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# EVALUATION OF EFFECT OF PHYSICAL TRAINING ON PERFORMANCE MEASURE IN SCHOOL CHILDREN

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## ABSTRACT

*It is been reported that students fatigue also increased from elementary school to junior high school. Identifying this fatigue –related factors is very important for the teachers to prevent increasing level of fatigue 1. This fatigue leads to lower the academic performance, fatigue can be reduced when the individual is physically fit. Physical fitness and academic performance are inter related when a pupil are physically fit he can tackle stress very easily and can success in his school performance. School performance in children can be measured through the assessment of memory. Memory is considered as an ability to retain and reproduce impressions once perceived intentionally.*

***Purpose of the study:*** *the purpose of the study is to assess how physical activity enhances the memory and physical fitness of pupils.*

***Methodology:*** *for the purpose of the study Physical activity performance was assigned for the age group of 13-16 years and the students were randomly picked from Kolar taluk, Ramnagar taluk, and Anekaltakul, the samples are 100 from each taluk. Students were divided into three equal groups, for a period of 4 months regular physical activity for 1 hour was assigned to control group and load was gradually increased. Physical activity like speed, strength, agility, endurance flexibility, abdominal muscular endurance, and explosive strength students were trained during 4 months period. Physical activity was not assigned to Control Group. To assess the performance the performance F ratio and post hock test was assigned. Statistic used are Anova and post hock test.*

**KEYWORDS** *:Physical Training , School Children , academic performance.*

## INTRODUCTION

Adolescence is one of the most fascinating complex periods for pupil. This is a great period of growth and change in physical cognitive and social behaviour. It is been reported that students fatigue also increased from elementary school to junior high school. Identifying this fatigue –related factors is very important for the teachers to prevent increasing level of fatigue. This fatigue leads to lower the academic performance; fatigue can be reduced when the individual is physically fit. Physical fitness and performance in academics are inter related when a pupil are physically fit he can tackle stress very easily and can success in his school performance. School performance in children can be measured through the assessment of memory. Memory is considered as an ability to retain and reproduce impressions once perceived intentionally.

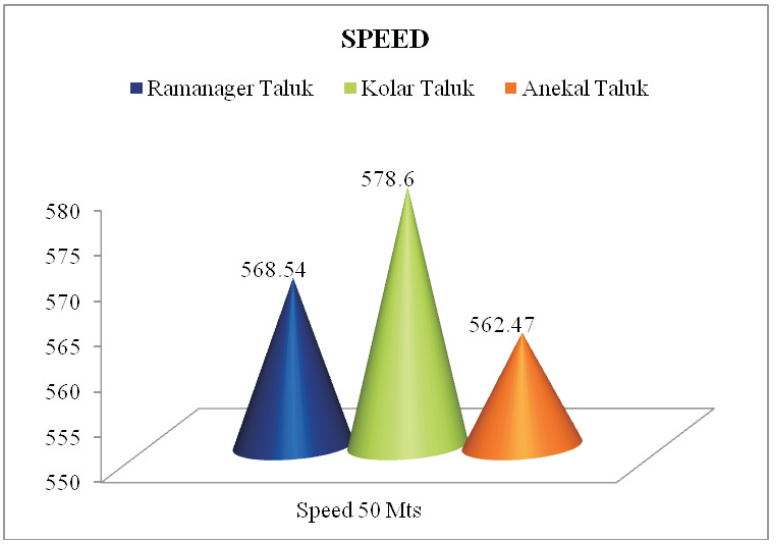
The bodily movement produced by skeletal and muscular activity or movement result increasing in heart pressure, increases thinking capacity of brain and protects oneself brain from stress which results in enhancement of performance in school.

Performance in school refer to student's ability to perform school activity either through cognitive or physically. Physical activity plays a key role in moulding & modifying Childs behaviour and discipline. Today parents are concerned more on academics but the purpose of the study is how physical activity enhances the memory and physical fitness which keep the child academically strong and keeps healthy.

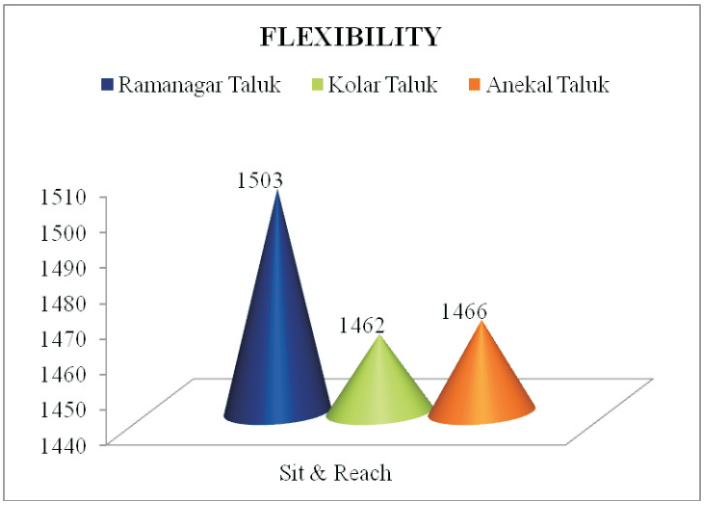
**Purpose of the study:** the purpose of the study is to assess how physical activity enhances the memory and physical fitness of pupils.

**Methodology:** for the purpose of the study Physical activity performance was assigned for the age group of 13-16 years and the students were randomly picked from Kolar taluk, Ramnagar taluk and Anakel taluk. Students were divided into 100 each three equal groups, for a period of 4 months regular physical activity for 1 hour was assigned to control group and load was gradually increased. Physical activity like speed, strength, agility, endurance flexibility, abdominal muscular endurance, and explosive strength students were trained during 4 months period. Statistics: Statistics method used are Anova and post hock test, to find F ratio and critical difference

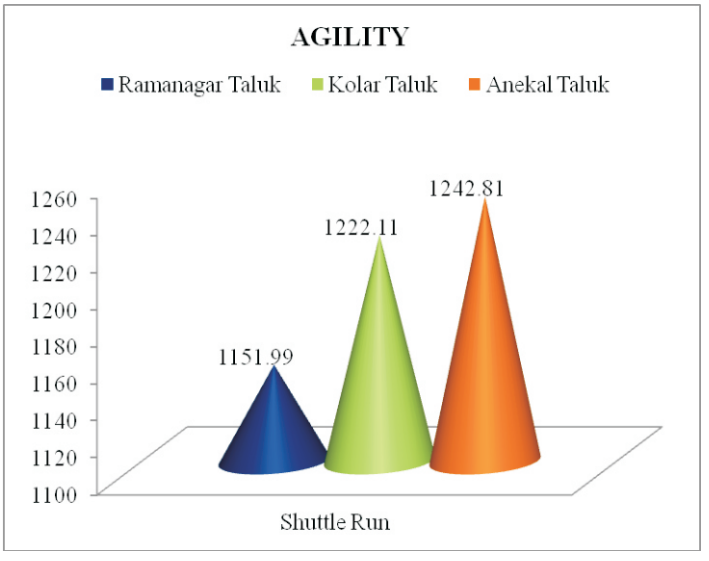
**GRAPH:**
**SPEED**



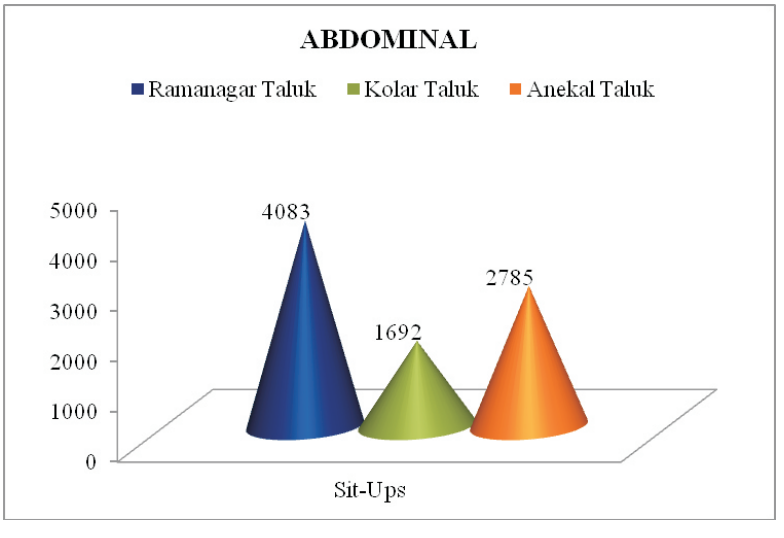
## FLEXIBILITY



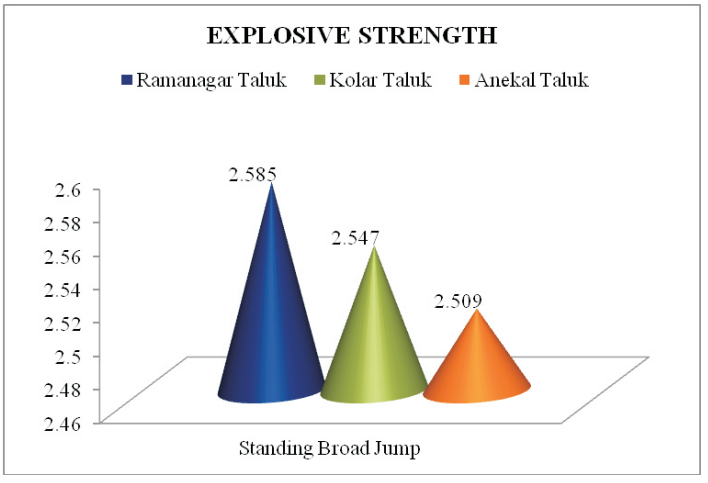

## AGILITY



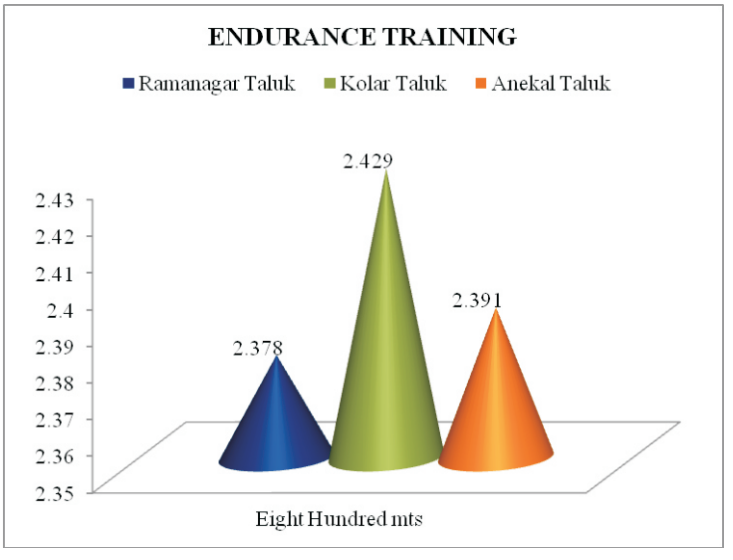

## ABDOMINAL MUSCULAR ENDURANCE



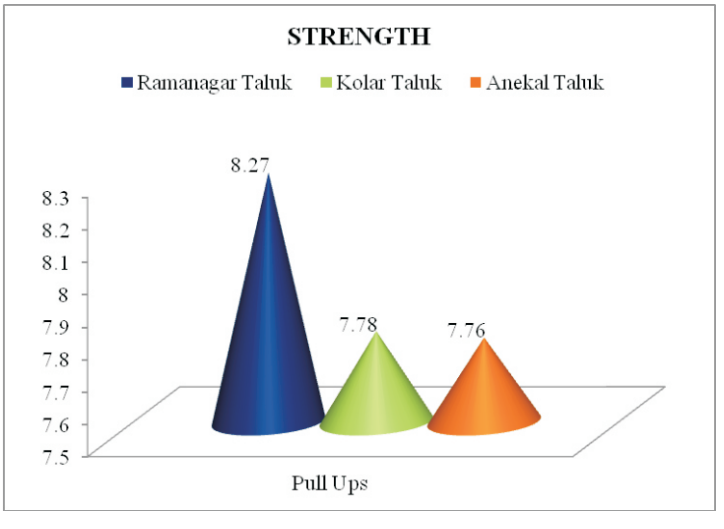
## EXPLOSIVE STRENGTH




## ENDURANCE TRAINING




## STRENGTH



## ANOVA POST TEST EXPLINATION OF SPEED:

Analysis of variance of speed, explosive strength, agility, strength, flexibility, abdominal muscular and endurance among difference region of school boys.

| variable | Sources of variation | Sum of square(ss) | Df | Mean square(ms) | F value | *P-value* | *F crit* |
|---|---|---|---|---|---|---|---|
| Speed | Between groups | 1.327418 | 2 | 0.663709 | 3.026801* | 0.049968 | 3.026153 |
| | Within the group | 65.125375 | 297 | 0.219277 | | | |
| | total | 66.452793 | 299 | | | | |
| Flexibility | Between Groups | 10.22 | 2 | 5.11 | $0.789257^{NS}$ | 0.455132 | 3.026153 |
| | Within Groups | 1922.91 | 297 | 6.474444 | | | |
| | Total | 1933.13 | 299 | | | | |
| Agility | Between groups | 45.31192267 | 2 | 22.65596 | 6.167864* | 0.002374 | 3.026153 |
| | Within the group | 1090.948217 | 297 | 3.673226 | | | |
| | Total | 1136.26014 | 299 | | | | |
| Abdominal muscular Endurance | Between groups | 28654.44667 | 2 | 14327.22 | 40.13485* | 3.7685 | 3.026153 |
| | Within the group | 10602.22 | 297 | 35.69771 | | | |
| | Total | 39256.66667 | 299 | | | | |
| Explosive strength | Between groups | 0.289498 | 2 | 0.144749 | 3.853682* | 0.02227 | 3.026153 |
| | Within the group | 11.15567 | 297 | 0.037561 | | | |
| | Total | 11.44516 | 299 | | | | |
| Endurance | Between groups | 0.143214 | 2 | 0.071607 | 4.469649* | 0.012232 | 3.026153 |
| | Within the group | 4.758154 | 297 | 0.016021 | | | |
| | Total | 4.901368 | 299 | | | | |
| Strength | Between groups | 16.68667 | 2 | 8.343333 | 7.097963* | 0.000975 | 3.026153 |
| | Within the group | 349.11 | 297 | 1.175455 | | | |
| | Total | 365.7967 | 299 | | | | |

*p<0.05 table F, df (2,297)=(0.05)=( 3.00); **p<0.01 Table F(2,297) (0.01)= (4.61 );

## FROM THE ABOVE TABLE:

Shows that obtained F values are is 3.02, 6.167, 40.13, 3.853, 4.469, 7.097 which are higher value than the table value 3.00 with df(2,297.00) required for significance at 0.05 level (P< 0.05) indicating that it was significant at 0.05 level.

It concludes that there were significant differences in the speed,agility, strength, abdimonal muscular endurance, explosive strength, endurance of Ramnagar taluk ,Kolar taluk , Anakel taluk .Hence it stated hypothesis that is " there was0.05 significance in the Ramnagar taluk ,Kolar taluk ,

Anakel taluk boys .

Hence stated null hypothesis that is " there is no significant difference in speed,agility, strength, abdimonal muscular endurance, explosive strength, endurance among Ramnagar taluk ,Kolar taluk , Anakel taluk school boys " is rejected hence it places an alternative hypothesis has been accepted that "there was a significant different in the speed among Ramnagar taluk ,Kolar taluk , Anakel taluk school boys .

It also reveals that the obtained F value are 0.789 which is less than the table value 3.00 with df(2,297.00) required for significance at 0.05 level (P< 0.05) indicating that it was significant at 0.05 level.it also concludes there is no significant different in flexibility among Ramnagar taluk ,Kolar taluk , Anakel taluk school boys.

**Explanation for Post Hoc-Test:**

Scheffe's Post –Hoc Test for significant difference in speed, flexibility, agility, abdominal muscular endurance, explosive strength, endurance, strength, groups.

**TABLE:**

| VARIABLES | Ramnagar taluk | Kolar taluk | Anakel taluk | MEAN DIFFERENCE | CRITICAL DIFFERENCE |
|---|---|---|---|---|---|
| SPEED | 5.5262 | 5.786 | | 0.259* | 0.169 |
| | | 5.786 | 5.6247 | 0.161 | |
| | 5.5262 | | 5.6247 | 0.098 | |
| Flexibility | 15.03 | 14.62 | | 0.41* | 0.919 |
| | | 14.62 | 14.66 | 0.04 | |
| | 15.03 | | 14.66 | 0.37* | |
| Agility | 11.5199 | 12.2211 | | 0.701* | 0.666 |
| | | 12.2211 | 12.4281 | 0.207* | |
| | 11.5199 | | 12.4281 | 0.908* | |
| Abdominal Muscular Endurance | 40.83 | 16.92 | | 23.91* | 2.078 |
| | | 16.92 | 27.85 | 10.93* | |
| | 40.83 | | 27.85 | 12.98* | |
| Explosive strength | 2.585 | 2.5474 | | 0.037 | 0.067 |
| | | 2.5474 | 2.5089 | 0.038 | |
| | 2.585 | | 2.5089 | 0.038 | |
| Endurance | 2.3771 | 2.4287 | | 0.051* | 0.045 |
| | | 2.4287 | 2.3906 | 0.038 | |
| | 2.3771 | | 2.3906 | 0.013 | |
| strength | 8.27 | 7.78 | | 0.49* | 0.377 |
| | | 7.78 | 7.76 | 0.02 | |
| | 8.27 | | 7.76 | 0.51* | |

**Post hock test:**

**FROM THE ABOVE TABLE:**

The speed, agility, abdominal muscular endurance, explosive strength,endurance, strength mean score of Ramnagar taluk, Anakel taluk and Kolar taluk grouped school boys were 5.526, 5.786, 5.6247, 15.03, 14.62, 14.66, 11.519, 12.221, 12.428, 40.83, 16.92, 27.85, 2.585, 2.547,2.5089,2.37, 2.428, 2.390, 8.27, 7.78, 7.76 respectively .To find out which of these paired means had a significant difference , the scheffe's post hock test was applied and the results are presented in the above table .

It also shows that the mean differences on speed between Ramnagar taluk and Kolar taluk ; Kolar and

Anakel taluk; Ramnagar and Anakel taluk group school boys have significant paired mean difference and the value 0.259, 0.161, 0.098 respectively which are greater than the critical difference value of 0.169 at 0.05 level of confidence .It was concluded that the significant difference exist in speed of Ramnagar taluk and Kolar taluk and no significant betweenKolar and Anakel taluk; Ramnagar and Anakel taluk. Ramnagar taluk group boys have better speed than thankolar and anakeltaluk. The region was influenced in developing the speed.

It also shows that the mean differences on Agility between Ramnagar taluk and Kolar taluk ; Kolar and Anakel taluk; Ramnagar and Anakel taluk group school boys have significant paired mean difference and the value 0.7012, 0.908 respectively which are greater than the critical difference value of 0.666 at 0.05 level of confidence .It was concluded that the significant difference exist in agility of Ramnagar taluk and Kolar taluk and no significant betweenKolar and Anakel taluk; Ramnagar and Anakel taluk. . Anakel taluk group boys have better agility than thankolar andRamnagartaluk. The region was influenced in developing the Agility. Itfurther reveals that mean diffference of kolar is 0.207 is not significant which is less the critical difference.

It also shows that the mean differences onAbdominal muscular endurance between Ramnagar taluk and Kolar taluk ; Kolar and Anakel taluk; Ramnagar and Anakel taluk group school boys have significant paired mean difference and the value 23.91, 10.93, 12.98 respectively which are greater than the critical difference value of 2.078 at 0.05 level of confedence .It was concluded that the significant difference exist in abdominal muscular endurance of Ramnagar taluk and Kolar taluk andAnakel taluk. Ramnagar taluk group boys have better abdominal muscular endurance than thankolar andanakeltaluk. The region was influenced in developing the agility.

It also shows that the mean differences on explosive strength between Ramnagar taluk and Kolar taluk ; Kolar and Anakel taluk; Ramnagar and Anakel taluk group school boys have significant paired mean difference and the value 0.037, 0.038, 0.038 respectively which are greater than the critical difference value of 0.067 at 0.05 level of confedence .It was concluded that there is no significant difference exist in explosive strength of Ramnagar taluk and Kolar taluk and Anakel taluk school boys.. The region was influenced in the explosive strength.

It also shows that the mean differences on Endurance between Ramnagar taluk and Kolar taluk ; Kolar and Anakel taluk; Ramnagar and Anakel taluk group school boys have significant paired mean difference and the value 0.051, 0.038, 0.013, respectively which are greater than the critical difference value of 0.045 at 0.05 level of confedence .It was concluded that there is no significant difference exist in explosive strength of anakel and Kolar taluk; and Anakel taluk and ramnagar taluk school boys..further it reveals that there is a significant between ramnagar and kolar taluk. The region was influenced in developing the endurance.

It also shows that the mean differences on Strength between Ramnagar taluk and Kolar taluk ; Kolar and Anakel taluk; Ramnagar and Anakel taluk group school boys have significant paired mean difference and the value 0.49, 0.51 respectively which are greater than the critical difference value of 0.377 at 0.05 level of confedence .It was concluded that the significant difference exist in strength of Ramnagar taluk and Kolar taluk andramnagar and anakel and no significant difference between kolar and anakel taluk group boys.anakelgroup boys have better strength than kolar taluk and ramnagar taluk. The region was influenced in developing the strength.

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