



Sweet Christmas: Do overweight and obese children associate special events more frequently with food than normal weight children?★



Carolien Martijn ^{a,*}, Sophie Pasch ^{a,b}, Anne Roefs ^a

^a Department of Clinical Psychological Science, Faculty of Psychology and Neuroscience, Maastricht University, The Netherlands

^b Klinik für Schmerztherapie und Palliativmedizin Medizinisches Zentrum StädteRegion Aachen GmbH, Germany

ARTICLE INFO

Article history:

Received 9 June 2015

Received in revised form

2 October 2015

Accepted 7 October 2015

Available online 15 October 2015

Keywords:

Spontaneous associations

Free-word association test

Special events

Food

Overweight children

ABSTRACT

This study examined children's spontaneous associations of special events with food. Children in primary education ($N = 111$, age between 10 and 13 years) at a school in Germany wrote down their first five associations with five special or festive events (Christmas, holidays, weekend, carnival and birthday). After completing the free-word association test, they were offered a choice between a candy and a toy. Finally, their body mass index (BMI) was measured. The first prediction was that overweight and obese children would associate special events more often with food than normal weight and leaner children. The second prediction was that choice for a candy would be predicted by a higher number of food-related associations. The first hypothesis was not supported: BMI was negatively related to number of food-related associations (the lower the BMI, the more food-related associations). The second hypothesis was also not supported: There was no relation between number of food-related associations and choice for a candy or toy. A possible explanation for the finding that leaner children reported more food-related associations is that for them specific sweets and snack food are more exclusively connected to special occasions than for overweight children. Speculatively, this may be the result of differences in food parenting styles between parents of heavier and leaner children. Parents of leaner children often have a more restrictive style, i.e., reserving specific foods for specific, relatively rare occasions whereas parents of overweight children adopt more liberal food rules.

© 2015 Elsevier Ltd. All rights reserved.

1. Introduction

Apart from internal bodily states (e.g., gastric, hormonal), external factors affect what and how much we eat. It has been widely acknowledged that external cues such as the appeal or presentation of food (e.g., smell, taste, portion size, variety of food items) and eating setting (e.g., atmosphere, eating alone vs. in company, distraction) influence food consumption (Bellisle, Dalix, & Slama, 2004; Stroebele & De Castro, 2004; Wansink & Sobal, 2007; Wardle, 1990). The influence of these external cues on eating is larger for some individuals than for others, and especially overweight and obese individuals seem vulnerable to external influences (Herman & Polivy, 2008; Polivy, Herman, & Coelho, 2008;

Wansink, Payne, & Chandon, 2007).

An example of such an external cue is provided by early research (Schachter, 1968), which established that, as compared to normal weight participants, the food intake of obese persons is guided more by the smell and the palatability of food than by their internal bodily states. More recently, Ferriday and Brunstrom (2011) showed that a brief exposure to the sight and smell of pizza induced more salivation and a greater desire to consume pizza and other foods in overweight participants than in normal-weight participants. Similar results were found in children; when confronted with a food-related cue, such as smell, overweight children failed to regulate subsequent food intake and ate more than normal weight children who were exposed to the same smell (Jansen et al., 2003).

Eating can also be influenced by external cues that are seemingly unrelated to food (Stroebele & De Castro, 2004). For example, Bellisle et al. (2004) found that exposure to environmental, non food-related stimuli such as watching television or listening to a recorded story, caused women eat more during their lunch than when they ate in the absence of these stimuli. Salvy, Coelho, Kieffer,

* We thank for Charlotte Uerlichs for her help in coding the data.

* Corresponding author. Department of Clinical Psychological Science, Faculty of Psychology and Neuroscience, Maastricht University, P.O. Box 616, 6200 MD Maastricht, The Netherlands.

E-mail addresses: c.martijn@maastrichtuniversity.nl (C. Martijn), sophie.pasch@mz-ac.de (S. Pasch), a.roefs@maastrichtuniversity.nl (A. Roefs).

and Epstein (2007) examined the differential impact of social context (eating alone or in the presence of others) in 6–10 year old children and observed that normal-weight children eat more when they are in the company of peers than when eating alone whereas overweight children showed exactly the opposite pattern, most likely for impression management reasons. Other recent studies show that environmental cues may influence the interpretation of an eating occasion. Cues such as paper versus cloth napkins, eating standing up versus being seated, determined whether people categorize an eating situation as “snacking” or as “having a meal” and may influence subsequent food intake (Wansink, Payne, & Shimizu, 2010).

Special events and festivities such as birthdays, holidays or Christmas may also form a cue for eating. Special events are represented by specific symbols, settings, actions and emotions, and often go together with special, out of the ordinary food and drinks (Kittler & Sucher, 2008, p. 10–11). Therefore, when people think of Christmas, they may think of a Christmas tree, going to church and peace on Earth, but also of roasted turkey, Christmas pudding and exquisite red wine (Holtzman, 2006). Associations between special events and food are often shared by an entire cultural group (most people in Western culture will associate Christmas with roasted turkey), but other associations are unique or only shared in a smaller group of individuals (e.g., a specific family tradition) (Kittler & Sucher, 2008). Food industry attempts to create food associations as well; in 1931 Coca Cola initiated a campaign to increase their sales during winter by showing nostalgic paintings of Santa (invariably dressed in red and white, the same colour as their label) who joyfully shares coke bottles with children against a snow-covered landscape (Altman, 2014).

The present study examines whether children spontaneously associate special events and festivities with food. In a previous study, Musher-Eizenman, Marx, and Taylor (2015) found that young children between the ages of 4 and 6 years spontaneously mentioned food when they described events such as having a playdate, going to the movie theatre or to a sporting event. Moreover, children's BMI percentile was moderately positively correlated with the number of food-related responses in their descriptions. The conclusion of this study was that thinking of specific situations triggers so called ‘event scripts’ (expectations about the occurrence and order of events, see Abelson, 1981) and that these scripts are more likely to include food in children with higher BMI percentiles. Given this finding, we also tested whether the number of food-related associations with special events was related to children's weight status.

According to memory researchers, it is important to distinguish between the *availability* and *accessibility* of associations (e.g., Tulving & Pearlstone, 1966). *Availability* is the mere presence of information in memory, and is necessary but not sufficient for an association to come to mind at a given time (Stacy, Leigh, & Weingardt, 1994). An association becomes *accessible* when it is activated in memory by a cue or process. Some associations are temporarily accessible (e.g., a certain association will be only triggered under specific circumstances), whereas other associations are chronically accessible. The accessibility of information depends on experience. Frequently made associations are more accessible than rarely made associations. Hence, for most children the information that a tree, Baby Jesus, turkeys and sweets are attributes of Christmas will be available in memory. Whether or not a child actually comes up with an association between Christmas and sweets depends on the accessibility of the association and the child's experiences. Accessibility on its turn depends on a child's experiences; for example, does (s)he receive more sweets during Christmas time than in normal days?

A way to measure the accessibility of associations in memory is

by *free-word association tests* (Stacey, Ames, & Grenard, 2006). In a free-word association test participants report the first word that comes to mind in response to a cue word, phrase or picture. Free-word association tests are considered an indirect measurement method because they attempt to assess *spontaneous* associations related to the target concept (Stacy et al., 2006). Word association tests have been extensively researched in the domain of substance (ab)use. It was found that associations measured with these tests are reliable predictors of subsequent alcohol intake (Stacy, 1997; see also Stacy & Wiers, 2010, p. 9 for a discussion). According to Stacy and colleagues, measuring these associations is meaningful because they “offer a glimpse at concept activation processes relevant to behaviour choices” (Stacy et al., 2006, p. 78).

To summarize, the goal of the present study was to examine the influence of external cues in overweight and normal weight primary school children. More specifically, we examined children's associations between special events and food, using a free-word association test. We expected that overweight and obese children would generate with more food-related associations when thinking about a special event than normal weight children. We also examined the relation between the number of food-related associations and children's choices for a food (candies) versus non-food gift (toys). Our expectation was that higher numbers of food-related associations as measured by the word association test would predict choice for a food gift.

2. Method

2.1. Participants

We recruited 114 junior high school students in fifth grade (age range 10–13 years, M age = 10.82, SD = .68, 57 females) of a public school in Rheydt, Germany. The school was located in a predominantly middle-lower class neighbourhood.

2.2. Materials and measures

2.2.1. Free-word association task

To assess children's spontaneous associations related to festive events or special occasions, we prepared free-word association booklets based on previous use of free association methods (e.g., Rozin, Kurzer, & Cohen, 2002, Stacy, 1997). The booklet consisted of five target words that all referred to festive or recreational events and were *Christmas*, *holidays*, *birthday party*, *carnival* and *weekend*. The target words were selected in consultation with the children's teacher to ensure that these (a) indeed referred to a special occasion or festive event, and (b) would be recognised as such by the children irrespective of their nationality or religious background.

2.2.2. Food and non-food items

Upon completion of the word association task, children could, if they wished to, pick one of eight rewards. The rewards consisted of four food items (candies; chewy sweets with different flavours and small chocolate bars) and four non-food items (toys; finger skateboard, top trump cards, Rubik's cube and a bracelet).

2.2.3. Height and body weight

At the very end of the experiment, all children were individually weighed and measured (without shoes) using a digital scale and a folding rule.

2.2.4. Demographic measures

As a part of the introduction talk, the experimenter asked the children for their age, religion, place of birth, ethnicity and noted down their gender.

Download English Version:

<https://daneshyari.com/en/article/7308348>

Download Persian Version:

<https://daneshyari.com/article/7308348>

[Daneshyari.com](https://daneshyari.com)