

difficulty to redirect their attention away from food (i.e., disengagement). Method: We examined attentional bias in patients with AN with a measure that controls for the location of initial attention which is therefore suggested to be optimally able to differentiate between enhanced engagement with food, and difficulty to disengage from food (Attentional Response to Distal vs. Proximal Emotional Information – task). Participants were patients with AN (N = 69) with an age between 12 and 23, and a comparison group (N = 69) without eating disorders that was matched on sex, age and educational level. Results: Adolescents without an eating disorder showed attentional engagement with food cues that were shown briefly. Patients with AN showed less attentional engagement with food cues than the adolescents without an eating disorder. Conclusion: These results suggest that patients with AN lack a bias that seems to be involved in healthy eating behavior. Further results and implications will be discussed.

Multi-Method Evidence for a Dual-Pathway Perspective on Loss of Control Over Eating Among Adolescents

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Objective: Loss of control over eating is common among adolescents and is associated with negative developmental outcomes. Research that focuses on investigating the underlying mechanisms of loss of control over eating is driven by dual-pathway models which propose that this eating pathology is the result of an imbalance between immature regulatory processes and strong reactive processes. However, most studies have been conducted in adult samples, highlighting the need for examining these processes also in adolescent samples. Therefore, the aim of the current study was to investigate the dual-pathway perspective, and more specifically the interaction between immature inhibitory control in combination with strong reward sensitivity and attentional bias in the context of loss of control over eating in adolescents. Method: A community sample of 295 adolescents (10 – 17 years; 64.1% girls; Mage = 14 years; SD = 1.99) was subdivided into a 'Loss of Control Group' (n = 93) and a 'No Loss of Control Group' (n = 202) based on a self-report questionnaire. Both regulatory and reactive processes were measured multi-method (i.e., with behavioral tasks and self-report questionnaires): the go/no-go task and the BRIEF for regulatory processes and the dot probe task and the BAS for reactive processes. Results: Significant interaction effects were found. More specifically, the combination of impaired inhibitory control and strong reward sensitivity and the combination of impaired inhibitory control and strong attentional bias increased the risk of experiencing loss of control over eating, both with the use of behavioral tasks as well as with self-report questionnaires. Conclusion: Our results provide multi-method evidence for the dual-pathway perspective in which impaired regulatory processes and strong reactive processes interact in explaining loss of control over eating in adolescents. Theoretical and practical implications are discussed.

Keywords: adolescents; loss of control over eating; dual-pathway perspective; inhibitory control; reward sensitivity; attentional bias.

A Systematic Review of the Evidence for Enhancing Childhood Obesity Treatment from a Dual-Process Perspective

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Childhood obesity is a growing public health problem worldwide. Although existing interventions are effective in producing weight loss, they often fail to procure sustained weight loss. To enhance childhood obesity treatments, further insight is needed into the mechanisms that determine excess caloric intake and associated weight gain. One possible explanation for the poor outcomes of existing therapies is that overweight youngsters have a heightened responsivity to high calorie food cues coupled with poor self-regulatory control. The aim of the present review was to evaluate the evidence for the self-regulation failure hypothesis from a dual-process model's perspective. According to dual-process models, eating regulation and weight management are determined by the interplay between automatic and regulatory processes. Relevant publications were identified through a systematic search of six electronic databases (Embase, Medline, PsycInfo, PubMed, Scopus and Web of Science). Eligible studies recruited a child or adolescent sample; measured or manipulated one or more automatic (attentional bias, approach bias) and/or regulatory processes (working memory, inhibitory control, executive function); used a cross-sectional, longitudinal or experimental design; and included a primary outcome measure that was eating/weight related and/or pertained to the underlying process(es). A total of 135 such studies were identified, most of which were of high quality. There were, however, substantial methodological variations and inconsistent findings across studies. Nevertheless, on balance, the evidence shows a stronger impact of automatic processes and in particular a reduced capacity for regulatory processing in overweight children and adolescents. In addition, emerging evidence suggests that these dual-processes can be modified through targeted training to reduce caloric intake and associated body weight. Thus, an intervention protocol based on the dual-process framework holds promise for enhancing current childhood obesity treatment programs. However, further research in the form of adequately powered, methodologically sound randomised controlled trials is needed.

Smartphone-Delivered Approach-Avoidance Training Improves Food Choice in Obesity

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Background: Obesity is partly driven by deeply ingrained unhealthy food choices, which are underpinned by cognitive biases. These biases include approach bias (an automatic tendency to move toward rather than away from appetitive food cues) and delay discounting (a preference for smaller, immediate over larger, delayed rewards). Cognitive training strategies that aim to modify these biases, namely, approach-avoidance training (AAT) and episodic future thinking (EFT) have been shown to improve food choice. However, previous studies have tested these training strategies in single laboratory-based sessions with normal weight participants. We conducted a pilot randomised trial to compare the impact of these two trainings, delivered daily for one week via smartphone apps, on approach bias for healthy and unhealthy food, delay discounting, food choice, and body weight. Methods: Participants were 60 adults with overweight or obesity (39 female; mean age = 26.93 ± 6.73 years; mean BMI = 30.34 ± 3.75 kg/m²). They were randomly allocated to one of three groups: AAT, EFT, or waitlist control. The primary outcome was food choice and the secondary outcome was change in body weight (kgs). These outcomes were measured immediately after the intervention and at 6-week follow-up. Training compliance and engagement were also measured. Results: Training session completion rates were high for both AAT (85.71%) and EFT (86.43%), $t(38) = -0.11, p = 0.92$. Approach bias for unhealthy food was lower in AAT than EFT at post-training (MDiff = -64.56, $p = 0.02$, 95% CI [-118.83, -10.28]). Healthy food choice (%) was higher for participants in the the AAT than the control group at post-training (MDiff = 23.45, $p = 0.01$, 95% CI [7.26, 39.64], $d = 1.26$), and at 6-week follow-up (MDiff = 23.92, $p = 0.01$, 95% CI [5.37, 42.48], $d = 1.24$). Weight reduced from pre-training to 6-week follow-up in the AAT group (MDiff = -0.74, $p = 0.03$, 95% CI [-1.40, -0.090], $d = 0.47$). However, EFT training did not affect delay discounting, food choice, or weight (all p 's > 0.1). Discussion: AAT is a promising cognitive training strategy for improving food choice in individuals with