

# EFFECT OF SELECTED ACROBATICS GYMNASTICS TRAINING PROTOCOL ON BALANCE APPLIED ON JUNIOR ARTISTIC GYMNASTICS BOYS

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**ABSTRACT: Background:** Balance is a factor that is basic to performance and especially to high complex movement (It may define one's ability to maintain the body's centre of supporting base of the body). We need balance as we habituated to perform lots of physical movement to accomplish the daily assignment. **Objectives:** The purpose of the study was to affect the selected acrobatics gymnastics training on Balance. **Method:** Fifteen boys students were selected as the subject for this study. All the students resided in their own organization in the district of Nadia. The age limit of the students was 16 years. Balance was analyzed by specific test for balance referred to by the Stork Stand test. **Results:** Result revealed that after six week acrobatics Gymnastics training the stork stand balance performing for static balance for boys is gradually increasing. Fatma Çelik Kayap nar (2011) this study aimed at evaluating the effect of movement education programs on static balance skills of preschool children (5-7 years). **Conclusion:** The results tell us that the movement education program which was implemented, positively affected static balance of preschool children.

**Key words:** Balance, Artistic gymnastics, Acrobatics gymnastics, Training

## I. INTRODUCTION

Acrobatics gymnastics is an ancient activity that emphasizes the combined beauty of dance and acrobatics gymnastics skills and excitement to the exercise. Acrobatics balance show grace, strength and flexibility, choreography and synchronization add flare and creativity to each exercise.

Acrobatics gymnastics favors body control in various positions, both on the ground and in the air. For this reason the sports are included in the training program of pilots, cosmonauts and parachutists. Acrobatics gymnastics draws its basic elements that shape the sports physical expression from the sole source as other gymnastics disciplines.

Acrobatics gymnastics belongs to 'Acro'- is a competitive gymnastics discipline where partnerships of gymnastics work together and perform routine consisting of acrobatics moves, dance, and tumbling set of music. Balance is also an important human ability used in our everyday activities like walking and standing as well as in the majority of the games and sports and dancing. Balance may be defined as one's ability to maintain the body's Centre of supporting the base of the body. Balance is two types' namely- *Static balance and Dynamic balance*.

❖ **Static balance:-** It may be defined as one's ability to hold a stationary position for reasonably long duration in a comparatively less stable position. For example: standing on one foot, standing on stick, handstand, holding headstand balance, tripod balance etc.

❖ **Dynamic balance:-** It may be defined as one's ability to maintain body balance during vigorous movements in comparatively less stable movements. For example: walking over a narrow wall, leaping from stone to stone, walking on a moving roller, walking over a rope with or without support etc. Dynamic balance is an important factor in physical activities involving controlled movements. e.g.: Running, Dismounts from gymnastics apparatus, series of movement in floor exercise in gymnastics, offensive movements in Wrestling and Fencing etc.

Kranti Panta, BPT1, Watson Arulsingh D.R.<sup>2</sup>, Joseph Oliver Raj<sup>3</sup>, Mukesh Sinha<sup>4</sup>, Mansoor Rahman<sup>4</sup>(2015) also conducted related research investigation to examine the study resulted in showing a good association between the flamingo test and the stork test measured on 24 healthy collegiate students. This result has shown high significance in all correlation values as r values were 0.64 and 0.56 for the right leg and left leg

respectively. Hence, one can understand these two tests are highly valid in measuring static balance on the young adult, provided considering all advantages and disadvantages [7] for these tests discussed previously. Stork tests normative values and its reliability is already provided for 16-19 age groups. Out of this study's result, one can practice both the tests interchangeably to assess static balance in healthy adults.

**II. METHODOLOGY**

- **The subject-**The study was conducted on junior boys. Fifteen students were selected as the subjects for this study. All the students resided in their own organization in the district of Nadia. The age limit of the students was 16 years.

- **Criterion measure-**Static Balance was analyzed by specific test for balance referred by - **Stork Stand test.** Stopwatch- used for taking time during Balance testing.

- **Statistical tool used-** For the purpose of analysis and interpretation of the results of Pre-test and Post-test the following statistical tools were used. The Mean and Standard deviation and 't'-value were calculated by using the following formulas—

1. Mean =  $\frac{\sum x}{n}$

2. Standard deviation =  $\sqrt{\sum \frac{x^2}{n-1}}$

3. Standard error of the difference between mean =  $\frac{SD}{\sqrt{n}}$

4. 't' value =  $\frac{XD}{SE}$

5. Degree of freedom (df) = (N-1)

**(a) Pre-test:-** Pre test was conducted upon 30 selected students by administering the stork Stand Test for static balance.

- ❖ **TEST PROTOCOL-** The treatment for the subject consisted of following selected acrobatics practice.

1. Standing on 1 leg, both hands supporting - (Duration 20 mints, 10 repetition)
2. Standing on hands, arms straight - (Duration 20 mints, 10 repetition)
3. 1 foot stand facing opposite direction - (Duration 20 mints, 10 repetition)
4. Standing on both shoulders - (Duration 20 mints, 10 repetition)
5. Standing on 1 hand arms straight - (Duration 10 Minutes, 05 repetition.)

The above mentioned acrobatics practice were treated simultaneously and these groups practiced strictly. The duration for practice schedule was five each day and they were subjected to the acrobatics practice for five days in a week. The total duration of the treatment period was six weeks.

**(b) Post-test:-** After the successful completion of six weeks training program, these groups were directed to participate in the post test. The post test consisted of Stock Stand Test items which were conducted same as pre-test. These post test records were carefully recorded and collected for analysis.

**III. RESULTS AND DISCUSSION**

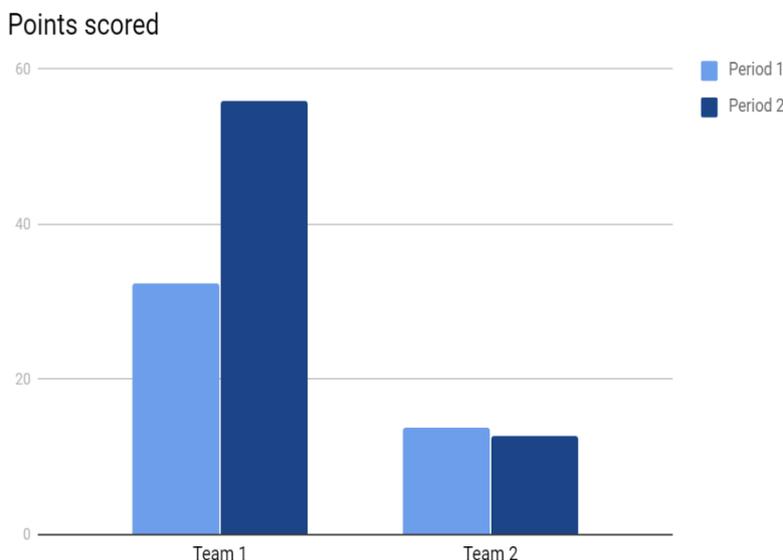
**Table-1 Stork stand balance of 16 years boys gymnasts**

Character (Activity)	Treatment (Test)	N	Mean in Sec.	Std. Deviation	't'	Significance	
<b>Stork stand balance</b>	<b>Pre- Test</b>	15	32.33	13.77	13.33	0.000	S
	<b>Post-Test</b>	15	55.87	12.71			

NS= Not Significant, S= Significant

The value of ‘t’ was 13.33 was highly significant at the 0.01 level, i.e, there was a significant exist between the pre-test and post –test scores of the boys group in performing stork stand balance. The superiority went in favour of post-test. From this table it was interpreted that they found the positive effect due to the treatment of some selected acrobatics practice to the boys group in performing stork stand balance. The initial and final stork stand for leg static balance for boys group is present in **Fig-1**

**Stork Stand Balance (BOYS)**



	PRE TEST	POST TEST	
MEAN	32.33	55.87	
S.D	13.77	12.71	

Fig. 1- Represents the mean and S.D difference between pretest and Post in Stork stands for leg static balance for boys.

**Results of Balance for boys:**

❖ After Acrobatics Gymnastics training the stork stand balance performing for static balance of boys was gradually increased.

**IV. DISCUSSION OF RESULT:**

In present study the effect of selected acrobatics gymnastics training on balance of the subjects (n=15) have been measured by stork stand test for better understanding the data have been present. Similar study has been done earlier. For instance the Review of related literature by FatmaÇelikKayapnar(2011)- which aimed at evaluating the effect of movement education program on static balance skills of preschool children (5-7 years).

Paired Samples T Test was used for differences between pre- and post-tests in both groups. Significance level was taken as (p<0.05). The results tell us that movement education The program which was implemented, positively affected the static balance of preschool children. V. Mohammadi(2011) also conducted alike research investigation to examine the effects of six weeks of strength training on static and dynamic balance in young male athletes. Thirty 15-17 young male athletes with mean and SD (62.79±3.62kg ∞171.1±4.46cm) were divided into two groups (15subjects for each group). We used the SEBT and Romberg adjusted balance test before and after exercise programs to test balance. A possible reason for increased balance in the experimental group maybe increasing strength muscle in lower extremity after exercise program, the process of decreasing and stimulation of muscles#39; spindles during strength training .

**V. CONCLUSION**

Within the limitation of the present study some conclusion were drawn on the basis of results

Obtained

After six week acrobatics Gymnastics training the stork stand balance performing for static

Balance for boys is gradually increasing.

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