

## Impulsivity and Set Shifting Ability-Comparison between obese and Non-obese Adults

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Obesity is a medical condition in which excess body fat accumulates to the extent that it has an adverse effect on health. Researchers have proved that obesogenic environments, cognitive factors are critical determinants of eating behavior and the risk of obesity. The objective of the study is to differentiate between obese and non-obese adults in terms of impulsivity and set shifting ability. 60 individuals age ranging from 20-40 years, participated in the study, thirty in each group (obese and non-obese), divided on the basis of body mass index (BMI). Stroop Colour Word Test and Wisconsin Card Sorting Test were used for assessment of impulsivity and set shifting ability. Findings reveal that obese individuals had more impulsivity. Obese females differed significantly from non-obese females, in terms of set shifting, indicating deficit in cognitive flexibility and feedback utilization. However, male obese individuals do not differ significantly from the non-obese males. Thus they may be less affected by these factors in comparison to female counterparts. Present study would contribute to identify cognitive factors related to obesity, which needs to be addressed for its treatment.

**Keywords:** Obesity, impulsivity, Set shifting ability, Stroop colour test, Wisconsin card sorting test.

Obesity is one of the most troubling health problems now-a-days. It is a fastest growing medical condition. In this, excess body fat has accumulated to the extent, which has an adverse effect on health. Obesity is considered to increase health problems and reduce life expectancy. Obesity is considered obese when individual's body mass index (BMI) is greater than or equal to 30 kg/m<sup>2</sup> (WHO, 2012).

It was the sixth most important risk factor, which contributes to the overall burden of disease worldwide and it increases the likelihood of various diseases (Haslam, & James, 2005). Apart from the increased risk of other disorders it is associated with reduced self-esteem and a poorer attitudinal body image (Mendelson & White, 1985; Davis, Wheeler, & Willy, 1987; Stein, 1987; Friedman & Brownell, 1995).

Obesity is most commonly caused by excess energy consumption (dietary intake) relative to energy expenditure (energy loss via metabolic and physical activity). However, the etiology of obesity is highly complex and includes genetic,

physiologic, environmental, psychological, social, economic and even political factors that interact in varying degrees to promote the development of obesity (Aronne, Nelinson & Lillo, 2009). Biological inheritance seem to increase the risk of weight gain and interact with other risk factors in the environment, such as unhealthy diets and inactive lifestyles. Psychological factors like stresses of school education, career and nuclear family are important factors. (Ghosh, 2012). Food is often used as a coping mechanism (Collins & Bentz, 2009). Personality traits are consistently associated with the controllable behaviors that lead to obesity (Provencher et al., 2008). Literature states that impulsivity plays a role in the etiology and/or maintenance of obesity, higher levels of impulsivity have been found among the obese (Chalmers, Bowyer & Olenick, 1990). Impulsivity may lead to binge eating and lapse in diet associated with difficulty in set shifting ability.

Obesity has been found to be associated with impulsivity and lack of response inhibition (Sullivan, Cloninger, Przybeck & Klein, 2007;