



ISSN: 2456-0057  
IJPNE 2017; 2(2): 35-36  
© 2017 IJPESH  
www.journalofsports.com  
Received: 06-05-2017  
Accepted: 05-06-2017

**Dr. Sorabh Trikha**  
Assistant Professor, B.P.R.  
College, Kurukshetra, Haryana,  
India

## Correlation between pronation/supination and balance in school level students

**Dr. Sorabh Trikha**

### Abstract

In this study, we try to find the relationship between pronation/ supination and balance ability of the private school boys. The study group covered 80 students aged 14 -15 years selected at random from urban private schools of Kurukshetra town of Haryana. Pearson's coefficient of correlation was used with the help SPPSS 17.0. The results showed that that in the age group of 14-15 years of boys, 19% were found pronated and 25% supinated in 80 boys. There was moderate negative correlation in pronation/supination and static balance i.e.  $r = -37$  and we saw negative correlation in pronation/supination and dynamic balance i.e.  $r = -21$ .

**Keywords:** Pronation/Supination and Balance (Static and Dynamic)

### Introduction

Today's world, many countries are very conscious regarding the standard of health. They used different parameters like anthropometric, physiological and others, to maintain the health development of their citizen. Various health units, department and some other social responsible are contributed to give the proper guidance of effect of life style, nutrition and postural values of growth and development. Postural defects and obesity increasingly more often concern children and adolescents age at urban school throughout the world. The lack of prophylaxis and neglecting adequate procedures may lead to limitations of physical and motor abilities, back pain, or the development of severe spinal deformities.

India is a developing country. Many policies made by government of India and many researches done by various researchers for last few decades. In this study, we try to find the relationship between pronation/ supination and balance ability the of private school boys which were falling in the 14to15 years category. School is a special category school, which follow physical education program every day in the morning assembly, sports period and conducted lots of intramural activities regularly.

Foot pronation is used to describe a direction of movement of the foot relative to the body. Pronation is a complex foot motion, and to describe it in a simple manner it is movement of the foot inward towards mid-line of the body. Motion in the opposite direction is supination (Damine Howell).

Balance is defined as the process of center of gravity within the body weight of support and it has been used as a measure of lower extremity functions (cote *et al* 2005). Some researcher are addressed, pronated and supinated foot types for the reason of balance deficiency (cote *et al.*, 2005), Hertel *et al.*, (2002).

### Method and Procedure

The study was conducted by means of a diagnostic survey. The study group covered 80 students aged 14 -15 years selected at random from urban private schools of kurukshetra of Haryana. We used the wet test to see the foot pronation and supination. Dynamic balance was measured using Jackson modified dynamic balance test. Each student was given one trail for practice as per the instruction. The best score of three trails was recorded. Rest period of 30 sec. between each trail was given by the recorder. Static balance was measured using static single led stand test. The students stand on their dominating leg and free leg was flexed at the knee and foot facing towards floor. One practice trail was given for each student and after this.

**Correspondence**  
**Dr. Sorabh Trikha**  
Assistant Professor, B.P.R.  
College, Kurukshetra, Haryana,  
India

stopwatch was started for 60 sec

**Satatically Treatment-** Pearson’s coefficient of correlation was used with the help SPSS 17.0.

**Results**

After the observation of 80 students we found that 19% were found pronated and 25% supinated foot. It showed that more than 40% are affected with these type postural deformities.

Table 1:

N	Foot Postural Deformities	%
80	Pronation	19%
80	Supniation	25%

**Result 2 -** The relationship between pronation/ supniation and balance was observed by using the Pearson’s product moment coefficient of correlation. There was moderate negative correlation in pronation and static balance i.e.  $r = -37$  and we saw negative correlation in supniation and dynamic balance i.e.  $r = -21$ .

**Conclusion**

Results clearly indicates the today’s problem of the foot posture. It may be causing due to wrong shoes selection, heavy shoes, tight shoes, injuries, heavy weight or by heredity. We should go for routine checkup in schools and parents must consult with orthomologist and do some exercises and purchase suitable shoes according to the deformity.

**References**

1. Agarwal KN, Sexena A, Bansal AK, Agarwal DK. Physical Growth assessment in adolescence, Indian Pediatrics, 2001; 38: 217-1235.
2. Jennifer A, Dea O, Peter Caputi. Association between socioeconomic status, weight, age and gender, and body image and weight control practices of 6-to 19- year- old children and adolescents.
3. Taiwo O, Veronica AO, Subuola OB, Beatrice F. Assessment of nutritional status of primary school children in Ibadan, South-West Nigeria, Emerald Group Publishing Limited.
4. Alakija W: Prevalence of flat foot in school children in Benin City, Nigeria. Trop Doct 1979; 9:192-194. PubMed Abstract
5. Gonul BI. The relationship with balance, foot posture, and foot size in school of physical education and sports students, Academic Journal, 2014, 551-554.