

# Comparison of Physiological Variables and Obesity among International and Aided School Going Girls in Bengaluru Metro City

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**Abstract:** Obesity has developed as one of the worldwide medical issues with in excess of 200 million people sorted as being obese, of which 40 to 50 million school going children are obese. In India this issue has been investigated to be present even in the rich populaces. The elements ascribing to expanding youth weight are expanded admission of unhealthy sustenance that are low in vitamins, minerals and micronutrients combined with diminished physical movement. The main intention is to analyze the physiological variables and prevalence and also compare the same between international and aided school going girls. Descriptive survey research was used. The secondary school girls were selected as population for this study. The data was collected randomly from 300 school going girls studying in international and aided schools of Bengaluru Metro City in Karnataka State. The body fat percentage and physiological components such as pulse rate and blood pressure were selected as criterion measures. These variables were calculated by Body Composition Monitor with Scale HBF-361 Omron instrument. The statistical techniques like mean, standard deviation, t-test and Correlation were applied to know the results. These techniques were done using Windows based SPSS Statistical Package (Version 20) and MS Office Excel Sheet (Office 2013). The significance level was fixed at 0.05 and 0.01 level of confidence. The outcomes reasoned that 4% of the school going children was confronting weight issues and it was likewise discovered physiological factors, for example, pulse rate and blood pressure are not discovered any impacting elements of obesity. The outcomes demonstrate an extraordinarily higher predominance of obesity among school girls to worldwide children when correlation with helped school girls. The dietary liberality in high greasy sustenance consumption and stationary ways of life in the higher financial gathering are outstanding motivations for overweight and obesity.

**Index Terms** – Physiological, Obesity, Private Aided, International, school going girls.

## I. INTRODUCTION

Obesity has risen as one of the worldwide medical issues with 200 million people sorted as being obese, of which 40-50 million school going youngsters are obese. The components ascribing to expanding youth heftiness are expanded admission of unhealthy nourishments that are low in vitamins, minerals and micronutrients combined with diminished physical movement. Different investigations are done in India demonstrate a rising pattern in the commonness of overweight and obesity in youngsters and teenagers. Financial foundation, dietary propensities and relaxation time exercises of young people cause corpulence, overweight and related medical issues which prompt way for life-risking maladies.

The World Health Organization (WHO) depicts obesity and overweight as one of the present most essential general medical issues, which is raising as a worldwide epidemic. It is likewise progressively perceived as a noteworthy issue in developing nations. In India the issue of corpulence has been sparsely investigated even in the rich families. Concentrates from metropolitan urban areas in India have revealed a high predominance of weight among affluent school youngsters.

Abundant weight in this age is the main source of pediatric hypertension, and overweight youngsters are at a high hazard for growing long haul perpetual conditions coronary illness, orthopedic clutters and respiratory maladies. The relationship of ultimate body weight is to changes of heartbeat rate with work. Obesity is not identical with ultimate body weight. Obesity suggests that an individual conveys with him an abundant heap of fat far beyond a slim body weight. Obesity and hypertension are both significant medical problems in the general public. These are both autonomous hazard factors for cardiovascular ailment. In this manner, it was proposed to do an investigation to distinguish the pervasiveness of weight among school going girls covering measurably large sample in Bengaluru (Karnataka) which is one of the monetarily, modernly and socially quickly developing city.

## II. STATEMENT OF THE PROBLEM

The purpose of the study is to analyze the physiological variables and obesity and also compare the same between international and aided school going girls.

### III. OBJECTIVE OF THE STUDY

To compare physiological variables and obesity between international and aided school going girls and also found the relationship among the said criterion measures.

### IV. HYPOTHESES

It was hypothesized that –

- There might not be any significant relationship between selected physiological variables with obesity between international and aided school going girls.
- There might not be any significant difference in the selected physiological variables and obesity between international and aided school going girls.

### V. METHODOLOGY

Descriptive survey research was used. The secondary school girls were selected as population for the study. The data was collected randomly from 300 school going girls studying in international and aided schools of Bengaluru Metro City in Karnataka State. The body fat percentage and physiological components such as pulse rate and blood pressure were selected as criterion measures. These variables were calculated by Body Composition Monitor with Scale HBF-361 Omron instrument. The statistical techniques like mean, standard deviation, t-test and Correlation were applied to know the results. These techniques were done using Windows based SPSS Statistical Package (Version 20) and MS Office Excel Sheet (Office 2013). The statistical level was fixed at 0.05 and 0.01 level of confidence.

### VI. ANALYSIS AND INTERPRETATION OF DATA

- I. To know the relationship between physiological variables with prevalence of obesity (body fat percentage) Karl Pearson's Product Moment Coefficient of Correlation was utilized the achieved results were given in the table-1.

**Table-1:** Results pertaining to Correlation analysis pertaining to physiological variables and body fat percentage (obesity).

Variables	Descriptive Statistics		'r' value Sig. level	P. Value
	Mean	Standard Deviation		
Body Fat percentage with	23.679	5.157	-	
Pulse Rate	85.783	10.905	-0.053 <sup>@</sup>	0.361
Blood Pressure (Systolic)	91.736	10.476	0.057 <sup>@</sup>	0.323
Blood Pressure (Diastolic)	63.670	8.156	0.015 <sup>@</sup>	0.802

<sup>@</sup>Not Significant; N=300; df=298; r value at 0.05 =0.113.

From the table-1 revealed that, the obtained 'r' values -0.053, 0.057 and 0.015 are less than the table value 0.113 at 0.01 level of confidence. Therefore, the stated hypothesis is accepted that is "there is no significant relationship between physiological variables such as pulse rate, blood pressure (systolic and diastolic) and body fat percentage of school going girls." The result concludes that selected physiological variables does not affect on controlling the body fat percentage among students.

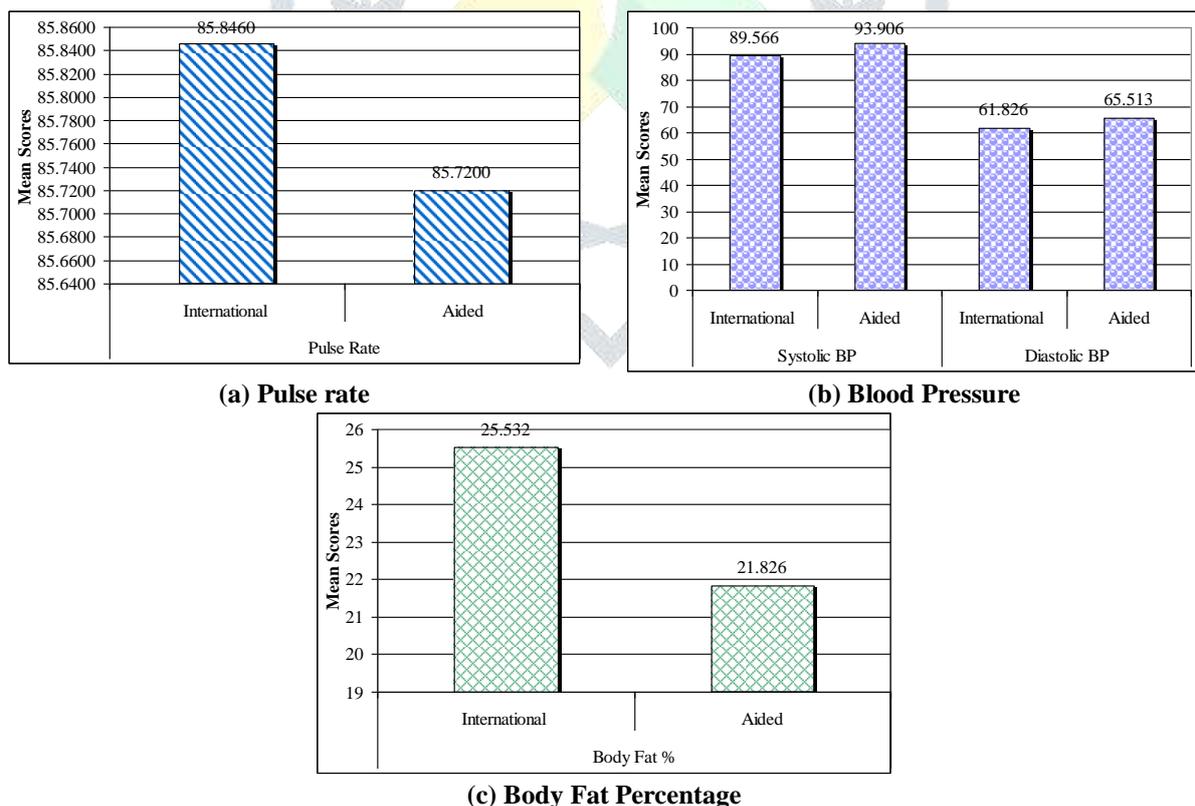
II. To compare the physiological and body fat percentage between international and aided school going girls independent ‘t’ test was applied and the obtained results are given in the table-2.

**Table-2:** Comparison of Physiological Variables and Body Fat Percentage (obesity) between international and aided school going girls (N=300).

Group		Mean	Standard Deviation	‘t’ Value and sig. level
Pulse Rate	International	85.846	8.563	0.10@
	Aided	85.720	12.856	
Systolic BP	International	89.566	7.052	3.66**
	Aided	93.906	12.690	
Diastolic BP	International	61.826	5.844	4.01**
	Aided	65.513	9.618	
Body Fat %	International	25.532	3.468	6.66**
	Aided	21.826	5.868	

@Not Significant; \*\*Significant at 0.01 level. (Table ‘t’ value 0.05=1.97; 0.01=2.59)

Table-2 demonstrate ‘t’ test outputs on selected physiological and body fat percentage between private aided and international girls. The obtained ‘t’ values of 3.66, 4.01 and 6.66 are greater than the table value 2.59 at 0.01 level, hence it is found significant. So, stated null hypothesis rejected and an alternate hypothesis has been accepted that “there is a significant difference in the physiological variables i.e. blood pressure (systolic and diastolic) and body fat percentage between International and aided school going girls.” It concludes that private aided female school girls had better physiological fitness and lean body fat than international school children. The table further shows that the obtained ‘t’ value 0.10 is less than the table 1.98 at 0.05 level and it is not significant. So, stated null hypothesis has been accepted that there is no significant difference in the pulse rate between international and aided school going girls.



**Fig.1.** Bar graph showing comparison of physiological and body fat percentage between international and aided school girls

## VII. DISCUSSION OF RESULTS

The outcomes reasoned that 4% of the school going children was confronting weight issues and it was likewise discovered physiological factors, for example, pulse rate and blood pressure are not discovered any impacting elements of obesity. The 't' test results shows significant difference in the Body Fat Percentage between international and aided school girls and proved that international school going girls ( $\bar{x}=25.532$ ) were more fat when compared to aided school going girls ( $\bar{x}=21.826$ ). These results concurred with Pawar et al. (2016) and Jagadesan (2014). The pulse rate between school girls of international and aided schools did not differ statistically. The 't' test results proves significant difference in the Blood Pressure (Systolic and Diastolic) between international and aided school girls and proved that international school going girls (Systolic  $\bar{x}=89.566$ ; Diastolic  $\bar{x}=61.826$ ) were better when compared to aided school going girls (Systolic  $\bar{x}=93.906$ ; Diastolic  $\bar{x}=65.513$ ). Previous study by Ferreira et al. (2015) found that private school children had hypertension when compared to public school children.

## VIII. CONCLUSION

It was presumed that the 4% of the school going girls were confronting corpulence issues and it was likewise discovered that the chose physiological variables, pulse rate and physiological factors are not found as any impacting factors. The outcomes demonstrate a particularly higher pervasiveness of corpulence among international school going girls when compared to aided school girls. The dietary liberality in high oily food consumption and inactive ways of life in the higher financial families are notable purposes for overweight and obesity. To conquer the developing heftiness in school children, physical movement levels ought to be expanded. The eating regimen ought to be rich in fiber, vitamins and minerals. Pocket cash given to the kids ought to be limited. Exercises like cycling, works out, trucking, swimming, shuttle badminton and so on ought to be urged to receive sound living propensities. Television watching ought to be limited however much as could be expected on the grounds that it empowers absence of physical movements.

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