Senhri Journal of Multidisciplinary Studies
A Journal of Pachhunga University College
(A Peer Reviewed Journal)
https://senhrijournal.ac.in
10.36110/sjms.2020.05.02.004

2456-3757 (P)
2582-6840 (e)
Vol. 05, No. 02
July-Dec., 2020

RELATIONSHIP BETWEEN SOMATOTYPING AND WELLBEING OF SPECIAL HOME FEMALE ADOLESCENT STUDENTS

Arpita Chakrabarti[1], Sumanta Daw[2*] & Gopal Chandra Saha[2]
[1]Department of Education, Jadavpur University, West Bengal, India
[2]Department of Physical Education, Jadavpur University, West Bengal, India
[*] sumantadaw01@gmail.com
Sumanta Daw: https://orcid.org/0000-0002-0535-6415

ABSTRACT

The purpose of the study was to find out the relationship between somatotyping and wellbeing of the female adolescent students who are living in a special home. For the present study, researcher has selected 50 female adolescent students from Govindo Home Panihati, West Bengal. The random sampling technique was used for the selection of the sample. Age, Height and weight were taken as personal details and different body measurements were considered for the assessment of somatotype components (namely endomorph, mesomorph and ectomorph). Well-Being Index was used for the measurement of psychological state of the subjects. All the data were recorded in form of digital score and then it was statistically analyzed in order to get the results and to draw conclusions. The two descriptive statistics namely Mean and SD were used. Pearson Coefficient of correlation was used to measure the degree of relationship at 0.05 level of significance. According to somatotyping assessment the overall categories of the selected samples belong to Endomorphic ectomorph category. It was also evident from the results that the female adolescent students living in special home poses Extreme level of well-being. It was apparent from the present study that the well-being has significant negative relationship with endomorphic characteristics as calculated 'r' i.e. -0.281 was greater than the tabulated value which is 0.279. In this regard the study also confirmed that the well-being has positive relation with endomrph and ectomorph body type, although it was proved statistically insignificant.

Keywords: *Somatotype, Wellbeing, Special home, Adolescent.*

Introduction

The health determining factor is a bi-lateral activity. The present study was fundamentally helps us to know that the basic requirements associated with the children's healthy development will not specifically depends upon their parents of families. The government and other organizations such as local/community and state have to take the initiative to provide different programmes for better community health services (Karoly *et al*., 2005; Lee *et al*., 2015). So, it can be said that the different issues namely poverty, specifically people with lower income and the families with poor financial status are particularly vulnerable to the policies and economic shifts. But in recent years these families have been benefited from the policies and expansion of programs aimed at supporting the number of children living in special home (Sherman & Trisi, 2014).

Whenever we look at our life span there are various issues which we need to take into consideration. On the basis of philosophical point of view the things which we need to assess are base of our thoughts what we believe to be true and what are false. The person of our country believes that this world is built upon the ideas of theories and whenever we talk about theories this will definitely raise our finger upon Constitutional theories. In the year 1940s a famous American psychologist William Herbert Sheldon in its taxonomy classifies human physique. He observed and visualized human stature according to the shape, size and probable characteristics. He terms his classification as Somatotyping. He named these embryonic developments as the Endoderm which were having developed digestive tract, Mesoderm which were having strong muscles, heart and blood vessels and lastly Ectoderm which were forms skin and nervous system (Hollin & Clive, 2012; Vertinsky, 2007).

The rationale of the current study was to find out the relationship between somatotyping and selected psychological parameters of the female who are living in a disciplined and bounded area. In this relation the concept of well-being was taken into consideration. There are few terminologies which can be used interchangeably such as happiness and life satisfaction (Stanley & Cheek, 2003). Dodge *et al*. (2012) stated that the balance between resource pool of individual and the challenges faced by one can be known as the well-being. He basis of these definition are the set point of well-being, the inevitability of equilibrium/ homeostasis and an unpredictable relationship between confronts and resources.

The organization of a healthy sense of sovereignty, as exposed in tasks regarding characteristics and autonomy, are predominantly salient for adolescent girls and could be considered as a tool for the investigation of different types of well-being. Pragmatic evidence shows relation between exploration of body type and well-being, suggesting that the process of investigation may assume the consequence of a personal self-confidence about one's personal uniqueness, and for these reasons, the researcher constructed such study with reference to the special home.

Objectives of the Study

The objectives of the study were as follows:

1. To determine the different somatotype component of adolescent female students.
2. To assess the well-being of adolescent female students.

To find out the relationship between somatotyping and wellbeing of adolescent female students.

Methodology

Selection of Subjects

For the present study, researcher has selected 50 adolescent female students from Govindo Home Panihati, West Bengal. The random sampling technique was used for the selection of the sample.

Selection of Variables

Physical Variable

- Height (wall mounted measuring tape was used to assess the height of the subjects and the reading was recorded in cm.), Weight (weighing machine was used to measure the weight and the reading was recorded in kg.), as age has direct influence on height and weight so it was also be taken into consideration.
- Skinfold of biceps, triceps, subscapular, suprailliac, supraspinale and calf were measured with help of Skinfold caliper and readings were recorded in mm. Biceps and calf girth were measured with the help of steel tape and Sliding caliper was used to measure the breadths of femur and humerus which was recorded in cm.

Psychological Variable

Well-Being Index prepared by V. L. Chauhan and Barsha Sharma was used for the measurement of psychological state of the subjects.

Statistical Procedure

The obtain data in form of digital score were treated statistically to get results and to draw conclusions. The Mean and SD was used as descriptive statistics. Pearson Coefficient of correlation was used to measure the degree of relationship. Level of significance for the present study was set at 0.05.

Results and Findings

The Mean and SD of Age, Height and Weight of female adolescent students have been presented in **Table 1** and **Figure 1**.

It was evident from **Table 1** & **Figure 1** that the mean of age, height and weight of femaleadolescent studentswere 16.24, 149.38 & 40.41 respectively and SD of age, height and weight of female adolescent students were ±0.96, ±5.44 & ±4.96 respectively.

Table 1: Mean & SD values of Age, Height and Weight of female adolescent students

Particulars	Age (yrs.)	Height (cm.)	Weight (kg.)
Mean	16.24	149.38	40.41
SD(±)	0.96	5.44	4.96

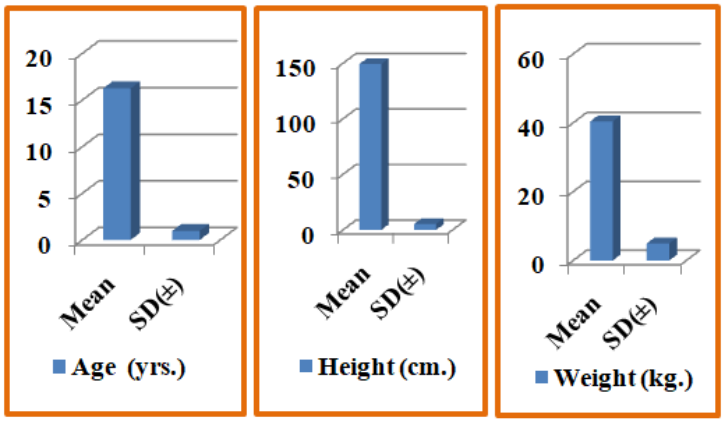

Figure 1: Mean & SD of Age, Height and Weight of female adolescent students

Table 2: Mean & SD values of Biceps & Calf girths and breadths of Humerus and Femur of female adolescent students

Particulars	Girth (cm.)		Breadth (cm.)	
	Biceps	Calf	Humerus	Femur
Mean	22.08	28.44	5.05	7.77
SD (±)	2.50	2.77	0.38	0.52

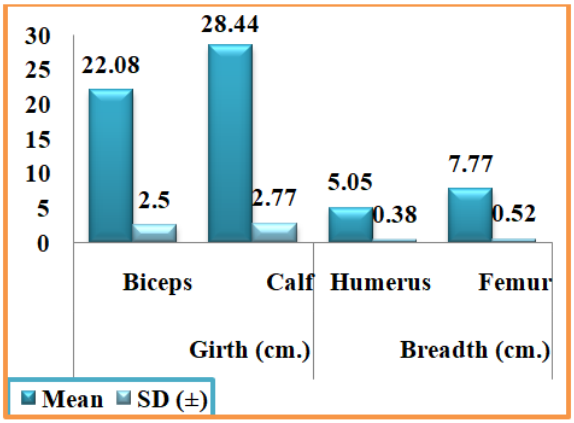

Figure 2: Mean & SD values of Biceps & Calf girths and breadths of Humerus and Femur of female adolescent students

Table 3: Mean & SD values of skinfold measurements of female adolescent students

Particulars	Skinfold (mm.)					
	Biceps	Triceps	Subscapula	Suprailliac	Supraspinal	Calf
Mean	5.78	10.04	11.94	10.90	10.08	8.76
SD (±)	1.69	2.91	2.87	3.81	4.50	2.37

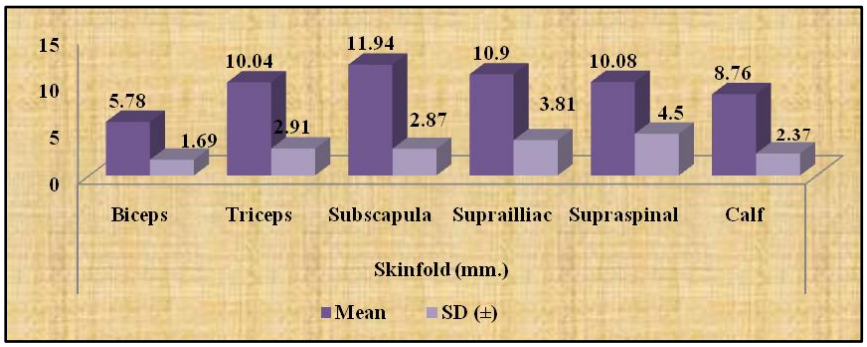

Figure 3: Graphical representation Mean & SD of skinfold measurements of female adolescent students

Table 4: Mean & SD of Somatotyping characteristics of female adolescent students

Particulars	Endomorph	Mesomorph	Ectomorph
Mean	3.24	2.38	3.36
SD (±)	2.38	1.27	1.29

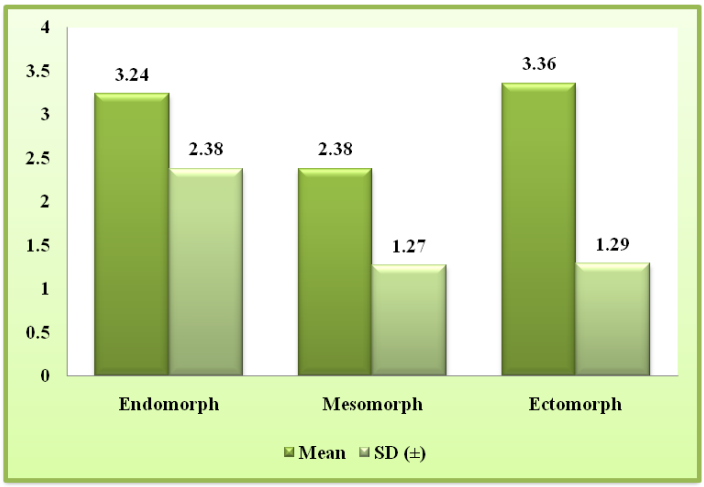

Figure 4: Graphical representation of Mean & SD of Somatotyping characteristics of female adolescent students

Table 5: Mean & SD of Self efficacy and Well-being characteristics of female adolescent students

Particulars	Well-Being
Mean	192.2
SD(±)	12.50

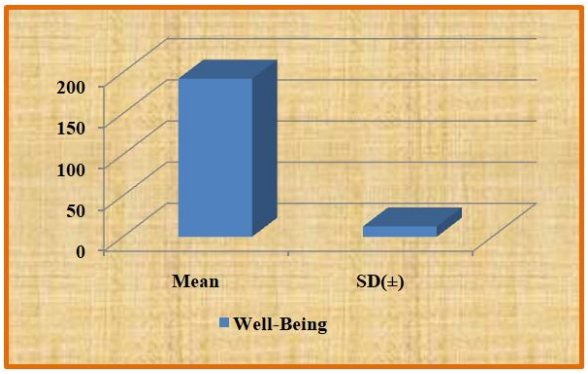

Figure 5: Graphical representation of Mean & SD of Self efficacy and Well-being characteristics of female adolescent students

It was clear from **Table 2** & **Figure 2** that the mean and SD of girth of biceps & calf were 22.08 & 28.44 and ±2.50 & ±2.77 respectively and mean and SD of breadth of humerus & femur were 5.05 & 7.77 and ±0.38 & ±0.52 respectively of female adolescent students.

It was apparent from **Table 3** that the mean score of biceps, triceps, subscapula, supraillac, supraspinal and calf were 5.78, 10.04, 11.94, 10.90, 10.08 & 8.76 respectively and SD of biceps, triceps, subscapula, supraillac, supraspinal and calf were ± 1.69, ±2.91, ±2.87, ±3.81, ±4.50 and ±2.37 respectively.

It was clear from **Table 4** & **Figure 4** that the mean and SD of endomorphic, mesomorphic and ectomorphic componentwere 3.24, 2.38 & 3.36 and ±2.38, ±1.27 & ±1.29 respectively. It could be said that the selected samples belongs to Endomorphic ectomorph category.

It was apparent from **Table 5** & **Figure 5** that the mean and SD of well-being was 192.2 and ±12.50 respectively.

Relationship between somatotyping profile and psychological parameters of female adolescent students have been presented in **Table 6**.

It was apparent from **Table 6** that the mean score of well-being has significant negative co-relation with endomorphic characteristics as calculated 'r' i.e. -0.281 was greater than the table value which is 0.279.

Somatotyping characteristics of all the samples lie within the mixed somatotyping body type. So from the **Table 7** we can depict the overall status of the sample.

From the given table it can be seen that the samples which was considered in the study were falling in different categories of body type. The maximum appeared characteristics of body type were endomorphic ectomorph (14 samples), mesomorphic endomorph (11 samples) and ectomorphic endomorph (09 samples). As we know that the concept of mixed body type was taken into consideration by Sheldon himself which states that a person may have mixed body type feature and accordingly the present study states the same phenomenon (Busko *et al.*, 2013).

Table 6: Coefficient of correlation between somatotyping components and selected psychological parametersof female adolescent students

Particulars	Endomorph	Mesomorph	Ectomorph
Well-Being	-0.281*	0.013	0.030

'r' value with df48 for n=50 is 0.279 at 0.05 level of significance

Table 7: Different types of somatotyping components of female adolescent students

Particulars	Ectomorphic endomorph	Endomorphic ectomorph	Mesomorphic endomorph	Endomorphic mesomorph	Mesomorphic ectomorph	Ectomorphic mesomorph	Balanced ectomorph	Balanced endomorph
Number of students falling in different categories	09	14	11	03	06	05	01	01

Discussion of Findings

During human development, the body changes considerably in size, structure, proportions, and composition (Kalichman & Kobyliansky, 2006). The general tendency to an increase in endomorphy, a decrease in mesomorphy and an increase in ectomorphy is apparent in children (Carter & Heath, 1990; Noh, 2013). However, this pattern of development was not obvious among the female adolescent students who are living in special home. From the results, it was evident that the endomorphy component was less, with an increase in ectomorphy and mesomorphy components. The result of the somatotyping has been stated in **Table 4**, agreed with the general statement that females were more ectomorphic and less mesomorphic.

It was evident from the review of related literature that such relationship studies between somatotype and wellbeing was scanty in nature. The present study showed the negative correlation with endomorphic component of body type (**Table 6**). A study conducted by Žukauskienė (2014) on adolescents, states that because of the incredible physical, cognitive, and social changes the adaptation to the bodily changes exerts a strong influence on psychological well-being, and health behaviors.

It was evident from the results stated in the **Table 5** that mean score of Well-being was 192.2 which suggested that the female adolescent students living in special home poses extreme level of well-being.

As we know that the body type of endomorph is likely to be very fatty and round shaped, so it is apparent from the results which was also supported the study of Ibrahim (2012) that well being is higher

in case of the people who do regular exercises and the persons who remain fit. So it may happen that the component mentioned within the wellbeing was mostly related with physically and mentally fit person.

Conclusions

According to the objective of the study, the following conclusions were made:

1) The overall body type of female adolescent students was mostly of Endomorphic ectomorph category.

2) The well-being of female adolescent students was extremely high.

3) The relationship between somato typing and well-being of female adolescent students were proved to be negatively significant in case of endomorphic body type.

It was observed that the well-being was positively correlated with mesomorph and ectomorph, although it proved to be statistically insignificant.

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