Cognitive Functioning in Relation to Body Mass Index

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Deviations in body weight at both extreme ends of the continuum are a world-wide health issue and the incidence is reaching alarming proportions. Societal changes have resulted in a shift towards less physically demanding, more passive leisure pursuits, increasing urbanization, and unrealistic notions of anatomical “perfection”, which have led to the prevalence of deviations in body mass. Several life threatening problems are associated with deviations in body weight along with many non-fatal but debilitating health problems. The present research was planned to study cognitive functioning in relation to body mass index – a measure of body adiposity. A single phase multi-group design was employed. A sample of 230 adult healthy females was divided into five groups on the basis of their BMI (Gr I: < 18.5; Gr II: 18.5-22.9; Gr III: 23-24.9; Gr IV: 25-29.9; Gr V: > 30). Height and Weight of respondents were obtained in order to calculate Body Mass Index. Measures of cognitive functioning (Reaction Time, Digit Symbol Test, Stroop Color test, Paired Association test, Visual Reproduction test and Ascending Digit task) were administered. The scores were analyzed statistically by using descriptive statistics, ANOVA and Tukey’s HSD. The results revealed significant differences among the five BMI groups on all cognitive functioning except for Paired associates. Performance of the deviant BMI groups was significantly poorer on almost all measures of cognitive function in comparison to the normal BMI groups except on working memory (Ascending Digit task). The present results indicate that BMI could be used as an index for prediction of cognitive functioning.

Keywords: Body Mass, body weight, cognitive functioning

Cognitive functioning is a fundamental condition necessary for performing competent actions in different spheres of life. It is defined as any task in which correct or appropriate processing of mental information is critical for successful performance. It refers to the process through which information coming from the senses is “transformed, reduced, elaborated, recovered and used” (Neiser, 1967). Cognitive abilities take many forms and consist of a number of different factors and traits. Although fundamental differences exist in the views of psychologists regarding the organization and factors influence cognitive abilities, it is an accepted fact that cognitions are strongly correlated with good health. Several health problems account for cognitive impairments and most of these health concerns are lifestyle diseases. Obesity is one of the key risk factors for these life style diseases and it is a disease in itself. Further, obesity is found to result in impairments/deviation in psycho-physiological functioning

Deviation in body weight is a world-wide health issue and its incidence is reaching to alarming proportions. Besides genetic factors, environmental factors such practising a sedentary life style and having unrealistic notions of anatomical “perfection” are playing a decisive role in prevalence of deviations in body mass. Increased consumption of more energy-dense food, availability of processed foods and foods with high levels of sugar and saturated fats and sedentary life style have led to deviation at the upper end of body mass continuum i.e. obesity, while promotion of ‘zero-figure’ body shape, imitation of fashionable role models and of course, to a large extent, being under nutrition, have led to deviation at the lower end of body mass continuum i.e. under weight.