



ISSN: 2456-0057
IJPNPE 2018; 3(2): 420-422
© 2018 IJPNPE
www.journalofsports.com
Received: 01-05-2018
Accepted: 03-06-2018

Dr. Pralay Nayek
Dept. of Physical Education
Visva-Bharati,
Santiniketan, West
Bengal, India

Debasis Das
Research Scholar, Dept. of
Physical Education, Visva-
Bharati, Santiniketan, West
Bengal, India

Habib SK
Research Scholar, Jadavpur
University, Kolkata, West
Bengal, India

A study on physical fitness and dynamic balance

Dr. Pralay Nayek, Debasis Das and Habib SK

Abstract

According to modern concept play can improve physical and motor fitness and purpose a base for the development of structure of formal education. It is very important to prone games and sports can lead to the mental and intellectual development of the child. Physical fitness and its maintenance throughout the life are very difficult. The great saying of Hons Sheelly "Activity is the biological necessity" is applicable in all sphere of life. Balance is an important ability which is used in our every activity. Such as in walking and standing as well as in most games and sports. The purpose of the study was to observe the relationship between physical fitness and dynamic balance, whether dynamic balance is dependent on physical fitness & whether there is any effect of sex on dynamic balance. Thirty students within the age groups 15 to 16 years were randomly chosen from Satkari Banga Vidyalaya (High) as a subject for the present study. Physical fitness was assessed by measuring junior high school physical fitness test consisted with 4th test items. The Dynamic Balance was measure Standard Dynamic Balance test constructed by Johnson Barry L. and Zefit pitch (1968). Result revealed that Dynamic Balance and physical fitness for boys & girls were inter dependent. Dynamic balance and physical fitness for girls also inter dependent. Dynamic balance related with physical fitness for both boys and girls. Dynamic balance and flexibility inter related. The relationship of Physical fitness and its component with dynamic balance is better for girls thus boys. Girls were better in dynamic balance than boys.

Keywords: Physical fitness, dynamic balance, junior high school physical fitness, flexibility

Introduction

Movement as a process of integration of organism and is an activity phenomenon. Movement is the sign and basis of living. A new born body established his existence by moving limbs. Organized movement takes the shape of physical activity involving games and sports to provide enjoyment. The children express him through movements, find enjoyment is movement and become last in movement. During play he expresses a clear interest in movement through participation in games and sports.

According to modern concept play can improve physical and motor fitness and purpose a base for the development of structure of formal education. It is very important to prone games and sports can lead to the mental and intellectual development of the child.

Physical fitness and its maintenance throughout the life is very difficult. The great saying of Hons Sheelly "Activity is the biological necessity" is applicable in all sphere of life. Those who trained themselves treanently through physical education activity, game and sports must improve and maintain physical fitness as a whole and its components particularly.

To define physical fitness and difficult task. However, eminent research and organization have attempted to define it with same degree of acceptability.

Balance is an important ability which is used in our overly activities. Such as in walking and standing as well as in most games and sports. Balance may be classified into two types – static balance and dynamic balance. Dynamic balance is the ability to maintain balance during vigorous movement, as in walking a face or leaping from stone to stone while crossing a brook. There is evidence to indicate that the ability to balance easily. Whether statistically or dynamically depends the function of the mechanisms in that semi-circular canals; the kinesthetic sensations in the muscles, tendons and joints, visual perception while the body is in motion and the ability to co-ordinate these three source of stimuli.

Correspondence
Habib SK
Research Scholar, Jadavpur
University, Kolkata, West
Bengal, India

Methodology

The Subject

To conduct the present study 30 students, 15 boys and 15 girls from 15+ to 16+ years of age group, were selected randomly from Satkari Banga Vidyalaya (High) as the subject of the present study. The study of personal data, physical fitness and Dynamic Balance were measured.

Criterion Measure

To collect the personal data age, height and weight were measured. The Physical Fitness were measured thing junior high school physical fitness test consisted with 4th test items. They are 1) sit up, 2) Chin up (boys) 3) Flexed arm hang (girls'), 4) Seat and Reach test, 5) Six hundred yard run and walk. The Dynamic Balance was measure Standard Dynamic Balance test constructed by Johnson Barry L. and Zeft pitch (1968).

Results and discussion

Data

After collection of data the researcher has gone through the statistical manipulation for the analysis. Before analysis the row scores were converted into standard score. The total fitness scores were obtaining from the performance of each of

the fire item of the Battery. The relationship among the parameters were observed through co-efficient of co-relation by using Rank Order method on the basis of laid down of score and the difference between means were also observed by unpaired group 't' test.

Personal data

Table 1: Mean and S.D. of age, height and weight

	Age in years		Height in cm		Weight in kg	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Boys	13.18	4.23	157.8	3.46	45	3.21
Girls	13.17	3	144.73	3.01	36.47	2.72

Represents the mean and S.D. of personal of the subjects. From the table No. 1 it appears that the mean and S.D. of boys group in age, ht. And wt. Were 13.18 ± 4.23 , 157.8 ± 3.46 , & 45 ± 3.21 respectively and the mean and S.D. of age, Ht. & wt. For girls group were 13.17 ± 3 , 144.73 ± 3.01 & 36.47 ± 2.72 respectively.

Relationship between Dynamic Balance & Physical fitness and its components for Boy's

Table 2: Represents the co-efficient of co-relation between Dynamic Balance & Physical fitness and its components.

Strength & D. Balance	Muscle endurance & D. balance	Flexibility & D. Balance	Cardiovascular endurance & D. balance	Physical fitness as a whole & D.B.
.392	.358	.733 **	.347	.705 *

def. – 14

* Level of significant at .05 level = .545, ** Level of significant at .01 level = .716

It appears from table-2, that the co-efficient of correlation between Dy. Balance & strength was .392, between Dy. Balance & Muscle Endurance was .358, between Dy. Balance & Flexibility was .733, and between Dy. Balance & Cardiovascular Endurance was .347 and between Dy. Balance & physical fitness as a whole .705.

From the result of the table-2, the researcher observed that all the relationship between Dy. Balance and physical fitness and its components were positive. But though the relationship between Dy. Balance and straight, Muscle Endurance, Cardiovascular Endurance was positive but not significant at

any level of confidence. But the relationship between Dy. Balance and Flexibility was very high and significant at .01 levels. The relationship between Dy. Balance and physical fitness as a whole was significant at .01 level.

So, from the above discussion, it can be said Dy. Balance and physical fitness and Dy. Balance and flexibility were positively related for boy's group.

Relationship between Dynamic Balance & Physical fitness and its components for Girls

Table 3: Represents the co-efficient of co-relation between Dynamic Balance & Physical fitness and its components for Girls.

Strength & D. Balance	Muscle endurance & D. balance	Flexibility & D. Balance	Cardiovascular endurance & D. balance	Physical fitness as a whole & D.B.
.349	.694*	.697 *	.651*	.795 **

def. – 14

* Level of significant at .05 level = .545, ** Level of significant at .01 level = .716

It appears from table-3, the co-efficient of correlation between Dy. Balance and strength was .349, between Dy. Balance & Muscle endurance was .694, between Dy. balance & Flexibility was .697, between Dy. balance & Cardiovascular endurance was .651 and Dy. balance & physical fitness as a whole .795.

From the result of the table the researcher observed that all the relationship between Dy. balance and physical fitness and its components were positive. But though the relationship between Dy. balance and strength was and cardiovascular

endurance were significant at .05 level. The relationship between physical fitness and Dy. balance was very high and significant at .01 levels.

So from the above discussion, it can be said D. balance and physical fitness as a whole, with its components were positively related to girls group.

Relationship between Dynamic Balance & Physical fitness and its components for both (Boys and Girls)

Table 4: Represents the co-efficient of co-relation between Dynamic Balance & Physical fitness and its components for all the subjects.

Strength & D. Balance	Muscle endurance & D. balance	Flexibility & D. Balance	Cardiovascular endurance & D. balance	Physical fitness as a whole & D.B.
.370*	.42*	.592**	.461*	.586**

def. – 29

* Level of significant at .05 level = .37, ** Level of significant at .01 level = .487

It appears from the table-4, the co-efficient or correlation between Dy. balance & strength was .37, between Dy. balance & Muscle endurance was .42, between Dy. balance & Flexibility was .592 between Dy. Balance & Cardiovascular endurance was .461 and between Dy. balance & physical fitness as a whole .586.

From the result of the table-4, it was observed that all the relationship between Dy. balance and physical fitness and its component were positive and significant. The relationship

between dynamic balance and strength, Dy. balance and Muscle endurance and Dy. balance & Cardiovascular endurance were significant at .05 level and relationship between flexibility and total physical fitness as a whole were very high and significant and .01 level of confidence.

Represents the mean and difference in two means between boys and girls

Table 5: Represents the mean difference (t) in Dynamic balance between boys and girls subjects

	Mean, dynamic balance	T	def.
Boys	38.2	2.61	28
Girls	41.8		

def. – 14

* Level of significant at .01 level = 2.76,

** Level of significant at .05 level = 2.05

From the table-5, it appear the mean dynamic balance of boys group was 38.2 and mean dynamic balance for girls group was 41.8. Comparing the mean result of boys and girls group, the girls were found better mean value then boys. To observe the significant the 't' value was found 2.61 which was significant at .05 level of confidence.

So it is observed that girls were better than boys in dynamic balance. But the relationship between dynamic balance and Muscle endurance, Flexibility and Cardiovascular endurance were significant at .05 levels. The relationship between physical fitness and dynamic balance was very high and significant at .01 levels.

From the discussion, it can be said dynamic balance and physical fitness with its components were related positively to girls group.

Conclusion

1. The following conclusion may be drawn:
2. Dynamic Balance and physical fitness for boys were interrelated dependent.
3. Dynamic balance and physical fitness for girls also inter dependent.
4. Dynamic balance related with physical fitness for both boys and girls.
5. Dynamic balance and flexibility inter related.]
6. The relationship of Physical fitness and its component with dynamic balance is better for girls thus boys.
7. Girls were better in dynamic balance than boys.

References

1. Barroun HM. Man and Movement 3rd edition. Philadelphia, Lea & Febiger, 1983, 167-168.
2. Garret HE, Woodworth RS. Statistical in Psychology and education. Vakils, Fetter and Simons Private Ltd., Tenth Indian Reprint printed in India, 1981.
3. Fox EL, Mathews DK. The Physiological basis of Physical Education and athletics, 3rd edition. London, W.B. Saunders Camp, 1976, 156-158.
4. Johnson Barry I, Nelson Jack K. Practical measurement for evaluation in Physical Education. 3rd Edition, Surjeet Publication, Delhi, 1982, 101-234.