

# A comparison of acceptance- and control-based strategies for coping with food cravings: An analog study

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## Abstract

The present study utilized an analog paradigm to investigate the effectiveness of two strategies for coping with food cravings, which was theorized to be critical to the maintenance of weight loss. Ninety-eight undergraduate students were given transparent boxes of chocolate Hershey's Kisses and instructed to keep the chocolates with them, but not to eat them, for 48 h. Before receiving the Kisses, participants were randomized to receive either (a) no intervention, (b) instruction in control-based coping strategies such as distraction and cognitive restructuring, or (c) instruction in acceptance-based strategies such as experiential acceptance and defusion techniques. Measures included the Power of Food Scale (PFS; a measure of psychological sensitivity to the food environment), self-report ratings of chocolate cravings and surreptitiously recorded chocolate consumption. Results suggested that the effect of the intervention depended on baseline PFS levels, such that acceptance-based strategies were associated with better outcomes (cravings, consumption) among those reporting the highest susceptibility to the presence of food, but greater cravings among those who scored lowest on the PFS. It was observed that craving self-report measures predicted chocolate consumption, and baseline PFS levels predicted both cravings and consumption. Results are discussed in terms of the implications for weight loss maintenance strategies.

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## Introduction

According to the World Health Organization (WHO) obesity has become a global epidemic, with numbers reaching more than one billion individuals worldwide (World Health Organization, 2006). Both Europe and the United States have especially high (and rising) levels of obesity; for instance, currently, 64% of the adult population in the United States is either overweight or obese (Hedley et al., 2004; World Health Organization, 2006). Given the significance and prevalence of the problem, considerable resources have been devoted to

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developing effective weight control interventions. Behavioral weight loss programs have shown modest short-term effectiveness (i.e., 5–10% weight loss; Wadden, Steen, Wingate, & Foster, 1996), but poor long-term maintenance; one-third of weight lost is regained within a year, and almost all of it within 3 years (Perri & Corsica, 2002; Wilson & Brownell, 2002).

### *Food cravings*

Food cravings have been defined as an intensely strong desire for a specific food or a type of food (Gendall, Joyce, & Sullivan, 1997). Cravings for food are associated with anxiety, dysphoric mood, and decreased quality of life (especially in those struggling with weight control), as well as increased calorie intake, obesity status and dropout from weight-loss treatments (Gendall et al., 1997; Lafay et al., 2001; Sitton, 1991; Vander Wal, Johnston, & Dhurandhar, 2007; Wurtman & Wurtman, 1986). In fact, the lack of success for many overweight and obese individuals following weight loss programs may be due to difficulties in managing strong cravings that arise from the pervasive presence of and ready access to highly palatable foods (Lowe, 2003; Lowe & Levine, 2005).

### *Food environment and the power of food*

The modern food environment has been labeled as *obesogenic* in part because high-calorie, highly palatable food is so prevalent and easily accessible (Brownell, 2002). In fact, the tremendous growth of overweight and obesity over the past four decades can be attributed largely to the current food environment (Hill & Peters, 1998). For vulnerable individuals, in particular, the motivation to eat in the presence of food may occur even when the person is not in a state of energy depletion (Birch, Fisher, & Davison, 2003; Yeomans, Blundell, & Leshem, 2004). While this response may have been adaptive through much of evolutionary history, it is problematic in the current food environment (Lowe & Levine, 2005). Although awareness of palatable food and/or its availability creates a motivation to eat in people generally, there are large individual differences in the psychological influence of the food environment. A measure of such individual differences, called the Power of Food Scale (PFS), has recently been developed to assess the impact of the food environment on an individual's behavior, thinking, and feelings (Lowe et al., under review).

### *Coping strategies*

A critical challenge to obesity management efforts is the ability to help individuals manage food cravings such that they do not lead to problematic emotional distress or unhealthy food consumption. This study evaluates two strategies to help participants cope with cravings for chocolate, which is the most commonly craved food, according to self-report measures (Rozin, Levine, & Stoess, 1991). Our initial test of these strategies was conducted in a nonclinical, mostly normal-weight population on the assumption that results have the potential to inform efforts to help those with weight problems. In particular, the challenge facing individuals attempting to maintain energy balance following weight loss may be very roughly akin to the normal-weight participants' challenge to abstain from a desired food.

### *Control-based strategies*

Cognitive-behavioral interventions for the treatment of obesity, such as the popular and often-studied Lifestyle, Exercise, Attitudes, Relationships and Nutrition (LEARN) Program for weight management, aim to modify eating, thinking, and activity levels (Brownell, 2000). These interventions teach a number of behaviorally oriented strategies to reduce food cravings and unhealthy consumption including removing highly palatable and unhealthy foods from home and work environments, storing palatable foods out of sight and increasing the structure and regularity of eating. Unfortunately, even if all the recommended changes are made, the pervasive availability of high-energy palatable foods remains in place, and cravings and urges are likely to remain. Weight control programs also incorporate cognitive techniques that aim to reduce the frequency and intensity of cravings and urges. Craving reduction is accomplished primarily by teaching people how to cognitively restructure urge-related thoughts, and to mentally distract themselves from food stimuli.

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