



Explicit and implicit tasks for assessing hedonic-versus nutrition-based attitudes towards food in French children



Sandrine Monnery-Patris ^{a, b, c, *}, Lucile Marty ^{a, b, c}, Frédéric Bayer ^{a, b, c},
Sophie Nicklaus ^{a, b, c}, Stéphanie Chambaron ^{a, b, c}

^a CNRS, UMR6265 Centre des Sciences du Goût et de l'Alimentation, 21000, Dijon, France

^b INRA, UMR1324 Centre des Sciences du Goût et de l'Alimentation, 21000, Dijon, France

^c Univ. Bourgogne Franche-Comté, UMR Centre des Sciences du Goût et de l'Alimentation, 21000, Dijon, France

ARTICLE INFO

Article history:

Received 16 July 2015

Received in revised form

22 October 2015

Accepted 24 October 2015

Available online 30 October 2015

Keywords:

Explicit task

Implicit task

Categorization

Pairing

Association

Attitudes

Children

Affective attitudes

Cognitive attitudes

Food pleasure

Hedonic

Nutrition

ABSTRACT

Attitudes are important precursors of behaviours. This study aims to compare the food attitudes (i.e., hedonic- and nutrition-based) of children using both an implicit pairing task and an explicit forced-choice categorization task suitable for the cognitive abilities of 5- to 11-year-olds. A dominance of hedonically driven attitudes was expected for all ages in the pairing task, designed to elicit affective and spontaneous answers, whereas a progressive emergence of nutrition-based attitudes was expected in the categorization task, designed to involve deliberate analyses of the costs/benefits of foods. An additional exploratory goal was to evaluate differences in the attitudes of normal and overweight children in both tasks.

Children from 3 school levels ($n = 194$; mean age = 8.03 years) were individually tested on computers in their schools. They performed a pairing task in which the tendencies to associate foods with nutritional vs. culinary contexts were assessed. Next, they were asked to categorize each food into one of the following four categories: “yummy”, “yucky” (i.e., hedonic categories), “makes you strong”, or “makes you fat” (i.e., nutritional categories).

The hedonic/culinary pairs were very frequently selected (81% on average), and this frequency significantly increased through school levels. In contrast, in the categorization task, a significant increase in nutrition-driven categorizations with school level was observed. Additional analyses revealed no differences in the food attitudes between the normal and overweight children in the pairing task, and a tendency towards lower hedonic categorizations among the overweight children.

Culinary associations can reflect cultural learning in the French context where food pleasure is dominant. In contrast, the progressive emergence of cognitively driven attitudes with age may reflect the cognitive development of children who are more reasonable and influenced by social norms.

© 2015 Elsevier Ltd. All rights reserved.

1. Introduction

1.1. Attitudes are important precursors of behaviours

Attitudes are generally described as memory structures that are activated when an object is encountered to reflect an individual's acquired predisposition towards that object and involve cognitive and affective bases (Eagly & Chaiken, 1998). In the food domain, the

cognitive components of attitudes reflect the positive and negative attributes and beliefs about foods (e.g., nutritional and health values), while the affective components pertain to sensations and emotions that are experienced in response to foods (e.g., taste, likes and dislikes) (Dubé & Cantin, 2000). Attitudes towards food have been shown to predict consumption (e.g., Conner, Perugini, O'Gorman, Ayres, & Prestwich, 2007). Eating behaviours have been found to remain stable between early childhood, childhood, the teenage years and adulthood (Nicklaus, Boggio, Chabanet, & Issanchou, 2004, 2005; Skinner, Carruth, Bounds, & Ziegler, 2002) and to be minimally modifiable in the long-term (Köster, 2009; Lumeng, Cardinal, Jankowski, Kaciroti, & Gelman, 2008; Rozin, 1980). Accordingly, the identification of attitudes towards food in

* Corresponding author. INRA, UMR1324 Centre des Sciences du Goût et de l'Alimentation, 21000, Dijon, France.

E-mail address: Sandrine.Monnery-Patris@dijon.inra.fr (S. Monnery-Patris).

children could be of interest for addressing the early psychological determinants of eating behaviours, and in particular of food choices.

Childhood is a critical period for establishing personal relationship with food and eating. Since the last neo-piagetian cognitive developmental theories of the eighties, the majority of the studies that have evaluated attitudes related to food have primarily focused on the cognitive dimensions of eating in children, such as nutritional knowledge, in relation to parental eating and feeding practices, demographics, and obviously the nutritional content of the children's daily meals (Contento, Randell, & Basch, 2002). However, the affective dimension of food (i.e., the hedonic perception) is currently considered to be a major multidimensional construct in eating-related research in children, and the cultivation of this dimension throughout the teenage years and adulthood could actually turn out to be protective of later health as suggested in the studies conducted by Rozin, Fischler, Imada, Sarubin, and Wrzesniewski (1999). For example, these authors observed that attitudes in France are more food pleasure-oriented and less food health-oriented than those in the U.S.A., where foods often seem to be more of a focus of worry than pleasure; paradoxically, cardiovascular disease occurs at much lower rates in France than in the U.S.A. (i.e., the “French paradox”; Rozin et al., 1999). The origin of food pleasure-oriented attitudes can be observed in the very early stages in life (Nicklaus, 2015). It has been shown that pleasure and taste development are considered to be of primary importance to weaning by French mothers; in contrast, British mothers emphasize on health and nutrient qualities and not “palate” or “taste/flavour” development (Caton, Ahern, & Hetherington, 2011; Schwartz et al., 2013). For Rigal (2010), hedonic pleasure is a prerequisite for the regular consumption of food at the age of weaning.

Only quite recently has the relationship between affective and cognitive dimensions of eating been studied *via* research on the eating behaviours in adults (Dubé et al, 2003; Jacquier, Bonthoux, Baciú, & Ruffieux, 2012). However, the affective and the cognitive dimensions of food attitudes may not be appropriately conceived as two opposite sides of a coin. What defines an attitude as affectively driven or cognitively driven can be more accurately envisioned as a marker placed on continuum with extremes that are defined by theoretical affective and cognitive anchors (Edwards & von Hippel, 1995). Commercial and marketing research has attempted to account for this continuum by building predictive models of the adult food decision-making process that led to the foundations of neuroeconomics (Petit, Basso, Huguet, Plassmann, & Oullier, 2011). However, the majority of studies of the attitudes of younger participants have focused on the cognitive dimensions of eating, in children (Le Bigot Macaux, 2001) and adolescents (Guidetti, Conner, Prestwich, & Cavazza, 2012) and differences in the attitudes of children and their parents. Specifically, 9- to 11-year-old children have been described as viewing food primarily as a necessity of life, whereas their mothers view food primarily as a source of pleasure for their children (Le Bigot Macaux, 2001).

A recent study assessed both the nutritional and hedonic perceptions of healthy and less healthy foods among 5- to 9-year-old children using a structured sorting task with images (Varela & Salvador, 2014). The authors demonstrated that children from five years of age were able to manipulate multidimensional concepts because they were able to classify foods by accounting for both nutritional knowledge and hedonic information in an explicit sorting task. Another method for exploring the multidimensional aspects of attitudes towards foods is comparing the results from both implicit and explicit tasks (Craeynest et al., 2005). In one study that employed this method and involved 9- to 18-year-olds, the authors compared explicit attitudes that were thought to reveal deliberate and conscious analyses of the costs and benefits of

behaviours (using a valence scale) with implicit attitudes thought to reveal affective and spontaneous behaviours using the Implicit Association Task (Craeynest, Crombez, Haerens, & De Bourdeaudhuij, 2007; Greenwald, McGhee, & Schwartz, 1998). The authors looked for differences in attitudes between obese and normal-weight subjects and found no differences in the explicit task; both groups reporting similar liking for healthy and unhealthy foods. However, in the implicit task, contrary to their expectations, the obese participants exhibited positive implicit attitudes towards both the healthy and unhealthy foods, and this effect was not observed in the normal-weight subjects. The authors suggested that the obese participants did not prefer unhealthy foods but simply liked eating. This result highlights the need to address differences in children's food attitudes according to their weight statuses.

The goal of the present research was to compare food attitudes (affectively and cognitively based) in children using both implicit and explicit tasks that were suitable to the cognitive abilities of 5- to 11-year-old children. Moreover, this is the first study to evaluate these aspects in French children. An additional exploratory goal of the present study was to evaluate the potential differences in attitude dominances between the normal-weight and overweight children and between the boys and girls in both tasks. Towards these aims, an implicit pairing task that was inspired by Rozin's association task and an explicit categorization task (Berger, 1997) were developed. In the implicit pairing task, triplets of foods pictures (for example, steak, chicken, and French fries) were successively presented to the children who were simply asked to select the 2 foods from the 3 that they thought fit well together. Notably, no criteria for selection were given with the goal of recording the nature of the pairings (culinary or nutritional) that were spontaneously made by the children. This task of pairing obviously requires reflexivity and cognitive action, but makes it possible to explore in an implicit way the dominance of culinary or nutritional associations made by the child when no criteria were given. In other words, because this task does not involve a direct explicit analysis of the potential benefits of food, this task may be more sensitive to affective or cultural aspects of foods than explicit tasks, as demonstrated by Rozin et al. (1999). In the explicit categorization task, the children were directly asked to categorize pictures of foods in a 4-alternative forced-choice procedure (the choices were ‘yummy’, ‘yucky’, ‘it makes you fat’, and ‘it makes you strong’). To assess the dynamics of attitude dominance (i.e., hedonic- or nutrition-based) through development, 3 school levels were considered (approximately 5, 8 and 10 years old).

Because early eating preferences seem to be primarily linked to the affective or hedonic dimensions of food and less strongly linked to health-related features (Rigal, 2010), we expected to observe a dominance of hedonic-driven attitudes (i.e., culinary associations) in the implicit pairing task because this task was supposed to assess more spontaneous behaviours. In the forced-choice categorization task, we also expected a dominance of hedonic-driven attitudes and a progressive emergence of cognitively driven attitudes among the older school levels compared to the younger one because this task involved a more direct explicit analysis of the potential benefits of food. Based on the literature, different hedonic scores were expected between the overweight and normal-weight children. Our analysis of the literature did not lead us to formulate a specific hypothesis concerning the potential differences between the boys and girls.

2. Method

2.1. Ethics

The study was conducted in accordance with the Declaration of

Download English Version:

<https://daneshyari.com/en/article/7308547>

Download Persian Version:

<https://daneshyari.com/article/7308547>

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