

## Relation of Obesity with Self-concept and Flexibility of Obese Girls

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### ABSTRACT

*Objective : To examine the relationship of Obesity, with Self-concept and Scholastic achievement of Obese girls from Pune city. STUDY DESIGN: A total of 860 girls, aged 10 to 14 years were tested, out of which 332 girls were obese (body fat % >32). Body weight, height and fat percentage was measured, and a self-concept questionnaire was given to the girls. To measure the scholastic achievement preceding year annual examination marks were considered. The main outcome measure was obesity, defined as body fat percentage more than 32 and total score from self-concept questionnaire. RESULTS: Comparing the obesity and self-concept score, using Spearman Rank Order Coefficient of correlation, obese girls showed low self –concept. Obesity and scholastic achievement showed positive relation but not significant. CONCLUSION: With increase in obesity self-concept of obese girls goes down but it does not affect their scholastic achievement significantly.*

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**Keyword :**

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### Introduction

In the recent times rising incidence of childhood obesity has been reported from many parts of urban India such as Pune, Chennai and Delhi. Not only the incidence of obesity in childhood is rising but also it is seen at a younger and younger age. The increase in childhood overweight and obesity is a global trend and is of concern as overweight or obese children are at higher risk of experience a range of health problems in the immediate short and long term. Diabetes, hypertension and other obesity-related chronic diseases that are prevalent among adults have now become more common in youngsters. The percentage of children and adolescents who are overweight and obese is now higher than ever before. Poor dietary habits and inactivity are reported to contribute to the increase of obesity in youth and children.

In 1997, it stated that the incidence of obesity in India is 7-9 %, though the percentage is less as compared to America and the other countries, but it is also a significant due to the sheer size of the population in India. With such large numbers, India has been requested to join the International Congress on Obesity (ICO) for further study on the risk and management of the overweight in a developing economy. With this, India would be one of the first nations from the developing countries in Asia to be put on the obesity map.

Review of literature showed that prevalence of obesity in school children has steadily increasing in India too. According to survey done by WHO India will be famous for obese people both overweight and underweight are likely to have negative effects on health. Consequently, it is desirable to reach and maintain a desirable body weight, and therefore to achieve energy balance. Computer games and videos further contribute to inactivity in children and together with television watching has been identified as one of the most important determinants of childhood and adolescent obesity. Further, studies have been made to find the effect and relationship of obesity with psychological aspects and also fitness of the obese.

The objective of the present study was to find out the relation of obesity with self-concept and Flexibility of obese girls.

## **Methodology**

The population of the study was the adolescent school going girls aged 11 to 15 years in Pune city. In the present study out of school going girl's age ranged 11 to 15 (Standard 6th to Standard 10th) in Pune city schools, 860 girls were tested randomly, out of which 332 girls were obese (body fat % >32). These 332 girls were the sample of study.

The data was initially analyzed for descriptive statistics, the normality of the data was assessed using SPSS (17.0 version) and to establish normality outliers were deleted from the respective variable using the Box plots. Mean, Median. Standard deviation, Kurtosis and Skewness were calculated to find out the normality of score.

Table 1 give brief description of test items selected and the respective variable measured.

**Table 1** : *Test Items Selected for the Study*

Sr. No.	Name of the test	Variable	Trait measured	Unit
1	Body Mass Index	Morphology	Body Composition	Kg/m <sup>2</sup>
2	Standing height	Morphology	Height	Cm
3	Body Weight	Morphology	Body weight	Kg
4	Fat percentage	Morphology	Fat percentage	%
5	Self Concept Questionnaire	Psychology	Personality traits	Total Score
6	Sit and Reach	Physical Fitness	Flexibility	Total Score

As this is analytical study, researcher analyzed data applying comparative and correlation test. Spearman's Correlation was taken into consideration for finding relationship between different variables. A statistical software SPSS (17.0 version) was used for the data analysis.

Table 3 shows the relation of Obesity with self-concept and scholastic achievement variable using Spearman Rank Order Coefficient of correlation.

**Table 3** : *Relationship of obesity with tested variable*

Components	P	Obesity
Self –concept	Correlation coefficient	-0.179
	Sig. (2-tailed)	0.001
	N	320
Flexibility	Correlation coefficient	-0.181
	Sig. (2-tailed)	0.001
	N	325

## Results

- Coefficients of Correlation between Obese girls (% Body Fat>32) and Self Concept is negative ( $p=-0.179$ ) and statistically significant at 0.01 level of significance. ( $p=0.001$ ). This helps to interpret that Self Concept and obesity are associated with each other of obese girls.

- Coefficients of Correlation between Obese girls (% Body Fat >32) and flexibility negative ( $p=-0.181$ ) and statistically significant at 0.01 significance level. ( $p =0.01$ ).

This helps to interpret that flexibility and obesity are associated with each other of obese girls.

## Discussion

Various reviews and studies advocates that physical activities and fitness are associated with overall well-being and negatively associated with depression and anxiety which establishes existence of negative self-concept. Kirsten (2000) study, examined the relationship between weight status and self-concept of preschool-aged girls and whether parental concern about child overweight or restriction of access to food are associated with negative self-evaluations among girls. Girls with higher weight status reported lower body esteem and lower perceived cognitive ability than did girls with lower weight status. Lower self-concept is noted among girls with higher weight status. In addition, parents' concern about their child's weight status and restriction of access to food are associated with negative self-evaluations among girls. In the present study also higher weight status showed low self-concept among the girls. Viner (2006) investigated weight perception, dieting and emotional well-being across the range of body mass index (BMI) in adolescents 11-14 years of age from three highly deprived regional authorities in East London. The result showed that obese young people had a higher prevalence of psychological distress except among Bangladeshi teenagers. This result matched the result of present study. The study conducted by Sharad Aher(2008) showed no correlation of obesity with psychological aspect (Mental Health). But the present study shows relationship between obesity and psychological aspect (Self Concept). This may be attributed to the basic difference in kind of population of the study. The previous study dealt with obese boys and the latter study deals only with obese school going obese girls. In another reviewed study done by Schmidt &Steins(2008) showed the obese had a lower self-esteem (Self-esteem as one aspect of the self-concept is measured) for the public living areas "school" and "leisure time", but not for the private area "family". Jennifer (2006) did research on eighty girls aged 12.8 (0.6) years, completed self-concept, depression and anxiety scales over three years and had their height and weight measured. All nine self-concept domains were lower in the Highest BMI group, compared to the Lower BMI group and this trend was stable over three years. Several aspects of early adolescent girls' self-image were adversely influenced by a heavy weight status. This result matched the result of present study. Datar &Sturm(2006) studied the relationship between childhood overweight and elementary school outcomes.

Result showed that change in overweight status during the first 4 years in school is a significant risk factor for adverse school outcomes among girls but not boys. This finding do not matches the results of this study.

## Conclusion

Keeping limitations of the study in mind it permits the conclusion as follows:

- Coefficient correlation between obesity and self-concept is negative and statistically significant, ( $p=-0.179$  and  $p> 0.01$ ). This scores show that obesity has significant relationship with self-concept.

**It is therefore concluded that self-concept decreases as obesity increases.**

- Coefficient correlation between obesity and flexibility is negative and statistically significant, ( $p=-0.181$  and  $p> 0.01$ ). This scores show that high Body Fat % (Obesity) has negative and significant relationship with flexibility.

**In this case also it is concluded that as obesity increases flexibility reduces.**

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