



## HEALTH RELATED PHYSICAL FITNESS- A COMPARATIVE STUDY

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### **Abstract**

The study examined the flexibility of low back and posterior thighs of girl students of Bachelor of Education class. The study was conducted on a sample of 100 students by using sit and reach test from AAHPERD Health related Physical Fitness Test Battery. The results of the study showed that girl students of arts stream have better flexibility as compared to their counter parts.

**Key Words:** Physical Fitness, Flexibility, Science Stream, Arts Stream, Bachelor of Education, Low Back, Posterior Thighs.

### **Introduction**

Health related physical fitness refers to the state of physical and physiological characteristics that define the risk levels for the premature development of diseases or morbid conditions presenting a relationship with a sedentary mode of life. On the other hand, health related physical fitness is defined as the ability to perform strenuous activity without excessive fatigue, showing evidence of traits that limit the risks of developing diseases and disorders which affect a person's functional capacity. Health and physical fitness is important to every one and should be stressed by physical educators and medical people alike (Tancred, 1987). The expert committee of the World Health Organization (1981) described physical fitness as "the ability to undertake muscular work satisfactorily." According to Kyle et al. (2001) Physical fitness is the ability to perform daily activities willingly and actively. Physical fitness includes not only components of sports but those of health as well. Regular physical activity prevents or limits weight gain, and gain in body mass index (BMI).

Health related physical fitness consists of those components of physical fitness that have a relationship with good health. The components are commonly defined as body composition, cardiovascular fitness, flexibility and muscular strength. However, the degree of development of each varies with the type of physical activity. In the present study the flexibility component of health related physical fitness is taken.

Flexibility is a health related component of physical fitness that relate to the range of motion available at a joint. It helps in synchronizing the various movements. However, flexibility is an essential part of life even to a common man, who can avoid possible injuries resulting from a fall performing his daily chores. It has been a common belief that a high degree of degree is necessary in all endeavours. Greater amount of flexibility decreases the expenditure of energy and reduces the resistance while performing gymnastic movements (Hellenic Olympic Committee, 1970).

### **Emergence of the Problem**

Studies by Li et al (2011), Welk et al (2010) and Mikkelsen et al (2006) showed a significant positive correlation between fitness and test scores in language, art and mathematics and negative correlation with school absence. They further show that the relationships remained significant while controlling for gender, race, and socioeconomic status. But study by Keating (2010) showed that many university students have yet mastered an adequate amount of health related fitness knowledge and no significant relationship between health related fitness knowledge and physical activity was found. Gao et al (2008) opined that Self-efficacy was the only significant predictor of cardiovascular fitness, whereas none of the motivational variables emerged as predictor of muscular strength/endurance. Chaudhary (1998) studied the difference in physical fitness of urban and rural students studying in class IX and X and found that rural students were better in physical fitness than urban students. Uppal and Sareen (2000) conducted a study to find out the comparison on cardiovascular fitness between rural and urban background performed better than that of their counterparts in urban area. Charles (2006) conducted a study on the "Differences in health for rural and urban Canadians". His report shows that Canadians living in rural areas generally have higher mortality rates than those living in urban areas. Gill et al (2010) conducting a study on rural and urban female students of Punjabi University Patiala concluded that rural female students were found to be superior in strength, endurance, speed and agility. Urban female students on the other hand, were found to be heavier and superior in tasks like flexibility. Kumar and Singh (2012) conducted a study on Government and Non Government schools in the area of Chandigarh (UT) and concluded that Non Government boys were superior in their physical fitness as compared to Government School boys. On the other hand Singh and Vays (2012) conducted a study on physical fitness on college level kho kho and handball players and significant difference was observed among the groups. Ghosh (2013) conducted a study on football and volleyball payers and concluded that Footballers were superior to volleyball players in 50 yard dash, 600meters run and walk and shuttle run



and Volleyball players were superior to footballers in standing board jump and medicine ball throw but no superiority was observed among footballers and volleyball players in sit-ups test. Kirtania and Biswas (2013) studied on some physical fitness components among 12-14 years athletes and non-athlete. Athletes were selected as subject from SAI in different centre and significant difference was observed among the groups.

After reviewing critically literature related to the study, it has been found that scholarly attempts have been made to assess the physical fitness level of different age groups, among different countries. Singh and Vays (2012), Ghosh (2013), and Kirtania and Biswas (2013) compared the physical fitness of sportsmen related to different games. Physical fitness of rural and urban are compared (Chaudhary, 1998; Uppal & Sareen, 2000; Charles, 2006; and Gill et al, 2010). But none of the scholar has made any attempt to compare the health related physical fitness of Bachelor of Education girl students of science and arts stream. These students are prospective teachers. They will be responsible for teaching school students in the future and can contribute in developing proper attitude towards physical fitness among the many students.

In today's changing pattern of human life the latest concept of health related physical fitness seems to be more relevant. Motivated by the new concepts of fitness, the present researcher opted to study the health related physical fitness among girl students.

### Objective of the Study

To compare the health related physical fitness of Bachelor of Education girl students of science and arts stream in the area of flexibility of low back and posterior thighs.

### Hypothesis

There exist no significant difference in the health related physical fitness level of Bachelor of Education girl students of science and arts stream in the area of flexibility of low back and posterior thighs.

### Design of the Study

Descriptive survey method of research was used.

### Sample

A sample of 100 girl students (50 Science stream + 50 Arts stream) were selected randomly from colleges of education of Ludhiana (Punjab, India) and nearby areas.

### Tools Used

Flexibility is evaluated by having students perform the sit and reach test from AAHPERD (1980) Health related Physical Fitness Test Battery.

**Statistical Techniques:**t-test was used to find the significance of difference in the flexibility component of health related physical fitness of girl students of science and arts stream.

### Results and Discussion

Showing the mean, standard deviation and t-value in the flexibility component of health related physical fitness of girls of science and arts stream.

Group	N	Mean	Standard Deviation	t-value
Science Stream	50	2.10	5.85	2.50*
ArtsStream	50	5.10	6.06	

\* Significant at 0.05 level of significance

Table shows the value of 't' for the flexibility component of health related physical fitness of girls of science and arts stream came out to be 2.50, which is significant at 0.05 level of significance. This shows that there exists significant difference in the flexibility component of health related physical fitness of girls of science and arts stream. Hence the hypothesis stated as "There exist no significant difference in the health related physical fitness level of Bachelor of Education girl students of science and arts stream in the area of flexibility of low back and posterior thighs" stands rejected.

An analysis of the means of two groups shows that the mean score girls of the arts stream (6.06) is higher than the girls of science stream (5.85). Hence it may be concluded that the flexibility component of health related physical fitness of girls of arts stream better as compared to their science counterparts. The above results are supported by Thompson and Hannon (2012), Keating, Castro (2010) and Gao, Newton and Russell (2008).



The above result seems to be justified due to the reason that the study pattern of science students is quite different than that of arts students. Since the nature of study in science stream is very rigorous, hence demands more sitting and concentration. This leads to poor physical work on the part of science students. On the other hand, the arts students are comparatively less burdened, which leads to more physical activity.

### Implications

The result of the study helps the physical education teachers in grouping the students in different activities. Keeping in view the flexibility of science stream girls, a suitable fitness training programme can be designed and implemented to improve their health-related physical fitness standard.

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