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**Dr. Suresh B Patil**

Assistant Professor of Physical Education, College of Horticulture Munirabad, Koppal, Karnataka, India

**Shivanand R Jattennavar**

Lecturer, Narendra B.P.ED College Vijayapur, Karnataka, India

**Hanamanth M Talawar**

Physical Director, Biluru Gurubasava Mahaswamiji Institute of Technology Mudhol, Bagalkot, Karnataka, India

## **A comparative analysis on physical fitness of urban and rural boys area**

**Dr. Suresh B Patil, Shivanand R Jattennavar and Hanamanth M Talawar**

### **Abstract**

The purpose of the study is to compare the physical fitness of urban boys versus rural boys of Kavatakoppa High School, Kavatakoppa and Sheri Murugendra Swamiji High School Shegunashi, respectively, For testing the physical fitness (AAHPER) test administered to the Urban Rural boys. Administrating (AAHPER) Fitness test 40 boys from rural high schools and 40 boys from urban high schools were selected. Further two groups were formed 20 boys each for both urban and rural area. For collecting the data (AAHPE) Fitness test administered to these boys. The variables in these tests are speed, endurance agility strength and flexibility. data were analyzed with reference to the objectives and hypotheses by using differential analysis with student unpaired t-test by using SPSS 11.0 statistical software and the results obtained there by have been interpreted.

**Keywords:** Physical fitness, health awareness, urban and rural

### **Introduction**

The word "Physical Education", Refers to various bodily characters such as physical strength physical development physical health and physical appearance. It refers to the body as a contrasted to mind physical education should aim to improve the mass of student and give them as much health struggle and stamina as possible to unable physical education is the process by which changes on the individual or brought about through his movement experience physical education is the some the changes in the individual caused by experience centered in motor ability. The objective of physical education concern with building up to physical power throw the growth and development of various system like respiratory system like respiratory system digestive system in body participation in good programme of physical education promotion of bodily growth strength endurance structurally and functionally. physical education through physical activities in the process of human behavior the body is the basis of the function the Muscular strength so prevalent in our complicated modern living participation in organized physical education programmes will release these strains and tension to a greater extent.

physical education chief contribution is the attainment of measure of physical fitness physical fitness means the ability to carry one's work load without struggle to participate in recreations with enjoyment and with all to conserve energy to meet the emergencies of life physical fitness required to every Physical in any occupation of profession physical fitness in the ability to carry out daily tasks with vigor and without undue and atigoe and ample energy in leisure time persist and to meet the above average physical stress is a positive quality and a dynamic quality extending an a continues from death to abundant life. The term physical fitness is included in many familiar test batteries commonly uses in the schools in many cases the inclusion of fitness in such titles is most unfortunate error and one that logically could account at least in part for the current apathy of some people toward total personal fitness. This is not an indictment of physical fitness test batteries most of the batteries are excellent and include tests that do have some define value but it is our feeling that many of test in these batteries are not actually of physical fitness.

### **Bucher Explains**

Physical fitness is the ability of an individual to live a full and balanced life. It involves physical mental social and spiritual factors and the capacity for their whole some expression.

**Correspondence**

**Dr. Suresh B Patil**

Assistant Professor of Physical Education, College of Horticulture Munirabad, Koppal, Karnataka, India

Primitive man recognized physical fitness as necessary to his survival but modern man. In this mechanical age tends to become complacent and forgets its importance not only to his efficiency and happiness. But also to the survival of his way of life. The right kind and right amount of physical exercise develops organic and muscular power stamina. Vigor and activity skills related to his, development. There is a direct relationship between physical exercise and physical fitness physical fitness is the ability to carryout daily tasks with vigor and alertness without undue fatigue and with complete energy to engage in leisure time presents and to meet the above average physical stresses. An countered in emergency situations. physical fitness is a positive quality and a dynamic quality. Extending from death to abundant life. Since the individual is a totality non divisible into discrete parts. physical fitness affects all phases of human existence. It is vital for whole person in order to permit total effectiveness also involved is the maintenance of sound neuromuscular cardiovascular and other organic systems by improvement of physical fitness through exercise (1979).

### Statement of the problem

The purpose of the study is find out the “A comparative Analysis on physical fitness of rural and Urban High school Students”.

### Limitations

This study limited in the following aspects this limitation will be taken in to consideration while interpreting the data.

1. Physical fitness determined only by (AAHPER) test and not by
2. Laboratory test.
3. The socio economic conditions of the boys were not considered.
4. The nutrition of the boys were not considered.
5. Sports facilities were not considered.

### Delimitations

1. The study was delimited to the urban and rural boys (male Students of shri murugendra swamiji high school shegunashi, Kavatakopp High School Kavatakopp Taluk Athani respectively.
2. The study was delimited to 40 boys. From rural area high School 40 boys urban from urban area Kavatakopp High School Kavatakopp.
3. The study was delimited to the boys of private high schools of Athani only.
4. The study was further delimited to the Age of 15 to 17 years.

### Objects

1. To study the significant difference between urban and rural with respect to speed, endurance, agility, Strength and flexibility.

### Hypotheses

1. There is no significant difference between urban and rural with Respected to speed, endurance, agility, strength and flexibility.

### Significant of the study

The study is significant in the following ways;

1. This will help coaches and physical education teachers in selecting the good players.
2. This will help physical education teachers and coaches in preparing training program.
3. This will lead to success in future planning.
4. This will reveal which of the two groups possess better Physical education.
5. The result of the study will help to students to participate in sports and game.
6. The result of the study will give the clear idea about Physical fitness of the rural and urban boys.

### Definition of the terms

#### i) Rural Area

Rural area is referred to as the area under the Jurisdiction of Mandal panchayat having population of Less than thousand.

#### ii) Urban Area

Urban area is generally referred to as the area under The municipal organization of the town having population more than 50 thousand.

#### iii) Speed

Rate of change of displacement of the object is called as speed.

#### iv) Endurance

Endurance is the result of physical capacity of the individual to certain movement over a period of time.

#### v) Agility

It is the capacity of the individual as measured by rate of changing his position on place.

#### vi) Strength

It is the force that a muscle or group of muscles can exert against a resistance in one maximum effort.

#### vii) Flexibility

The range of motion of a particular joint measured In degrees extensibility of the soft tissue ligaments and especially of the muscle and the anatomical of the joint help to determine the degree of flexibility.

#### viii) (AAHPER) TEST

(AAHPER) means American Association of health Physical education and recreation. In this test there are so Many variable are involved. They are speed endurance Agility strength flexibility power etc.

### Methodology

The researcher has used experimental method to compare the physical fitness between rural and urban high school students of Shri Murugendra Swamiji High School Shegunashi, and kavatakopp high school kavatakopp respectively for this experimental method (AAPHER) test of physical fitness is applied to high school boys to collect the data.

### Procedure

In this chapter the procedure adopted for selection of subjects criterion measures. Collection of data procedure for

administrating test at the statistical technique used for analysis of data have been presented.

### **Selection of the subjects**

40 Male students from Shri Murugendra Swamiji High School Shegunashi, are considered as rural students and 40 male students from kavatakopp high school kavatakopp considered as urban area student were selected for the study out of forty twenty students.

These high schools were selected because the heads teaching staff and students of these high schools showed keen interest and were willing to co-operate in carrying out in project.

We selected the subjects from the 8<sup>th</sup> to 10<sup>th</sup> classes and the age of the subjects ranged 15-17 years. The students who came from rural areas and were studying in urban high school were eliminated from the study and vice-varsha environmental conditions and socio-economic conditions were not considered for the selection of subjects.

### **Criterion Measures**

The performance of the subjects (AAHPER) test 50 meter run shuttle run 10x4 m flexibility sit and rich standing broad jump 1500 mtr run, endurance were taken as criterion measure for the study.

### **Aaper Test**

**i) 50 Meter Run (Speed):** To measure the speed capacity of the student.

**Equipments:** Two stop watches tow instruction chunnam score card pen.

**Description:** This test was administered to two subjects at a time both subjects took position behind the starting line. The starter used the commands ready 'Go' each runner was assigned to a separate time keeper. The scores were recorded time taken by the subjects to across finishing line from the starting line time was recorded nearest to the one 10<sup>th</sup> of a second.

### **ii) (Endurance) 1500 mtr Run**

To measure the endurance capacity of the student.

**Equipments:** Two stop watches two instructors chunnam score card-pen

**Description:** The subjects were instructed to stand on the starting line and asked him 1500 mtr after giving command ready go and he was allowed to runner was assigned to a separate time keeper. The time keeper recorded time at the finishing line. The scores were recorded times taken by the subjects to across finishing line.

### **iii. 4x10 Meter Shuttle Run: (Agility)**

**Purpose:** To measure the agility of the student.

**Equipments:** Ground chunnam whistle stop watch score card pen.

**Description:** Performing shuttle Run 10 meter distance was measured on the ground marked with a Chunnam on both sides subjects were instructed to start his run from one side

and touching line on other side and returning back to the starting line like this he has to run three times and his time taken after completion of shuttle run was recorded entered in the result sheet in seconds.

### **iv) Standing Broad Jump: (strenght)**

**Purpose:** To measure the strength of the student.

**Equipments:** Floor chunnam score cad pen tape.

**Description:** Subjects asked to stand on a marking line both feet apart and he was instructed to take standing broud jump on the floor after taking jump each distance covered was measured and recorded in meters.

### **V) Sit and Rich (Flexibility)**

**Purpose:** to measure the flexibility of students

**Equipments:** Basket ball court score card pen

**Description:** The subjects were instructed to sit on the floor. Then he asked to stretch his both hands in front of the legs, when he touches his feet and hence forward the extended finger from the left is measured.

### **Statistical techniques used for analysis of data**

After the data had been collected, it was processed tabulated using Microsoft Excel-2000 Software. The data collected on speed 50 meters run, endurance 1500 meters run, agility 4x10 meters shuttle run, strength broad jump standing and flexibility sit and rich from urban and rural boys of high schools. The main purpose of the study was "A study on physical fitness of urban and rural high school boys". Then the data were analyzed with reference to the objectives and hypotheses by using differential analysis with student unpaired t-test by using SPSS 11.0 statistical software and the results obtained there by have been interpreted.

### **Analysis of data**

However valid, reliable and adequate the data may be, it does not serve any useful purpose unless it is carefully processed, systematically classified and tabulated, scientifically analyzed, intelligently interpreted and rationally concluded.

After the data had been collected, it was processed and tabulated using Microsoft excel -200 software. The data collected on speed 50 meters run, endurance 1500 meters run, agility 4x10 meters shuttle run, strength board jump standing and flexibility sit and rich from urban and rural boys of high schools. The main purpose of the study was "A study on physical fitness of urban and rural high school boys". Then the data were analyzed with reference to the objectives and hypotheses by using differential analysis with student unpaired t-test by using SPSS 11.0 statistical software and the results obtained there by have been interpreted.

It is also the intention of the investigator to find the out whether differences in the independent variables namely group (urban and rural) and location (urban and rural) with respect to speed 50 meters run, endurance 1500 meters run, agility 4x10 meters shuttle run, strength broad jump standing and flexibility sit and rich from urban and rural boys of high school and consequently others.

**Differential statistics**

The difference between the group (urban and rural) and location (urban and rural) with respect to speed 50 meters run, endurance 1500 meters run, agility 4x10 meters shuttle run, strength board jump standing and flexibility sit and rich from urban and rural boys of high schools were compared by u unpaired t-test and the results were discussed in the preceding section.

**Hypothesis 1:** There is no significant difference between urban and rural with respect to speed, endurance, agility, strength and flexibility to achieve this hypothesis, the t test was applied and the results are presented in the following table.

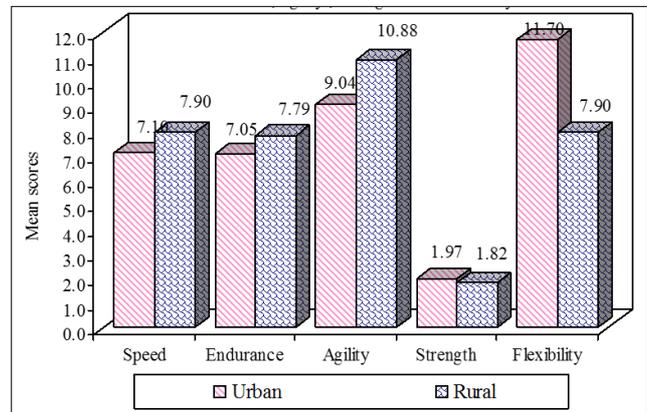
**Table 1:** Results of t test between urban and rural with respect to speed, endurance, agility, strength and flexibility

Variables	Groups	Mean	SD	t-value	p-value	Signi.
Sped 50 Meters run	Urban	7.0993	0.2385	-10.6247	0.0000	S
	Rural	7.8983	0.4113			
Endurance 1500 Meters run	Urban	7.0490	0.4731	-8.1157	0.0000	S
	Rural	7.7877	0.3280			
Agility 4x10 Meters shuttle run	Urban	9.0405	0.1247	-35.9808	0.0000	S
	rural	10.840	0.2991			
Strength board jump Standing	Urban	1.9678	0.1570	3.1999	0.0020	S
	rural	1.8168	0.2538			
Flexibility Sit and Rich	Urban	11.7000	3.6459	5.5323	0.0000	S
	rural	7.9000	2.3621			

From the results of the above table, we had seen that,

1. The urban rural of high school boys differ statistically significant with respect to speed 50 meters run ( $t=-10.6247, p<0.05$ ) at 5% level of significance. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the rural boys of high school of 50 meters run as compared to urban to urban boys of high school.
2. The urban and rural of high school boys differ statistically significant with respect to endurance 1500 meters run ( $t=-8.1157, p<0.05$ ) at 5% level of significance. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the rural boys of high school have higher endurance of 1500 meters run as compared to urban boys of high schools.
3. The urban and rural of high school boys differ statically significant with respect with respect to agility 4x10 meters shuttle run ( $t=-35.9808, p<0.05$ ) at 5% level of significance. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It rejected and alternative hypothesis is accepted. It means that., the rural boys of high school have higher agility of 4x10 meters shuttle run as compared to urban boys of high schools.
4. The urban and rural of high school boys differ statistically significant with respect to strength board jump standing ( $t=3.1999, p<0.05$ ) at 5% level of significance. Hence, the null hypothesis and alternative hypothesis is accepted. It means that, the urban boys of high schools have higher strength board jump standing as compared to rural boys of high schools.

5. The urban and rural of high school boys differ statistically significant with respect to flexibility sit and rich ( $t=5.5323, p<0.05$ ) at 5% level of significance. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the urban boys of high schools have higher flexibility sit and rich as compared to rural boys of high schools. The mean scores are also presented in the following figure.



**Fig 1:** Comparison of urban and rural with respect to speed, endurance, agility, strength b and flexibility scores

**Hypothesis 2:** there is no significant difference between rural and urban of high school boys with respect to speed endurance, agility, strength and flexibility.

To achieve this hypothesis, the test was applied and the Results are presented in the following table.

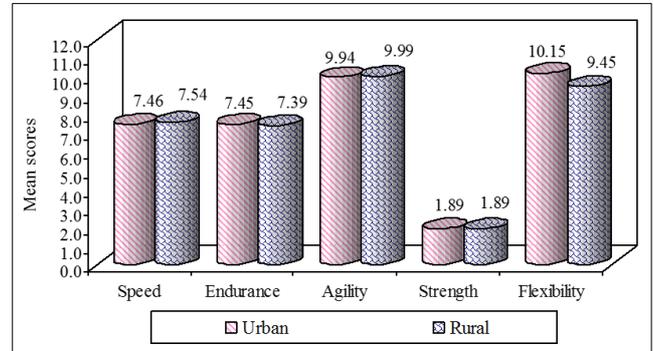
**Table 2:** Result of test between rural and urban of high school boys with respect to speed, endurance, agility, strength and flexibility.

Variables	Location	Mean	SD	t-value	p-value	Signi.
Sped 50 Meters run	Urban	7.4583	0.5378	-0.6930	0.4904	NS
	Rural	7.5395	0.5105			
Endurance 1500 Meters run	Urban	7.4452	0.4946	0.4351	0.6647	NS
	Rural	7.3915	0.4946			
Agility 4x10 Meters shuttle run	Urban	9.9375	0.9461	-0.2304	0.8184	NS
	rural	9.9870	0.9754			
Strength board jump Standing	Urban	1.8908	0.2350	0.0598	0.9525	NS
	rural	1.8908	0.2133			
Flexibility Sit and Rich	Urban	10.1500	3.5988	0.8678	0.3882	NS
	rural	9.4500	3.6158			

From the results of the above table, we had seen that,

- The rural and urban of high school boys do not differ statically significant with respect to speed 50 meters run ( $t=-0.6930, p>0.05$ ) at 5% level of significant. Hence, The null hypothesis is accepted and alternative hypothesis is rejected. It means that, the rural and urban (urban an rural) of high school boys have similar speed of 50 meters run.
- The rural and urban of high school boys do not differ significant with respect to endurance 1500 meters run ( $t=0.4351, p>0.05$ ) at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the rural and urban of high school boys have similar endurance of 1500 meters run.
- The rural and urban of high school boys do not differ statically significant with respect to agility 4x10 meters shuttle run ( $t=-0.2304, p>0.05$ ) at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the rural and urban of high school boys similar agility of 4x10 meters shuttle run.
- The rural and urban of high school boys do not differ statically significant with respect to strength to strength board jump standing ( $t=0.0598, p>0.05$ ) at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the rural and urban of high school boys have similar strength broad jump standing.

- The rural and urban of high school boys do not differ statically significant with respect to flexibility sit and rich ( $t=0.8678, p>0.05$ ) at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the rural and urban of high school boys have similar flexibility of sit and rich. The mean scores are also presented in the following figure.



**Fig 2:** Comparison of rural and urban of high school boys with respect to speed, endurance, agility, strength and flexibility score

**Hypothesis-3:** there is no significant difference between rural and urban of high school boys with respect to speed endurance, agility, strength and flexibility. To achieve this hypothesis, the test was applied and the Results are presented in the following table.

**Table 3:** Result of test between urban and rural urban boys of high school with respect to speed, endurance, agility, strength and flexibility.

Variables	Location	Mean	SD	t-value	p-value	Signi.
Sped 50 Meters run	Urban	7.0630	0.2486	-0.9671	0.3396	NS
	Rural	7.1360	0.2284			
Endurance 1500 Meters run	Urban	7.1115	0.6545	0.8322	0.4105	NS
	Rural	6.9865	0.1513			
Agility 4x10 Meters shuttle run	Urban	9.0270	0.1255	-0.6801	0.5006	NS
	rural	9.0540	0.1255			
Strength board jump Standing	Urban	2.0015	0.00747	1.3747	0.1779	NS
	rural	1.9340	0.2065			
Flexibility Sit and Rich	Urban	11.5500	4.1482	-0.2571	0.7985	NS
	rural	11.8500	3.1669			

From the results of the above table, we had seen that,

- The rural and urban of high school boys do not differ statically significant with respect to speed 50 meters run ( $t=-0.9671, p>0.05$ ) at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the rural and urban boys of high schools have similar speed of 50 meters run.
- The rural and urban of high school boys do not differ statically significant with respect to endurance 1500 meters run ( $t=0.83322, p>0.05$ ) at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the rural and urban boys of high schools have similar endurance of 1500 meters run.
- The rural and urban boys of high school do not differ statically significant with respect to agility 4x10 meters shuttle run ( $t=0.6801, p>0.05$ ) at 5% level of

significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the rural and urban boys of high schools have similar agility of 4x10 meters shuttle run.

- The rural and urban boys of high school do not differ statically significant with respect to strength board jump standing ( $t=-1.3747, p>0.05$ ) at 5% level of significance. Hence, the null hypothesis accepted and alternative hypothesis is rejected. It means that, the rural and urban boys of high schools have similar strength board jump standing.
- The rural and urban boys of high school do not differ statically significant with respect to flexibility sit and rich ( $t=0.2571, p>0.05$ ) at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the rural and urban of high schools have similar flexibility of sit and rich. The mean scores are presented in the following figure.

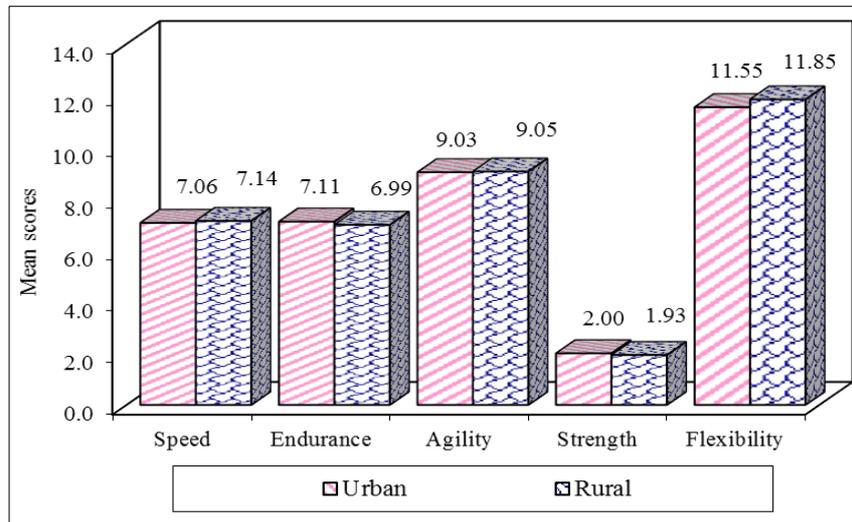


Fig 3: Comparison of urban and rural boys of high schools with respect to speed, endurance, agility, strength and flexibility score

**Hypothesis 3:** there is no significant difference between urban and rural boys of high schools with respect to speed, endurance, agility, strength and flexibility. To achieve this

hypothesis, the test was applied and the Results are presented in the following table.

Table 4: Results of t test between urban and rural boys of high schools with respect to speed, endurance, agility, strength and flexibility

Variables	Location	Mean	SD	t-value	p-value	Signi.
Sped 50 Meters run	Urban	7.8535	0.4506	0.06834	0.4985	NS
	Rural	7.9430	0.3742			
Endurance 1500 Meters run	Urban	7.7790	0.2944	-0.1671	0.8682	NS
	Rural	7.7965	0.3661			
Agility 4x10 Meters shuttle run	Urban	10.8480	0.2762	-0.7571	0.4537	NS
	rural					
Strength board jump Standing	Urban	1.7860	0.2887	-0.7622	0.4507	NS
	rural	1.8475	0.2165			
Flexibility Sit and Rich	Urban	8.7500	2.2913	2.4124	0.0208	S
	rural	7.0500	2.1637			

From the results of the above table, had seen that

- The rural and urban boys of high school do not differ statically significant with respect to speed 50 meters run ( $t=-0.6834, p>0.05$ ) at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the rural and urban boys of high schools have similar speed of 50 meters run.
- The rural and urban boys of high school do not differ statically significant with respect to endurance 1500 meters run ( $t=-0.1671, p>0.05$ ) at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the rural and urban boys of high schools have similar endurance of 1500 meters run.
- The rural and urban boys of high school do not differ statically significant with respect to agility 4x10 miters shuttle run ( $t=-0.7571, p>0.05$ ) at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the rural and urban boys of high schools have similar agility of 4x10 meters run.
- The rural and urban boys of high schools do not differ statically significant with respect to strength board jump standing ( $t=-0.7622, p>0.05$ ) at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the

rural and urban boys of high schools have similar strength broad jump standing.

- The rural and urban rural boys of high schools differ statically significant with respect to flexibility sit and rich ( $t=-2.4124, p>0.05$ ) at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. It means that, the rural and urban boys of high schools have different flexibility of sit and rich. The mean scores are presented in the following figure.

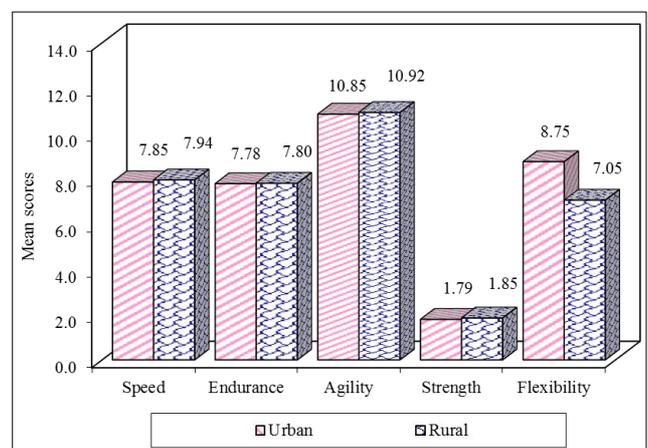


Fig 4: Comparison of urban and rural boys of high schools with respect to speed, endurance, agility, strength and flexibility score

## Conclusion

With in the limitation of this study the following conclusions justified as per the results obtained. Of the five Physical variables speed, Endurance, Agility, strength and flexibility were found to be the urban boys of high school have higher strength and flexibility where as urban have higher in speed endurance and agility.

Rural and urban boys have similar in speed, endurance, agility, strength and flexibility.

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