



A COMPARATIVE STUDY OF BODY COMPOSITION BETWEEN REGULARLY ACTIVE AND INACTIVE GROUPS OF SCHOOL GOING STUDENTS

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Abstract

The aim of this study was to compare the body composition between regularly active and inactive groups of school going students. The present researcher has taken the male subjects for the study. Forty boys students were (N = 40) randomly selected as subjects and their age were ranged between 13 and 16 years. The subjects were selected by using simple random sampling method. Among these forty subjects twenty (N = 20) were regularly active and the remaining twenty (N = 20) were from inactive school going students from two (2) schools in Buldana District of Maharashtra State, India were considered as subjects. All the subjects were residents of the hostel and had food in the mess. The regularly active group performed regular physical activity at least twice a week for 2 years or more. The inactive group consisted of subjects who had not performed physical activity, such as after school activities. Result: There was significant difference in body composition between active and inactive school going students.

Keywords: body composition, active, inactive, students

Introduction:

The impact of diet and physical activity on health is complex and multi-faceted. Physical activity is described as body movement that expends energy and raises the heart rate. Inactivity is classed as less than 30 minutes of physical activity a week, and sedentary time means time spent in low-energy postures, e.g. sitting or lying. If physical activity were a drug

then the range of its benefits on mental well being, mental illness, heart disease, obesity, diabetes and osteoporosis is such that no politician would dare withhold those benefits from the public. At a time when the NHS struggles to cope with the pressures of mental illness, obesity and diabetes, it is financially irresponsible to fail to promote physical activity.[1] Physical activity does not need to be strenuous to be effective. Thirty minutes a day of moderate aerobic activity can be a brisk walk, a swim, or even a spell of gardening. Each ten-minute bout that gets the heart rate up has a health benefit. Although sport can be part of the picture, activity can also be more informal. Fitness does not have to be a 'regime'. Dancing can be as beneficial as going to the gym, 45 and everyday activity such as walking or cycling to the shops or to work can be a great way to get the heart pumping. Being active is not just about moving more. We also need to build our muscle strength and motor skills, and our 'physical literacy'. Active play is a fundamental part of physical, social and emotional development from infancy. Good physical development in children is linked to other types of positive development, such as speech and coordination. Moreover, being active in childhood builds the foundation for an active adult life. Once learnt, a skill like swimming or riding a bike is there for life. From the age of 30, an adult's muscle and bone mass peaks and begins to decline slowly. Performing simple resistance-type activity – such as press-ups or light lifting – twice a week improves muscle strength and stability. It also helps prevent the development of

musculoskeletal disease. New evidence from neuroscience suggests that being physically active also supports further brain development during adulthood. We need to revise our physical literacy as we get older, changing our expectations of what we can do so that we have the confidence to do it. That will help maintain mental agility, wellbeing and independence. With around a quarter of the nation not managing even 30 minutes of physical activity a week, this may seem like too great a challenge. However, we know that change on a national scale is possible.[2]

Methodology:

The present researcher has taken the male subjects for the study. Forty boys students were (N = 40) randomly selected as subjects and their age were ranged between 13 and 16 years. The subjects were selected by using simple random sampling method. Among these forty subjects twenty (N = 20) were regularly active and the remaining twenty (N = 20) were from inactive school going students from two (2) schools in Buldana District of Maharashtra State, India were considered as subjects. All the subjects were residents of the hostel and had food in the mess. The regularly active group performed regular physical activity at least twice a week for 2 years or more. The inactive group consisted of subjects who had not performed physical activity, such as after school activities.

Variables and Equipments:

Percent body fat was selected as criterion variables. Skin fold thicknesses were measured

Table-1: Comparison of abdominal skinfold between active and inactive school going students

Variables	Group	Mean	SD	SE	MD	Ot	df	Tt
Abdominal Skinfold	Active	14.48	3.14	1.00	2.97	2.97*	38	2.06
	Inactive	17.45	3.19					

Table No. 1 reveals that there is difference between means of active and inactive school going students because mean of active students is 14.48 which is less than the mean of inactive students which is 17.45 and the

with Skinfold Caliper. A fold involving two layers of skin and subcutaneous structures can be held between the thumb and index finger while the skinfold caliper is being applied. The quantity of stored fat will determine the thickness of the fold. The subjects directly apply to the body skin fold caliper measure the muscles of body.

Formula:

Abdomen Skin fold: At the midaxillary line at waist level.

Chest Skin fold: At the level of the xiphoid in the midaxillary line.

Arm Skin fold: At the midposterior, midpoint between the tip of the acromion and the tip of the olecranon with the arm hanging at the side.

Body Density = 1.1017- (0.000282) X (A) - (0.000736) X (B) - (0.000883) X (C)

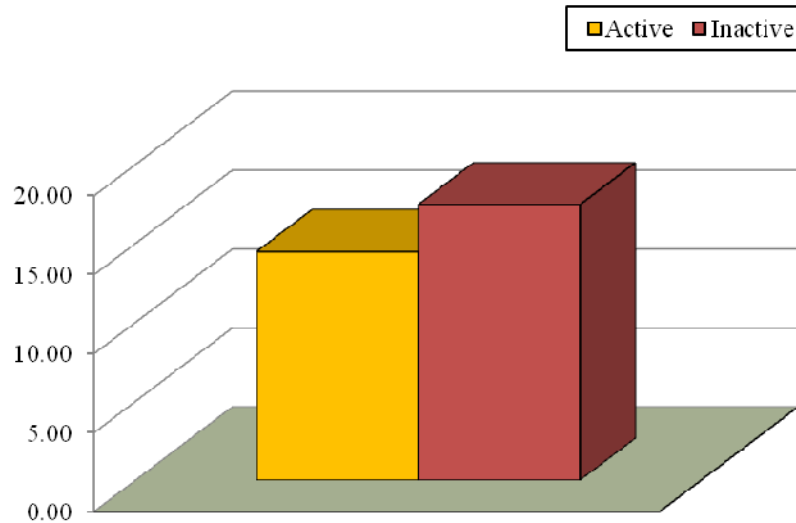
- Where (A)** = Abdominal Skinfold
- (B)** = Chest Skinfold
- (C)** = Arm Skinfold

Percent Body Fat

$$= \left(\frac{4.879}{\text{Body Density}} - 4.142 \right) \times 100$$

Analysis of data:The information was collected from the subjects by using standard test and analysis and interpretation was done on the basis of special statistical techniques viz. mean, standard deviation and ‘t’ test. The level of significance was kept at 0.05 for testing the hypothesis.

calculated value of ‘t’ is found as 2.97, is more than tabulated ‘t’ which is 2.06 at 0.05 level of significance. This shows mean of inactive are having more abdominal skinfold than active.



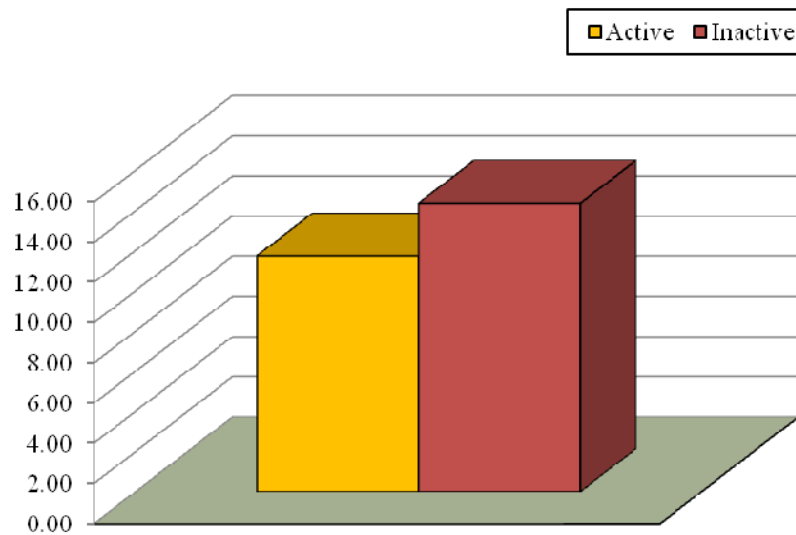
Graph-1: Comparison of Mean Score of abdominal skinfold between active and inactive school going students

Table-2: Comparison of chest skinfold between active and inactive school going students

Variables	Group	Mean	SD	SE	MD	Ot	df	Tt
Chest Skinfold	Active	11.72	3.15	1.09	2.63	2.40*	38	2.06
	Inactive	14.35	3.75					

Table No.2 reveals that there is difference between means of active and inactive school going students because mean of active students is 11.72 which is less than the mean of inactive students which is 14.35 and the

calculated value of 't' is found as 2.40, is more than tabulated 't' which is 2.06 at 0.05 level of significance. This shows mean of inactive are having more chest skinfold than active



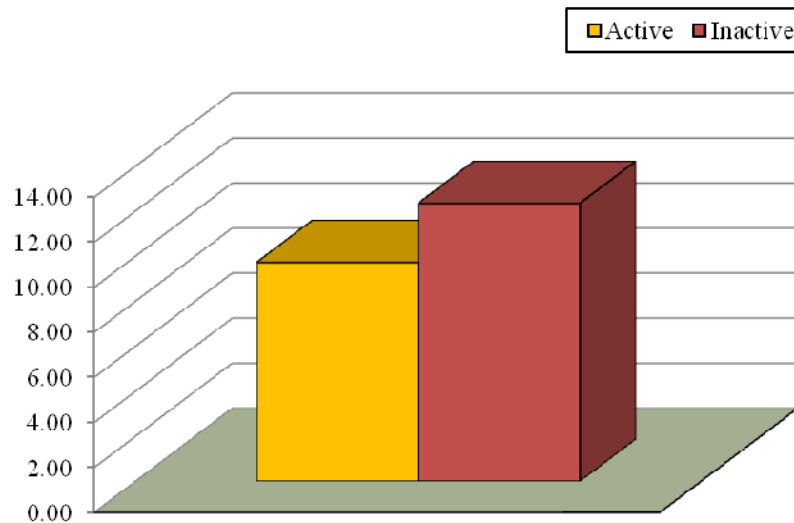
Graph-2: Comparison of Mean Score of chest skinfold between active and inactive school going students

Table-3: Comparison of arm skinfold between active and inactive school going students

Variables	Group	Mean	SD	SE	MD	Ot	df	Tt
Arm Skinfold	Active	9.72	3.15	1.09	2.63	2.40*	38	2.06
	Inactive	12.35	3.75					

Table No. 3 reveals that there is difference between means of active and inactive school going students because mean of active students is 9.72 which is less than the mean of inactive students which is 12.35 and the

calculated value of 't' is found as 2.40, is more than tabulated 't' which is 2.06 at 0.05 level of significance. This shows mean of inactive are having more arm skinfold than active.



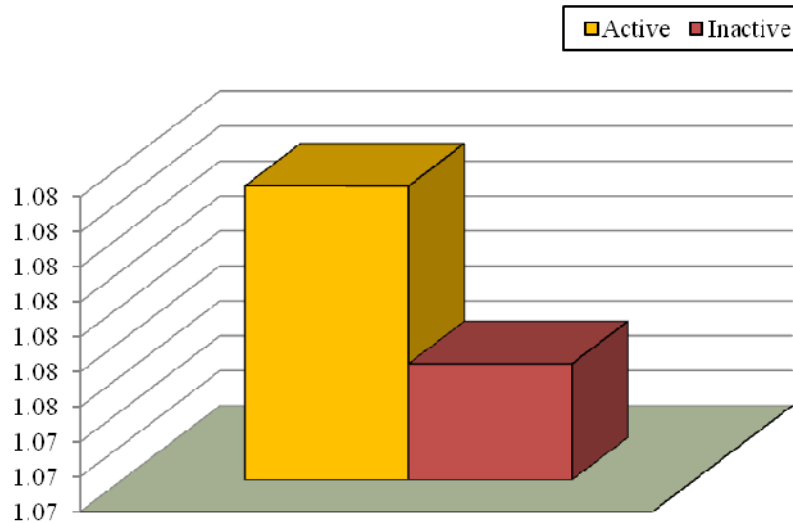
Graph-3: Comparison of Mean Score of arm skinfold between active and inactive school going students

Table-4: Comparison of body density between active and inactive school going students

Variables	Group	Mean	SD	SE	MD	Ot	df	Tt
Body Density	Active	1.080	0.006	0.002	0.005	2.535*	38	2.06
	Inactive	1.075	0.007					

Table No. 4 reveals that there is difference between means of active and inactive school going students because mean of active students is 1.080 which is more than the mean of inactive students which is 1.075 and the

calculated value of 't' is found as 2.535, is more than tabulated 't' which is 2.06 at 0.05 level of significance. This shows mean of active are having more body density than inactive.



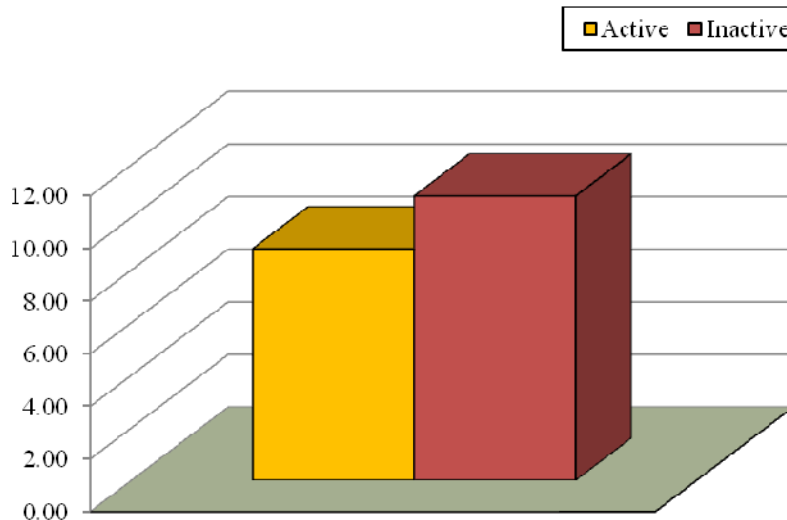
Graph-4: Comparison of Mean Score of body density between active and inactive school going students

Table-5: Comparison of body fat between active and inactive school going students

Variables	Group	Mean	SD	SE	MD	Ot	df	Tt
Body Fat	Active	8.80	2.33	0.79	2.01	2.53*	38	2.06
	Inactive	10.81	2.67					

Table No. 4 reveals that there is difference between means of active and inactive school going students because mean of active students is 8.80 which is less than the mean of inactive students which is 10.81 and the

calculated value of 't' is found as 2.53, is more than tabulated 't' which is 2.06 at 0.05 level of significance. This shows mean of inactive are having more body fat than active.



Graph-5: Comparison of Mean Score of body fat between active and inactive school going students

Conclusion:

On the basis of the result drawn with the mentioned methodology the following conclusion were sougheed out.

There was significant difference in body composition between active and inactive school going students. The present study of results shows that inactive students increase the body fat. In the present day, just two in ten Indians is actually healthy. Eight out of ten Indians score poorly healthy for body composition, muscular strength, flexibility, and cardiovascular endurance. Statistics show that many healthcare costs are payable to unhealthy lifestyles. Obesity is on the rise and is at an all-time high in adolescents. The characteristic school student's lifestyle does not include enough work out. In addition, three out of four adolescents eat too much fat. Research has shown that a natural life of being healthy your life may increase for a few years. Parallel to the current findings, (Gutin et al., 2008) experimental lower body composition in students engaged in after school physical movement programmes compare to individuals who do not regularly participate in organized activities for the duration of this phase. Also (Salvy et al., 2012) emphasized that factors other than physical inactivity could be related with increases in body fat indicators, such as environmental influences family and hereditary individuality.

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