



Concurrent visuo-spatial processing reduces food cravings in prescribed weight-loss dieters

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Received 3 March 2006; received in revised form 22 December 2006; accepted 16 March 2007

Abstract

The study investigated the relative effectiveness of thought suppression and the working memory-based method of dynamic visual noise as techniques for reducing food cravings. Twenty dieting women on the weight-loss programme prescribed by weight watchers and 20 non-dieting controls formed images of their most craved food and then suppressed thoughts of the food or watched a flickering pattern of black and white dots (dynamic visual noise). Both thought suppression and dynamic visual noise reduced cravings for weight watchers and non-dieters. However, their relative effectiveness varied according to participant dieting status. Specifically, while both techniques reduced cravings equally well for non-dieters, dynamic visual noise was clearly the more effective technique for weight watchers. Thus, dynamic visual noise may provide a useful tool for controlling problematic cravings in clinically overweight or obese individuals who are actively trying to lose weight.

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Keywords: Food cravings; Prescribed weight-loss dieters; Thought suppression; Imagery; Visuo-spatial working memory

1. Introduction

Dieting to lose weight is often associated with an increased occurrence of food cravings (Gendall, Joyce, & Sullivan, 1997; Hetherington & Macdiarmid, 1993; Pelchat, 1997). Such cravings are thought to be part of the preoccupying cognitions concerning food, weight and body shape that invariably accompany dieting behaviour (Green, 2001), and can have

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a number of negative consequences. Specifically, cravings triggered by chronic dietary restriction are an important precursor to binge eating, particularly in bulimia nervosa (Mitchell, Hatsukami, Eckert, & Pyle, 1985) and obesity (Schlundt, Virts, Sbrocco, & Pope-Cordle, 1993). Additionally, cravings for food can lead to feelings of guilt and shame if followed by unwanted consumption (MacDiarmid & Hetherington, 1995). Dieting-related cravings have also been linked to depression (Gendall, Joyce, Sullivan, & Bulik, 1998) and impaired cognitive task performance. For example, Green and Rogers (1993) observed biased attentional processing of food and body shape words in current dieters on a modified Stroop task. In a similar vein, Green, Rogers, and Elliman (2000) found that experimentally induced food cravings yielded slower reaction times in dieters than in non-dieters.

As rates of obesity are increasing in most Western countries (Wadden, Brownell, & Foster, 2002), there are liable to be a greater number of people trying to lose weight by dieting. Consequently, the development of a technique for curbing dieting-related food cravings has considerable practical importance. Such a technique would have particular implications for the treatment of problematic cravings in clinically overweight individuals. Thought suppression offers one possible technique. For example, Harnden, McNally, and Jimerson (1997) showed that suppression of weight-related thoughts reduced the frequency of such thoughts in dieters, although the magnitude of suppression was less than that for non-dieters. Likewise, Oliver and Huon (2001) found that high disinhibitors were more successful in suppressing thoughts about food and eating than low disinhibitors. However, they were more likely to use punishment and worry strategies to control their thoughts, an observation that was correlated positively with perceived anxiety and distress. Furthermore, suppression of unwanted thoughts may paradoxically increase such thoughts. For example, Johnston, Bulik, and Anstiss (1999) demonstrated that suppressing thoughts about chocolate increased participants' efforts to obtain chocolate. Although thought suppression does not invariably produce a rebound effect (Abramowitz, Tolin, & Street, 2001), ironic effects of thought suppression have been shown in various domains, including mood control (Wegner, Erber, & Zanakos, 1993), stereotyping (Macrae, Bodenhausen, Milne, & Jetten, 1994) and traumatic memories (Davies & Clark, 1998). In addition, the paradoxical increase of unwanted thoughts after the suppression attempt can lead to a perceived loss of control over one's thoughts, and give rise to feelings of failure and distress (Kelly & Khan, 1994). Thus, it is unclear whether thought suppression would be an effective technique for reducing dieting-related food cravings.

Emerging investigations into the psychological processes that underpin food cravings suggest the possibility of a very different technique. These point to the role of mental imagery in food cravings. For example, instructions to imagine a food scenario have been shown to induce food cravings (Harvey, Kemps, & Tiggemann, 2005). In questionnaire studies about everyday food cravings respondents rated imagery-based descriptors (e.g., "I am visualising it") very highly (May, Andrade, Panabokke, & Kavanagh, 2004; Tiggemann & Kemps, 2005). Additionally, a recent cognitive model of cravings, the elaborated intrusion theory (Kavanagh, Andrade, & May, 2005) proposes that sensory images are at the core of the craving experience. According to this theory, individuals construct vivid, quasi-lifelike images in response to intrusive appetitive thoughts, thus elaborating the cognitive processing of the craved substance.

Using a working memory approach, Kemps and colleagues (Kemps, Tiggemann, & Hart, 2005; Kemps, Tiggemann, Woods, & Soekov, 2004) have demonstrated that

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