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**Pintu Lal Mondal**  
Research Scholar, Dept. of  
Physical Education Visva-  
Bharati, Santiniketan,  
West Bengal, India

**Brajanath Kundu**  
Professor, Dept. of Physical  
Education Visva-Bharati,  
Santiniketan, India,  
West Bengal, India

## Reasoning ability in relation to body mass index of school going children

**Pintu Lal Mondal and Brajanath Kundu**

### Abstract

Reasoning Ability is applied everywhere now a days for getting a job or selecting anywhere as a professional person. The purpose of the present study was to examine and find out the relationship between Reasoning Ability and Body Mass Index. The subjects were collected from Ausgram High School, Burdwn, and West Bengal, India. The present study were conducted on seventy five (N=75) students of class VII aged ranged 11 to 13 years. In this study Reasoning Ability was measured by Reasoning Ability Test questionnaire developed by LN Dubey from National Psychological Corporation, Agra, India and transformed into Bengali versioned by expert of concern language and BMI was measure through BMI calculation formula (weight in kilograms divided by the square of height in meters) after measuring the standing Height and Weight. Mean and Standard deviation of different variables were calculated. The data of the selected variables were analyzed by applying coefficient correlation. Statistical significance was tested at 0.05 level. After the findings and analysis it reveals that the relationship between Reasoning Ability and Body Mass Index was not significant.

**Keywords:** Reasoning ability, school going children, student, relationship, and B.M.I.

### Introduction

Physical Education is a spacious field of new research. In this field of research is going on throughout the beganing of civilization. Now a days Reasoning Ability is applied everywhere getting a job or get selection anywhere as professional person. Reasoning is a process of controlled thinking as association which starts with some problem of interest to the reasoner and is directed towards its solution. It differs from ordinary imagination in that the results of reasoning are supposed to check with some outside criteria, that is they are supposed to be correct while such checks are not necessarily required in imagination.

Since reasoning starts with some unsolved problem, we must, if we wish train our students to reason, and make them conscious of problems to be solved. It is futile to attempt to get reasoning simply by admonishing students to think. If a child is not acquainted with a particular problem, how can he think about it? More and more exercises in problem solving will develop a child's reasoning ability. If a child starts taking interest in problem solving he will develop self-confidence and thus he may improve his reasoning ability.

Body Mass Index (BMI) is a person's weight in kilograms divided by the square of height in meters. A high BMI can be an indicator of high body fatness. BMI can be used to screen for weight categories that may lead to health problems but it is not diagnostic of the body fatness or health of an individual. The BMI is an attempt to quantify the amount of tissue mass (muscle, fat, and bone) in an individual, and then categorize that person as underweight, normal weight, overweight, or obese based on that value.

The purpose of school-based BMI surveillance and screening, examines current practices, summarizes the recommendations of experts, identifies concerns surrounding programs, and outlines needs for future research. Guidance is provided on specific safeguards that need to be addressed before schools decide to collect BMI information.

### Purpose of the Study

The purpose of the present study was to examine and find out the relationship between Reasoning Ability and Body Mass Index.

### Correspondence

**Pintu Lal Mondal**  
Research Scholar, Dept. of  
Physical Education Visva-  
Bharati, Santiniketan,  
West Bengal, India

## Methodology

### Subjects

Seventy five (N=75) school going children of class seven (VII) were selected as subjects for the present study. The age of the subjects were ranged from 11 to 13 years.

### Study Area

The subjects were collected from Ausgram High School, Ausgram, district of Burdwan, West Bengal, India.

### Criterion Measure

In this study Reasoning Ability was measured by Reasoning Ability Test questionnaire developed by L.N. Dubey from National Psychological Corporation, Agra, India and transformed into Bengali versioned by expert of concern language and BMI was measure through BMI calculation formula (weight in kilograms divided by the square of height in meters) after measuring the standing Height and Weight.

### Statistical Procedure

After collecting the data descriptive statistic was used and Correlation was used to find out the relationship between Reasoning Ability and BMI. Statistical significance was tested at 0.05 level.

## Results

**Table 1:** Descriptive analysis of Reasoning Ability Score and Body Mass Index

Variables	N	Mean	Standard Deviation	Std Error of Mean
RA	75	44.97	± 14.93	1.724
BMI (kg/m <sup>2</sup> )	75	15.78	± 2.676	0.309

Legend-RA=Reasoning Ability ; BMI= Body Mass Index

It is reveals from the table-1 that the Mean and SD value of Reasoning Ability Score is  $44.97 \pm 14.93$  Kg/m<sup>2</sup>. Body Mass Index Mean and SD value is  $15.78 \pm 2.676$  respectively.

**Table 2:** Relationship between Reasoning Ability and Body Mass Index

Variables	'r' Value
Reasoning Ability and BMI	0.0167

Significant table value of 'r' in  $P \leq 0.05$  level at  $df(75) = 0.8869$

Table-2 shows that the co-efficient of correlation between two variables which is Reasoning Ability and Body Mass Index of 75 subjects interestingly not significant, the value of R is 0.0167. Although technically a positive correlation, the relationship between two variables is weak (N.B. the nearer value is to zero, the weaker the relationship). But The P-Value is 0.886917. So the result is *not* significant at  $p < 0.05$ .

## Discussion

The statistical findings of the study reveals that Reasoning Ability and BMI has not significant relationship although technically a positive correlation between two variables. The relationship between two variables is weak, the nearer value is to Zero. The descriptive statistics shows that the average Reasoning Ability Score (44.97) of subject was lay Low Ability and also the average BMI (15.78 kg/mt<sup>2</sup>) of the subjects was lay underweight.

## Conclusion

Within the limitation of the present study and depending on results of the statistical calculations the conclusion was down that there was no significant relationship between Reasoning Ability and BMI. As the study area was rural, the awareness of health, lifestyle and diets may effect on BMI and as well as Reasoning Ability.

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