

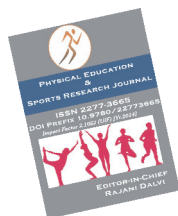
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## COMPARITIVE STUDY OF CONDITIONAL ABILITIES AMONG SPORTS AND NON-SPORTS GIRLS OF RESIDENTIAL SCHOOLS



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### INTRODUCTION

Conditional ability as a term refers to the total dynamic physiological state of the individual, ranging on a continuum from optimal human performance to severe debilitation and death. Athletes would be found towards the upper end of the continuum fluctuating up or down depending on their state of training – whilst at the other end conditions of illness could exist. While this term may be satisfactory in a descriptive sense, problems arise when attempts are made to define the concept in an operational way, that is, when we try to measure or develop it.

### II. IMPORTANCE OF CONDITIONAL ABILITIES

The area of performance sports is not merely a glamorous area of sports; it also fulfils certain valuable fitness due to which it has been accorded high importance all over the world. It contributes towards the all round development of personality and enhance the horizons of awareness among the competing sportsmen. Sports have become an important and competitive of the modern world which is being given the rightful place it deserves by the nations and sports of the world.



### DEFINITION AND EXPLANATION OF TERMS

#### Condition

It is a devise of developing and maintains a level of physical fitness. Conditional ability as a term refers to the total dynamic physiological state of the individual, ranging on a continuum from optimal human performance to severe debilitation and death. Athletes would be found towards the upper end of the continuum fluctuating up or down depending on their state of training – whilst at the other end conditions of illness could exist. While this term may be satisfactory in a descriptive sense, problems arise when attempts are made to define the concept in an operational way, that is, when we try to

measure or develop it. The complexity arises because conditional ability is made up of a series of components, for example, speed, strength, endurance, flexibility and agility, and so on, each one of which makes some independent contribution to the whole state. While some of these components are related, it is possible for an athlete to have a great deal of one component and very little of another. The complexity arises because conditional ability is made up of a series of component for example, speed, strength, endurance, flexibility and agility, and so on, each one of which makes some independent contribution to the whole state. While some of these components are related, it is possible for an athlete to have a great deal of one component and very little of another.

### **Ability**

It is an amount or quality or power of the body and mind for doing the effective work

### **Sportsmen**

One who physically, physiologically, psychologically, and sociologically fit to take part in different activities, with having sports knowledge.

### **Non-sportsmen**

Those who are not involving in sports activities is called non-sportsmen

### **Speed**

Speed is the maximum rate at which a person is able to move his/her body. In most games, the Speed at which you can run or the Reaction Time of your muscles plays a very important role on how you perform. Studies have shown that world class sprinters are born, not made; 75 percent of their body muscles are of the 'fast-twitch' type while the top class long distance runners have only 15 percent of 'fast-twitch' muscles. Fast-twitch muscles generate more force in a shorter period of time than slow-twitch muscles, which produce lesser force for a longer time. Hence, to increase speed, we work on whatever 'fast-twitch' muscles we have and make them stronger and more efficient. Along with speed, it is also necessary that our Reflexes (or reaction time) be quick to excel in any sport. Hand-eye co-ordination exercises help us improve our reflexes.

### **Strength**

Muscular strength has been defined as the ability to exert maximum force against resistance. Muscular strength is the maximum amount of force (weight or heavy resistance) a muscle or muscle group can generate in a single effort to the point that no more repetitions can be done without rest. Muscular strength is quite the opposite of cardiovascular fitness is measured over a certain period of time. While on the other hand, muscular strength is measured in one repetition.

### **Endurance**

Endurance is the capacity to sustain movement or effort over a period of time. Cardiovascular endurance, cardiovascular fitness or aerobic fitness has been defined as the ability of the lungs, heart, and blood vessels to deliver adequate amount of oxygen and nutrients to the cells to meet the demands of prolonged physical activity.

Muscle Endurance is the capacity of a muscle or group of muscles to perform repeated movements (or to hold a particular position) with less than maximum force for an extended period of time or until muscular fatigue. Or, to put it simplistically, it's how long your muscles can do something

before getting too exhausted to finish.

### Flexibility

Flexibility is an important component of conditional ability Flexibility is the range of movement at a joint, or at joint complexes. Many activity – related injuries have their root in lack of flexibility. Think of your muscles as rubber bands. When they are cold they are rigid and brittle. When warm they stretch and retract more easily. Conducting a good warm-up prior to exercising and a good cool-down upon completion will help prevent injury and reduce muscle soreness.

Flexibility has been defined as the ability of a joint to move freely through a full range of motion. Improving and maintaining good joint range of motion though out of sports field is an important factor in the enhancement of performance.

### III. METHODOLOGY

In this chapter following are as selection of subjects, selection of variables, criterion measures, test administration for collection of data and statistical technique are used for the analysis of data.

#### SELECTION OF VARIABLES

Sl.No	Variables of conditional abilities	Field and indoor test
1.	Speed	30 mts run with Flying start
2.	Explosive strength	Broad jump
3.	Shoulder strength	Push-ups
4.	Endurance (cardio respiratory)	600 yards walk and run
5.	Flexibility	Sit and reach

#### COLLECTION OF DATA

Final test data were collected on 3 days in the morning and evening sessions. Morning session were tested speed, shoulder strength, explosive strength, and evening test were conducted Endurance and flexibility tests for subjects.

#### CRITERIA MEASURES

- 1. Speed:** The speed was measured in seconds by conducting 30 mts run with flying start
- 2. Explosive strength:** the leg explosive strength was measured in centimetres by conducting Broad jump test.
- 3. Shoulder strength:** The shoulder strength was measured by conducting modified Push-ups test and numbers was counted.
- 4. Endurance:** the endurance was measured in seconds by conducting 600 yards run and walk.
- 5. Flexibility:** the Flexibility was measured in inches by conducting sit and reach test.

### IV. ANALYSIS AND INTERPRETATION OF DATA

This study was intended to compare the conditional abilities between sports and non-sports girls of secondary school.

To achieve this purpose 60 subjects were selected from sports and non-sports girls of secondary

school and measure the conditional abilities, the researcher administered the test selected conditional abilities factors.

**SPEED**

The data pertaining to speed performance between sports and non-sports girls were statistically analyzed and result was present in the Table – 1.

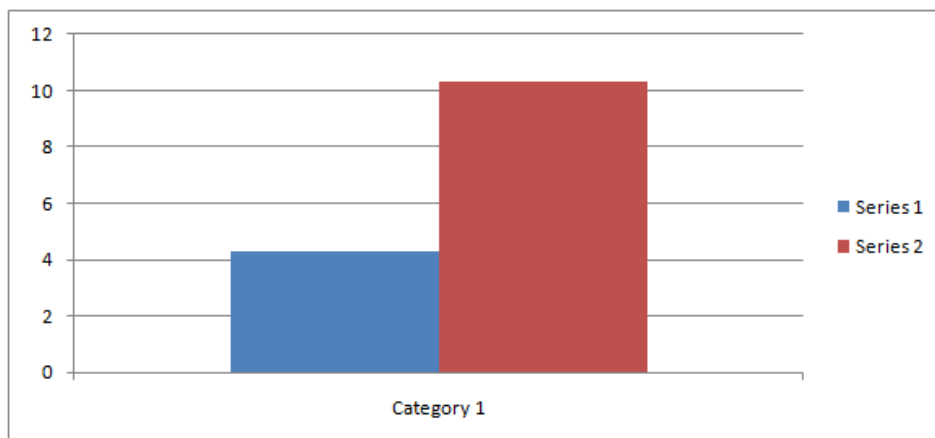
Table – 1: Mean, Standard deviation and t-ration for Speed among sports and non-sports girls of secondary school.

Subjects	Mean	S.d.	d.f.	t-ratio	Significance
Sports Girls	4.5446	0.5699	58	1.2253	NS
Non-sports	4.73	0.6030			

Significant of 0.05 level  
 CI (1,58) 2.000

Table -1 shows that there was no significant difference for speed between Sports and Non-sports girls of secondary school because t-ratio is less than the table value 2.000

Average Speed of sports and Non-sports girls of secondary school were graphically presented in Figure – 4.1



**Figure 4.1: Average performance of 30 Meters run (Speed) among the Sports & Non-sports girls of secondary school**

**EXPLOSIVE STRENGTH:**

The data pertaining to explosive strength performance between sports and non-sports girls were statistically analyzed and result was present in the Table – 2.

Table – 2: Mean, standard deviation and t-ration for Explosive Strength among sports and non-sports girls of secondary school.

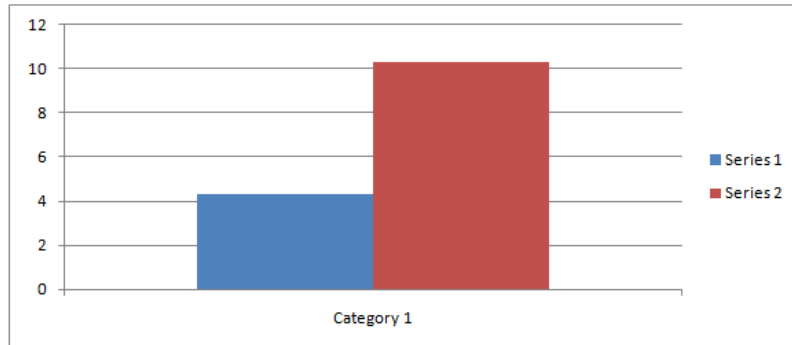
Subjects	Mean	S.d.	d.f.	t-ratio	Significance
Sports Girls	1.906	0.2944	58	2.8042	*
Non-sports	1.7	0.2743			

Significant of 0.05 level

CI (1,58) 2.000

Table – 2 shows that there was significant difference for Explosive strength between Sports and Non-sports girls of secondary school because t-ratio is more than the table value 2.000

Average Explosive strength of sports and Non-sports girls of secondary school were graphically presented in Figure – 4.2



**Figure4.2: Average performance of Broad jump (Explosive strength) among the Sports & Non-sports girls of secondary school**

**SHOULDER STRENGTH:**

The data pertaining to shoulder strength performance between sports and non-sports girls were statistically analyzed and result was present in the Table -3.

Table -3: Mean, Standard deviation and t-ration for shoulder strength among sports and non-sports girls of secondary school.

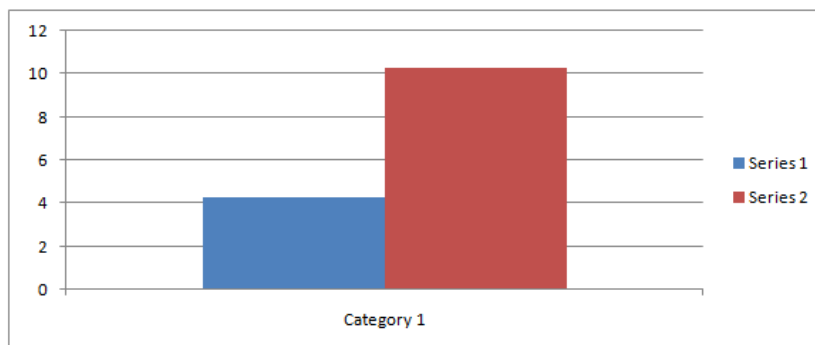
Subjects	Mean	S.d.	d.f.	t-ratio	Significance
Sports Girls	14.13	3.6552	58	1.92	NS
Non-sports	12.3	3.6974			

Significant of 0.05 level

CI (1,58) 2.000

Table- 3 shows that there was no significant difference for shoulder strength between sports and Non-sports girls of secondary school because t-ration is less than the table value 2.000

Average shoulder strength of sports and Non-sports girls of secondary school were graphically presented in Figure – 4.3



**Figure 4.3: Average performance of Push-Ups (Shoulder strength) among the Sports & Non-sports girls of secondary school**

**ENDURANCE:**

The data pertaining to endurance performance between sports and non-sports girls were statistically analyzed and result was present in the Table -4.

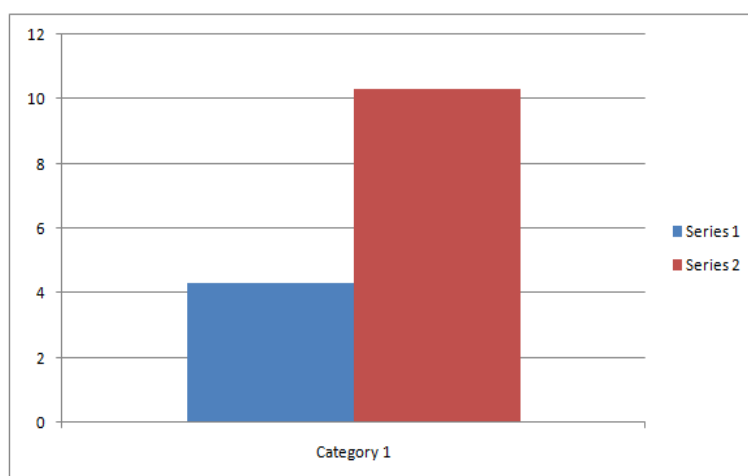
Table – 4. Mean, Standard deviation and t-ration for endurance among sports and non-sports girls of secondary school.

Subjects	Mean	S.d.	d.f.	t-ratio	Significance
Sports Girls	186.33	20.87	58	0.0080	NS
Non-sports	185.91	19.56			

Significant of 0.05 level  
 CI (1,58) 2.000

Table – 4 shows that there was no significant difference for endurance between sports and non-sports girls of secondary school because t-ration is less than the table value 2.000

Average endurance of sports and non-sports girls of secondary school were graphically presented in Figure – 4.4



**Figure 4.3: Average performance of 600 Yards Walk & Run (Endurance) among the Sports & Non-sports girls of secondary school**

**FLEXIBILITY:**

The data pertaining to Flexibility performance between sports and non-sports girls were statistically analyzed and result was present in the Table -5.

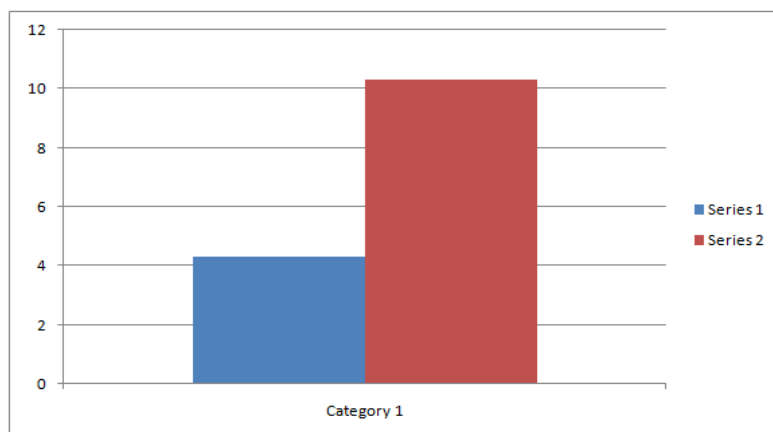
Table – 5: Mean, Standard deviation and t-ration for Flexibility among sports and non-sports girls of secondary school.

Subjects	Mean	S.d.	d.f.	t-ratio	Significance
Sports Girls	15.8	4.7	58	1.05	NS
Non-sports	14.62	3.95			

Significant of 0.05 level  
 CI (1,58) 2.000

Table – 5 shows that there was no significant difference for flexibility between sports and non-sports girls of secondary school because t-ration is less than the table value 2.000

Average flexibility of sports and non-sports girls of secondary school were graphically presented in Figure – 4.5.



**Figure 4.5: Average performance of Sit and Reach (Flexibility) among the Sports & Non-sports girls of secondary school**

**DISCUSSION OF FINDINGS:**

The results of the sports and non-sports girls of secondary school in conditional abilities such as speed, explosive strength, shoulder strength, endurance and flexibility.

**Speed:** Result shows that there is no significant difference in speed performance between sports and non-sports girls of secondary school. So that both sports and non-sports girls are equal in speed abilities.

**Explosive strength:** Result shows that there is difference in explosive strength performance between sports and non-sports girls of secondary school. So sports girls are superior than non-sports girls in explosive strength abilities.

**Shoulder Strength:** Result shows that there is no significant difference in shoulder strength performance between sports and non-sports girls of secondary school. So that both sports and non-sports girls are equal in shoulder strength abilities.

**Endurance:** Result shows that there is no significant difference in endurance performance between sports and non-sports girls of secondary school. So that both sports and non-sports girls are equal endurance abilities.

**Flexibility:** Result shows that there is no significant difference in flexibility performance between sports and non-sports girls of secondary school. So that both sports and non-sports girls are equal in flexibility abilities.

**V. RECOMMENDATIONS SUMMARY, & CONCLUSIONS.**

Conditional abilities are essential to a desired level for the development of particular motor qualities among children. In view of the requirements of the game concerned and also keeping in view the limitation of the sportsman concerned, conditional abilities provides opportunity for the development and maintained of the physical fitness of normal growth of every child and prevent the reversal factors of the performance.

Conditional abilities still continues to be one of the important role in physical fitness frequently appraised in health and physical education.

The study was taken to access and compare the conditional abilities of sports and non-sports

girls of secondary school. A standard test was used to measure the conditional abilities with scientific technical method.

The collected data statistically analyzed and the significance was established by t-ration method. The level of confidence chose was 0.05 to test significant difference of conditional abilities existed between sports and non-sports of secondary school.

### CONCLUSION

With the limitation of the study it appears permissible to conclude on the basis of results obtained in the previous chapter the regular and systematic sports activities in schools increase the conditional abilities of an individual, which reveal that conditional abilities has a direct bearing an activity status.

### RECOMMENDATIONS

- It is recommended that this study helps coaches to select children for sports and games which is required more conditional abilities.
- This study helps to physical education teachers and coach is to formulate the appropriate training programme for children, who are not fully developed in conditional abilities
- Similar study may be conducted on different age groups

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