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## **A Comparative study on Physical fitness components among DYSS hostel students and Physical education students**

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### **Abstract**

Physical fitness is a prime requisite of management in order to get the better life and enable us to live long period and serve best to the society, physical fitness is essential in all games and sports physical fitness components are as follows: Strength, Speed, Endurance, flexibility and agility.

The purpose of the study was to compare the selected physical fitness components of DYSS hostel students and physical education students. 40 DYSS hostel students and for which 40 physical education students selected for the study. The tester were conducted push-ups for strength, 50 mts dash for speed, 600 yard run/walk for endurance, sit and reach for flexibility and 10x6 shuttle run for agility. The data were computed 't' test at 0.05 level of confidence. The result of the study showed that the mean scores of physical fitness components of DYSS hostel students are greater than physical education students.

**Keywords:** Physical fitness, Physical education, training program.

### **1. Introduction**

Fitness is important at all levels of the game, whilst being essential for top level players; it is beneficial for beginners who will improve both their effectiveness and enjoyment through good standards of fitness. The aim of fitness training in football is to enable a player to cope with the physical demands of the game as well as allowing the efficient use of his various technical and tactical competencies throughout the match.

#### **1.1. General remarks**

##### **Power**

When we talk about power, we talk about muscles, nerve system and heart muscle system. The above mentioned tells you already, that you have to be very careful and that you have to determine the right quantity of stress with an on your body adjusted power oriented training program. Meaning, after a physical test (as mentioned earlier) and always with the help of an expert (medic and personal trainer). We make a difference in maximum power and stamina/endurance in power. Maximum power is what you personally can handle with maximum weights. Stamina/endurance in power is what you can handle with sub-maximum weights (a lot of repetitions). Power is speed, but big muscles are also limiting movement, coordination and such. Working with maximum weights makes muscles thicker and shorter, meaning less flexibility. My advice is to work towards sub-maximum weights, which weights can be increased after a maximum test shows improvement. Sub-maximum weights, 15 till 20 reps per set and a lot of stretching before and after this kind of training. Later on you will find an example of such a training program.

##### **Stamina**

The best way to exercise and improve one's stamina is running and bicycling (road). Main purpose is training ones muscle system and heart muscle system. To get a good result one has to follow a serious progressive training program with at least 2 till 3 training sessions per week, each time with a minimum of about 4till 45 minutes.

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## Speed

Two different training forms on speed, 1st. basic speed and 2nd. The ability to be able sprints the last 20/30 meters before the finish line. Very important. All of the above as a short introduction / explanation on training. This section will be updated from time to time.

Give some thought to the following statements:

- In the past, health meant only absence of disease. Today we have a much broader perspective and consider physical fitness to be a key component of total health.
- The modern life-style fosters unfitness because technological advances have eliminated much fitness producing physical exertion from everyday activities.
- Everyday activities, even for the laborer, no longer adequately stimulate the heart, lungs, and muscles to produce physiological benefits.
- Society, especially the corporate world, is beginning to realize the importance of health promotion and the role of exercise in developing and maintaining good health habits.
- Being physically fit means living at your fullest physical potential. Physical fitness is the capability of the heart, blood vessels, lungs, and muscles to function at optimal efficiency. It provides a basis for living a full and rewarding lifestyle.
- The basic health components of physical fitness are cardio-respiratory endurance, strength, muscular endurance, flexibility, and body composition.
- To be physically fit does take effort (yes, some sweat, too!), but exercise does not have to be punishing to help you develop and maintain physical fitness.
- Regular and vigorous exercise of the total body is a necessary ingredient of muscular and circulatory fitness - the key to good health and well-being.

## Statement of the Problem

The purpose of the study was to compare the physical fitness components of sports hostel students and physical education students. During the test motivational techniques were not used which is also one of the delimitation of the study. Performance given by the subject during coaching is considered. The study was limited to 40 sports hostel students and 40 physical education students. Further the study was restricted only to 19 to 28 years. Further the study was limited to physical fitness components like speed, strength, power, agility and flexibility. There would be a significant difference between the sports hostel students and physical education students in their physical fitness components.

## Significance of the Study

1. The study will help to ascertain the dominance of components of physical fitness of sports hostel strength and physical education students.
2. The study will help coaches and physical education teacher for picking as talented persons for training them according to requirements.
3. It may help in detecting the players' weakness in particular components.

## 2. Definition of Terms

### 1. Strength

The extent to which muscle can exert force by contracting against resistance

### 2. Speed

The ability to move quickly from one point to another point.

### 3. Endurance

The ability to long duration of activity with due and fatigue.

### 4. Flexibility

The ability to move the joints or any group of joints through on entire normal range of motion.

### 5. Agility

Ability to move changes the direction in quickly.

## 3. Methodology

The purpose of the study was to compare the performance of the strength, speed, power, agility, flexibility of sports hostel students and physical education students for the year 2013-14. In order to achieve the purpose of the study, sports hostel students and physical education students were selected. These were tested with the help of the following test battery.

## 4. Description of tests

The test were measured the following five physical fitness components.

Strength- Push ups

Speed- 50 mts dash

Endurance- 600 yard run/ walk

Flexibility- Sit and Reach

Agility- Shuttle run (6x10)

## 5. Description of Tests

### 1. Push Ups

#### Purpose

To measure shoulder strength.

#### Equipment

Stopwatch.

#### Procedure

The subject was in prone position on the floor with body straight and legs together. She bends her knees to a right angle and places her hands on the floor at shoulder level. She pushes up to a position in which the arms are straight and the weight is supported entirely on the hands and knees. Her body must be in a straight line from head to knees. She must not bend her hips or round or hollow her back. Next she bends her chest touches the floor, legs or waist should not be permitted to touch the weight continues to be supported by the arms and knees. The entire exercise is repeated continuously as many times as possible.

### 2. 50mts dash

#### Purpose

To measure the speed.

#### Equipment

Steel tape, two-stop watches, two markings of distance of 50mts.

#### Procedure

The performer stands behind the starting line and on the command go. They start running with maximum speed up to 50mts. On the command go the time keeper starts the watch till the performer finishes the race.

**Scoring**

The scoring for each performer is the length of time taken to the nearest 10<sup>th</sup> of a second to complete the course.

**3. 600 yard run/walks**

**Purpose**

To measure endurance.

**Equipments**

Stopwatch, marking tape and flag.

**Scoring**

The score was the best of one trial performance distance recorded to timing.

**4. Sit and Reach test**

**Purpose**

To measures the trunk and hip flexibility.

**Equipments**

Flex meter.

**Procedure**

The subject sit the floor by extending her leg without bending the knees by the straightening the upper body and extending the hands straight and move forward to a maximum extent along with the slider flexed on the flex meter scale and measurement recorded to nearest centimeter.

**Scoring**

The best of the distance reached as recorded to the nearest centimeter as the score of the subject.

**5. Shuttle Run (6x10)**

**Purpose**

To measure agility.

**Equipments**

Steel tape, two stop watches, 6x10 square marking.

**Procedure**

The subject should behind the line when commands given 'GO' the subjects starts to run towards the opposite line (with distance of 10mts line) and touch the line with the hands soon taken turn towards the starting line then again touch the line soon taken twin run towards the same lines. Timer keeper starts her watch along with the command 'GO' and stops when the subject touches the starting line that is second time touch. Two touches are given and best of one is considered her score.

**6. Statistical Technique**

The data were analyzed statistically to find out the mean, and mean difference and 't' test was used.

**7. Data**

The main purpose of this study was to compare the selected physical fitness components of DYSS Hostel students and Physical education students. To achieve this purpose the data collected in this study were put to statistical analysis and the results which are presented in this chapter for this study 40 DYSS Hostel students, 40 Physical education students of Kuvempu University were selected. They were subjected to five different components. The tests were conducted on standard procedure.

Mean, Standard deviation and their values of all five components are presented in different tables.

**Table 1:** Showing the Mean Value ± Standard Deviation and 'T' Score of Strength

Sl. No.	Groups	Sample size	Mean ± SD	't' value
1	DYSS Hostel students	40	35.33 ± 5.76	0.62*
2	Physical education students	40	35.00 ± 4.56	

\* Significance at 0.05 level

Table 1 shows the mean value and standard deviation of the two groups i.e. DYSS Hostel students and Physical education students with 't' score. The 't' score on calculation is 0.62 and significant at 0.05 level. The result is in agreement with the hypothesis of the researcher. DYSS Hostel students having more performance than the Physical education students in strength.

**Table 2:** Showing the Mean Value ± Standard Deviation and 'T' Score of Speed

Sl. No.	Groups	Sample size	Mean ± SD	't' value
1	DYSS Hostel students	40	7.63 ± 0.50	2.83*
2	Physical education students	40	7.50 ± 0.42	

\* Significance at 0.05 levels

Table 2 shows the mean value and standard deviation of the two groups i.e. DYSS Hostel students and Physical education students with 't' score. The 't' score on calculation is 2.83 and significant at 0.05 level. The result is in agreement with the hypothesis of the researcher. DYSS Hostel students having more performance than the Physical education students in speed.

**Table 3:** Showing the Mean Value ± Standard Deviation and 'T' Score of Endurance

Sl. No.	Groups	Sample size	Mean ± SD	't' value
1	DYSS Hostel students	40	2.30 ± 0.38	0.18*
2	Physical education students	40	2.30 ± 0.37	

\* Significance at 0.05 level

Table 3 shows the mean value and standard deviation of the two groups i.e. DYSS Hostel students and Physical education students with 't' score. The 't' score on calculation is 0.18 and significant at 0.05 level. The result is in agreement with the hypothesis of the researcher. DYSS Hostel students having more performance than the Physical education students in endurance.

**Table 4:** Showing the Mean Value ± Standard Deviation and 'T' Score of Flexibility

Sl. No.	Groups	Sample size	Mean ± SD	't' value
1	DYSS Hostel students	40	37.98 ± 7.71	2.08*
2	Physical education students	40	37.46 ± 7.49	

\* Significance at 0.05 level

Table 4 shows the mean value and standard deviation of the two groups i.e. DYSS Hostel students and Physical education students with ‘t’ score. The ‘t’ score on calculation is 2.08 and significant at 0.05 level. The result is in agreement with the hypothesis of the researcher. DYSS Hostel students having more performance than the Physical education students in flexibility.

**Table 5:** Showing the Mean Value ± Standard Deviation and ‘T’ Score of Agility

Sl. No.	Groups	Sample size	Mean ± SD	‘t’ value
1	DYSS Hostel students	40	16.27 ± 0.75	1.87*
2	Physical education students	40	16.20 ± 0.74	

\* Significance at 0.05 level

Table 5 shows the mean value and standard deviation of the two groups i.e. DYSS Hostel students and Physical education students with ‘t’ score. The ‘t’ score on calculation is 1.87 and significant at 0.05 level. The result is in agreement with the hypothesis of the researcher. DYSS Hostel students having more performance than the Physical education students in agility.

**Table 6:** Showing The Mean Value ± Standard Deviation, And ‘T’ Score Of The Push-Ups (1 Min), 50 Mtrs Dash (Sec), 600 Yard Run / Walk (Min), Sit & Reach (Cm) And Shuttle Run 10x6 Mtrs (Sec)

Sl. No	Physical fitness components	DYSS Hostel students	Physical education students	‘t’ value
1	Push up (1 min)	35.33 ± 5.76	35.00 ± 4.56	0.62*
2	50 mtrs Dash (sec)	7.63 ± 0.50	7.50 ± 0.42	2.83*
3	600 yard run / walk (min)	2.30 ± 0.38	2.30 ± 0.37	0.18*
4	Sit & reach (cm)	37.98 ± 7.71	37.46 ± 7.49	2.08*
5	Shuttle run 10x6 mtrs (sec)	16.27 ± 0.75	16.20 ± 0.74	1.87*

**8. Conclusion**

In view of the limitations of the study the following conclusions were drawn. DYSS Hostel students are having better physical fitness components than the physical education students. Physical education students are better in speed.

Physical fitness does not just mean being conscious of the body shape or of maintaining good health but to gain proper knowledge of the functioning of the human body and discover the components related to it. There are many fitness tips that can be followed to gain a healthy living. Before that it is necessary for one to know the different components of fitness.

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