Does the Cultural Image of a Food Affect Consumers' Impressions of a Food's Taste and Aroma?

Dr. Michael W Allen
Griffith University

Richa Gupta
University of Newcastle

Abstract

The present study examined if consumers' impression of the taste of a food is a subjective process in which they imbue the food with cultural meaning and then evaluate the extent to which that meaning is consistent with their self-concept. Seventy-five students tasted a simulated meat product, but half were informed that it was (real) meat and the other half simulated meat. Results showed that participants who endorsed one cultural meaning of meat (i.e., social hierarchy) liked the taste and aroma of the food when they believed it was real meat and rejected it when they believed it was simulated meat. Implications for health promotions and theories of food choice are discussed.

Keywords: taste tests, culture, food, consumer decision-making, human values

Introduction

During the past several decades, research conducted by psychologists, dieticians and food marketers has endeavoured to uncover the mechanisms that drive individual food choice (e.g., Eertmans, Baeyens, & Van den Bergh; Furst, Connors, Bisogni, Sobal, & Falk, 1996; Glanz, Basil, Maibach, Goldberg, & Snyder, 1998; Letarte, Dube, & Troche, 1997; Lindemen & Stark, 1999; Rozin, 1996; Woodward, Boon, Cumming, Ball, Williams, & Hornsby, 1996). While this literature recognises that food choice is affected by practical factors (e.g., availability) and by individual factors (e.g., personality or mood), these researchers suggest that food choice is largely driven by taste evaluation. Food's that taste good are preferred over foods that do not. Taste evaluation itself stems from biological, individual, and socio-cultural sources (e.g., Fieldhouse, 1995; Rozin, 1990). However whilst models of the biological mechanisms that facilitate taste evaluation have been well considered, the socio-cultural processes that influence an individual's taste evaluation have not been as developed.

Technically, the term 'taste' refers to the perceptions that solely result from the stimulation of the taste receptors in the mouth (e.g., Matlin, 1983). The experience of taste often involves the integration of several other perceptual experiences such as aroma, texture, temperature, and appearance (e.g., Eertmans, et al., 2001; Matlin, 1983). Evidence suggests that some basic taste preferences appear to be innate and automatically regulated by physiological mechanisms (e.g., Bartoshuk, 1990; Lipsitt & Behl, 1990; Scott, 1990). Furthermore, individual differences in food choice have been accounted for by genetic properties, such as sensory differences (e.g., bitter sensitivity; Fischer, Griffin, England, & Garn, 1961) and the ability to process certain nutrients (e.g., lactose intolerance; Simoons, 1978).
Given that genetic predispositions manifest in food choice one might expect that taste preference be linked to inheritability. However, evidence from twin studies suggests that food

preferences of identical twins are not closer in similarity than that of fraternal twins (e.g., Rozin & Millman, 1987) or unrelated individuals (e.g., Greene, Desor, & Maller, 1975). Likewise, there are substantial cross-cultural differences in food choice that appear beyond that accounted by genetic differences (e.g., Fieldhouse, 1995).

Thus, not only is taste an *objective* process originating from the food, but taste is likely also a *subjective* process in which individuals imbue perceptions onto the food. One model that might offer a structured framework for understanding this subjective process is Allen and collaborators' consumer decision-making model (e.g., Allen, 2000; Allen, 2001; Allen & Ng, 1999). This model proposes two routes by which consumers' human values influence their product choices. First, when consumers are evaluating the utility of a product and making an attribute-by-attribute judgment, their human values determine the product attributes that are important to them and these attribute importances in turn guide product choice. However, it is the second, or the so-called "direct" route, that is relevant to the current study. In this direct route, the consumer compares his or her own human values to the human values contained in the symbolic or cultural meanings of the product; a match results in a more favourable product attitude and purchase intention. In the case of foods, however, we suggest that the direct route of value influence not only leads consumers to form attitudes toward a food, but that the process imbues their perception and evaluation of the food's taste and aroma. Thus, paraphrasing Levi-Strauss' (1970) influential words, food is good to eat because it is good to think. Establishing the extent to which human values guide taste evaluations would have important implications for health promotion and theoretical models of food choice

The contention of the direct route of value influence that consumers prefer products that have social images that are consistent with their self-definition is based on the consensus among researchers that a dominant motivation compelling individuals to attend to product symbolism is to maintain, enhance, and express the self-concept (e.g., Dittmar, 1992; Sirgy, 1980). According to Allen's model, this self-expression is possible because human values exist at the individual and cultural level. Human values are held by individuals and social entities to motivate action or serve as a standard of judgement (e.g., Schwartz, 1994). Moreover, the symbolic meanings of objects refer to the culturally constituted world of social categories and cultural principles such as norms and human values (e.g., McCracken, 1988). Thus, individuals use the symbolic meaning of objects to negotiate their socio-cultural environment.

The aim of the present study is to assess if the direct route decision-making process also influences individuals evaluations of the taste and aroma of food. The essence of the design of the study is that all participants will taste the same food, but some will be told it is one type of food and the others a different type;

- If taste impression is an exclusively objective process resulting from the stimulation of the taste receptors in the mouth, then both groups of participants should report the same taste evaluation.
- In contrast, if taste impression is a subjective process whereby individuals compare the cultural meanings of food to their self-concepts, then individuals who endorse the values symbolised by the food should report that the food tastes better than individuals who reject the values symbolised by the food.

Method

Design

The food that we chose to focus our investigations of the proposed decision-making process is meat because 1) many people tend to consume too much meat relative to fruits and vegetables (e.g., National Nutrition Survey, 1995), 2) meat is the central, pre-eminent food in Western culture (e.g., Douglas, 1975), and 3) a consensus exists among researchers of the human values that meat symbolises (i.e., inequality, dominance, and related values)(e.g., Allen & Ng, 2003; Fiddes, 1991; Twigg, 1983).
Participants

Participants were 75 undergraduate students (37 females, 38 males) at a university in a mid-size Australian city. Participants volunteered for the study, provided that they had no food allergies, food sensitivities, or were unwilling to eat meat. Participants' ages ranged from 18 to 55 years, (M = 22.67 years, SD = 6.09 years).

Materials

An individual's endorsement of hierarchy and dominance was measured through Sidanius' Social Dominance Orientation scale (Pratto, Sidanius, Stallwoth & Malle, 1994)(sample item: "Some groups of people are simply inferior to other groups")(Cronbach's alpha of 0.79). Participants' evaluations of the taste and aroma of the food was measured with four items (Flavoursome, Tasty, Pleasant Aroma, and Tastes Better Than Other Brands)(Alpha = .88), and their attitude and intention was measured with four items (Like Product, (Un)Favourable Product, Would Purchase Product, and Would Purchase Over Other Brands)(Alpha = .93) (each of which was rated by participants on a7-point Likert Scale, 1 = Strongly Disagree to 7 = Strongly Agree). Participants also rated whether or not they believed it was the food stated by the experimenter and participants indicated how many servings of red meat and white meat they had consumed in the three days before taking part in the study.

To determine which simulated meat product most resembles meat, we carried out a pilot study (19 students) of the taste of three products (Sanitarium® Nutmeat Sauce, Sanitarium® Vegetarian Sausage Roll Mix in Canola® Puff Pastry; and Longa-life® Vegetarian Hotdog in a bread roll). Sixty-nine percent of the pilot study participants believed that the vegetarian sausage roll was actually real meat as opposed to nutmeat sauce and the hotdog (37% each), and so it was selected for the main study.

Procedure

The experiment was conducted on a one-to-one basis. Participants first completed the SDO scale and demographic questions. Next, participants were served a glass of water and the Vegetarian Sausage Roll Mix in Canola® Puff Pastry (with no label or ingredient list). Before consuming the item, half the participants were informed that the food is a "new meat product" (Real Meat Condition) and the half that it is a "simulated meat product" (Simulated Meat Condition). Following the consumption of the product, participants completed the taste and aroma evaluations, attitudes and purchase intention items. At the completion of the experiment, each participant rated the extent to which the food tastes, smells and looks like meat, and the whether or not they believed it was the food stated by the experimenter.

Results

Regarding manipulating checks, 89% of participants believed that the food they ate was the food the experimenter said the food was. Participants were divided into high SDO (n = 41) or low SDO (n = 34) according to median split. To examine the effect of experimental condition and SDO endorsement on taste and aroma evaluations, an Experimental Condition (Informed Real Meat Condition vs. Informed Simulated Meat Condition) x SDO Level (Low vs. High) between-subjects ANOVA was carried out on participants' Taste and Aroma Evaluation score (i.e., mean of Flavoursome, Tasty, Pleasant Aroma, Tastes Better Than Other Brands). There was a significant main effect for SDO Level, F (1,71) = 9.6, p <0.01 in which Low SDO individuals rated the food more highly than High SDO (5.5 vs. 4.6). A significant main effect was also found for Experimental Group, F (1,71) = 5.5, p <0.05, in which participants who were informed that the food was meat rated the food more favourably than participants informed that the food was simulated meat (5.3 vs. 4.7). These main effects were complicated by a significant two-way interaction between SDO level and Experimental Group, F (1,71) = 8.9, p <0.01. As shown in Figure 1 and consistent with expectations, high SDO participants liked the taste and aroma of the food better when informed the food was meat than when informed it was simulated meat (5.3 vs. 3.9, t=3.0, df=32, p<.001). In contrast, low SDO participants liked the liked the taste and aroma of the food better when informed the food was simulated meat than when informed real meat, though this trend was small (5.5 vs. 5.3, t=-.60, df=39, p=ns). The same two-way interaction was found when examining participants' food attitude, F (1,71) = 9.3, p <0.01, shown in Figure 2. Re-running the ANOVAs, controlling for gender, age and how many servings of red meat the individual ate in the three days before the experiment did not alter the pattern of results.

Figure 1. Taste and aroma evaluation by experimental condition and SDO endorsement.

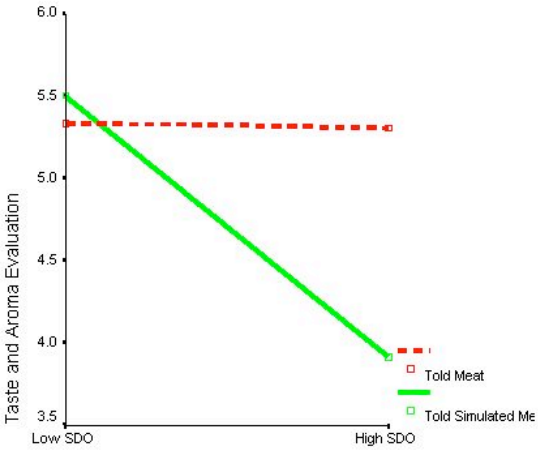
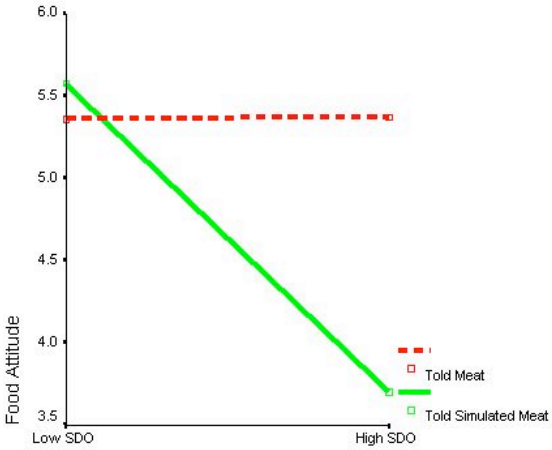


Figure 2. Food attitude and purchase intention by experimental condition and SDO endorsement.



Discussion

The significant two-way interactions between endorsement of hierarchy and dominance (High SDO or Low SDO) and Experimental group (Informed Real Meat versus Informed Simulated Meat) suggest that the taste perception and attitude formation are influenced by the cultural meanings embodied in the food rather than an objective taste process. If taste perceptions

were only being influenced by the objective properties of the food then there should have been no difference in how individuals rated the food, regardless of the level of SDO and experimental group, since they all consumed the same simulated meat product. However, the results illustrate that individuals in the High SDO group perceived the product as significantly tastier and had a more favourable attitude and purchase intention when they believed the product was real meat than when they believed it was simulated meat. The opposite pattern was found for participants who rejected SDO, though this trend was small.

Further, the manipulation checks showed that 89% of participants believed that the food they ate was the food the experimenter stated it was, and participants who were informed that the food is meat were significantly more likely to report that the food tastes and smelled like meat than participants who were informed that the food is a simulated meat product. Given that all participants ate the same food, these results indicate that participant' beliefs about what they thought they eating affected their impression of the food.

Taken together, the results are consistent the contention that taste evaluation is a subjective process in which individuals imbue the food with cultural meaning and then appraise the extent to which the cultural meaning is consistent with their self-concept. In particular, the cognitive process is Allen's (2000/01/02) "direct route" of value influence, whereby individuals compares the values contained in the product symbolism to their own values. Although this decision-making model is a simplification of the process through which culture influences taste perception, it provides a testable hypothesis for the influence that culture exerts on taste perception.

A direction for future research would be to examine other consumer goods and services. Rather than "taste and aroma", which are specific to food, the broader concepts "satisfaction and enjoyment" may be imbued onto the product. On the other hand, the results of future tests of other products are unclear because food is unique. Unlike other consumer goods and services, food is incorporated into the body. Fischler (1988) suggests that eating food is "the action in which we send food across the frontier between the world and the self, between the 'outside' and 'inside' of our body" (p. 279), and Rozin (1996) proposes that eating "is the principle mode of material transaction between the world and the person" (p. 20). Hence, the cultural meanings of food may be salient to individuals because food literally becomes a part of them and they may pay special attention to ensure that the cultural meanings are consistent with their self-concept.

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