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### OVERCOMING FOOD ADDICTION USING THE FACT

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**Background and Aim :** Previous studies showed that addictive behaviours could be explained better in the light of cognitive processing theories. In addition, there is evidence suggesting that cognitive processes underlying food addiction are approximately the same as those found in other addictive behaviours, such as alcohol. In this regard, the aim of this study was to explain differences between successful and unsuccessful dieters) underlying cognitive processes. Moreover, the efficacy of a new Cognitive Bias Modification (CBM) on dieters' success was tested. The "Dual Processing Model", used previously in alcohol dependence studies, utilized to explain the findings of the study.

**Methods :** This study consisted of two experiments. In the first one, impulsive (automatic) and reflective (controlled) cognitive processes were compared between successful and unsuccessful dieters. Participants were 87 female dieters referring to diet clinics for weight reduction in the city of Mashhad. Attentional bias and positive implicit associations to high calorie foods, working memory capacity, impulsivity, eating styles, and food preferences were measured by the dot-probe Implicit Association Test (IAT), N-back, Barrat Impulsiveness Scale (BIS), Dutch Eating Behaviour Questionnaire (DEBQ), and Food Choice Task, respectively. Based on these results, a new cognitive intervention developed which was an Android application, Food Attention Control Training (FACT). The second experiment tested the effectiveness of FACT application on reducing food attentional bias, food craving, and BMI. Participants were 49 unsuccessful female dieters randomly assigned to one of the intervention, sham-intervention, or no-intervention (control) groups.

**Results :** Results of the first experiment showed that unsuccessful dieters show more attentional bias, external eating scores, and high-calorie food preference compared with their successful counterparts. Results of the second experiment showed that two weeks training with FACT was associated with a significant decrease in food attentional bias, food craving for special foods, and BMI. In addition, participants who had higher scores on external eating scale demonstrated more weight reduction after FACT intervention than the other two groups.

**Conclusion :** These findings suggest that attentional bias plays an important role in food addiction and using cell phone applications to reduce food attentional bias can serve as a complementary intervention to normal treatments of overweight.

**Keywords :** Food addiction, Obesity, Dual-processing model, Attentional bias, Cognitive Technological intervention