



Research report

Chocolate cake. Guilt or celebration? Associations with healthy eating attitudes, perceived behavioural control, intentions and weight-loss



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ARTICLE INFO

Article history:

Received 16 July 2013

Received in revised form 5 November 2013

Accepted 8 November 2013

Available online 23 November 2013

Keywords:

Guilt

Ambivalence

Healthy eating

Weight-loss

Chocolate

ABSTRACT

Food and eating are often associated with ambivalent feelings: pleasure and enjoyment, but also worry and guilt. Guilt has the potential to motivate behaviour change, but may also lead to feelings of helplessness and loss of control. This study firstly examined whether a default association of either 'guilt' or 'celebration' with a prototypical forbidden food item (chocolate cake) was related to differences in attitudes, perceived behavioural control, and intentions in relation to healthy eating, and secondly whether the default association was related to weight change over an 18 month period (and short term weight-loss in a subsample of participants with a weight-loss goal). This study did not find any evidence for adaptive or motivational properties of guilt. Participants associating chocolate cake with guilt did not report more positive attitudes or stronger intentions to eat healthy than did those associating chocolate cake with celebration. Instead, they reported lower levels of perceived behavioural control over eating and were less successful at maintaining their weight over an 18 month period. Participants with a weight-loss goal who associated chocolate cake with guilt were less successful at losing weight over a 3 month period compared to those associating chocolate cake with celebration.

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Introduction

In modern society, food and eating are associated with ambivalent feelings: pleasure and enjoyment, but also worry and concern (e.g., about weight gain, appearance and health effects) (Rozin, Bauer, & Catanese, 2003; Rozin, Fischler, Imada, Sarubin, & Wrzesniewski, 1999; Rozin, Kurzer, & Cohen, 2002). Rozin et al. (2003) suggest that these worries and concerns may reduce people's quality of life and be unproductive in terms of health and weight control. It is striking that, for example, the prevalence of obesity is much higher in the United States than in France (OECD Health Data, 2011), while the Americans tend to associate food more with health, tend to worry more about food, and focus less on the enjoyment and experience of food than do the French (Rozin et al., 1999; see also Rozin et al., 2002). The prototypical example of a food item that elicits ambivalent feelings in many people is chocolate. The present study examines whether a default association of chocolate cake with either 'guilt' or 'celebration' is associated with healthy or unhealthy eating behaviours, attitudes, perceived behavioural control and intentions towards healthy eating, and weight change over an 18 month period. In addition, the study examines whether either default association is productive or unproductive when trying to lose weight.

One of the methods used by Rozin et al. (1999, 2003) to assess ambivalent feelings towards food is to present forced-choice items to participants and measure what they consider 'default' ways of thinking about food. Participants are presented with a number of food items (e.g., 'fried egg') and are asked to circle the word they most readily associate the food item with ('cholesterol' or 'breakfast'). Responses to forced-choice items capture the person's most salient thoughts about a particular issue. In a sample of students it was found that, for example, 22% associated 'chocolate cake' more with 'guilt' than 'celebration', and 45% associated 'fried egg' more with 'cholesterol' than 'breakfast' (Rozin et al., 2003). The present study focuses on the default association with one of these food items, that is, chocolate cake.

Chocolate is one of the most craved foodstuffs (Rogers & Smit, 2000) and is the prototypical example of a food item that elicits ambivalent feelings. It is loved for its taste, scent and texture and is usually regarded as a special treat or a reward, hence the association with celebration. However, its high fat, sugar and energy content is often viewed negatively and the experience of guilt after consumption is common (e.g., Dewberry & Ussher, 1994; Macht & Dettmer, 2006; Rodgers, Stritzke, Bui, Franko, & Chabrol, 2011; Rogers & Smit, 2000). As a result it is often referred to as a 'forbidden food'. From a self-control perspective, eating chocolate can be seen as a delayed-cost dilemma: positive short-term consequences (it tastes good now), but negative long-term consequences (it is fattening) (Baumeister & Heatherton, 1996; Giner-Sorolla, 2001).

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Delayed-cost dilemmas are often associated with positive hedonic affect (e.g. fun, relaxing) and negative self-conscious affect (e.g., guilt, regret) (Giner-Sorolla, 2001).

Theoretically, self-conscious emotions such as guilt can have adaptive as well as maladaptive consequences. Guilt requires self-awareness and self-reflection in relation to some personal standard (Tangney, Stuewig, & Mashek, 2007) and is experienced as immediate feedback in relation to actual behaviour (e.g., overindulging in chocolate cake when on a diet) or anticipated behaviour (e.g., thinking about eating chocolate cake). Feeling guilty is unpleasant, hence guilt may function as a punishment cue, motivating corrective action (Tangney et al., 2007). Or in other words, feelings of guilt make us do the 'right thing'. Public health campaigns aimed at instilling healthy eating habits are often based on the premise that a guilty conscience will be a motivator to change behaviour. Feelings of guilt may also aid self-control because they remind people of their long-term goal and shift their attention away from immediate temptation (Baumeister & Heatherton, 1996). Feeling guilty when thinking about or seeing chocolate cake may help the person realise that giving in to temptation interferes with a desired long-term goal (e.g., losing or maintaining weight, eating a healthy diet). However, if the behaviour that elicited the guilt cannot be inhibited, or if corrective action is not (immediately) possible, then feeling guilty may lead to maladaptive effects such as self-criticism, loss of control, poor self-esteem (Tangney et al., 2007). For example, guilt after an initial (minor) violation of one's diet may result in loss of control because the dieter believes there is no point in further restraining their eating as the damage has already been done and corrective action is useless ('what the hell effect'; Herman & Polivy, 1984).

Feelings of guilt about eating and food are very common in eating disordered populations (i.e., people who suffer from anorexia, bulimia or other eating disorders; e.g., Sassaroli et al., 2005). And although a number of studies have looked at the occurrence of eating or food-related guilt in non-disordered populations (e.g., De Witt Huberts, Evers, & de Ridder, 2013; Dewberry & Ussher, 1994; Rozin et al., 1999, 2003), only a handful of studies have looked at the correlates of guilt. With two exceptions (Conradt et al., 2008; Giner-Sorolla, 2001) these studies have all looked at guilt in relation to chocolate consumption, and most point to potential maladaptive consequences. Chocolate-related guilt has been associated with self-reported dysfunctional eating patterns (e.g., restrained eating, emotional eating, bulimia), high anxiety, depression, low self-esteem, neuroticism, body dissatisfaction and drive for thinness (Cartwright & Stritzke, 2008; Cramer & Hartleib, 2001; Müller, Dettmer, & Macht, 2008; Rodgers et al., 2011). An experimental study by Macht and Dettmer (2006) showed that participants who experienced guilt after eating a chocolate bar also reported less intense positive affect at the same time. Only two studies found adaptive effects in the food/weight-loss literature. In an experimental study, Giner-Sorolla (2001; Study 3) showed that female dieters who were unobtrusively primed with negative self-conscious emotion words (including guilt) inhibited their food intake on a subsequent taste test. Conradt et al. (2008) found that weight-related guilt (guilt concerning eating habits, exercising and weight-control) measured at baseline was a significant predictor of increased problem-focused engagement strategies 6 months later in a sample of obese individuals.

The present study

Previous research looking at correlates of food or eating-related guilt has almost exclusively focused on dysfunctional eating patterns and has predominantly used student samples (e.g.,

Cartwright & Stritzke, 2008; Cramer & Hartleib, 2001; Rodgers et al., 2011). The first aim of this study was to extend previous research by examining whether chocolate-related guilt is associated with attitudes, intentions and perceived behavioural control in relation to healthy eating (rather than dysfunctional eating) in an adult, community sample. To the best of our knowledge this is the first study to examine this question and therefore these hypotheses are non-directional. As outlined above, guilt may have adaptive as well as maladaptive consequences (Tangney et al., 2007). If guilt is adaptive and motivates behaviour change, then participants who associate chocolate cake with guilt should report more positive attitudes toward healthy eating and stronger intentions to eat a healthy diet in the future compared to those who associate chocolate cake with celebration. In contrast, if guilt is maladaptive and related to loss of control and feelings of helplessness, then participants who associate chocolate cake with guilt should report lower levels of perceived behavioural control (i.e., self-efficacy) over healthy eating. Associations with current eating behaviours will also be examined. Participants who associate chocolate cake with guilt are expected to report unhealthier eating behaviours regardless of the potential adaptive or maladaptive consequences of guilt. After all, if one's eating is not unhealthy then there is no reason to feel guilty in the first place.

The second aim of the study was to examine whether a default association of guilt was prospectively related to weight change over a period of 18 months. To our knowledge, only Conradt et al. (2008) have examined actual weight change in relation to guilt and found that higher levels of guilt were unrelated to weight change over a 6 month period in an obese sample. If guilt motivates behaviour change then participants who associate chocolate cake with guilt should be better able to maintain their weight over time. In contrast, if guilt indeed has maladaptive consequences as Rozin and others suggest (Rozin et al., 1999, 2003) then participants who associate chocolate cake with guilt may be less able to maintain their weight over time.

The final aim of the study was to examine the correlates of chocolate-related guilt in more detail in a subsample of participants with a current weight-loss goal. Although chocolate is a food that both dieters and non-dieters feel guilty about (King, Herman, & Polivy, 1987), dieters generally report higher levels of guilt than do non-dieters (e.g., Cartwright & Stritzke, 2008). This is not surprising as chocolate will generally present a stronger self-control dilemma to dieters than to non-dieters because of their wish to lose or maintain weight. We therefore expected that those with a weight-loss goal would be more likely to report chocolate-related guilt compared to those without an active weight-loss goal. However, an important question is whether either default association is productive or unproductive when trying to lose weight. We therefore examined whether associating chocolate cake with guilt or celebration was related to the amount of desired weight change, goal importance, and short-term weight-loss success in participants with an active weight-loss goal. Based on previous research showing that chocolate-related guilt is associated with higher levels of body dissatisfaction and drive for thinness (Rodgers et al., 2011), we expected participants who associate chocolate cake with guilt (vs. celebration) to have a more ambitious weight-loss goal, and rate their goal as more important to them. The literature on dieting suggests that people with a weight-loss goal may be more prone to the negative consequences of guilt as they may be more inclined to feel that corrective action after a transgression is not possible (cf. Herman & Polivy, 1984). Thus, in a subset of people with a weight-loss goal, associating chocolate cake with guilt may be related to less weight-loss success than does associating chocolate cake with celebration.

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