G. Nithya
Ph.D. Research Scholar, RGNF
(JRF) Department of Physical
Education, Bharathiar,
University, Coimbatore, Tamil
Nadu, India

Dr. P. Anbalagan
Associate Professor, Department
of Physical Education,
Bharathiar University,
Coimbatore, Tamil Nadu, India

Analysis of physical fitness and academic status on government school student of Nilgiris district

G. Nithya and Dr. P. Anbalagan

Abstract
The main objective of this study was to investigate the Analysis of physical fitness and academic status on Government School Student of Nilgiris District**.** For this purpose data was collected from 20 students (10 boys and 10girls) English and Tamil medium. Age range is between 11-13 years old during 2015-2016 school years by using the Physical Fitness and Academic Status. The training schedules were for twelve weeks for Physical fitness exercise and it was arranged between the quarterly and half yearly examination. The intensity for exercise were low to moderate for three days per week (Monday, Wednesday and Saturday) after their regular classes for experimental group. Data was analysed using computerized statistical package software (SPSS) t- test and correlation was used to analyse the data. The physical fitness and academic results showed that experimental group was greatly improved from first to half year examination. But control groups decreased the mean value of marks from quarterly to half yearly Examination. As exhibited in the result the correlation co- efficient of experimental group on muscular strength and flexibility showed moderate significant positive correlation with academic performance. On the other hand body composition had moderate significant negative correlation. With the exception of the cardiovascular endurance and muscular endurance result showed very high significant positive correlation with academic performance among the experimental group. This study prove that there is a significant relationship between physical fitness and academic status.

Keywords: Physical fitness and Academic status

Introduction
Physical activity during every school day is essential for various reasons. Physical fitness, mental health and social interaction. Regular physical activity increases the amount of oxygen delivered to the brain, which increases children capacity to learn. Research has been conducted concerning Physical Fitness benefits. The most commonly researched use for physical fitness is certainly for the purpose of Physical Exercise directly impacting the body.

Methodology
The study was conducted at Nilgiris district. The total number of students 6 th std was 63 students. Their age ranged was between 11 to 13 yrs. For this study, the Stratified Random sampling technique was used to select the sample from 63 students. The total size of the sample was 20 (10 girls and 10 boys) from 6 th std students were done by random method. Thus there were total two groups one experimental and one control group. In group one 5 girls and 5boys in second group 5 girls and 5 boys for this study the stratified random sampling technique was used to select 20 samples of subjects from 63.

Physical itness test analysis

Correspondence
G. Nithya
Ph.D. Research Scholar, RGNF
(JRF) Department of Physical
Education, Bharathiar
University, Coimbatore, Tamil
Nadu, India

Table 1

S. No	Variales	Test items	Measuring tools
1	Cardio vascular endurance	Cooper 12 min/run and walk	Metres
2	Muscular strength	Push up test	Counts
3	Sit and reach test	Flexibility	In centimetre
4	BMI	Body composition	In percentage

Methods of data analysis

Academic data was collected from marks Quarterly and Half yearly examination. Data was analysed using computerized statistical package software (SPSS) for descriptive statistical mean, SD maximum and minimum values while the relationship between the variables were determine by linear correlation co-efficient. Degree of relationship is expressed by co-efficient which range from correlation ($-1<r>+1$) and the standard significant value $p<0.05$.

Table 2: The comparative mean and standard deviation values of physical fitness parameters of experimental group and control group

| S. No | Variables | Experimental Group | | | Control Group | | | Mean Value | |
		Pre -test	During Test		Pre -test	During Test	Post -test	Exp. Group	Control Group
1	Muscular strength	6.9±2.5	7.8±2.52	11.3±2.94	7.3±2	8.1±2.84	8.4±2.71	4.4	1.1
2	Cardiovascular endurance	9.52±187.65	10.50±194.8	11.23±195.65	10.06±131.90	10.36±144.4	10.26±150.34	1.71	0.20
3	Flexibility	5.6±1.99	6.95±1.72	9.72±1.28	7.50±1.58	8.14±1.53	8.19±1.74	4.12	0.69
4	Body composition	18.80±2.269	19.29±2.38	19.56±2.266	19.32±2.18	19.33±2.022	19.25±03	0.76	0.07

The table shows that there was an improvement of Muscular strength experimental group pre-test 6.9±2.5 during test 7.8±2.52 and post-test 11.3±2.94 Muscular strength control group pre-test 7.3±2, during test 8.1±2.84 and post-test 8.4±2.71. Cardiovascular endurance experimental group pre-test 9.52±187.65 during test 10.50±194.8 and post-test 11.23±195.65. Cardiovascular endurance control group pre-test 10.06±131.90 during test 10.36±144.4 and post-test 10.26±150.34. Flexibility experimental group pre-test 5.6±1.99, during test 6.95±1.72and post-test 9.72±1.28 Flexibility control group pre-test 7.50±1.58, during test 8.14±1.53and post-test 8.19±1.74. Body composition experimental group pre-test 18.80±2.269,during test 19.29±2.38 and post-test 19.56±2.266 Body composition control group pre-test 19.32±2.18,during test 19.33±2.022 and post-test 19.25±03. The result showed that the experimental group improved more than control group in all health related physical fitness components. Mean value of muscular strength experimental group (4.4), control group (1.1). Mean value of cardiovascular endurance control group (1.71), control group (0.20). Mean value of control group (4.12), control group (0.69). Mean value of body composition control group (0.76), control group (0.69).

The mean value difference of experimental group showed that their muscular strength was improved higher than control group. In the same way the mean value difference of cardiovascular endurance was1.71 for experimental group and 0.20 for control group. This showed experimental group increased their cardiovascular endurance than control group. Theo other parameters experimental group showed great mean values difference was 4.12 for experimental group was 0.69 for control group. This proved that the experimental group showed that a great improvement on flexibility and muscular endurance than control group. This proved that the experimental group showed that a great improvement on flexibility and muscular endurance than control group.

Table 3: The mean value of academic status of experimental group and control group

Experimental group			Control Group			
Academic test variables	Mean ±SD	P	Mean ±SD	Mean ±SD	P	Mean ±SD
Marks	Quarterly Examination	-	Halfyeary examination	Quarterly Examination	-	Halfyeary examination
	79.77±11.27	0.0	83.16±11.32	78.44±5.87	0.14	77.49±5.65

As indicated in table III, the experimental group's marks mean value was increased from the first to the half yearly (79.77- 83.16). The ratio behind this improvement might be the exercise in which the students engaged in. The control group participant decreased their marks mean value of the Quarterly marks (78.44-77.49).

Table 4: Correlation coefficient and significant of academic status with physical fitness among experimental and control group

| S. No | Variables | N | Experimental group | | Control group | |
			correlation	Significant	correlation	Significant
1	Muscular strength &Quarterly exam (pre)	10	0.57	0.02	0.27	-0.3
2	Muscular strength &half yearly exam (post)	10	0.61	0.01	-0.31	-0.10
3	Cardiovascular endurance Quarterly exam (pre)	10	0.70	0.01	0.15	-0.03
4	Cardiovascular endurance half yearly exam (post)	10	0.98	0.09	0.31	-0.16
5	Flexibility Quarterly exam (pre)	10	0.418	0.04	0.01	0.23
6	Flexibility half yearly exam (post)	10	0.68	0.02	0.27	0.14
7	BMI Quarterly exam (pre)	10	0.39	-0.03	0.12	-0.25
8	BMI half yearly exam (post)	10	0.82	-0.03	0.26	-0.38

The table IV showed the Correlation Coefficient And Significant of Academic Status With Physical Fitness among Experimental and Control Group of Muscular strength & Quarterly exam (pre), Muscular strength &half yearly exam

(post), Cardiovascular endurance Quarterly exam (pre), Cardiovascular endurance half yearly exam (post), Flexibility Quarterly exam (pre), Flexibility half yearly exam (post), BMI Quarterly exam (pre), BMI half yearly exam (post). Control group the degree of relationship is expressed by coefficient which range from correlation $(-1 < r > +1)$ and the standard significant value $p < 0.05$.

Result and Discussions
The result showed that there was an improvement of muscular strength, cardiovascular and flexibility for experimental group when it was compared from pre to post. The control group variables did not show any significant. The academic status that experimental group's marks were greatly improved from quarterly examination to half yearly examination. But control group the mean value of marks from quarterly to half yearly examination were decreased. The significance result showed that experimental group improved academic status due to participation of physical activities. Except BMI there was slight improvement was shown on their physical fitness.

The correlation coefficient of experimental group on muscular strength and flexibility showed adequate significant positive correlation with academic performance. And body composition had adequate significant negative correlation. With the exception of the cardiovascular endurance and muscular endurance showed very high significant and positive correlations with academic performance among the experimental group.

Conclusion
The variables selected for the study were cardiovascular endurance, muscular strength, flexibility and BMI. For academic status quarterly exam and half year examination were taken for both groups. The participant rate was 100%. regular participation in physical activity had a significant effect on improvement and enhancement of physical fitness performance and improved academic status. The experiment group students who were participated physical activity had improved their physical fitness and academic status as compared to control group students. In this student there was a high positive correlation between academic status and physical fitness.

Acknowledgement

References
1. F Daley AJ, J Ryan. Academic performance and participant in physical activity by secondary school adolescents. Percept. mot.skills. 2000; 9:531-534.
2. Repetti R, Ullman JB. Classroom social experience as predictor of academic performance. 2005; 41(2):319-327.
3. Ainsworth BE. Compendium of physical activities: An upload of activity codes and MET intensities. Med. sci. sports exerc. 2000; 32.s498-s504.
4. Murata NM. Collaborating with classroom teachers to increase daily physical activity: JOERD. 2004; 17(5):4246.
5. Mcnaughten D, Gabbard C. Physical extertion and immediate mental performance in sixth grade childrens skill. 1993; 77:1155-1159.