



Research report

It tastes as good as it looks! The effect of food presentation on liking for the flavor of food [☆]



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ABSTRACT

Diners in a restaurant were served the same meal (composed of a sautéed chicken breast with a fines herbes sauce, brown rice pilaf, and sautéed green beans with toasted almonds served on a round white china plate). The same food was presented in two different arrangements on two different nights. Although the two presentations were judged as equally “neat”, one was judged as more attractive. Subjects reported liking the food on the plate (when all items were judged together) more when it was presented in the more attractive than the less attractive manner. When food items were judged separately, subjects reported liking the chicken and the sauce significantly more when presented in the more attractive manner. Subjects also reported more positive responses to the brown rice pilaf when presented in the more attractive plating style. How attractively food is plated can affect liking for the flavor of the food and could be used to increase acceptance of “healthy” foods.

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Introduction

How a food looks conveys a lot of information about the food we are about to eat. Most importantly, it helps us to identify what we are about to eat. We see a meal before we eat it. As the saying goes, “the first taste is always with the eyes”. Even a visual cue as simple as the color of a food or drink has been shown to influence our experience of a food or beverage (see Spence, Levitan, Shankar, & Zampini, 2010; Zellner, 2013, for reviews).

Many studies have shown that color affects our ability to identify a food (Blackwell, 1995; DuBose, Cardello, & Maller, 1980; Garber, Hyatt, & Starr, 2000; Hyman, 1983; Stillman, 1993; Zellner, Bartoli, & Eckard, 1991). People are more accurate at identifying appropriately colored foods and drinks than inappropriately colored or colorless ones. In fact, if colored inappropriately, they tend to misidentify foods and drinks so that they are consistent with the color. Morrot, Brochet, and Dubourdiou (2001) found that

subjects used descriptors generally used for red wine to describe white wine which was colored red.

People also use visual information to judge the freshness of a food (Wada et al., 2010) and how refreshing they expect it to be (Clydesdale, Gover, Philipsen, & Fugardi, 1992; Zellner & Durlach, 2002, 2003). For example, clear beverages are expected to be more refreshing than colored ones.

Visual cues can also influence how much we like the flavor of a food or drink. Zellner et al. (1991) found that if a solution was not able to be accurately identified, as a result of being colored inappropriately, it was not liked as much as when identified correctly. When visual cues lead us to expect one flavor or food, and we get another, that violation of our expectations can reduce our liking for the food (Cardello, Melnick, & Rowan, 1993; Zellner, Strickhouser, & Tornow, 2004). Carlson (1930) reported such an effect when he wrote about his first experience tasting a tomato which he thought was an apple. He wrote, “the disgusting, disagreeable effect on me of that fluid, insipid, warm mass that filled my mouth was something very striking, and I have not forgotten it in forty years” (p. 89).

Even when a food is correctly identified and has the sensory properties we expect it to have, how the food is presented can influence our liking for the food. Zellner et al. (2011) has shown that a food presented in a messy presentation is liked less than the same food presented neatly (Experiment 1 – hummus and Experiment 2 – chicken salad). Subjects reported that they thought that the preparer had taken more care with the food in the neat presentation. They also expected that it would be served in a higher

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quality restaurant and reported that they would be willing to pay more for the neatly presented food than the messy one.

While it is clear that the neatness of the food presentation affects how much people like the flavor of the food (Zellner et al., 2011), there is no published empirical research investigating whether presenting a visually appealing plate of food makes the food more palatable than if the same food is plated in a neat, but less visually appealing manner. This is surprising since a great deal of attention is paid to food presentation in culinary institutes and books (e.g. Hutchings, 1999; Spears & Gregoire, 2004; *The Culinary Institute of America*, 2012). In fact, some of these books discuss the importance of the aesthetics of the presentation to the hedonic evaluation of the food (e.g. Hutchings, 2003), and describe “visual flavor” (*The Culinary Institute of America*, 2012, p. 632).

Given the amount of instruction and writing given over to food presentation, it is important to determine if the attractiveness of the food presentation simply increases the hedonic evaluation of the visual aspects of the food or if it also increases the palatability of the food. This study examines the effect of the attractiveness of the plating on liking for the components of a meal and overall liking of the meal. Two neat presentations of the same food items were plated in either a more “traditional” way with the food items in different quadrants of the plate (see Gisslen, 1983, p. 521), or in a more creative “contemporary” presentation (Zearfoss, 1995, May) which was expected to be more attractive to the diners. The meals were served in a restaurant on different nights to determine if the presentation affects liking for the food.

Method

Participants

Subjects were 91 volunteers (35 males and 56 females) drawn from a list of visitors to the Culinary Institute of America in Hyde Park, New York who indicated on a prior visit that they were interested in being contacted about special events. Their ages ranged from 20 to 74 years (mean age 47.3 years). They had a variety of occupations (e.g. architect, teacher, retired). Those who had jobs in the food industry had administrative or management jobs, rather than jobs in a kitchen. Four subjects were students at the Culinary Institute of America. All were informed of the contents of the meal and asked not to participate if they were allergic to or could not eat any of the ingredients. Eight additional subjects ate the meal but were not included in the study. Three were students who had just eaten a meal, three indicated that the chicken was not done to their taste, one found a foreign object in their dish, and one did not answer the questions on the Post-meal Questionnaire.

Materials

Subjects were served a meal consisting of a sautéed chicken breast with a fines herbes sauce, brown rice pilaf, and sautéed green beans with toasted almonds served on a round white china plate. These same food items, in the same amount, were served in one of two ways. One arrangement (traditional) presented the chicken breast with the sauce in the bottom half of the plate and the pilaf in a molded cone in one upper quadrant, while the green beans were in the other quadrant with almonds arranged across the beans ($n = 49$, see Fig. 1). The other arrangement (contemporary) presented the three food items in a spiraling pattern. The rice was in the center of the plate in an S-shape. The chicken breast with sauce was laid against and curved around the rice. Sauce was drizzled around the perimeter of the plate. The beans and almonds were in a hatched pattern around the perimeter of the plate ($n = 42$, see Fig. 2).



Fig. 1. Traditional presentation of the meal.

Procedure

All subjects were served a meal in the same restaurant, with an “upscale ambiance” (linens, silverware, stemware, and wait staff) on the campus of the Culinary Institute of America. The meals were presented on two successive nights after sunset. The study took place during the winter months, and the outside temperature was very cold with snow on the ground. One of the presentations was served to subjects on one night and the other on the other night in order to avoid subjects seeing a different presentation at an adjoin-



Fig. 2. Contemporary presentation of the meal.

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