-non tribal belongingness.

Methodology

To test the abovementioned hypothesis, following procedure was adopted:

Sample: To conduct the study, 100 gymnasts, who took part in state level gymnastics championships held in various parts of India, were selected as sample. Out of these 100 selected subjects, 50 have tribal origin (Av. age 18.22 yrs) and the same number i.e. 50 have non tribal origin (Av. age 17.91 yrs). The sample for the present study was randomly selected and incorporating representation of States and Union Territories of India.

Tools: Hand eye 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 hand eye coordination.

Subjects hand reaction time was assessed by Nelson's test. In this test, out of 20 trials, result of five faster and five slowest trials was discarded and the average of the middle 10 trials was used.

Procedure: Mirror Drawing test and Nelson's reaction time test was administered under researchers supervision. Errors made while drawing a figure was recorded for each subject. Reaction time for each subject was also noted. After tabulation of data in two groups i.e. tribal and non tribal male gymnasts, comparison was made. The results are presented in table-1.

Table-1
Comparison of Psychomotor Abilities between Tribal and Non Tribal Male Gymnasts

Variables	Tribal Gymnasts (N=50)		Non Tribal Gymnasts (N=50)		t	Level of Significance
	M	S.D.	M	S.D.		
Hand Eye Coordination	20.80	4.71	22.07	7.60	1.08	p>.05
Simple Reaction Time	5.93	1.97	6.54	3.38	1.09	p>.05

Results and Discussion

Results: A perusal of statistical facts reported in table 1 indicate that selected psychomotor abilities i.e. hand eye coordination and simple reaction time did not differ significantly between tribal and non tribal male gymnasts. The calculated t values of 1.08 and 1.09 respectively also supports these findings statistically.

Discussion: Although tribal culture and geographic surroundings and brought-up are good for psychomotor development but this does not necessarily mean that psychomotor abilities of tribals are better than non-tribals. The results of the present study signifies the same once again highlight the fact mere tribal belongingness is not the only criteria to have better psychomotor abilities.

Conclusion

On the basis of results, it was concluded that psychomotor abilities i.e. hand eye coordination and simple reaction time of male gymnasts did not vary significantly on the basis of their tribal, non-tribal belongingness.

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