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A Review on Using Executive Function to Understand the Limited Efficacy of Weight-Loss Interventions

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Abstract : Obesity is becoming an increasingly critical issue in the United States due to the steady and substantial increase in prevalence over the last 30 years. Existing interventions have been able to help participants achieve short-term weight loss, but have failed to show long-term results. The complex nature of behavioral change remains one of the most difficult barriers in promoting sustainable weight-loss in overweight individuals. Research suggests that the 'intention-behavior gap' can be explained by a person's ability to regulate higher-order thinking, or Executive Function (EF). A review of 63 research articles was completed in fall of 2017 to identify the role of EF in regulating eating behavior and to identify whether there is a potential for improving dietary quality by enhancing EF. Results showed that poor EF is positively associated with obesogenic behavior, namely increased consumption of highly palatable foods, eating in the absence of hunger, high saturated fat intake and low fruit and vegetable consumption. Recent research has indicated that interventions targeting an improvement in EF can be successful in helping promote healthy behaviors. Furthermore, interventions of longer duration have a more lasting and versatile effect on weight loss and maintenance. This may present an opportunity for the increasingly ubiquitous use of mobile application technology.

Keywords : eating behavior, executive function, nutrition, obesity, weight-loss
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