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Analytical study of selected somato type profile between active and sedentary females of collage

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Abstract
The purpose of the study was to compare the somatotype profile between active and sedentary females of A.S.B.A.S.J.S.M. Collage Bela, Roper. Total 80 (40 active and 40 sedentary females age ranging 17-25 years were selected as subjects. After the collection of the relevant data, it was processed and analyzed with descriptive statistics. The study aimed at studying somatotype profile of active and sedentary females. To compare the somatotype profile of the subjects mean, standard deviation and t-test were applied with the help of statistical package of SPSS. To test the hypothesis the significance level was set at 0.05. After statistical treatment, result showed that there was significance difference between active and sedentary females in somatotype variables (Endomorph, Mesomnrphy and Ectomorphy).

Keywords: Somato type, between active, sedentary females

Introduction

Anthropometry is defined as the scientific study of human size, proportion, composition, maturation and gross function in order to understand human growth, exercise, performance and nutrition. It deals with the measurements of human growth, exercise, performance and nutrition. It deals with the measurements of human in a variety of morphological perspectives, its application to movements and those factors affecting it. Sports anthropometric techniques are used to measure the absolute and relative variability in size and shape of the human body. In the era of computerization and industrialization the life has become sedentary because most of the time women sit in the front of the computer and try to find solutions for every task through computer even the sports which are to be played in the open space or on the play fields is being enjoyed on the computers meaning therefore women has become slave of the new technology. In January 2010 British experts linked prolonged periods of sitting to a greater likelihood of disease. And that same month, Australian researchers reported that each hour spent watching TV is linked to an 18% increase in the risk of dying from cardiovascular disease, perhaps because that time spent sitting down.

Somatotype is the human body shape and physique type. The term somatotype is used in the system of classification of human physical types developed by US. psychologist W.H. Sheldon' In shelds system, human being can be classified as to body build in terms of three extreme body types: endomorphic or round, fatty type, mesomorphic or muscular type, and ectomorphic or slim, linear type. A somatotype number of three digits is determined for an individual classified by the system, with the first digit referring to endomorphy, the second to mesomorphy, 4 and the third to Ectomorphy; each digit is on a scale of one to seven. Sheldon *et al*. (1940) [1] described somatotyping as continuously distributed, components, of physique. He described three components of physique which are endomorphy, mesomorphy and Ectomorphy. Koleva *et al*. (2000) [2] evaluated the somatotype characteristics in relation to obesity and particular features of nutrition in females. He found that 44% of women up to the age of 40 and above were mesomorphic-endomorphic than elderly males.

Kawashima *et al*. (2003) [3] studied 63 male golfers in Japan for body size and somatotype. It was found that within the Japanese golfers group, the mean somatotype of professional golfers (3 .8-5.8-1 .6), collegiate golfers (4.7-5 .6-2.2), general amateur golfers (3.3-4.4-2.6) and collegiate recreational golfers (3.7-4.8-2.7) were endomorphic mesomorph. Control group (4.7-5.6-2.20) was mesomorphic endomorph and non golfing college student (3.8-4.3-3.3) was

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central, respectively. It has been also found that body mass, calf skin fold, calf circumference and femur width were some of the anthropometric variables that best discriminated between skilled and unskilled golfers. Sally *et al*. (1988) [4] studied to determine if participating in six week of resistive exercise training would alter the somatotype rating and skin fold value of groups of college aged women. ANNOVA was used to determine the prior to the training there was no significant difference between the resistive exercise (RE, N=30) group and the control (C, N=10) on any of the variables measured. Training, however, resulted in significant (P=0.05) increase in static knee flexion strength and static knee extension strength. RE static elbow extension strength did not increase significantly and there were no significant alterations in any of three components of Health Centre somatotype. These results suggest that although college aged women may exercise, alterations in somatotype are not likely. Bailey *et al*. (1982) [5] examined 8970 white Canadian males age ranged between 15-69 years (in six age groups) for Health-Carter somatotyping method. Finding suggested that subjects were more endo-mesomorphic as the age advanced. The mean somatotype of six age groups were 3.9-4.7-2.8 (15-19 years), 3.6-5.0-2.2 (20-29 years), 4.0-5.2-1.8 (30-39 years), 4.1-5.3-1.7 (40-49 years), 4.1-5.4-1.6 950-59 years) and 4.05.1-1.8 (60+ years).

Objective
The objective of the study was to compare selected somatotype profile between active and sedentary females of A.S.B.A.S.J.S.M. Collage Bela, Roper.

Hypothesis
There will be significant difference of somatotype profile between active and sedentary females of A.S.B.A.S.J.S.M. Collage Bela, Roper.

Material & methods
Selection of Subjects: Total 80 female students between age group of 17-25 years were selected as subjects from A.S.B.A.S.J.S.M. Collage Bela, Roper, Further the subject were divided into two group's namely active females group and sedentary females group.

Selection of Variables
The following three somatotype variables were selected for the purpose of research
1. Endomorphy
2. Mesomorphy
3. Ectomorphy

Criterion measures
The method given by has been followed to find out the endomorphic, mesomorphic and ectomorphic ratings of each subject. A somatotype describes the present morphological

conformation of the body "It is expressed in a three numeral rating, consisting of three sequential numerals, always recorded in the same manner. Each numeral represents the evaluation three primary components of physique, which describe individual variations in human morphology and composition".

The three primary components of physique as described by Health-Carter method are as follows:
Endomorphy is the first component; it reflects the relative amount of non-essential fat.
Mesomorphy is the second components; it represents the relative amount of musculo-skeletal structures.
Ectomorphy is the third component which represents the linearity.

Statistical procedure
After the collection of relevant data, to compare the selected somatotype variables between
active and sedentary females of A.S.B.A.S.J.S.M. Collage Bela, Roper T-test was employed on mean values with the help of Statistical package for the social sciences (SPSS). The level of significance was set at 0.05. The responses pertaining to each of variable were analyzed and the findings of the present study have been presented in the following tables.
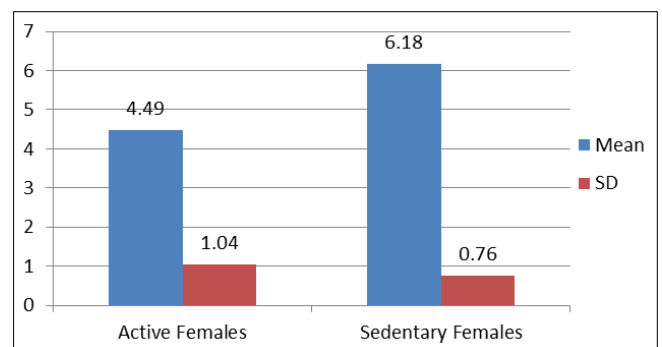
Analysis of data and results

Table 1: Comparison of endomorphic component between Active and Sedentary Females of A.S.B.A.S.J.S.M. Collage Bela, Roper

Component	Group	Mean	SD	t-value
Endomorphy	Active Females	4.49	1.04	8.2*
	Sedentary Females	6.18	0.76	

t.05 (78) = 1.99

The statistical analysis of data shows in table no.-1 that the calculated t-value of Endomorphic Component 8.2 is greater than table value 1.99. Hence it proves that there was significant difference between active and sedentary females in Endomorphic component of somatotype.

Fig 1: Comparison of endomorphic component between Active and Sedentary Females of A.S.B.A.S.J.S.M. Collage Bela, Roper
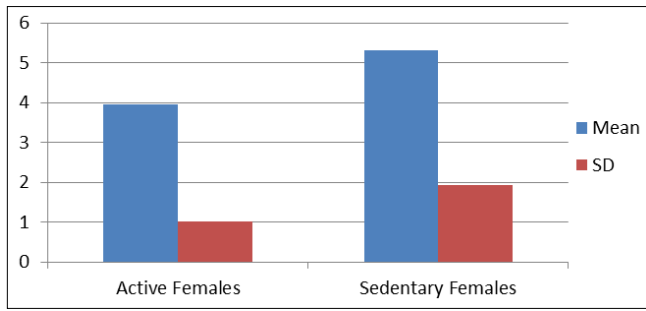
Table 2: Comparison of Mesomorphic component between Active and Sedentary Females of A.S.B.A.S.J.S.M. Collage Bela, Roper

Component	Group	Mean	SD	t-value
Mesomorphy	Active Females	3.95	1.01	4*
	Sedentary Females	5.32	1.92	

t.05 (78) = 1.99

Table no.-2 shows the mean, SD and t-value for mesomorphic component of somatotype of active and sedentary females of A.S.B.A.S.J.S.M. Collage Bela, Roper The table statistically reveals that the calculated t-value of mesomorphic component

is 4 greater than table value 1.99. Hence it proves that three was significant difference between active and sedentary females in mesomorphic component of somatotype.
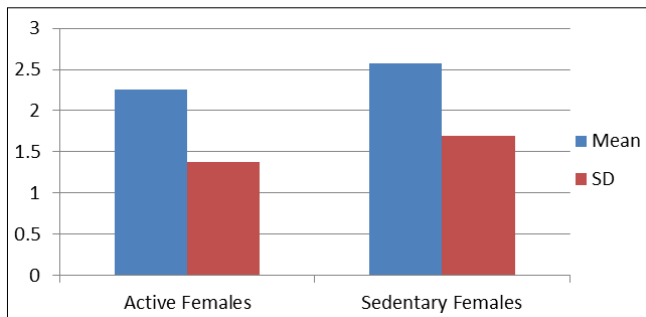
Fig 2: Comparison of Mesomorphic component between Active and Sedentary Females of A.S.B.A.S.J.S.M. Collage Bela, Roper

Table 3: Comparison of Mesomorphic component between Active and Sedentary Females of A.S.B.A.S.J.S.M. Collage Bela, Roper

Component	Group	Mean	SD	t-value
Mesomorphy	Active Females	2.26	1.38	5.4*
	Sedentary Females	2.57	1.69	

t.05 (78) = 1.99

Table no.-3 depicts that the calculated t-value of ectomorphic component 5.4 is greater than table value 1.99. 1t proves that there was significant difference between active and sedentary females in ectomorphic component of somatotype.

Fig 3: Comparison of Mesomorphic component between Active and Sedentary Females of A.S.B.A.S.J.S.M. Collage Bela, Roper

Discussion and Findings
The present study was designed to compare selected somatotype variables between active and sedentary females of A.S.B.A.S.J.S.M. Collage Bela, Roper. To achieve this purpose total eighty female students between age group of 17-25 years were selected as subjects from A.S.B.A.S.J.S.M. Collage Bela, Roper. The statistical analysis of data shows that there was significant difference between active and sedentary females in Endomorphic component of somatotype. There was significant difference between active and sedentary females in mesomorphic component of somatotype. On the other hand, data depicts that the calculated t-value of ectomorphic component is greater than table value. It proves that there was significant difference between active and sedentary females in ectomorphic component of somatotype. In the present investigation the hypothesis was accepted. Least difference was found between active and sedentary female students related to all somatotype variables. This may be due to own interest of sedentary females towards sports activities. They may be playing at their home in their groups. They may be going for daily walk with their friends and parents. To summaries the exercise programmed in day to day life is very important and it should be part of one's life to maintain proper health.

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