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Short communication

Temptations elicit compensatory intentions

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ABSTRACT

The compensatory beliefs model proposes that when faced with temptation, people form intentions to behaviourally compensate for indulgence. By creating a scenario in which female dieters were either faced with a tempting, high caloric food choice or not, this experiment tested the hypotheses that (1) dieters form compensatory intentions when experiencing the mental conflict of wanting to lose weight but also desiring to eat, and that (2) forming compensatory intentions results in the decision to indulge. Results supported the hypotheses, providing foundational validation for the compensatory beliefs model.

Introduction

When individuals face the choice between giving in to temptation or preserving an initial goal, they experience a mental conflict. Such a conflict is seen in individuals who seek to lose weight but who are, nevertheless, drawn to the pleasure of consuming high caloric foods (Stroebe, Papies, & Aarts, 2008). The compensatory beliefs model (Knäuper, Rabiau, Cohen, & Patriciu, 2004; Rabiau, Knäuper, & Miquelon, 2006) proposes that people formulate compensatory beliefs as a self-regulatory strategy to alleviate the mental conflict brought on by temptation. Compensatory beliefs are convictions that the negative consequences of engaging in an indulgent behaviour can be neutralized by the positive effects of another behaviour (Knäuper et al., 2004). According to the model, these compensatory beliefs are applied at the moment of temptation, i.e. people form the intention to compensate. For example, people who have the goal to lose weight but the desire to eat sweets may form the intention, "I'll eat this cookie now, but I will cut back later". Compensatory intentions, then, seem to allow individuals to behaviourally give in to temptation because, given that they plan to perform a future compensatory behaviour, they believe that succumbing to temptation now will ultimately not compromise their initial goal (cf. Baumeister, Heatherton, & Tice, 1994).

While individuals may intend to engage in the compensatory behaviour prescribed by the compensatory intention, many factors, such as decreased motivation, forgetfulness and/or inconvenience, can prevent them from actually performing the compensatory behaviour. It is thus not surprising that holding compensatory beliefs (as measured with the compensatory beliefs scale) has been found to be associated with lower goal achievement (Rabiau, Knäuper, Nguyen, Sufrategui, & Polychronakos, 2009; Miquelon, P., Knäuper, B., & Vallerand, R. *Motivation and goal attainment: The role of compensatory beliefs*. McGill University, Department of Psychology (unpublished manuscript)). For example, Miquelon et al. found that the more compensatory dieting beliefs dieters held, the less likely they were to adhere to their dieting rules and the less likely they were to reach their weight loss goal. These findings suggest that dieters who use compensatory intentions to regulate temptations may fail to achieve weight loss goals.

The present research aims to specifically determine whether or not dieters form compensatory intentions *before* they indulge. It refers to the common scenario in which dieters have a choice between eating a tempting high caloric food or eating a less tempting low caloric alternative. It should be noted that compensatory intentions may also be formed by dieters following indulgence (e.g. "I can't believe I ate the entire bag of chips—I will skip dinner to make up for it!") or following socially enforced indulgence (e.g. "I have to eat this gigantic piece of Black Forest cake that Auntie Suzie is offering because otherwise she will be disappointed—but I will skip dinner to make up for it!"). In such cases, compensatory intentions are formed as a means of relieving the discomfort of having indulged. However, the present research focuses on scenarios in which dieters face a temptation (eating something delicious but high caloric) and are debating whether to give in to the temptation (and break their diet) or choose a less delicious alternative (and adhere to their diet). We propose that in such scenarios, dieters may form compensatory intentions that allow them to indulge without thinking they have broken their diet as they have formed the intention to compensate for the indulgence later. We find this type of compensatory intentions to

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be of particular relevance because it puts dieters into a mind set in which they think they will not break their diet if they eat the high calorie food, leading them to indulge. However, because dieters often do not follow through with their compensatory intentions, the indulgence ends up being a diet violation. If dieters use this strategy often/habitually, it may hinder the attainment of their dieting goal.

This study thus seeks to provide experimental support for the proposition that temptations elicit compensatory intentions. Indirect support for this proposition has been provided by Lowe (1982) and Urbszat, Herman, and Polivy (2002) who found that restrained eaters who were asked to taste-test fattening cookies the day before they were instructed to go on a low fat, calorie reduced diet, ate more fattening cookies than participants who were not instructed to diet, i.e. those instructed to diet presumably indulged because they believed that they will compensate for it later by going on a diet. However, in these experiments, the experimenters assessed compensatory *behaviour* in dieters (increased caloric consumption) but only inferred that this behaviour was preceded by the compensatory intention. Therefore, these studies do not provide direct evidence that individuals *actually* form compensatory intentions when confronted with the mental conflict of temptation. It is thus necessary to show that, under tempting circumstances, when a dieter is faced with a mental conflict, he or she will have compensatory intentions, which then permit him or her to indulge.

To this end, we simulated the conditions of a common temptation situation, namely that of dieters fighting the allure of high calorie, high fat food. Specifically, we assessed dieters' thoughts when presented with the choice of eating a delicious looking high calorie cookie or a less attractive low calorie cookie (conflict condition). As a control, a conflict-free condition was created in which the dieters were asked to choose between two low calorie cookies. For both conditions, participants had to choose a cookie that they were made to believe they would have to consume fully. It was hypothesized that, (1) in order to alleviate the mental conflict brought on by contemplating eating the delicious, high calorie cookie, individuals in the conflict condition will report more strongly that compensatory intentions are on their mind than individuals in the conflict-free condition and that, (2) the formation of compensatory intentions, in turn, promotes an indulgent act of eating.

Methods

Participants

The experiment was conducted in a community sample of females currently on a weight loss diet that had lasted for up to a year, and seeking to lose 5 pounds or more. Participants were recruited through online classifieds and a newspaper advertisement. The study was presented in the ad as "Food Evaluation Study". Participants received $20 for their participation. Ethics approval for the study was received from the McGill University research ethics board. Individuals were screened by phone to determine their eligibility and stratify for age and strength of dieting motivation. The presence of eating disorder symptoms (assessed with the SCOFF (Morgan, Reid & Lacey, 1999)) was an exclusion criterion. Participants had a mean BMI of 24.59 (SD = 4.62). Forty-three percent (18 participants) of the sample had BMIs of 25 of higher.

We stratified for age by recruiting an equal number of participants from four age groups (18–24, 25–40, 41–54, over 55 years). Because the extent to which individuals are inspired to compensate for breaking their diets may vary depending on their motivation to diet, we also stratified for dieting motivation by asking how important it was for them to lose weight (somewhat important, quite important, very important, extremely important). To ensure that participants would be sufficiently hungry to find a cookie tempting, participants were asked to refrain from eating for 2.5 h before their appointment time. Because the goal of the experiment was to test the hypothesis that the mental conflict of temptation elicits compensatory intentions, we were interested in the compensatory intentions that were endorsed in reference to a high caloric food temptation (the delicious looking cookie). However, four participants referenced the less tempting food choice (the low calorie, unpalatable cookie) for the majority (>3) of the compensatory intentions and were thus excluded for data analysis from the initial sample of N = 46 participants. The sample used for analysis thus consisted of N = 42 participants: 21 women in the conflict condition and 21 women in the conflict-free condition. Participants were, on average, 38.29 years old (SD = 15.95). Participants reported their race/ethnicity as Caucasian (69%), Asian (14.3%), South Asian (7.1%) or African American (7.1%). The majority of participants were either employed (31%), self-employed (23.8%) or in school/university (26.2%). Participants, on average, intended to lose 13.01 pounds (Mdn = 8 pounds, SD = 9.96 pounds, range = 5–50 pounds) and had been on their current weight loss diet for an average of 71.83 days (Mdn = 49, SD = 72.96). Upon arrival, participants' hunger levels were assessed by asking, "How hungry are you right now?" (0 = not at all to 5 = very much). The average reported hunger level was 3.52 (Mdn = 3, SD = 1.45). The average amount of time since the last meal eaten was 4.44 h before participating in the experiment (Mdn = 3, SD = 3.54). There were no significant differences between conflict and conflict-free conditions on the measure of hunger level ($t < 1$), the amount of time since last eaten, $t(40) = 1.33$, $p < .19$, the stratified variable of weight loss motivation, $t < 1$, and the stratified variable of age, $t(40) = 1.45$, $p < .16$.

Experimental design

Participants were randomly assigned to one of two conditions. In the conflict condition, the cookies were labelled as "cookie A" or "cookie B" and "high calorie (385 calories)" or "low calorie (47 calories"). In the conflict-free condition, the cookies were also labelled as "cookie A" or "cookie B" but were both labelled as "low calorie (47 calories)". The true caloric content of the cookies was irrelevant: a fictitious amount for the low and high calorie cookie (respectively) was chosen by the researchers to convey very low caloric content and very high caloric content (respectively) to the participants. This was to ensure that the participants would correctly perceive the cookies as being low or high in calories.

The label "cookie A" was always on the left and the label "cookie B" was always on the right, but the position of the calorie label (left or right) changed accordingly to control for position effects. The conflict-free condition made it necessary that the two cookies appeared different from each other so that the participant would perceive grounds for deliberating between cookies. Thus, participants were presented with a light brown cookie and a dark brown cookie (made with molasses) in both conditions. The position of the dark cookie and the light cookie (left or right) were also counterbalanced to control for position effects. The eight resulting position constellations were randomly distributed to the two conditions.

Procedure

Each participant was run individually and was asked to sit at a table that had two cookies on a tray in front of them. Participants signed an informed consent form explaining that the study involved thinking about the taste of two cookies while deciding which one they would ultimately eat. Participants were informed that they would, (1) fill out a questionnaire about the thoughts they have while deciding which cookie they would be eating, (2) answer a few demographic questions.

Participants were told that we were interested in assessing the palatability and taste of new organic cookies (cover story). In both