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## Comparative Study of Cardiovascular Fitness of Hostel Girls of Punjabi University Patiala

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### Abstract

The purpose of the present study was to compare cardiovascular fitness of different floor of hostel girls. The present investigation has been conducted on 30 subjects. Out of them ten were from second floor. Ten were from first floor and ten were from third floor of Punjabi university campus hostel. The Harvard step test was administered for checking the cardiovascular endurance. To analysis the computed scores of all groups on fitness level 't' test was applied. Then data was interpreted to find out the significant difference of cardiovascular fitness of different floor of hostel girls of Punjabi university campus.

**Keywords:** cardiovascular fitness

### 1. Introduction

The cardiovascular system integrates the body as unit. It provides with a continuous stream of nutrients and oxygen to sustain a high energy output. Conversely, by products of metabolism are rapidly removed by the circulation from the site of energy release. The cardiovascular system provides rapid regulation of heart rate and the effective distribution of blood in the vascular circle which is accomplished by maintaining blood pressure in response to the body's metabolic and physiologic needs. The cardiovascular endurance is one of the most significant components of general physical fitness and in measured by testing on its aerobic capacity. Cardiovascular fitness is the most important aspect of any fitness programme.

Cardiovascular fitness is the ability of the heart and lungs to supply oxygen-rich blood to the working muscle tissues and the ability of the muscles to use oxygen to produce energy for movement. This type of fitness is a health-related component of physical fitness that is brought about by sustained physical activity. A person's ability to deliver oxygen to the working muscles is affected by many physiological parameters, including heart rate, stroke volume, cardiac output, and maximal oxygen consumption.

### 2. Methods and Materials

#### 2.1 Subjects

A systematic random sampling device was used to select reasonable sample of hostel girls staying at the different stories of Ambedkar hostel of Punjabi university, Patiala, 30 subjects were considered which could represent the total population of girls students (hostel girls). The average age of girls were 18 to 25years. The sample was randomly selected from each floor of the hostel, 10 girls were selected from each floor. Before selecting the girls from each floor. It was assured from them that they are willing to undergo for the Harvard step test.

#### 2.2 Tool Used

1. 18 inches stool for step test
2. Stop watch
3. Metronome for beats

#### 2.3 Statistical Analysis

The 't' test was used to find out the comparison of cardiovascular fitness of the first floor, second floor and third floor of the hostel girls of Punjabi university campus.

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### 3. Results

The result of the study is presented in the following Tables.

**Table 1:** Comparison of cardiovascular fitness between first floor and second floor girls

Group	Number	Mean	S.d.	d.f.	t-value
First floor	10	38.296	11.062	18	2.158*
Second floor	10	46.87	4.424		

\*Level of significant=0.05, Degree of freedom=18, Ttab value=2.10

The perusal of table 1 indicates the score of first and second floor female students are 38.26 and 46.87 respectively. It shows better cardiovascular fitness of second floor than first floor. The t value is 2.158 which are significant at 0.05 level of confidence. Thereby indicating that there is significant difference between first floor and second floor female students.

**Table 2:** Comparison of cardiovascular fitness between first floor and third floor girls

Group	Number	Mean	S.d.	d.f.	t-value
First floor	10	38.296	11.062	18	3.7062*
Third floor	10	54.70	7.35		

\*Level of significant=0.05 Ttab 't' value=2.10

The perusal of table 2 indicates the score of first and third floor female students are 38.296 and 54.70 respectively. It shows better cardiovascular fitness of third floor than first floor. The 't' value is 3.7062 which are significant at 0.05 level of confidence. Thereby indicating that there is significant difference between first floor and third floor female students.

**Table 3:** Comparison of cardiovascular fitness between second floor and third floor girls

Group	Number	Mean	S. d.	d.f.	t-value
Second floor	10	46.87	4.424	18	2.739*
Third floor	10	54.708	7.35		

\*Level of significant=0.05, Ttab value=2.10

The perusal of table 3 indicates the score of second and third floor female students are 46.87 and 54.708 respectively. It shows better cardiovascular fitness of third floor than first floor. The 't' value is 2.739 which are significant at 0.05 level of confidence. Thereby indicating that there is significant difference between second floor and third floor female students.

### 4. Discussion and Finding

The statistical analysis of data shows that the third floor girls having better cardiovascular fitness or strength on comparison to first floor and second floor girls of hostel. The reason behind may be because their location of the rooms is at third floor where they have to go upstairs and down many time in a day. So they have good cardiovascular fitness whereas the girls of first floor and second floor have less cardiovascular fitness because their location of the rooms was close to the mess and their department as collected data shows that there is significance difference and third floor girls have good cardiovascular fitness.

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