



## EFFECT OF PROPRIOCEPTIVE NEUROMUSCULAR FACILITATION ON FLEXIBILITY OF 11 TO 14 YEARS OLD SCHOOL GIRLS

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### Abstract

The purpose of the study was to investigate the effect of proprioceptive neuromuscular facilitation on flexibility of 11 to 14 years old school Girls. Total sample of 15 subjects were selected through purposive random sampling technique and pretest and posttest of flexibility measured by sit and reach test with flexometer. Proprioceptive neuromuscular facilitation was considered as independent variable and flexibility was considered as dependent variable. Experimental Group performed Proprioceptive Neuromuscular Facilitation (PNF) training program for three months, four days in a week for 40 minutes in a day. Paired T-Test was used as a statistical technique along with descriptive analysis and significance level was set on 0.05. The results of this investigation revealed significant difference in pretest and posttest of an experimental group of Proprioceptive Neuromuscular Facilitation.

**Keywords:** Proprioceptive Neuromuscular Facilitation, Flexibility and School Students.

### Introduction

Physical fitness is an integral part of today's life and plays very important role for the development of the growing children. It is the capacity to perform daily tasks of life with ease and without any restrictions. Physical fitness is

the ability to carry out daily task with vigor and alertness without undue fatigue and ample energy to enjoy leisure time pursuits and to meet unforeseen emergencies (Clarke, 1971). Flexibility is one of the most important part of physical fitness, it deals with the range of motion of the joints. According to Eberhardt (2013) if a person lacks in flexibility, it may create complications to complete their daily tasks with ease and being flexible can also help to prevent chronic injuries. There are number of training methods to improve flexibility: ballistic method, slow stretch and hold method, proprioceptive neuromuscular facilitation stretching techniques etc. so many research studies showed that Proprioceptive Neuromuscular Facilitation technique is very useful and effective technique to improve flexibility. It gives great impact on the improvement of the flexibility without any injury. Proprioceptive Neuromuscular Facilitation techniques were developed by Dr. Harman Kabat for the rehabilitation of the patients in 1950, after the great results these techniques were adopted by several athletic teams and physicians for rehabilitation as well as for the improvement of the flexibility.

### Methodology

#### Sample

Total 15 subjects were the sample of this study. The sample was selected through



purposive random sampling technique from Prabhakar Senior Secondary School, Amritsar, Punjab. The age group of the sample was 11 to 14 years old girls only.

#### Selection of Variables

Proprioceptive neuromuscular facilitation was created the manipulation on flexibility and it was considered as independent variable and flexibility was considered as dependent variable.

#### Method and Training

After the pre test experiment was started for three months and after the three months training post test was conducted by the researcher. Experimental group were performed the training program for three months, four days in a week and the training session was last for 40 minutes in a day.

#### Tool

Flexo-meter was used to measure the flexibility.

#### Statistical Technique

To analyze the collected data Paired T-Test was used with descriptive analysis on SPSS and the significance level was set at 0.05.

### Findings of the Study

TABLE NO: 1  
DESCRIPTIVE ANALYSIS OF EXPERIMENTAL GROUP

S.No.	Descriptive Statistics	Experimental Group	
		Pre Test	Post Test
2	Mean	1.8333	3.2000
3	Std. Error of Mean	1.52477	1.46167
4	Std. Deviation	5.90541	5.66102
5	Variance	34.874	32.047
6	Skewness	-.125	-1.446
7	Std. Error of Skewness	.580	.580
8	Kurtosis	6.229	3.783
9	Std. Error of Kurtosis	1.121	1.121
10	Range	24.50	23.60
11	Minimum	-19.90	-12.70
12	Maximum	4.60	10.90

TABLE NO: 2  
ANALYSIS OF PAIRED T-TEST OF EXPERIMENTAL GROUP OF 11 TO 14 YEARS SCHOOL GIRLS IN RELATION TO THEIR FLEXIBILITY

	Mean	SD	SEM	DF	T-Value
Pre Test	1.833	5.90	1.52	14	16.104
Post Test	3.200	5.66	1.46		

\*Significant at 0.05 level (14) df = 2.145

Table no. 2 in above table the Sig. value was found .000, which is less than 0.05 and the calculated t-value = 16.104 was found to be greater than tabulated value = 2.145 at 14 df, therefore it showed significance difference.

### Conclusion

In conclusion of the study the mean score of post test of experimental group was found statistically significantly higher when compared to pre test, since the obtained or calculated t-value = -16.104 was found to be greater than the tabulated value = 2.145 at 0.05 level of significance. The results showed that there was significant ( $p < .05$ ) effect of Proprioceptive Neuromuscular Facilitation training on flexibility of 11 to 14 years old school girls.

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