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'T' TEST ANALYSIS OF DIFFERENCE CRITERION VARIABLES BETWEEN URBAN AND RURAL SCHOOL BOYS



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#### ABSTRACT

Evidence on the association between physical activity and lung function in children is sparse. The aim of this study was to evaluate children's lung function growth in relation to their physical activity level in children.

**KEYWORDS**: 'T' Test Analysis , Physical Growth , Standing Height.

#### **PHYSICAL GROWTH**

The results pertaining to the significant difference between the mean scores of selected physical growths of standing height, body weight, chest circumference, leg length and arm length between urban and rural school boys by using the 't' test analysis are presented in the following tables:

#### **1.STANDING HEIGHT**

#### Table-1.1

## Table shows variable, group, sample number (N), mean (M), standard deviation (SD), 't' value and level of significance in the Standing Height scores between urban and rural school boys.

Variable	Groups	Ν	Μ	SD	't' value	Level of Significance
Standing Height	Urban	450	149.317	12.335	5.70	**
	Rural	450	144.522	12.886		

#### \*\*Significant at 0.01 level

Table-1.1 shows that the obtained 't' value 5.70 is higher than the table 't' value 2.59 at 0.01 level of significance (df=898) and thus it is significant at 0.01 level. Hence the stated null hypothesis is rejected and in its place an alternative hypothesis has been formulated that "there is a significant difference in the standing height between urban and rural school boys." It is observed that urban school boys have higher mean scores (149.317) in the standing height as compared to rural school boys (144.522).

This implies statistically that there is a significant difference in the standing height between urban and rural school boys. It is concluded that the urban school boys had better standing height than rural school boys.

The comparison mean scores of standing height between urban and rural school boys are given in the graphical presentation in Fig.1.1

#### Fig.1.1 Bar graph shows mean scores of Standing Height between urban and rural school boys.



#### **2. BODY WEIGHT**

#### Table-2.2

# Table shows variable, group, sample number (N), mean (M), standard deviation (SD), 't' value and level of significance in the Body Weight scores between urban and rural school boys.

Variable	Groups	N	Μ	SD	't' value	Level of Significance
Body	Urban	450	36.615	10.243	4.81	**
Weight	Rural	450	33.368	9.994		

\*\*Significant at 0.01 level

Table-2.2 shows that the obtained 't' value 4.81 is higher than the table 't' value 2.59 at 0.01 level of significance (df=898) and thus it is significant at 0.01 level. Hence the stated null hypothesis is rejected and in its place an alternative hypothesis has been formulated that "there is a significant difference in the body weight between urban and rural school boys." It is observed that rural school boys have lesser mean scores (33.368) in the body weight as compared to urban school boys (36.615). This implies statistically that there is a significant difference in the body weight between urban and rural school boys. It is concluded that the rural school boys have less body weight than urban school boys.

The comparison mean scores of body weight between urban and rural school boys are given in the graphical presentation in Fig.2.2.

#### Fig.2.2 Bar graph shows mean scores of Body Weight between urban and rural school boys.



#### 3. CHEST CIRCUMFERENCE

#### Table-3.3

Table shows variable, group, sample number (N), mean(M), standard deviation (SD), 't' value and level of significance in the Chest Circumference scores between urban and rural school boys.

Variable	Groups	N	М	SD	't' value	Level of Significance
Chest	Urban	450	63.876	16.279	5.49	**
Circumference	Rural	450	68.809	9.908		

\*\*Significant at 0.01 level

Table-3.3 shows that the obtained 't' value 5.49 is higher than the table 't' value 2.59 at 0.01 level of significance (df=898) and thus it is significant at 0.05 level. Hence the stated null hypothesis is rejected and in its place an alternative hypothesis has been formulated that "there is a significant difference in the chest circumference between urban and rural school boys." It is revealed that rural school boys have higher mean scores (68.809) in the chest circumference as compared to urban school boys (63.876).

This implies statistically that there is a significant difference in the chest circumference between urban and rural school boys. It is concluded that the rural school boys had greater chest circumference than urban school boys.

The comparison mean scores of chest circumference between urban and rural school boys are given in the graphical presentation in Fig.3.3.





#### 4. LEG LENGTH

#### Table-4.4

# Table shows variable, group, sample number (N), mean (M), standard deviation (SD), 't' value and level of significance in the Leg Length between urban and rural school boys.

Variable	Groups	N	М	SD	't' value	Level of Significance
Leg	Urban	450	79.982	17.750	4.74	**
Length	Rural	450	84.658	11.052		

#### \*\*Significant at 0.01 level

Table-4.4 shows that the obtained 't' value 4.74 is higher than the table 't' value 2.59 at 0.01 level of significance (df=898) and thus it is significant at 0.01 level. Hence the stated null hypothesis is rejected and in its place an alternative hypothesis has been formulated that "there is a significant difference in leg length between urban and rural school boys." It is observed that rural school boys have higher mean scores (84.658) in the leg length as compared to urban school boys (79.982).

This implies statistically that there is a significant difference between urban and rural school boys. It is concluded that the rural school boys have greater leg length than urban school boys.

The comparison mean scores of leg length of urban and rural school boys are given in the graphical presentation in Fig.4.4

#### Fig.4.4 Bar graph shows average mean scores of Leg Length between urban and rural school boys.



#### 5. ARM LENGTH

#### Table-5.5

# Table shows variable, group, sample number (N), mean (M), standard deviation (SD), 't' value and level of significance in the Arm Length between urban and rural school boys.

Variable	Groups	Ν	М	SD	't' value	Level of Significance
Arm	Urban	450	149.471	13.702	4.68	**
Length	Rural	450	145.331	12.830		

\*\*Significant at 0.01 level

Table-5.5 shows that the obtained 't' value 4.68 is higher than the table 't' value 2.59 at 0.01 level of significance (df=898) and thus it is significant at 0.01 level. Hence the stated null hypothesis is rejected and in its place an alternative hypothesis has been formulated that "there is a significant difference in the arm length between urban and rural school boys." It is observed that rural school boys have higher mean scores (149.471) in the arm length as compared to urban school boys (145.331).

The study also reveals that there is a significant difference in the arm length between urban and rural school boys. It is concluded that the rural school boys have greater arm length than urban school boys.

The comparison mean scores of arm length between urban and rural school boys are given in the graphical presentation in Fig.5.5

#### Fig.5.5 Bar graph shows mean scores of Arm Length between urban and rural school boys.



#### **CONCLUSIONS=**

Physical activity is positively associated with lung function growth among school-aged boys. Promotion of physical activity among children is of great importance.

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