



## A normative study on flexibility of school going girls of Delhi

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### Abstract

The purpose of the study was development of norms for Flexibility of 13 years old girls of Delhi Schools. The Selected Subjects for the contemporary study were 700 School going girls of the age group 13 years from various schools of Delhi. The Sources of the Subjects were the Schools selected from all 29 zones of Delhi. The variable measured was Flexibility with the help of Flexometer. The test item was Sit and Reach test which was conducted on each subject for collection of data with prior consent obtained from the School Administration. The Statistical Techniques included Descriptive Statistics in which mean, Standard Deviation, minimum, maximum values and range was applied. Percentile was applied for development of Norms. The Study concluded that the Norms under Percentile Scale of Flexibility (in centimeters) for girls aged 13 years old studying in Delhi Schools were categorized into 5 categories namely Excellent, good, Average, Fair and poor. The Study revealed that the Scores below 23, 23-28, 29-31, 32-36 and above 36 cms scores in flexibility are considered as poor, fair, average, good and excellent scores respectively for girls aged 13 years studying in Delhi schools.

**Keywords:** normative study, flexibility, poor, fair, average

### Introduction

Life is full of pleasure and sorrow, success and failure, health and illness, wealth and poverty. It is hardly seen, any family does not have experienced any problem. There is also no technical evidence to prove that a problem get to your feet only after a certain age. When changes take place, we find it harder to adjust and this itself leads to a problem. The changes taking place in our society have made themselves felt in every sphere of life: political, economic, social as well as lifestyle changes. Lifestyle changes includes physical activity patterns, diet changes, leisure time activities and innumerable social sites that negatively affects the health related physical fitness components of the youngsters.. Technological changes have made a major impact on people's lives and work. Industrialization has resulted in social and vocational mobility. It has affected child-rearing practices too. Technological advancements and the changing socio-economic and political situation in the country shape adolescents and transition to adult roles and responsibilities. It is the adolescents group which is highly and negatively influenced by these changes. Adolescence is a very critical phase in an individual's life. It is a period when major physical, physiological, psychological, and behavioral changes occur. Even today we hear the elders and parents expressing the difference between their generation and the present generation. Health Related Physical Fitness is deteriorating at faster pace due to which hazardous diseases are approaching people. Flexibility is one variable that is difficult to work on as we age. however, it is extremely important variable as without it even a healthy and strong body won't be able to do certain tasks. Having good flexibility helps in moving fast, increasing range of motion, reduces

pressure on joints. It is the ability to use your joints fully. You are flexible when the muscles are long enough, and the joints are free enough to allow movement. People with good flexibility have fewer sore and injured muscles. School should take initiative to make such programs to start so as to develop flexibility of the 13 year old girls. Strong nations are built by healthy people. It is necessary to ensure good health of children and young people who will contribute to build the nation in future. Schools are an chief setting in which offspring develop behavior and "skills for physical, emotional and social well-being. Flexibility of the muscles are important in activities of daily living, maintaining functional health and promoting good posture. It is equally important to be flexible enough to have a full range of motion at the joint.

### Methodology

**Sample:** For the purpose of the present study, 700 subjects of 13 year old girls of Delhi were selected on two phase sampling, in first phase we use random sampling for selection of schools from different zones and then purposive sampling for collecting data from those schools who permit for data collection. The research scholar obtained prior consent from the subject and School Administration for the purpose of the study. The requirement of the study was explained to all of them and all agreed voluntarily to undergo the testing programme.

**Criterion Measures:** The following criterion measures were considered for the purpose of the study: Flexibility measured by sit and reach test.

**Statistical Analysis:** To find out the mean and standard

deviation for the selected variables, descriptive statistics was employed. Percentile Scale is used for the development of Norms for 13 year old girls of Delhi Schools.

**Findings & Discussions**

The data was analyzed by employing descriptive statistics. The calculations were performed using the SPSS 21.0 software and the findings pertaining to descriptive statistics and flexibility) were shown in table given below:

**Table 1:** Descriptive Statistics of Flexibility (centimeters) of girls aged 13 years studying in Delhi schools

Age	N	Mean	Std. Deviation	Minimum	Maximum	Range
13 Years	700	29.48	7.41	0	51	51

The Table highlights the descriptive analysis of the flexibility of the 13 years old girls studying in Delhi schools measured with the help of sit and Reach test. The mean and standard deviation of the flexibility of the 13 years old girls studying in Delhi schools were found as 29.48± 7.41 cms. Further, the table highlights that the minimum value, maximum value and the range of values of the flexibility of the 13 year old girls studying in Delhi schools were 0, 51 and 51 cms.

**Table 2:** Percentile Values of Flexibility (centimeters) of 13 year old girls studying in Delhi Schools

Percentile	Flexibility
100	51
90	40
80	36
75	35
70	33
60	31
50	30
40	28
30	26
25	25
20	23
10	20
0	0

Table illustrates the 100<sup>th</sup> to 0<sup>th</sup> percentile values of Flexibility (in centimeters) of 13 years old school going girls of Delhi. The Percentile values at rank 100<sup>th</sup>, 75<sup>th</sup>, 50<sup>th</sup>, 25<sup>th</sup> and 0<sup>th</sup> places are 51, 35, 30, 25 and 0 respectively.

**Table 3:** Norms under Percentile Scale of Flexibility (centimeters) of girls aged 13years studying in Delhi schools

Age	Excellent	Good	Average	Fair	Poor
13 Years	>36	32-36	29-31	23-28	< 23

Table shows the norms based on percentile scale for flexibility (measured via sit and reach test) of girls aged 13 years studying in Delhi schools based on the percentile scale under normal curve. The norms have been divided into five categories namely excellent, good, average, fair and poor. Below 23, 23-28, 29-31, 32-36 and above 36 cms scores in flexibility are considered as poor, fair, average, good and excellent scores respectively for girls aged 13 years studying in Delhi schools.

**Conclusions**

Based on the findings of the study it was concluded that Norms based on Percentile Scale for Flexibility (measured via Sit and Reach test) of girls aged 13 years studying in Delhi schools have been divided into five categories namely excellent, good, average, fair and poor. The corresponding values for the different categories are given in Table represented above.

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