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The investigation of relation among inhibitory control according to the stimulus type, executive functions, impulsivity and eating style in obese profile

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The main purpose of this study is to investigate whether or not the inhibitory control process of obese and lean participants changes according to the stimuli type. For this purpose, four blocks of go/no-go paradigm were designed to examine inhibition of prepotent response according to the different stimulus type. These are neutral stimuli go/no-go task; irrelevant stimuli go/no-go task, low calorie food go/no-go task and high calorie go/no-go task. With the conduction of 2 (group)x4 (stimulus type) mixed design ANOVA with repeated measures on the last factor; commission error, omission error, go signal reaction time and commission error reaction time were calculated as dependent measures. Another purpose of this study is to compare the two groups in terms of cognitive flexibility, conceptualization, interference, impulsivity and eating style. For this purpose, Wisconsin Card Sorting Task (WCST), Stroop Test TBAG Form, Barratt Impulsivity Scale (BIS-11) and Dutch Eating Behavior Questionnaire were used to assess these variables. The study sample was comprised of 51 exogenous obese and 46 lean participants who were between 21-49 year old and at least high school graduate. Parametric and nonparametric analyses were performed to the data set which was obtained properly according to the aim of study. According to the results, obese patients do not have a general inhibition deficit. Actually, the stimulus type is indicator of response inhibition process for obese patients. Results show that especially the response inhibition process in obese patients depends on whether the stimulus is food or not and it also depends on types of food (healthy low calorie food, unhealthy high calorie food). There were significant differences in WCST and Stroop Test TBAG Form scores between the two groups. The obese subjects performed significantly lower than the healthy controls. Moreover, the obese patients' impulsivity (motor, planning, and attention) and eating style (external, internal) scores were higher than the lean group. Response inhibition to the high calorie food, resistance to interference and cognitive flexibility scores were found to be statistically significant predictor of body mass index increase. Weight control or diet programs should consider these neuropsychological and psychological factors for getting long term success in weight regulation programs. The findings were discussed with regard to the related literature.

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