COMPARISON OF SELECTED PHYSICAL FITNESS VARIABLES IN ACTIVE TRIBAL SCHOOL GOING FEMALE STUDENTS OF HILLY AREA AND PLAIN AREA

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INTRODUCTION

The study of growth and development of childhood and adolescence are one of the important areas in education as well as physical education. So, physical education teachers and professionals must be acquainted with the nature of development of different motor skills in childhood and adolescent. Human body is a gift by nature. Life in the computer age is not less than the blessing of God. Scientific discoveries have changed the entire face of our planet. It has changed the thorny life into the bed of roses. Good health provides sound and solid foundation on which fitness rests and at the same time fitness provides one of the most important key to health and living one's life to fullest. The negative effects of degraded physical fitness on both the individual and society are serious and multi-dimensional. It can cause many risk factors to heath including coronary heart disease, certain forms of cancer, hypertension, respiratory problems, and each associated with increases in all cause mortality (Cataldo 1999). Low levels of physical activity and cardio-respiratory fitness are both associated with higher risk of all cause and disease specific mortality (Thune et al. 1998).

Schools have the potential to improve the health of young people by providing instruction in physical education that promotes enjoyable lifelong physical activity. Diseases and health problem resulting from an inactive lifestyle have their origins early in life. This is when an active life style should be established. Fitness begins at birth and should continue throughout a person's life. Fitness improves general health and it is essential for full and vigorous living. The physically fit child feels more alert and eager to do things. A weak child is a weak brick in the wall of the nation. The wealth of a nation depends entirely upon the health of every citizen of the country. The complex nature of physical fitness can be best under stood in terms of its components such as cardiovascular endurance, strength, flexibility, speed, agility and muscular endurance. In addition to these components of physical fitness there are many other factor which contribute to physical fitness including heredity, living standard, nutrition, hygienic conditions, environmental and climate factors etc. (Sallis. et.al. 1992).

In villages which formed the first habitation of civilized man rural sports grew out of sheer necessity. Joint defense against on slaughts of a common foe and dangerous animals must have

given birth to sports like wrestling, running, jumping, weight lifting and such performing arts as measuring strength by holding wrists, twisting hands etc. Same is the case with games and sports in hilly area and plain area settings. We notice that there is a lot of difference in the interest of children. Like we observe that in hilly areas children are indulging in minor, indigenous activities and small area field games like football, kabaddi, kho-kho, wrestling, athletics etc. whereas, in plain areas we find children playing cricket, basketball, swimming, badminton, tennis, squash, golf etc. The main cause of difference is the availability of facilities, space and financial support of parents.

The purpose of this study was to compare the tribal school going active female students belonging to hilly area and tribal school going active female students belonging to plain area so as to find out which of these two categories is more physically fit in response to tests administered.

METHODOLOGY

Subjects*: For this study total of 60 tribal female subjects aging 14 year to 16 year who were actively involved in physical activities were selected. Among these 30 belonged to hilly areas of West Bengal and rest 30 were from plain areas of West Bengal.

VARIABLES SELECTED AND CRITERION MEASURES

- 600 yard run/walk(548.64 mts.) for cardio-vascular endurance (minutes).
- 50 yard(45.72 mts.) dash for speed (seconds).
- Shuttle runs10 yard(9.14 mts.) X 6 for agility (seconds).
- Sit & reach test for flexibility (centimeter)
- Bent knee sit up for abdominal strength and endurance (score/60 seconds).
- Standing Broad Jump for explosive strength (centimeters).

STATISTICAL TECHNIQUE

Descriptive statistics and Independent 't' test was employed to each variables for comparing them. The level of significance chosen was 0.05. SPSS 19 was used to execute the statistical functions.

RESULTS

After converting the raw data into group data, statistical test were employed to find out necessary information. The results and findings of the same are given in the tables and illustrations bellow.

TABLE 1:

DESCRIPTIVE TEST SCORES OF VARIOUS FITNESS TEST IN ACTIVE TRIBAL SCHOOL GOING FEMALE STUDENTS OF HILLY AREA AND PLAIN AREA

	Groups	Mean	Std. Deviation	Std. Error Mean
Endurance	Hilly Area	2.22	31	0.06
	Plain Area	2.42	32	0.06
Speed	Hilly Area	8.39	0.98	0.18
	Plain Area	8.72	0.81	0.15
Agility	Hilly Area	11.66	0.82	0.15
	Plain Area	12.20	0.82	0.15
Flexibility	Hilly Area	34.97	4.04	0.74
	Plain Area	35.40	4.96	0.91
Abdominal Strength	Hilly Area	28.63	4.18	0.76
	Plain Area	25.17	5.02	0.92
Explosive Strength	Hilly Area	1.64	0.14	0.03
	Plain Area	1.52	0.13	0.02

Table: 1 shows the nature and characteristics of fitness score in active tribal school going female students of hilly area and plain area (i.e. number of subjects in each group, mean, standard deviation and standard error of mean.

TABLE 2:

COMPARATIVE ANALYSIS OF VARIOUS FITNESS TEST SCORES IN ACTIVE TRIBAL SCHOOL GOING FEMALE STUDENTS OF HILLY AREA AND PLAIN AREA

Test Items	Levene's Test for Equalityof Variances		t-test for Equality of Means			
	F-Value	P-Value	t-value	P-Value	Percentage Mean difference	Std. Error Difference
Endurance	0.46	0.50	2.41	0.02	8.8	0.08
Speed	1.27	0.26	1.39	0.17	3.9	0.23
Agility	0.05	0.82	2.55	0.01	4.6	0.21
Flexibility	3.38	0.07	0.37	0.71	1.2	1.17

Abdominal strength	2.04	0.16	2.91	0.01	12.1	1.19
Explosive Strength	1.51	0.22	3.41	0.00	7.2	0.03

*significant at 0.05 level of Significance 't' .05 (58) =2.000

The perusal of table 2 reveals that there lies a statistically significant difference between tribal school going active female students belonging to hilly area and tribal school going active female students belonging to plain area in endurance (t-value = 2.407, p= 0.019), agility (t-value = 2.554, p= 0.013), abdominal strength (t-value = 2.907, p= 0.005) and explosive strength (t-value = 3.407, p= 0.001) is present. Whereas no statistically significant difference lies between tribal school going active female students belonging to hilly area and tribal school going active female students belonging to plain area in speed (t-value = 1.391, p= 0.169) and flexibility (t-value = 0.371, p= 0.712).

Levene's Test for equality of variances results shows that the variance of two groups were equal in all the fitness variables as p value of all the variables were more than .05 thus two sample t-ratio's assumption is fulfilled.

Figure 1: Percentage Difference of Various Fitness Test Scores in Active Tribal School Going Female Students of Hilly Area and Plain Area
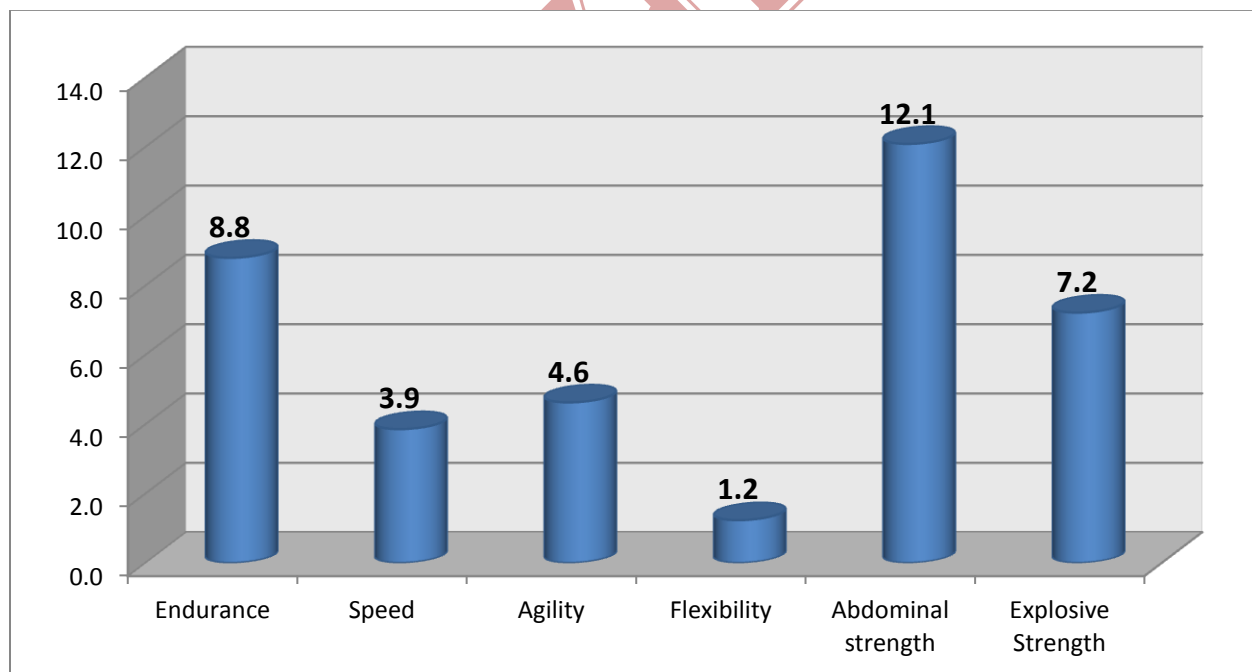
The above figure is the graphical representation of the percentage difference of various fitness variables in two different groups.

DISCUSSION

The findings that the tribal school going active female students belonging to hilly area were better in endurance, agility, abdominal strength and explosive strength compared to tribal school going active female students belonging to plain area may be due to the fact that the students belonging to hilly area performs various extra activities like climbing hills during their walk to school, market, nearby villages in addition to regular physical activities in school which are similar to counterparts of the plains. Again their living conditions, diet and racial genotype might have been the contributing factor for the present result. The fact that the easy livelihood conditions in the plain area (i.e. transportation, agricultural facilities, earning etc) due to nearness of urban cities also can't be denied for the facts of the findings.

CONCLUSION

The conclusion which can be drawn on the basis of the present study is the tribal school going active female students belonging to hilly area is superior in endurance, agility, abdominal strength, explosive strength compared to tribal school going active female students belonging to plain area however both the lots were found to be same in speed and flexibility.

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